InteleViewer

5.6.1 | User Guide

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PERFORMANCE CHARACTERISTICS

The main benefits of IntelePACS are the improved image accessibility and associated time savings. There is also some indication that IntelePACS can help data integrity and help reduce operating costs in radiology. There is no significant indication that it affects or improves diagnosis accuracy and image quality. There have been some reports of adverse events associated with IntelePACS and some recalls linked to possible patient safety issues, but no strong case of adverse effects of using IntelePACS technology. IntelePACS technology is a low-risk medical device that has been used successfully and undergone continual refinements.

INDICATIONS FOR USE

IntelePACS is a software application that receives digital images and data from various sources (such as CT scanners, MR scanners, ultrasound systems, R/F units, computer and direct radiographic devices, secondary capture devices, scanners, imaging gateways, or other imaging sources). Images and data can be communicated, processed, manipulated, enhanced, stored, and displayed within the system and/or across computer networks at distributed locations. Post-processing of the images can be performed using Multi Planar Reconstruction (MPR).

Only preprocessed DICOM for presentation images can be interpreted for primary image diagnosis in mammography. Mammographic images with lossy compression and digitized film screen images must not be reviewed for primary image interpretations

Mammographic images may only be interpreted using a display that is cleared, and that meets technical specifications reviewed and accepted, by your regulatory authorities.

IntelePACS on mobile devices (applicable for IntelePACS 5.1.1 or later only):

For Canada, United States, Europe, Australia, New Zealand, and South Africa only: When used with a mobile device, IntelePACS is suitable for diagnostic image review only on tested devices as specified in your Intelerad product's documentation. IntelePACS is not intended for primary diagnostic image review on mobile devices. Mobile usage for Mammography is for reference and referral only.

For all other countries: IntelePACS is not intended for diagnostic image review on mobile devices. Mobile usage for Mammography is for reference and referral only.

CONTRAINDICATIONS—None.

Caution: Federal law restricts this device to sale by or on the order of a physician.

This system does not replace the education, skill, and judgment of properly trained medical practitioners. Only properly trained and qualified individuals shall have access to and use IntelePACS and must know of its functionality, capabilities and limitations. Typical users of this system are trained health professionals, physicians, nurses, and technologists.

Downloaded Images, Workstations and Isolated Installs: You and your users must maintain IntelePACS with the most current versions, including available updates and upgrades. Delaying or refusing updates or upgrades following a recall may result in a non-compliant IntelePACS

SAFETY ISSUES: IntelePACS is a medical device, and as such, must meet medical device safety and effectiveness requirements imposed by national regulations. Any unmonitored or unconnected use of IntelePACS, or use of IntelePACS without a valid right may put the health and safety of patients at risk as you will not be advised of the availability of any software patch, bug fix, update or upgrade nor will be informed of Field Safety Notices, Medical Device Recalls or Advisory Notices related to IntelePACS. Client and authorized users must consult national regulatory site(s) to be informed of Field Safety Notices, Medical Device Recalls or Advisory Notices related to IntelePACS. Intelerad does not have access to authorized users systems to implement corrections to prevent (or correct) occurrences of patient safety issues. You are responsible to flow down recall and patient safety information to your users. The user of the medical device must report any serious incident that has occurred in relation to the medical device to the manufacturer (Intelerad) and the competent authority having jurisdiction in their locale.

Referring Physicians Use: Images for authorized referring physicians may not be of diagnosis quality and should not be used for diagnostic purposes.

InteleConnect: Images in InteleConnect are intended for review only and are not appropriate for diagnostic purposes. Please use InteleViewer for diagnostic viewing.

CD Burning and Nuage Patient Portal: Intelerad Clients remain responsible for collecting patient consents and accesses. Images on CD and on Nuage Patient Portal are intended for review only and are not appropriate for diagnostic purposes. Please use InteleViewer for diagnostic viewing.

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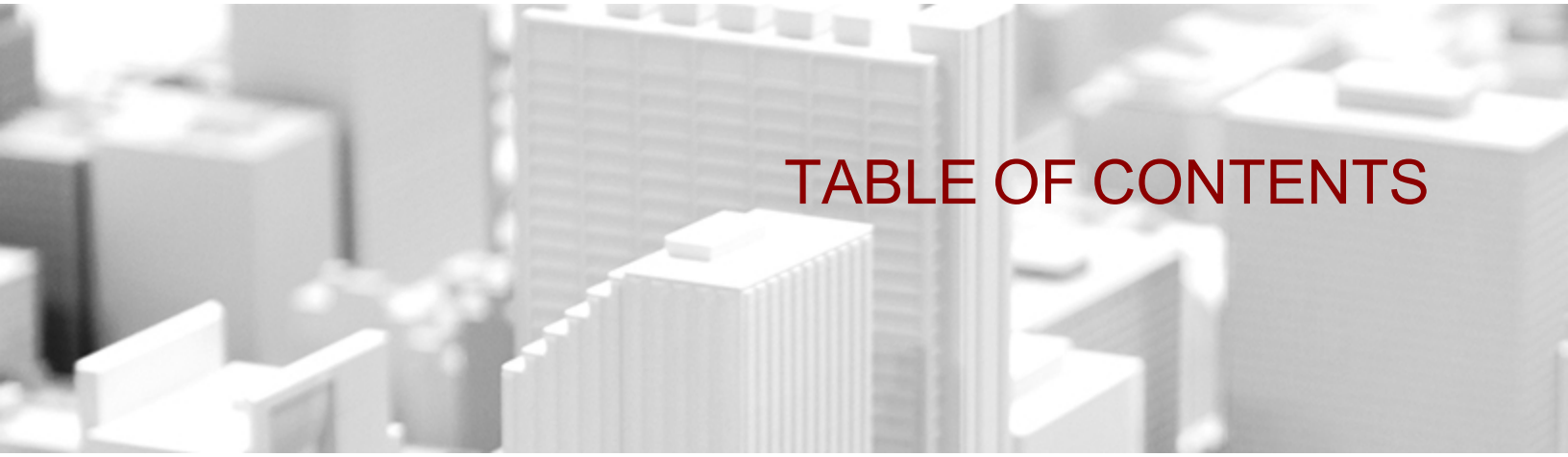

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DOCUMENT REVISIONS

Each issue contains the features from R1 up to the R-number in the Software Version column.

Issue	Document Release Date	Software Version
001	Jun 3, 2022	R1

DOCUMENT CONVENTIONS

Several conventions are used throughout this document. A list of these and examples of their use are provided below.

Convention	Example
Text that you enter in a field, or on a command line are in `courier font`.	In the Date field, enter `2003/04/04`.
Keyboard commands are in **SMALL CAPS AND BOLD**.	Press **CTRL+C** to copy text.
New terminology or concepts are *italicized*.	The process of automatically distributing the images is referred to as *autorouting*.
Interface elements, such as menus, buttons, options, and preferences are **bold**.	From the **Font** list, choose the desired font.
Menu selections are separated by vertical lines.	Choose **File** | **Print** to print this page.
Information that is important for a user to know when performing a task, such as prerequisite information or restrictions, is represented with a note icon .	To view reports, you must have the Report privilege enabled in your user account.
Information that is helpful to a user, such as when describing an alternate or simpler way to perform a task, is represented with a tip icon .	You can also use the **CTRL+T** keyboard shortcut to show or hide thumbnail images.
Information that warns users to potential problems in the outcome of what they are doing, such as data loss or data breach, is represented with a warning icon .	Image measurements are saved for the current application session only. If you exit the application, all measurements are lost.

1 GETTING STARTED

Use InteleViewer to open and manipulate images for review. Access to images and reports is fast and intuitive.

In this chapter:

About InteleViewer 33

New Features 33

System Requirements 33

Viewing the Documentation 34

Contacting Intelerad Technical Support 35

Sending Log Files to Intelerad Technical Support 36

Recording a Video of Your Workstation Screen for Intelerad Technical Support 37

Using the About Dialog 38

About InteleViewer

InteleViewer is an intuitive medical image viewing system, providing access to all of the tools required for reviewing images. Powerful searching capabilities allow you to find the studies and reports.

InteleViewer features full DICOM support, including DICOM Query/Retrieve, Store, and Print. The software includes the complete range of InteleViewer functionality, including thumbnail display, real-time cine playback, linked stacking, MPR, annotations and measurements, and more.

The web-enabled InteleViewer software uses JPEG 2000 compression and an advanced streaming protocol to provide lossless or lossy image viewing and manipulation. You can examine multiple studies simultaneously and define customized image layouts. With a simple mouse click, you can stack, rotate, zoom, take measurements, and view reports.

Key features of InteleViewer include:

- Seamless access to all studies for a selected patient
- Measuring regions of interest and calibrating measurements
- 3D cross-referencing tools
- Creating complex layout protocols
- Saving key images and presentation states
- Creating teaching cases and collections
- Viewing reports and impressions, and exporting reports to PDF files
- Exporting JPEG images

New Features

For complete information on the new features in this version, please consult the release notes in the Intelerad Service Portal:

https://serviceportal.intelerad.com/csm

System Requirements

For more information on system requirements, you can contact Intelerad Technical Support or access the *Intelerad Workstation and Accessories Recommendations Guide*

by using the Intelerad Service Portal:

https://serviceportal.intelerad.com/csm

⚠ A medical device such as IntelePACS must be supported and maintained to be used under applicable authority regulations. If your IntelePACS is not accessible to Intelerad's Technical Support, Intelerad will not provide maintenance (including remote monitoring, remote diagnostics, and maintenance). IntelePACS is a medical device, and as such, must meet medical device safety and effectiveness requirements imposed by national regulations. The Client is advised that using IntelePACS without access from Intelerad's Technical Support may put the health and safety of patients at risk, as the Client may not be advised of the availability of software patch, bug fix, update or upgrade, nor will be informed of Field Safety Notices, Medical Device Recalls, or Advisory Notices related to IntelePACS. Furthermore, Intelerad will not be in a position to have access to the Client's systems to implement corrections to prevent occurrences of patient safety issues. Any use of the Licensed Software beyond Intelerad's standard support practice is client's own responsibility.

Viewing the Documentation

You can access an Online Help or PDF version of this guide directly from InteleViewer. The PDF version of this documentation is also available for download in the Intelerad Service Portal:

https://serviceportal.intelerad.com/csm

In addition to this user guide, you can also access the *InteleViewer Quick Reference Card* PDF from InteleViewer or the Intelerad Service Portal.

PDF versions of a document require that you open them with Adobe Reader, a free application for viewing and printing PDF files. If you do not have Adobe Reader installed on your system, go to www.adobe.com for more information.

To access the documentation from InteleViewer:

1. Click Help.
2. Click the document that you want to view.

Obtaining Printed Documentation

Intelerad offers printed and bound versions of product documentation free of charge. To request printed copies of Intelerad documentation, contact your Client Success

manager. The printed documents will be provided within 7 days or less.

Comments and Questions

At Intelerad, we strive to create accurate and intuitive documentation that provides you with effective product training and troubleshooting support. To better help us develop documentation products that meet your needs, we encourage you to send your comments and questions to documentation@intelerad.com.

Contacting Intelerad Technical Support

Your PACS administrator can assist you with any issues you may encounter. If you require additional assistance, you can contact Intelerad Technical Support, 24 hours a day, seven days a week.

To contact us:	Use:
On the Internet	https://serviceportal.intelerad.com/csm
By telephone	Toll-free North America: 1-866-951-6222 Sans frais Amérique du Nord (français): 1 844-467-7227 Toll-free Australia: 1-800-286-418 Toll-free New Zealand: 0800-467-723 United Kingdom: 0113-360-2615 Other: +1-514-931-7127

These coordinates and a wealth of other information are also available on the Intelerad Service Portal.

https://serviceportal.intelerad.com/csm

You should regularly check the Intelerad knowledge base for the latest version of the documentation, as well as other product-specific resources such as TechNotes, downloads, and videos.

When you contact Intelerad Technical Support to report a problem, please have at hand the following information, as applicable:

- client code and location of your IntelePACS installation
- full error message and the steps required to reproduce the problem
- AE Titles of the affected devices
- operating systems of any affected machines
- description of the problem and when it first occurred

If the problem affects a particular study, please also provide the following:

- patient ID or patient number (M.R.N.)
- accession number/requisition number
- modality type and name

Sending Log Files to Intelerad Technical Support

In the event of a technical issue, Intelerad Technical Support may request that you upload your log files to the IntelePACS server. Log files contain diagnostic information that help Intelerad Technical Support resolve an issue with InteleViewer, as well as any PowerScribe and RadWhere dictation system.

Sending the log file alone does not trigger any action from Intelerad Technical Support. Make sure you contact Intelerad Technical Support, if you have not done so already.

To send a log file to Intelerad Technical Support :

1. From the InteleViewer main menu, choose Help | Send Log Files to Server.

   A window appears informing you of the number of log files that were sent to the IntelePACS server, the name of the server, and the directory to which they were sent. This information also appears in the status bar.

2. Do one of the following:

   Click Copy Message to copy the information in the window (in order to send this information in an email or a ticket, for example).

   Click Close to close the window without copying the information.

3. Contact Intelerad Technical Support by phone (if urgent) or email with the following information:
    - the date you sent the logs
    - your username
    - any other details (M.R.N., accession number, patient name)
    - (email) the information copied in the previous step

See Also

Contacting Intelerad Technical Support 35

Recording a Video of Your Workstation Screen for Intelerad Technical Support

When a problem is difficult to explain or requires a lot of steps to reproduce, it might be easier and more useful to record the events on screen as you demonstrate the problem. With the Record Screen feature, you can create a video up to three minutes long of the problem occurring on screen, including your cursor movements and clicks. The recording is then sent to your IntelePACS along with the log files.

To record the video, FFmpeg.exe must be installed on your workstation. For more information, see your PACS administrator.

To record the screen:

1. From the InteleViewer main menu, choose Help | Record Screen.
2. Choose what you want to record. Click one of the following:
    - All InteleViewer windows: to record only the areas inside the open InteleViewer windows.
    - All monitors: to record all the workstation screens.
3. Click Start Recording.
4. When your demonstration is complete, click Stop Recording.

    The Screen Recording Review dialog appears with the recording which you can play to verify that it captured the problem adequately.

5. In the Notes field, type any additional information you want to provide to Intelerad Technical Support.
6. Click Send to Server to send the recording, notes, and relevant logs to a folder in the IntelePACS server.
7. From the Intelerad Technical Support, update your case to inform Intelerad Technical Support that the recording is available.

Using the About Dialog

The About dialog displays information about the installed version of InteleViewer, the Unique Device Identifier (UDI), the current user, the system on which it is installed, and which features are active.

You need to access this information when reporting technical problems to Intelerad Technical Support. You can copy the information to the system clipboard so that it can be easily transferred to an email message, for example.

To open the About dialog:

1. From the main menu, choose Help | About InteleViewer.

   The About InteleViewer dialog appears and displays the User & System page by default.

2. Do one of the following:

   - To view information on which features are active on your system, click the Features tab. These features are internal configuration and program options used by Intelerad Technical Support for troubleshooting purposes. The features listed do not necessarily correspond with InteleViewer features or additional modules configured on your system.
   - To view user and system information, click the User & System tab.

To copy information in the About dialog:

1. From the main menu, choose Help | About InteleViewer.

   The About InteleViewer dialog appears.

2. Click Copy to Clipboard.

All of the information in the About InteleViewer dialog is copied to the Windows system clipboard.

3. To paste the information, open the application into which you want to copy the information (such as a text file or email) and press **CTRL+V**.

2 INSTALLING INTELEVIEWER

Install InteleViewer with ease to access the set of comprehensive tools and features.

In this chapter:

About Installing InteleViewer 41

Installing InteleViewer on a Mac 44

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Working with Server Bookmarks 54

Logging in Automatically 57

Connecting to Multiple IntelePACS (Multiple Session InteleViewer) 58
Configuring DICOM Storage 60
Upgrading InteleViewer 60
Understanding the InteleViewer Interface 61
Understanding the Reporting Worklist Module Interface 73

About Installing InteleViewer

Once InteleViewer is installed, you start the application as you would any other standard Windows application and then log in by using your IntelePACS user name and password. You can also start InteleViewer via the InteleBrowser, the web-based interface to the IntelePACS. To connect to the InteleBrowser, use the web address of the IntelePACS (also called a *Uniform Resource Locator,* or *URL*), and your user name and password. If you do not have this information, contact your PACS administrator.

Your IntelePACS user account has *privileges* and *restrictions* associated with it. They determine which features and patient information you have access to in the system and correspond to the job function that you need to perform. These privileges and restrictions are configured by your PACS administrator and are separate from your Microsoft Windows user account.

For example, a radiologist typically has access to all the features required to view studies and create and view reports, whereas a clinician is able to view reports, but not create them.

The specific configuration of your IntelePACS might vary from the examples provided in this guide.

To install InteleViewer:

1. Log in to InteleBrowser.

   Your Windows account must have administrator privileges to install InteleViewer. For information, contact your system administrator.

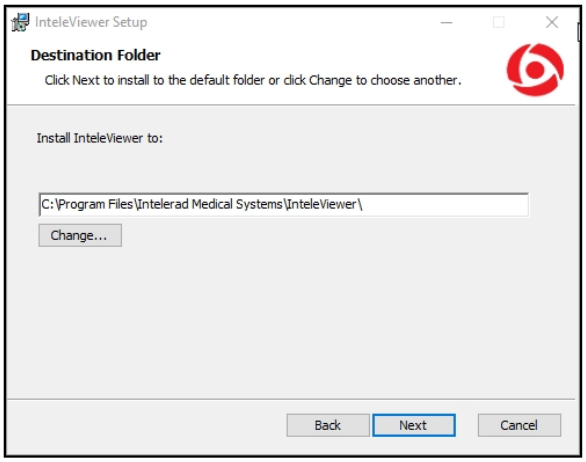
2. In the InteleBrowser main menu, click InteleViewer.

   The installation wizard launches.

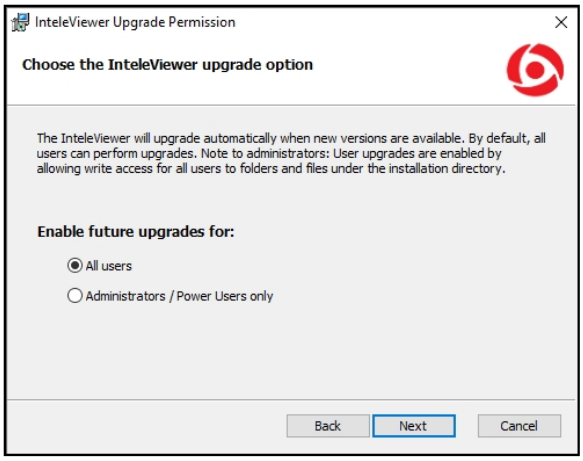
3. Click Next to display the InteleViewer license agreement.

4. Read and accept the terms of the InteleViewer license agreement, and then click Next.

   The Destination Folder window appears.



5. To select a different folder in which to install the application, click Change and select the folder in the dialog that appears.
6. Click OK, and then click Next.
7. Choose which users can automatically upgrade InteleViewer and the Image Fusion module when new versions are available. You can choose All Users or Administrator/Power User Only.

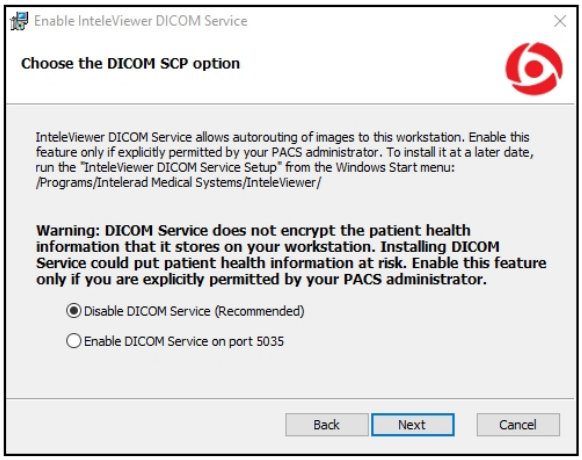


   If you choose Administrator/Power User Only, only users with the corresponding privileges assigned to their Windows user account will be able to upgrade the application.

8. Click Next.
9. Choose whether to activate the DICOM Service.

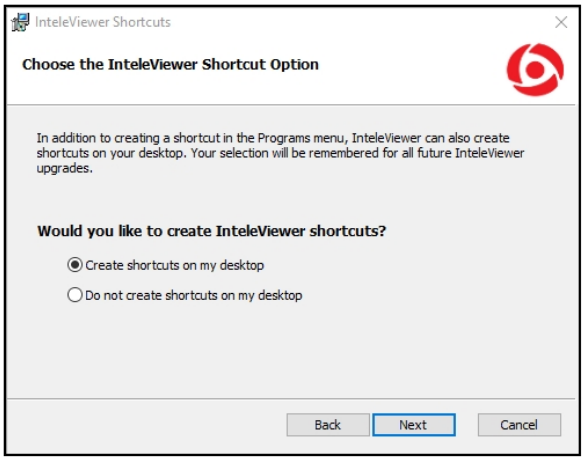
   You must install the DICOM Service to use the DICOM Query feature (if it is available on your user account) or the Mammography Viewer features (if they are available on your user account). It is generally recommended that you deactivate this option unless instructed to activate it by your PACS administrator.

   ⚠ InteleViewer does not encrypt the patient health information that it stores on your workstation for DICOM Service and long-term disk caching. Enabling these features could put patient health information at risk. Contact your PACS administrator before enabling DICOM Service or long-term disk caching.



   This option appears only if your Windows user account is assigned Administrator privileges.

10. Choose your shortcut option.



11. Click Install.

    The InteleViewer installation is complete. Click the Finish button to exit the wizard. An InteleViewer application icon appears in the programs menu and any other shortcuts you specified in the wizard.

Installing InteleViewer on a Mac

You can run InteleViewer sessions on a Mac OS X operating system provided you have the necessary user privilege and system requirements. For more information, you can access the *InteleViewer Mac Installation Guide* in the Intelerad Service Portal:

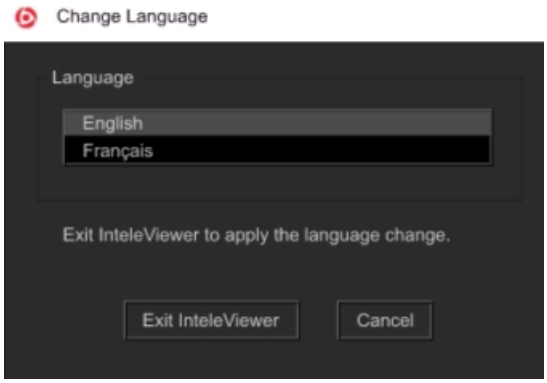
https://serviceportal.intelerad.com/csm

Change Language

You can change the display language in the login page, to customize your work environment.

To customize the interface:

1. In the list of options to the left of the bookmarks, click on the **Change Language** bookmark.



2. To change the interface language, choose an option from the **Language** list. You can choose to display French or English.
3. Click **Exit InteleViewe**r.

   The interface updates to reflect your changes next time you start a new session.

Applying for an Account

If your PACS administrator has not yet provided you with an account, you can apply for one. When you apply for an account, you specify information such as your user name and password. The PACS administrator then approves and activates your account.

The PACS administrator may require some time to approve your account.

To apply for an account:

1. Start InteleViewer by doing one of the following:

   - Double-click the InteleViewer application icon on your Windows desktop or Quick Launch bar, or choose Programs | Intelerad Medical Systems | InteleViewer| InteleViewer from the Windows Start menu.
   - Log in to InteleBrowser. For detailed information, refer to the *InteleBrowser User Guide*.

   The InteleViewer Login page appears.
2. From the Bookmarks list, click on the server on which you want to apply for an account.

The Apply for Account link appears. If you already have an account on this server then the Apply for Account link does not appear and you can skip these steps to log in normally. See “Starting InteleViewer" (page 46) for more information.

3. Click Apply for Account.

   A web browser page appears.

   If your workflow requires it, a confidentiality agreement appears.

4. To accept the confidentiality agreement, click I Agree.

   The registration page appears.

5. In the Username field, enter the name you will use to log in to the system.
6. In the two Password fields, enter your password. Make sure to enter it identically in both fields.
7. Complete the remaining mandatory fields. Complete the optional fields, as required.

   Mandatory fields are indicated by an asterisk (*).

8. Click Apply.

   Your account is created, but it must be approved by the PACS administrator before it becomes active. He or she will notify you when your account is activated.

   If the user name you selected has already been taken, or if you entered invalid information in any of the fields, an error message appears. Enter the correct information and click Register again.

Starting InteleViewer

You can launch InteleViewer from your desktop computer.

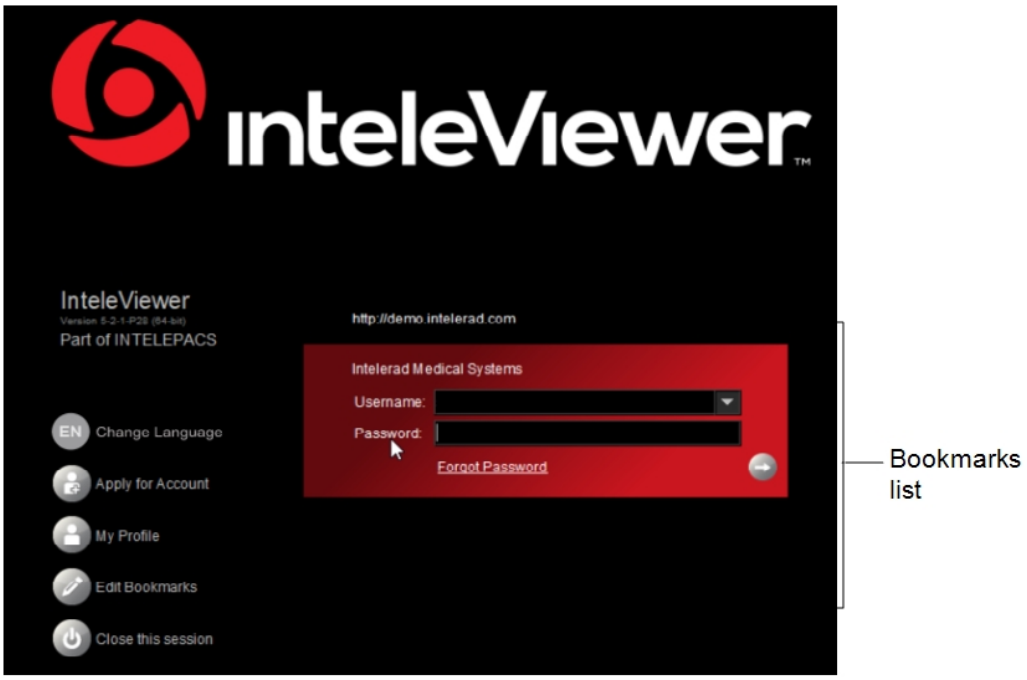
To start InteleViewer:

1. Double-click the InteleViewer application icon on your Windows desktop or click once on the icon in your Quick Launch bar.

   If no InteleViewer icon exists, choose InteleViewer from the Windows Start menu.

   The InteleViewer Login window appears in the center of the primary window.

2. If no bookmarks exist, click Edit Bookmarks to create a server bookmark. See "Working with Server Bookmarks" (page 54).
3. Choose the server that you want to connect to from the Bookmarks list.



4. Enter your user name and password.

   If you forgot your password, click Forgot Password to reset your password.

5. If the server login includes a "Log in to" list, you must select either the PACS server (the first option in the list) or the LDAP system your account belongs to. If you do not know which option to select, contact your PACS administrator.

6. Press **ENTER** or click .
7. If two-factor authentication (MFA) is enabled in your user account, access your authentication app to obtain the verification code, enter the code in the Sign In With Two-Factor Authentication dialog, and then click **Verify Code**. If you have not yet

set up a two-factor authentication app for use with your Intelerad application, the two-factor authentication setup dialog appears (see “Setting Up Two-Factor Authentication (MFA)" (page 48)).

Your verification status is stored in IntelePACS for a specific amount of time as configured in your IntelePACS system. During which time, you do not have to re-enter a verification code to log in to InteleViewer on the same workstation.

Your account or password might automatically expire after a fixed period of time. When this happens, InteleViewer displays a message when you log in, indicating the number of days or hours remaining. If your IntelePACS user account has expired, contact your PACS administrator.

If your password has expired, do one of the following:

- If both InteleViewer and IntelePACS are version 4.13.1 P1 or later, InteleViewer prompts you to provide a new password.
- If the version of either InteleViewer or IntelePACS is earlier than 4.13.1 P1, click the link to log in to InteleBrowser and change your password.

Setting Up Two-Factor Authentication (MFA)

If two-factor authentication is enabled in your user account, the first time that you attempt to log in after the privilege is enabled, you will be prompted to set up a two-factor authentication app for use with your Intelerad application.

Two-factor authentication adds a layer of security to your account by requiring a second step of verification when you log in. In addition to your password, you will also need to enter a verification code that is generated by the authentication app.

You can install and set up a two-factor authentication app on your mobile device (Android or iOS), or on your desktop (Windows/MacOS). If you already have an authentication app installed on a device, you can create a new account in the app for use with your Intelerad application.

To set up two-factor authentication:

1. Log in to your Intelerad application.

   The two-factor authentication setup dialog appears.

2. Do one of the following:
    - If you do not have an authentication app installed on a device, do the following:
        a. Install a two-factor authentication app on your mobile or desktop device. You can install one of the authentication apps provided in the link on the two-factor authentication setup dialog, or another app of your choice. If you want to install an authentication app on your mobile device, you can install the app from your mobile app store.
        b. In your authentication app, add a new account.
    - If you already have an authentication app installed on a device, access the authentication app, and then add a new account.
3. In the authentication app, scan the QR code that appears in the two-factor authentication setup dialog, or enter the key.

The authentication app creates a new account for use with your Intelerad application.

4. In the two-factor authentication setup dialog, enter the verification code that appears in the authentication app.
5. Press **Verify Code**.

   Two-factor authentication setup is complete.

Starting InteleViewer from a Remote Connection

You can connect to a version of InteleViewer installed on a server. Accessing InteleViewer by using a remote connection enables you to use InteleViewer to view reports and images without dealing with software upgrades or installations. Your PACS administrator sets up your remote connection to InteleViewer for you.

Certain features are not available when accessing InteleViewer by remote connection.

- InteleViewer cannot import DICOM data from CD-ROM and other local sources.
- InteleViewer cannot send data to the PACS.
- CD/DVD burning is not available.
- Depending on your configuration, dictation is not permitted and the Worklist tab is unavailable.
- Automatic upgrades are not permitted.

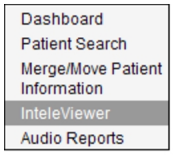
For more information on configuring InteleViewer, please contact the Intelerad Technical Support.

Starting InteleViewer via InteleBrowser

You can launch InteleViewer via the InteleBrowser main menu or via InteleBrowser using one of two URLs. One URL opens a study based on both accession number and patient ID, and another URL will open a study based on accession number only.

To start InteleViewer from InteleBrowser:

1. Log in to InteleBrowser. For detailed information, refer to the *InteleBrowser User Guide.*
2. In the InteleBrowser main menu, click InteleViewer.



InteleViewer starts.

Depending on your system configuration, your InteleBrowser session may expire after a fixed period of time. If so, repeat steps 1 and 2 to resume working with InteleViewer.

To start InteleViewer via InteleBrowser using a URL:

1. Open a Web browser.
2. Do one of the following:

To open:	Use the following:
InteleViewer using an accession number and patient ID, use the following URL as a template:	`https://<PACS SERVER NAME OR IP>/InteleBrowser/ViewImages?username=<EXTERNAL USER NAME>&masterKey=<INTELEPACS SHARED KEY VALUE>&sharedPacsUser=<INTELEPACS SHARED USER ACCOUNT NAME>&accessionNumber=<ACCESSION NUMBER>&patientId=<PATIENT MRN>&clientId=<NAME OF CALLING APPLICATION>`
InteleViewer using an accession number only, use the following URL as a template:	`https://<PACS SERVER NAME OR IP>/InteleBrowser/ViewImages?username=<EXTERNAL USER NAME>&masterKey=<INTELEPACS SHARED KEY VALUE>&sharedPacsUser=<INTELEPACS SHARED USER ACCOUNT NAME>&accessionNumber=<ACCESSION NUMBER&clientId=<NAME OF CALLING APPLICATION>`

InteleViewer is launched, opening a study with the accession number and patient ID, or accession number only that you specified in the URL.

Exiting InteleViewer

If your user account is assigned the Reporting Worklist privilege, and you attempt to exit InteleViewer, it will check to see if you have any pending changes (such as unsigned or unsent reports), and will prompt you to manually resolve them first. This is a safety measure so that you do not accidentally discard your changes. Be sure to save your changes before exiting InteleViewer.

To exit InteleViewer:

1. Do one of the following:
   - Choose File | Exit.
   - Press **CTRL+Q**.
   - Click the “x” button in the top right corner of the window.
2. In the confirmation dialog that appears, click Yes.

   The application closes.

Changing your Password

You can change your password from the Login window.

If your IntelePACS is integrated with an LDAP directory service, then use the LDAP service to change your password. For more information, contact your PACS administrator.

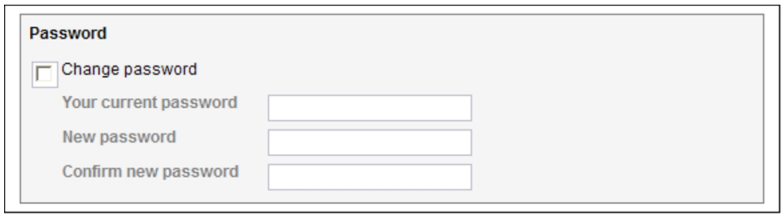
To change your password:

1. From the Login window, select a bookmark.

2. In the list of options to the left of the bookmarks, select My Profile.

   The InteleBrowser Login window appears.

3. Log in to InteleBrowser and then update your password.



Switching User Profiles

You can use different user names to create different user profiles with different preference settings. Once you have started the application, you can switch to another user profile without restarting the application.

To switch user profiles:

1. Choose File | Logout.

   You are logged out. The InteleViewer Login window appears.

2. Enter the new user name and click .

Locking your Session

To help ensure patient confidentiality, you can lock your session if, for example, you plan to leave your workstation for some time. InteleViewer also automatically locks your session if it has been idle for a fixed period of time. The PACS administrator configures the idle period for each user account.

If you are connected to another DICOM entity, or have activated Automatic Login, this feature does not apply. You must be using InteleViewer connected to an IntelePACS.

To lock your session:

1. Choose File | Lock Session.

   To unlock your session, enter your password in the Login window.

2. Click .

You can start a new InteleViewer session by clicking Switch Users or Close Session; however, these options close the existing session and delete all unsaved data.

Working with Server Bookmarks

Server bookmarks are saved IntelePACS server locations. This concept is similar to a Favorites list in your web browser. You can add, edit, and delete server bookmarks. You can also protect a bookmark. Only users who have an account with the PACS that a bookmark refers to can edit or delete a protected bookmark.

A bookmark can specify an optional proxy server. A proxy server controls access between your local network for your workstation and external networks, including the network for a PACS server. In most cases, InteleViewer automatically detects if there is a proxy server on your local network and configures your bookmark accordingly. In some cases, you might need to manually specify a proxy server. There is no need to specify a proxy server for a bookmark if your local network does not use one. For more information, contact your PACS administrator.

To add server bookmarks:

1. Do one of the following:

   - If you are not logged on, start InteleViewer. In the Login window, click Edit Bookmarks.
   - If you are already logged in to InteleViewer, from the main menu, choose Utilities | Edit Bookmarks.

   The Server Bookmarks window appears.

2. Click Add.

   The New Bookmark window appears.

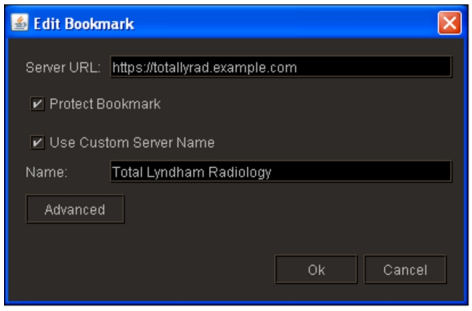
3. Enter the URL of the IntelePACS server you want to connect to.

   If this PACS server can only be accessed with a proxy server, the URL must use the `https` protocol. If you do not have this information, contact your PACS administrator.

4. To prevent users from deleting or modifying your bookmark, enable Protect Bookmark.

   Only users with the user name and password for the IntelePACS server can edit or delete a protected bookmark.

5. To name the bookmark, enable Use Custom Server Name and then enter the name in the corresponding field. This name is displayed in the Login window. By default, the installation name is used.



6. Click OK.

   The new server appears in the Bookmark list.

7. If the server URL that you typed is only accessible through a proxy server, an alert will appear to inform you. Click OK to close the alert.
8. If the server URL that you typed is not valid or the server is not accessible, an alert will appear to inform you. Click OK to close the alert.

You can customize the branding of the InteleViewer bookmark names so that you can provide a unique bookmark name for each URL connecting to the same IntelePACS instance. To configure this option, please contact your Client Success manager.

To edit or protect server bookmarks:

1. Do one of the following:

   - If you are not logged on, start InteleViewer. In the Login window, click Edit Bookmarks.
   - If you are already logged in to InteleViewer, from the main menu, choose Utilities | Edit Bookmarks.

   The Server Bookmarks window appears and displays existing bookmarks.

2. Double click a bookmark.

The Edit Bookmark window appears.

3. If the bookmark is protected, enter your user name and password to edit the bookmark.
4. To change the Server URL or Custom Server Name, make the necessary changes.
5. To prevent users from deleting or modifying your bookmark, enable Protect Bookmark.

   Only users with the user name and password for the IntelePACS server in question can edit or delete a protected bookmark.

6. Click OK.

   If the PACS server is only accessible through a proxy server, an alert will appear to inform you that the bookmark has been modified to access the PACS through the proxy.

To delete server bookmarks:

1. Do one of the following:

   - If you are not logged on, start InteleViewer. In the Login window, click Edit Bookmarks.
   - If you are already logged in to InteleViewer, from the main menu, choose Utilities | Edit Bookmarks.

   The Server Bookmarks window appears and displays any existing bookmarks.

2. Select a bookmark.
3. If the bookmark is protected, enter your user name and password.
4. Click Delete.

To unprotect your bookmark:

1. Do one of the following:

   - Select the protected bookmark and then click Edit Bookmark.
   - Double click the protected bookmark.

   The Lock icon indicates a protected bookmark.

2. Enter the user name and password associated with the IntelePACS server bookmark you want to un-protect.

3. Disable the Protect Bookmark checkbox.
4. Click OK.

To edit a proxy server for a bookmark:

1. Do one of the following:

    - If you are not logged on, start InteleViewer. In the Login window, click Edit Bookmarks.
    - If you are already logged in to InteleViewer, from the main menu, choose Utilities | Edit Bookmarks.

    The Server Bookmarks window appears and displays existing bookmarks.

2. Double click a bookmark.

    The Edit Bookmark window appears.

3. Click Advanced.

    The Advanced Configuration dialog appears.

4. Do one of the following:

    - To use the proxy server that InteleViewer discovered automatically, enable Use Automatic Proxy Configuration. If InteleViewer did not detect a proxy, this option is not available.
    - To manually specify a proxy server, enable Use Manual Proxy Configuration, then edit the text in the Address and Port fields.

5. Click OK.

    The Advanced Configuration dialog closes.

6. Click OK.

    The Edit Bookmark dialog closes.

Logging in Automatically

If you are working in an environment where multiple users access the same workstation, such as in a hospital ER, you can configure InteleViewer to save a default user name and password so that anyone can log in to InteleViewer without being prompted to enter login credentials.

The login credentials that InteleViewer uses for automatic login are the user name and password of the user account that is logged into InteleViewer when the Automatic Login feature is activated. Automatic login is specific to the workstation on which the feature is activated only. It is in effect for all users that start InteleViewer from that workstation. You can deactivate the Automatic Login feature when it is no longer required.

If you had to select an LDAP system or IntelePACS when you logged in to your session, the automatic login feature uses that same selection.

⚠ Two-factor authentication (MFA) is not compatible for use with the automatic login feature. Ensure that the **Enable MFA** user privilege is disabled in the user account that you use to activate Automatic Login.

To activate automatic login:

1. From the main menu, choose Utilities | Automatic Login.
2. In the Password window, enter your password and then click OK.

   From now on, when you log in to InteleViewer, the user name and password fields are filled. You no longer need to enter this information to connect to InteleViewer.

   If you had to select an LDAP system or IntelePACS when you logged in to your session, the automatic login feature uses that same selection.

To deactivate automatic login:

1. From the main menu, choose Utilities | Automatic Login.

   Make sure you have the username and password of the account that is being used for automatic log on.

2. Enter the password for the user account indicated.

   Automatic Login is deactivated.

Connecting to Multiple IntelePACS (Multiple Session InteleViewer)

If your facility contains more than one IntelePACS, you can separately connect to as many as required and start InteleViewer sessions for each. Each InteleViewer window corresponds to the IntelePACS that it is connected to; you cannot access studies from one IntelePACS in another's window.

Your user privileges correspond to your user account on the IntelePACS server to which you are connected; therefore, it is possible that one InteleViewer session can have tools and features that another one does not.

This feature is not available if your local network uses a proxy server to connect to external networks, including the networks for IntelePACS. For more information, see your PACS administrator.

To open multiple sessions:

1. Start InteleViewer and log in to the first server to which you want to connect. See “Starting InteleViewer" (page 46).

   The name of the IntelePACS to which you are logged in is displayed in the titlebar of the InteleViewer window.

2. From the main menu, choose File | New Session or press **CTRL+SHIFT+N**.

   The Login window appears.

   You can also start a new session by double-clicking the InteleViewer icon on your desktop or in the Quick Launch bar, or if no InteleViewer icon exists, choose InteleViewer from the Windows Start menu.

3. Choose another IntelePACS that you want to connect to from the Bookmarks list.

   If there is no bookmark for the server, add one. See “Working with Server Bookmarks" (page 54).

4. If the server login includes a “Log in to” list, you must select either the PACS server (the first option in the list) or the LDAP system your account belongs to. If you do not know which option to select, contact your PACS administrator.

5. Enter your user name and password in the corresponding fields, and then click .

   A second InteleViewer session starts and is connected to the new IntelePACS. The IntelePACS name displayed in the titlebar of each window indicates the PACS to which it is connected.

6. Repeat steps 2 to 4 for each new session you require.

Configuring DICOM Storage

InteleViewer is a web-enabled diagnostic viewer which allows you to stream images on demand from an IntelePACS server to your workstation. In certain situations however, your workflow may benefit from having image data accessible on the local disk of your workstation. Images can be automatically sent from IntelePACS to your workstation in advance of viewing, as per the IntelePACS autorouting and pre-fetching configuration. To route DICOM images locally on the workstation, you must configure DICOM storage on the workstation. For more information, contact your PACS administrator.

In the case of DICOM storage, images are stored in the same directory as used by long-term disk caching, which is specified by the Data Directory setting in the Local Storage preferences. The DICOM header information is still retrieved from IntelePACS, even if viewing images is available locally. Therefore, access to IntelePACS is required.

⚠ InteleViewer does not encrypt the patient health information that it stores on your workstation for DICOM Service and long-term disk caching. Enabling these features could put patient health information at risk. Contact your PACS administrator before enabling DICOM Service or long-term disk caching.

If your account is configured with the DICOM Query feature, you do not require a connection to the IntelePACS to view images stored on your workstation. Image data that is stored on your local workstation is not stored permanently. In order to save image data permanently, you must export DICOM images to a local or network directory.

Your user account must be configured to access the related configuration options. For more information, contact your PACS administrator.

See Also

Exporting DICOM Data 751

Upgrading InteleViewer

When you start InteleViewer, it automatically checks (once per day) if an upgrade to the application is available and, if so, notifies you. You can also check for upgrades manually at any time.

Depending on the options set at installation, you may also be able to update the software when new versions are available. For information, contact your PACS administrator.

To upgrade the application:

1. From the main menu, choose Utilities | Check for Application Update.
2. Select an upgrade track to determine the type of InteleViewer version that you want to use:

Select:	To upgrade by using:
Stable	The most recent, stable version of the application. It is typically recommended that you choose this option, particularly for clinical workstations.
Advanced	A stable, but more advanced, version of the application. This option is typically recommended for diagnostic workstations.
Evaluation	A version still being evaluated by the PACS administrator, which could change frequently. Use this option at your own risk.

   The upgrade track is set based on the workstation. All users on your workstation will be affected by this setting.

   The tracks available with your IntelePACS may differ from those listed here.

3. Click Check for Upgrade.

   If an upgrade is available for the track you selected, the Intelerad InteleViewer Upgrade dialog appears.

   This dialog also appears automatically when InteleViewer detects that there is a new version available on the upgrade track that you selected.

4. Click Next.
5. Click Upgrade.

   The newest version of InteleViewer is installed.

6. Click Done.

   After upgrading, you must restart InteleViewer to continue working.

Understanding the InteleViewer Interface

The main elements of the InteleViewer interface are:

Main menu, toolbar, and radial menu—Use these elements to select the InteleViewer functions.

The main menu appears in blue when De-identification mode is on in the Study Tags tab. You can use de-identification to hide patient information when using InteleViewer to present studies.

Thumbnail strip—Use to visually select different series for display in the viewports. The Thumbnail strip is part of the Thumbnail view.

Status bar—Use to view the intensity values of pixels and their location on the X and Y planes of images.

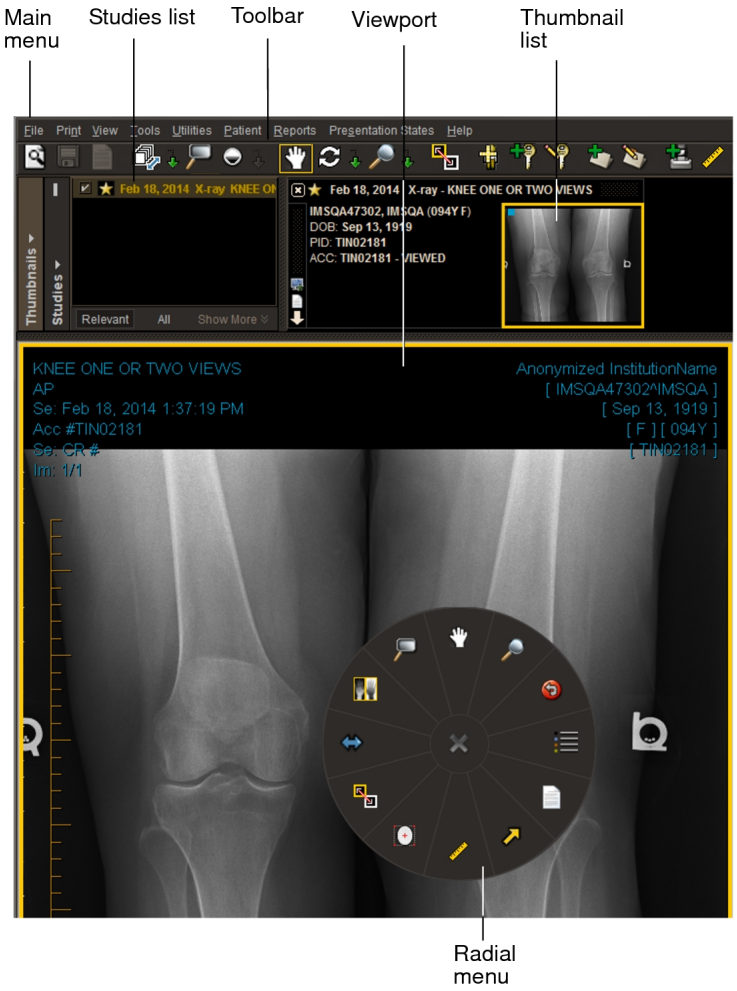
Viewports—Use to view images and related information.

Studies list—Use the Studies list to quickly navigate to a specific study in the Thumbnail strip. The Studies list is part of the Thumbnail view.

Protocol Preview pane—Use the Protocol Preview pane to access the sequence protocols that are used to identify studies and control how they are laid out in the viewports. The pane also displays the series of reading steps for the current sequence protocol. The Protocol Preview pane is part of the Thumbnail view.

The Protocol Preview pane is not available if the currently open study does not match a sequence protocol.

Study panel—Use to view the patient demographic information as well as the study description and the number of series contained in the current study. The Study panel is part of the Thumbnail strip.



See Also

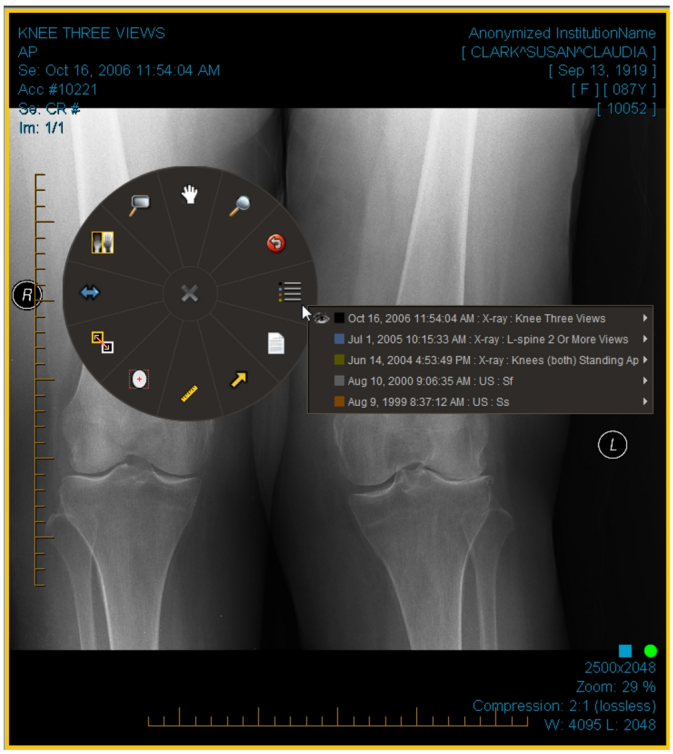
Displaying the Radial Menu 66
Using the Thumbnail Strip 449
Using the Studies List 442
Opening Multiple Windows 72
Hiding Patient Information While Presenting 708

Using the Study Color Coding Scheme

Several main elements of the InteleViewer interface use a color coding scheme to make it easier to differentiate between prior studies. This can be useful when you load several studies in a viewport and need to quickly identify which loaded images belong to the same study. For example, on a four-monitor configuration with a 3 x 4 series layout spanning across all monitors, each row contains views from different studies. By looking

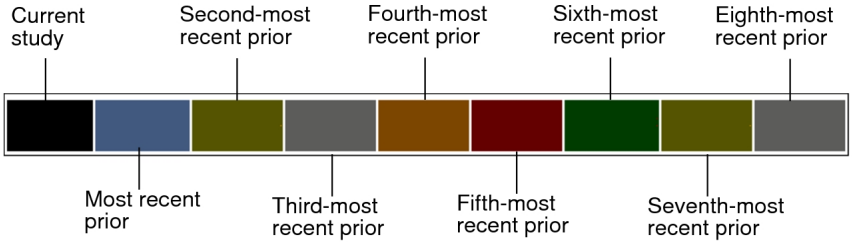
at the text overlay color, you can identify which images belong to the same study on each monitor.

The InteleViewer elements that use a color scheme are the Thumbnail strip, Studies list, viewport text overlays, Patient menu, and the Comparison list in the Protocol Preview pane.



Patient menu displays all relevant prior studies using colored squares

Black represents the current study and dark blue represents the most recent prior study. Prior studies are represented by a repeating sequence of five colors.

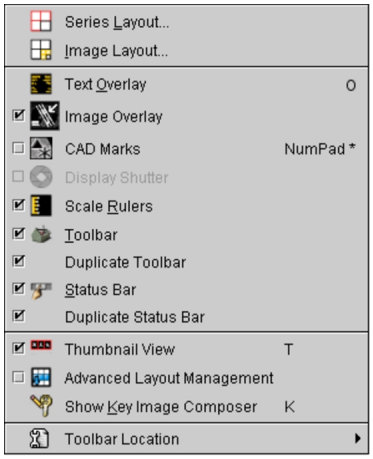


Displaying the Toolbar and Status Bar

You can display or hide the toolbar and status bar. You can also duplicate the toolbar and status bar.

To display the toolbar and status bar:

1. From the main menu, choose View.



2. Do one of the following, as required:
   - To display the toolbar, choose Toolbar. A check mark indicates that the toolbar is displayed.
   - To display the status bar, choose Status Bar. A check mark indicates that the status bar is displayed.
3. To duplicate the toolbar and status bar, do one of the following, as required:
   - To duplicate the toolbar, choose Duplicate Toolbar. The toolbar is only duplicated when the Toolbar Location is set to top or bottom.
   - To duplicate the status bar, choose Duplicate Status Bar. When disabled, the status bar spans across all monitors.

   The toolbar and status bar settings are not specific to a workstation, and therefore will roam.

See Also

Appearance Preferences 91

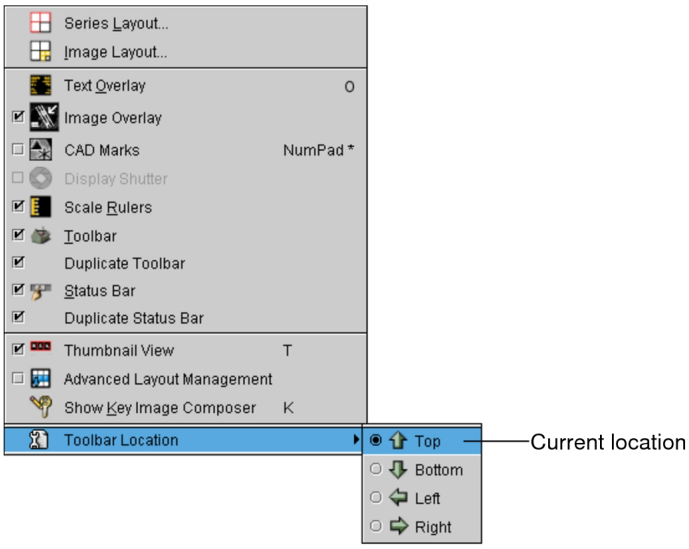
Setting the Toolbar Location

You can set the location of the toolbar in the application window. When the location is set to top or bottom, you can duplicate the toolbar across monitors.

To set the toolbar location:

1. From the main menu, choose View | Toolbar Location.

   The current location is indicated.



2. Select a new location for the toolbar in the application window.

   The new location remains in effect the next time you start InteleViewer.

   The toolbar location is not specific to a workstation, and therefore will roam.

See Also

Displaying the Toolbar and Status Bar 64

Displaying the Radial Menu

Use the radial menu to access a set of tools that you use to manipulate the images displayed in the current viewport. For example, you can view reports that are synchronized with the currently selected viewport, apply measurement and annotation tools, and stack through a series with multiple images. The radial menu is modality-sensitive: it displays tools that are relevant to the modality of the current study open in the viewport.

Show Radial Menu must be enabled in your User Interface preferences.

InteleViewer provides you with default radial menu tools for any given modality. These default tools can be customized. For more information, see “Customizing the Radial Menu” below.

The radial menu is divided into several slices, with each slice containing a different tool. The radial menu illustrated below includes the 12 default slices with commonly used tools for an X-ray study.

Radial menu displaying the tools for an X-ray study

Your user preferences determine whether tooltips, which display descriptive information, appear when you place your cursor over tools in the radial menu.

The radial menu settings are not specific to a workstation, and therefore will roam. The size of the radial menu is determined by the monitor calibration.

To display the radial menu:

1. Right-click anywhere in the viewport.

   The radial menu appears, with the cursor centered in the inactive region of the radial menu. None of the tools are highlighted.

   Show Radial Menu must be enabled in your User Interface preferences.

2. Move the cursor to one of the slices, and click it to select the tool.
3. To close the radial menu or submenu without selecting a tool, click the “x” button in the middle of the radial menu or submenu, or click anywhere in the viewport.

See Also

Calibrating Monitors for True Size 70
User Interface Preferences 85

Customizing the Radial Menu

You can change the default tools that appear on the radial menu for any given modality. By using simple drag-and-drop techniques, you can add, replace, or remove tools on the radial menu.

You can also move a tool already included in the radial menu to another location on the radial menu. Additionally, you can swap locations of two tools in the radial menu.

The radial menu expands as you add more tools to it, allowing you easy access to each tool, no matter how many tools you have added to it. For each modality, you can also reset the radial menu to its default settings.

To add, replace, swap, move, or remove a tool on the radial menu:

1. From the InteleViewer main menu, select Utilities | User Preferences | User Configuration.
2. Click the Radial Menu tab.

   The Radial Menu tab appears.
3. Above the radial menu, select a modality from the menu to display the current tools for that modality.

   The radial menu changes to display the tools for that modality.
4. To add or replace a tool on the radial menu, do the following:
   - Expand the Tools menu to locate the tool which you would like to add or replace.
   - Click a tool in the Tools menu.
   - To add the tool, drag-and-drop it between two tools on a certain location in the radial menu.
   - To replace a tool, drag-and-drop the tool onto an existing tool on the radial menu.
5. To move a tool already located in the radial menu, do the following:

- Click a tool in the radial menu.
- Drag-and-drop the tool between two tools on a certain location in the radial menu.

6. To swap the location of two tools already located in the radial menu, do the following:

   - Click a tool in the radial menu.
   - Drop-and-drop the tool onto an existing tool on the radial menu.

   The location of the two tools are switched on the radial menu.

7. To remove a tool from the radial menu, drag the tool outside the radial menu.
8. Click Apply, and then OK to apply your change and close the window.

Resetting the Radial Menu to its Default Values

For any given modality, the radial menu includes particular tools by default. If you customize the radial menu, you can later return to the default tools. For example, if you add the Magnification Glass tool and the Quadrant Zoom tool to the CT radial menu, and remove the Zoom tool, you can later return to the default CT radial menu, which does not include the Magnification Glass tool and the Quadrant Zoom tool, but does include the Zoom tool.

You must reset the radial menu to default values per modality. That is, you cannot reset the radial menu to default values for all modalities at once.

To reset the radial menu to its default values:

1. From the InteleViewer main menu, select Utilities | User Preferences | User Configuration.
2. Click the Radial Menu tab.

   The Radial Menu tab appears.

3. Above the radial menu, select a modality from the menu to display the current tools for that modality.

   The radial menu changes to display the default tools for that modality.

4. From the bottom of the window, click Reset to Default.

The radial menu for the chosen modality is reset to the default.

5. Click Apply.
6. If you are finished with configurations on this window, click OK.

Calibrating Monitors for True Size

To use the True Size zoom feature in InteleViewer, where 1 millimeter on screen is equal to 1 millimeter in real life, you must calibrate your workstation monitors.

If either an image or your monitor is not calibrated, the True Size zoom text overlay specifies that this is the case.

Configure the display settings for your workstation monitors by entering the pixel pitch (the physical distance between pixels) of each monitor. Look for the pixel pitch information in the manufacturer specifications for your monitor. By calibrating your monitor you are also ensuring that GUI elements such as the radial menu and toolbar are scaled and displayed in the correct proportions, especially on large monitors.

If the pixel pitch information is not in the specifications, using a ruler, measure the width of the active area of each monitor in millimeters. Divide this value by the number of pixels to obtain the pixel pitch.

You have to calibrate monitors only once. If you change, add or remove a monitor, however, reenter the pixel pitch information in order to obtain accurate display information.

To calibrate the monitors:

1. In InteleViewer, choose Utilities | Monitor Calibration.

   The Monitor Calibration window appears.

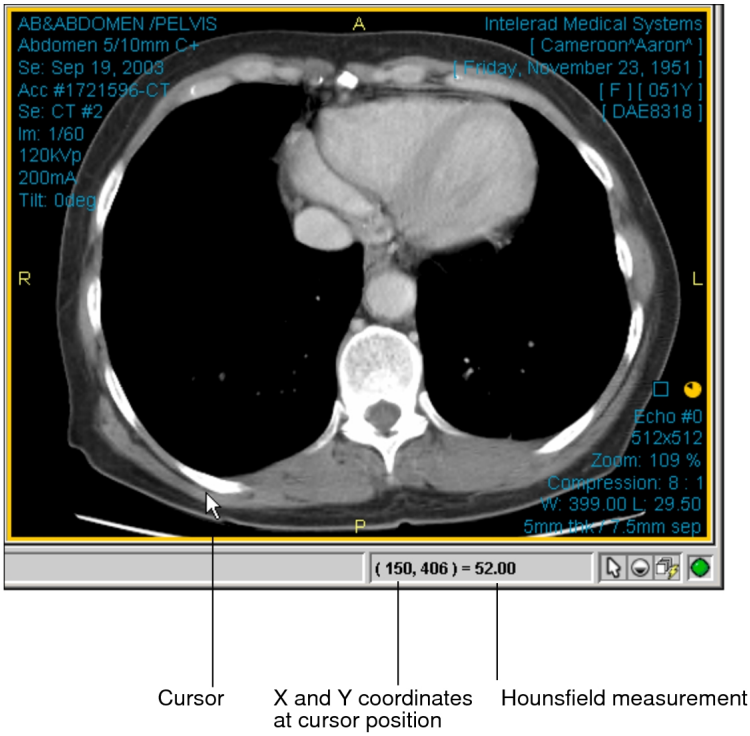
2. Select the monitor to calibrate, enter a value for each monitor.
3. Click OK.

   Your monitors are calibrated.

Displaying Intensity Values

The intensity values of pixels and their location on the X and Y planes of the image are interactively displayed in the status bar as you move the cursor on an image. For CT studies, the attenuation coefficient of different types of tissue is measured and displayed in Hounsfield units (HU). For other modalities, pixel intensity values at the current cursor location, which may (or may not) have been calibrated by the scanner, appear.

When zooming, panning, stacking, or adjusting the window level, pixel intensity values are not displayed until you have finished your adjustments.



Displaying the Text Overlay and Image Overlay

You can display or hide the text overlay and image overlay information. Image overlays are displayed by default. For text overlays, your user preferences determine the color of the text, the information contained in the text overlay, and whether the text overlay appears automatically when you open images.

When displaying the text overlay information for a prior study from the current patient, a colored filled rectangle appears behind the series date and time text overlays that matches the color scheme used to differentiate between prior studies. For studies from another patient, a gray filled rectangle appears behind the series date and time and patient name text overlays.

See Also

Setting Text Overlay Preferences 144
Appearance Preferences 91
Using the Study Color Coding Scheme 63
Displaying the Text Overlay 482
About Text Overlay Abbreviations 483
Displaying the Image Overlay 486

Opening Multiple Windows

You can open additional InteleViewer application windows to view and work with studies. All of the InteleViewer features are available in the new windows, no matter how many you choose to open.

For example, if you are interrupted with an urgent case while working with a set of studies, you can search for and view the urgent case without disturbing your pre-existing work.

You can also create multiple InteleViewer sessions by connecting to different IntelePACS.

To open multiple windows:

1. Do one of the following:
   - From the main menu, choose File | New Window.
   - Press **CTRL+N**.

   A new InteleViewer window opens.
2. To open additional windows, repeat step 1 as many times as required.

To close windows:

1. Select the required application window.
2. Do one of the following:
   - From the main menu, choose File | Close Window.
   - Click the “x” button in the top right corner of the window.

   The window is closed. If only one InteleViewer window was open, you will be asked if you want to exit the application.

See Also

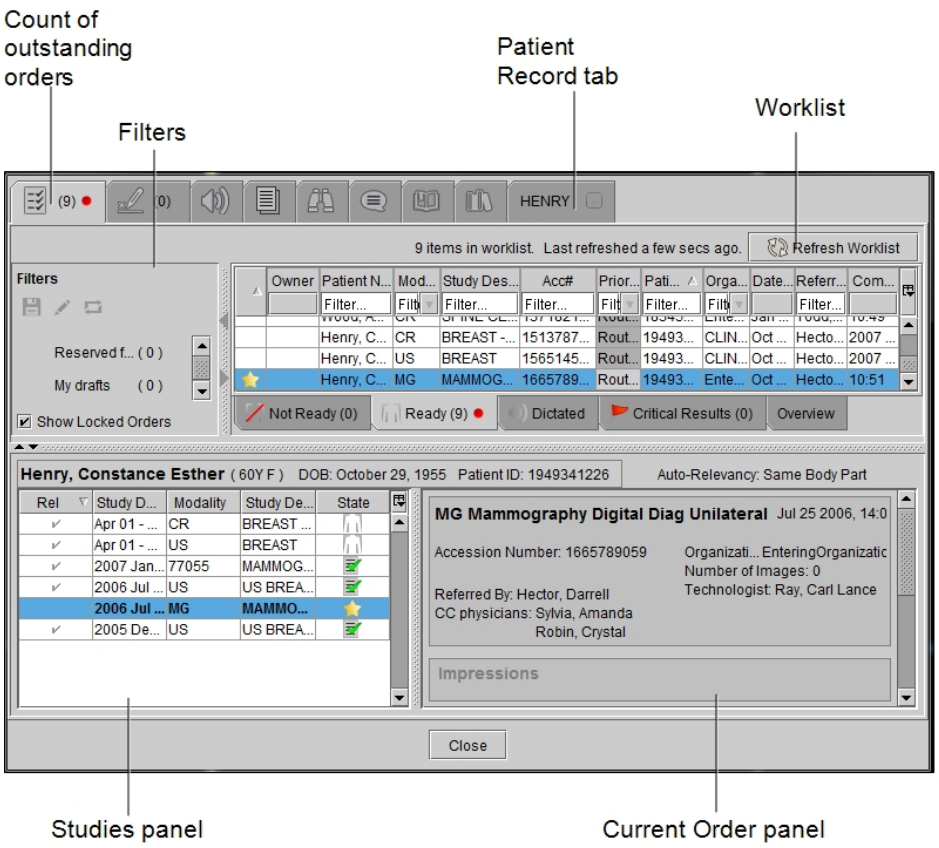
Connecting to Multiple IntelePACS (Multiple Session InteleViewer) 58

Understanding the Reporting Worklist Module Interface

The Reporting Worklist Module has three tabs you can use depending on the function you need to perform. They are the *Worklist tab*, *To Sign tab*, and *Messaging tab*. If you use peer review in your workflow, then a Peer Reviews tab appears.

The main elements of the Worklist tab are the *filters*, *worklist*, *Patient History panel*, and the *current order panel*. Every order that appears in the worklist is available for you to dictate, except for orders that are locked or reserved by other users.

Use the filters to find the orders you require and select them in the worklist. Detailed history and impressions for the selected order appear in the Current Order panel. If you use critical results in your workflow, then detailed critical results for the selected order also appear.



The Patient History panel displays prior orders for the selected patient in chronological order. The current order is bolded. Clicking a prior order in the Patient History panel expands it so you can view the full details.

Icons in the Patient History panel indicate the status of the order:

Icon	Order Status
	The order is available for dictation. Images are available.
	The order is not available for dictation. Images are not available or the order is in progress.
	The order is open (in the Patient Record tab) and is currently being viewed by me.
	This order has been saved as a draft by me.
	The order is reserved for me.
	The order is locked and reserved by another radiologist.
	The order is saved as a draft by another radiologist or is currently being read

Icon	Order Status
	by another radiologist.
	The order has been dictated.
	The report is awaiting a signature (preliminary report).
	The report has been signed. The final report is available.
	The order is transferring.

3 SETTING PREFERENCES

A comprehensive set of customizable preferences provide extensive control of the interface and application behavior.

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About Roaming User Profiles 77

Setting Application Preferences 84

Setting Modality Preferences 129

Setting Reporting Worklist Module Preferences 147

Choosing a Dictation System 150

Supported Dictation Voice Recorders 158

About Setting Preferences

Set user preferences to customize the interface behavior, appearance, and image layout. If your IntelePACS is configured with advanced layout management, you also configure layout protocols in the user preferences, or configure sequence protocols in the Sequence Protocol Manager.

The preferences you set are stored on the IntelePACS server. Every time you log into an InteleViewer workstation, your preferences follow you and are automatically be applied at that workstation.

Certain preferences might not be available when you log in to a different workstation. These must be configured on each workstation that you use. These preferences are in the appropriate sections.

See Also

Configuring Layout Protocols 806
About Configuring Layout Protocols 807

About Roaming User Profiles

Roaming user profiles are collections of personalized preferences and tool defaults that are stored on the IntelePACS server for each user. After you customize user preferences or tool defaults, every time you log in to an InteleViewer workstation, your user profile is automatically applied to your login session at that particular workstation. Any changes you make to your user profile are updated on the PACS server.

There are two types of profiles: *general* and *layout*.

General profiles are collections of user preferences (set in the User Preferences dialog) and tool defaults. These preferences include:

- Worklist column widths and sorting order
- Display of status bar, toolbar, or thumbnail view
- Worklist filters (including linked filters)
- Toolbar location, last tool used, and setup of various tools (image scroll bar, stacking tool, etc.)
- Patient Record tab user interface

- Search tool user interface
- General user interface settings
- Appearance settings
- Measurement settings
- Dictation Module settings

Layout profiles are specific to your monitor setup and shared only with workstations having the same number of monitors. These preferences include:

- Series layout
- Image layout
- Modality preferences
- Advanced Layout protocols
- Mammography protocols
- Presentation States settings

Certain user preferences and tool defaults are workstation-specific, and therefore do not roam. These are stored locally on your workstation and include: window sizes and positions, the Toolbar Icon Size, Local Storage settings, Print dialog settings, Export JPEG options, DICOM preferences, site code, Third-Party Viewer settings, server bookmarks, monitor calibration, dictation-system settings (with the exception of Dictation Module settings), and the upgrade track.

You can create new general and layout profiles, and switch profiles to use preferences and tool defaults that are more appropriate to the workstation on which you are working.

When you log in to InteleViewer, the current general and layout profiles for your workstation and user name are loaded from the IntelePACS server, and merged with the local preferences.

About Profile Templates

You create general or layout profiles based on *profile templates*. Profile templates define common preference settings that apply to general or layout profiles. When you apply a general or layout profile, you use the preference settings that are defined in the profile template that it is based on. You can overwrite these preference settings without affecting the profile template on the server or the profiles of other users on your network.

You can create profile templates and store them on the IntelePACS server so that they can be accessed by all users.

To use this feature, ask your PACS administrator to configure your user account. Typically only the PACS administrator or chief radiologist has access to this feature.

InteleViewer provides a number of general and layout profiles that have been created for you based on a profile template. These predefined profiles are a copy of the profile templates stored on the server and use the same name as the profile template. For example, the 1-monitor layout profile is based on the 1-monitor template. You can use these profiles as your current profile or change them to suit your needs. These profiles appear non-italicized in the Manage Profiles dialog.

You can also use these predefined profiles to create new profiles. Every time you create a general profile, it is automatically based on the Standard template or the Radiologist template. In the case of a layout profile, it is based on the 1-, 2-, 3-, 4-, 5, or 6-monitor template. You can see the name of the profile template that the profile is based on by hovering the mouse cursor over the profile name in the Manage Profiles dialog; it appears on a tooltip. Any profiles that you create appear italicized in the Manage Profiles dialog.

When you log in to InteleViewer for the first time, the system automatically selects a general profile depending on your role. For example, the Radiologist general profile is selected for the Radiologist role, and the Standard general profile is selected for all other roles. In the case of a layout profile, the system automatically detects the number of monitors used for viewing images and selects the appropriate layout profile. For example, if the system detects three monitors for viewing images, then the 3-monitor layout is selected.

The number of monitors used by the layout profile may not correspond to the number of monitors attached to your workstation. Instead, the number is based on the number of monitors suitable for viewing images. For these monitors to be detected, they must have the same geometry and be aligned horizontally, one next to the other.

If you make changes to a general or layout profile, you can reset the profile back to the original values of the profile template it is based on.

Creating Profiles

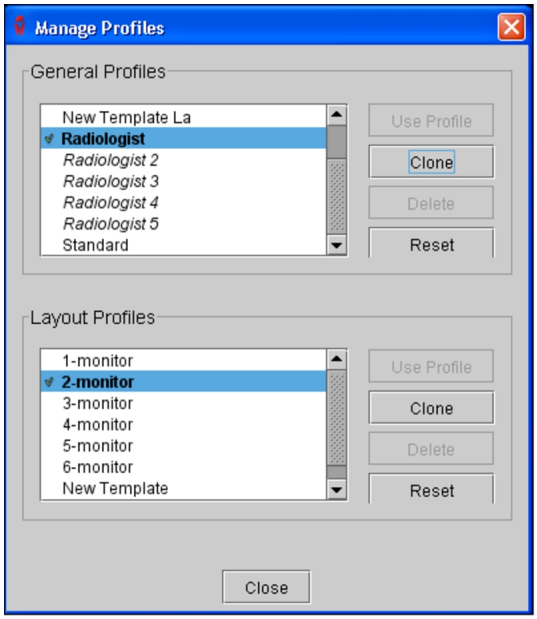
You can quickly create several profiles by copying them and then editing the required preferences in the User Preferences dialog or customizing your tools.

Once a profile is created, it cannot be renamed.

To create a profile:

1. From the main menu, choose Utilities | Manage Profiles.

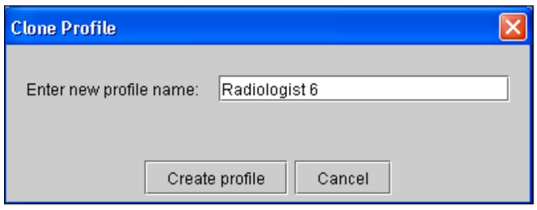
   The Manage Profiles dialog appears.



2. Do one of the following:

   - To create a general profile, select an existing general profile from the General Profiles list, and then click Clone.
   - To create a layout profile, select an existing layout profile from the Layout Profiles list, and then click Clone.

   The Clone Profile dialog appears.



3. Enter a descriptive name for the profile that clearly identifies it. You can enter a maximum of 60 alphanumeric characters, spaces, and dashes (-).

   Profile names must be unique. If you try to create a profile with a name that already exists, a warning will appear as soon as you enter the name.

4. Click Create Profile.

The new profile name appears in the General Profiles or Layout Profiles list.

You can see the name of the profile template that the profile is backed on by hovering the mouse cursor over the profile name; it appears on a tooltip.

To use this profile as your current profile, you need to manually apply the profile after it is created. See “Applying Profiles" (page 81).

Applying Profiles

You can apply profiles anytime to use preferences and tool defaults that are more appropriate to the workstation on which you are working. For example, you log in to a workstation with a grayscale monitor, and select a profile named “Grayscale Monitor” where the measurement tool color is white. You then log in to another workstation with a color monitor and notice that the measurement tool color is white. You can switch to your “Color Monitor” profile where the measurement tool color is red.

To apply a profile:

1. From the main menu, choose Utilities | Manage Profiles.

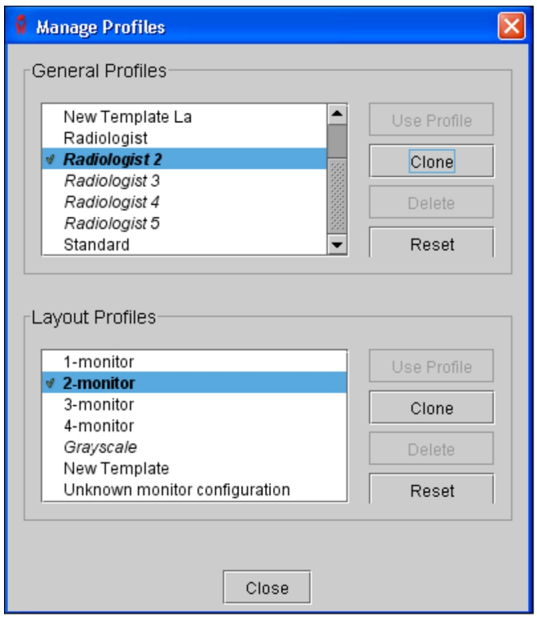
   The Manage Profiles dialog appears.

2. Do one of the following:

   - To choose a general profile, select it from the General Profiles list, and then click Use Profile.
   - To choose a layout profile, select it from the Layout Profiles list, and then click Use Profile.

   The profile settings are applied immediately and the profile name appears in bold preceded by a check mark to indicate that it is the current profile.

   Certain profile settings may not be applied immediately (such as the search mode). To see their effect, you must restart InteleViewer.



3. Click Close.

   The general profile and layout profile selected will be remembered the next time you start the application.

Deleting Profiles

You can delete any profiles that you no longer require.

Deleting a profile cannot be undone. You also cannot delete the predefined profiles or the current profile. By hovering the mouse cursor over the Delete button, a message appears on a tooltip indicating that the profile is currently being used by InteleViewer.

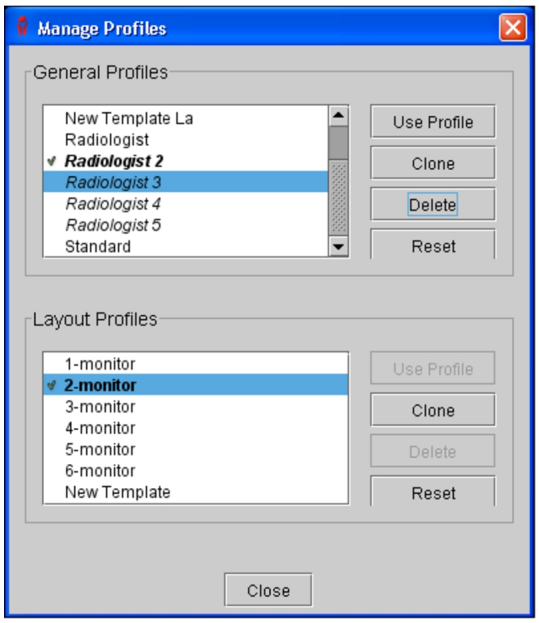
To delete a profile:

1. From the main menu, choose Utilities | Manage Profiles.

   The Manage Profiles dialog appears.

2. Do one of the following:

   - To remove a general profile, select it from the General Profiles list, and then click Delete.
   - To remove a layout profile, select it from the Layout Profiles list, and then click Delete.



3. Click Delete in the confirmation dialog that appears.

   The profile is removed from the list, as well as the IntelePACS server.

4. Click Close.

Resetting Profiles

You can reset a profile back to the original values of the profile template it is based on.

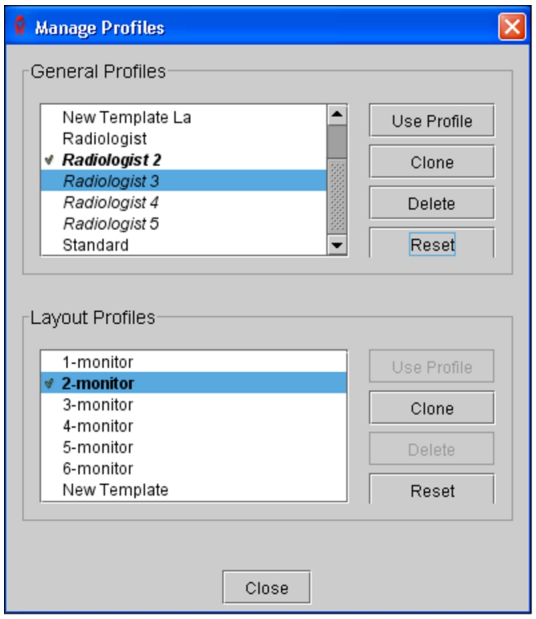
To reset a profile:

1. From the main menu, choose Utilities | Manage Profiles.

   The Manage Profiles dialog appears.

2. Do one of the following:

   - To choose a general profile, select it from the General Profiles list, and then click Reset.
   - To choose a layout profile, select it from the Layout Profiles list, and then click Reset.



You will receive a message asking whether you want to reset the profile to the values of the profile template it is based on.

3. Click Reset Profile to revert the profile.

   The profile is reverted to the original values of the profile template it is based on.

Setting Application Preferences

Use the application preferences to configure and customize the interface, default tool options, and appearance.

To set application preferences:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).

   The User Preferences dialog appears.

2. Click the required application preferences option in the menu. For example, click Measurements to configure the preferences for measurement tools.

   The corresponding preference settings appear.

3. Set the options as required.

   The available options are described in the following sections.

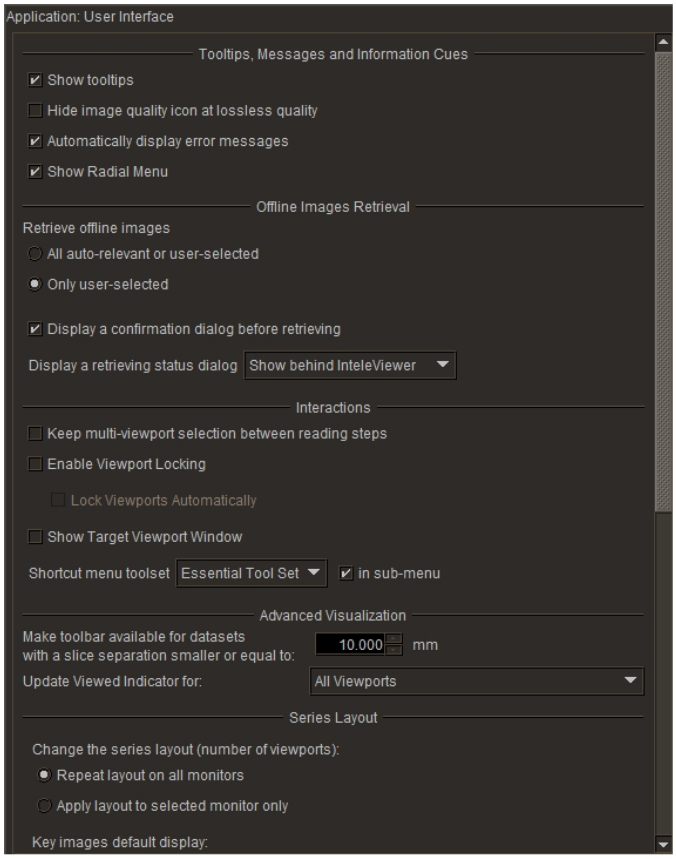
4. Click OK.

   Your changes are saved and the User Preferences dialog closes.

   You can click Apply to save your changes and continue working in the User Preferences dialog.

User Interface Preferences

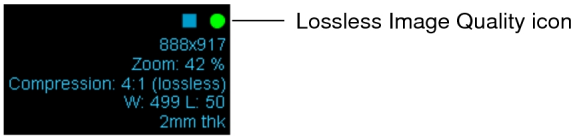
Set the user interface preferences to customize general application behavior.



Tooltips, Messages, and Information Cues

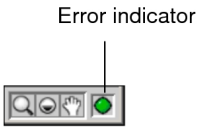
Show Tooltips—Displays descriptive information when you place your mouse cursor over certain interface elements, such as the toolbar, Thumbnail strip, and radial menu. Disable Show Tooltips to hide the tooltips.

Hide Image Quality Icon at Lossless Quality—Automatically hides the image quality icon when the image is displayed at lossless quality. Disable this option to always display the icon.



This preference is ignored for lossy DICOM JPEG images.

Automatically Display Error Messages—Automatically opens the Error Message dialog whenever an error occurs. When you disable this option, you can use the error indicator to monitor the status of error messages.



This color:	Indicates:
Red	An error has occurred. Click the indicator to view the message.
Black	You have already viewed the error message.
Green	No errors have occurred during this session.

You can manually display the Error Message dialog by choosing Utilities | Error Message List.

Show Radial Menu—Displays the radial menu when you right-click in a viewport. The radial menu toolset is specific to the modality of the current study. InteleViewer provides you with a default set of radial menu tools for each modality that you can customize in your User Configuration preferences. Disable Show Radial Menu to access the shortcut menu toolset when you right-click in a viewport.

Offline Images Retrieval

All Auto-Relevant or User-Selected—When you enable this option, if the current study matches a sequence protocol, InteleViewer automatically begins to retrieve offline images for relevant prior studies that match the sequence protocol. Once the offline images are brought online, InteleViewer displays the images in the Thumbnail strip and in the appropriate sequence protocol view.

You can also force InteleViewer to retrieve offline images for a prior study by enabling the corresponding check box in the Studies list or Patient Record tab.

Only User-Selected—When you enable this option, if the current study matches a sequence protocol, InteleViewer does not automatically begin to retrieve offline images

for relevant prior studies that match the sequence protocol. Instead, InteleViewer retrieves offline images only when you enable the checkbox corresponding to the offline study in the Studies List or Patient Record tab. Offline studies appear with a icon in the Studies list.

If the checkbox corresponding to an offline study is already enabled in the Studies list, click the icon to retrieve the offline images.

Display a Confirmation Dialog Before Retrieving—When you enable this option, a confirmation dialog appears before InteleViewer retrieves offline images for a study. When you disable this option, InteleViewer begins to retrieve offline images without requiring a confirmation.

Display a Retrieving Status Dialog—Sets whether to display the Retrieving Offline Data dialog as offline images are brought online. You can display the Retrieving Offline Data dialog in the foreground or background. If set to display behind InteleViewer, you must click in the taskbar to view the dialog during the retrieval process.

Interactions

Keep Multi-Viewport Selection Between Reading Steps—Keeps multiple viewports linked while you change reading steps. As a result, you can navigate through multiple steps in a sequence protocol without having to re-select viewports each time you view a new step.

Enable Viewport Locking—Enables the Viewport Locking feature, which you can use to associate the viewports with a particular study.

Lock Viewports Automatically—When you enable this preference, and then you drag a study into an empty viewport, InteleViewer locks the viewport for only that study.

Show Target Viewport Window—Displays the Target Viewport window when you click and drag a thumbnail image from the Thumbnail strip to a specific viewport. This can be useful in a multiple-monitor configuration if, for example, you want to drag a series or study from the Thumbnail strip in the first monitor to one or more viewports in the fourth monitor.

You can choose to display the Target Viewport window when only more than 2, 3, or 4 monitors are currently spanned by the InteleViewer window. Disable this option to hide the Target Viewport window.

The Target Viewport window displays the predefined layouts for every monitor detected on your workstation, up to a maximum of six monitors. This number may not correspond

to the physical monitors connected to your workstation. The monitor layouts that appear in the Target Viewport window are based on the layout profiles stored on the IntelePACS server for your workstation and user name. When you log in to InteleViewer, the system automatically detects the number of monitors used for viewing images and selects the appropriate layout profile. For example, if the system detects three monitors for viewing images, then InteleViewer selects the 3-monitor layout and you will see three monitors in the Target Viewport window.

Shortcut Menu Toolset—Selects the set of tools to display in the shortcut menu for all modalities when you right-click in a viewport. You can choose the Minimum, Essential, or Complete toolset. For example, choose Minimum to display the smallest toolset, which contains the Stack, Sort, Magnification Glass, Window Level, Zoom, Pan, Free Rotate, and Drag and Swap tools. The Patient menu also appears for each toolset.

If Show Radial Menu is enabled, the radial menu appears instead of the shortcut menu when you right-click in a viewport.

In Sub-Menu—Organizes the toolset options of the shortcut menu into a submenu, thereby separating the options from the Patient menu. Disable this option to view all of the toolset options and Patient menu in the same window.

Advanced Visualization

Make Toolbar Available For Datasets with a Slice Separation Smaller or Equal To—Determines the maximum slice thickness permitted for displaying the Advanced Visualization toolbar. If the slice thickness exceeds the number indicated here, the Advanced Visualization toolbar is not displayed.

To use the Advanced Visualization toolbar, ask your PACS administrator to enable either the Image Reformat Functionality privilege or the Volumetric 3D Functionality privilege in your user account.

Default Slice Thickness for Custom Slabbing—Defines the default slice thickness for Maximum Intensity Projection (MIP) when doing a custom slabbing of MR and CT images.

Update Viewed Indicator For—Determines which images are marked as viewed (view status).

This option:	Indicates:
All Viewports	Images in any viewport are marked as viewed.
Same Monitor	Only images which are on the same monitor as the current viewport are marked as viewed.

This option:	Indicates:
Selected Viewports	Images in selected viewports are marked as viewed.

Series Layout

Repeat Layout on all Monitors—Applies the same viewport layout to all monitors on your workstation (if your system is configured to view InteleViewer across multiple monitors).

Apply Layout to Selected Monitor Only—Applies the viewport layout that you have selected to only the current monitor.

Key Image Layout

Follow Current Image Layout—Displays the images by using the current series image layout. This option is enabled by default. Images in a viewport are displayed according to the layout of that viewport.

Display All Key Images in a Tile Format—Displays the key images in a tile format. This setting overrides the current key image layout.

When Returning To a Multi-Viewport Layout From a 1-Viewport Layout Opened By Double-Clicking—Sets whether to restore the original series when returning to a multi-viewport layout from a 1-viewport layout that was accessed by double-clicking a series. For example, if you double-click Series 1 in a multi-viewport layout to display the series in a 1-viewport layout, and then replace Series 1 with Series 2, choosing Restore the Original Series shows Series 1 in the viewport when returning to the multi-viewport layout. Choosing Keep the Current Series shows Series 2 in the viewport when returning to the multi-viewport layout.

Critical Results

Filter Critical Results Findings based on Selected Level—In the Findings list, displays only critical results pertaining to the selected level.

Default Selected Action—Automatically selects the default behavior for your critical result actions.

Default Selected Assistant Action—Displays the action that appears by default when you select an action for your assistant.

Registration Data

Use Registration Data—Enable to use the Auto Linked Stacking tool to synchronize series on parallel planes that have coordinate systems that are linked via DICOM registration data. Disable to ignore the DICOM registration data and stack only the series from the same study that share a unique coordinate system.

The Registration Data feature must be configured on your IntelePACS. This option is linked to the Use Registration Data option in the Linked Stacking Tool menu. For example, if you enable the option in the User Interface Preferences, the option is also enabled in the Linked Stacking Tool menu.

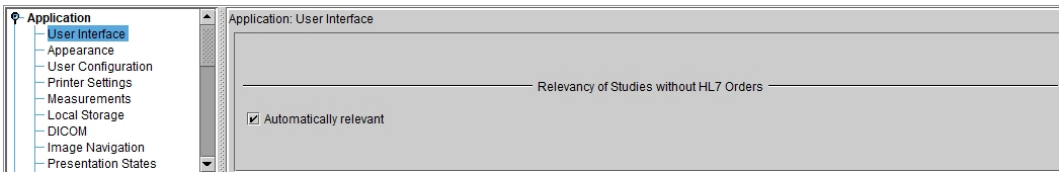
Automated Candidate Patient Selection

Automatically Consider Candidate Patients with a Minimum Confidence Level of [*% value*] as Being the Same Patient—Enable this option to automatically set candidate patients that meet the minimum confidence level threshold as being the same patient as the current patient. Candidate patient orders that match the current Auto-Relevancy setting in the Patient Record tab automatically appear as relevant in the Studies list.

If you disable this option, you must manually select the candidate patient in the Patient Record tab to view the relevant orders.

The Automated Candidate Patient Selection feature requires IntelePACS configuration.

Relevancy of Studies without HL7 Orders



Enable this option to automatically set the studies without the HL7 orders as relevant.—

This option is selected by default.

If you disable this option, you must manually select the studies without HL7 orders as relevant in the Patient Record Tab or Thumbnails.

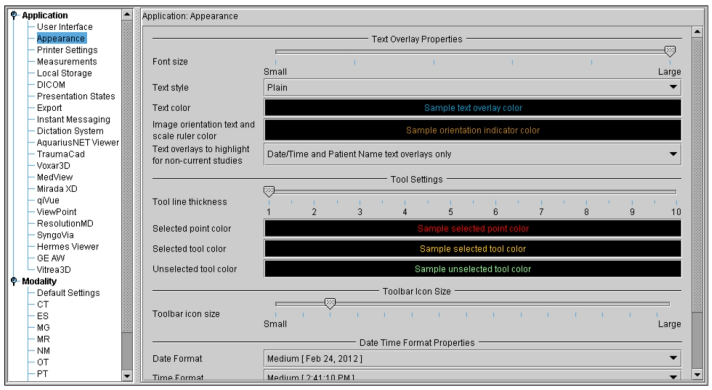
See Also

Viewing Priors of Patient Candidates 319
About Roaming User Profiles 77
Verifying that All Images have been Viewed 419
Customizing the Radial Menu 68
Keeping Viewports Linked When Changing Reading Steps 481
Changing the Viewport Layout 408
Synchronizing Stacking Using DICOM Registration Data 396
About Matching Patients for Prior Studies 314
About the Advanced Visualization Toolbar 466

Appearance Preferences

Set the appearance preferences to customize the text information displayed on study images, the Thumbnail strip, the toolbar size, and the default tool colors.

Appearance Preferences



Font Size—Adjusts the size of the text overlay. Click and drag the slider to increase or decrease the font size.

Text Style—Changes the style of the text overlay. You can choose Plain, Bold, or Italic.

Text Color—Changes the color of the text overlay. To set the new color, click the text box and use the Choose Color dialog that appears.

Image Orientation Text and Scale Ruler Color—Changes the color of the image orientation labels and scale rulers. To set the new color, click the text box and use the Choose Color dialog that appears.

Text Overlays to Highlight for Non-Current Studies—Controls which text overlays are highlighted in a viewport for non-current studies. When you choose Date/Time and

Patient Name Text Overlays Only (enabled by default), InteleViewer highlights only the date and time text overlays when displaying an image from a prior study for the current patient. When displaying an image from a study for another patient, InteleViewer highlights only the patient name and date and time text overlays. Depending on the date and time information that you set for the modality, any of a combination of the following text overlays are highlighted in the viewport: series date and time, series date, series time, study date and time, study date, and study time.

When you choose All Text Overlays, InteleViewer highlights all the text overlays when displaying an image from a study for another patient. When displaying an image from a prior study for the current patient, InteleViewer highlights all the text overlays except the patient information. Depending on the patient information that you set for the modality, any of a combination of the following text overlays are highlighted in the viewport: patient name, date of birth, gender, age, patient ID, patient weight, patient comments, and other patient IDs.

Tool Line Thickness—Sets the line thickness of measurement and annotation tools, in pixels.

Selected Point Color—Changes the color of the selected point when editing measurement and annotation tools. To set the new color, click the text box and use the Choose Color dialog that appears.

Selected Tool Color—Changes the color of the currently-selected measurement or annotation tool. To set the new color, click the text box and use the Choose Color dialog that appears.

Unselected Tool Color—Changes the color of all unselected measurement and annotation tools in the viewports. To set the new color, click the text box and use the Choose Color dialog that appears.

Line Thickness—Sets the line thickness of measurements and annotations, in pixels.

Control Point Color—Changes the color of the selected point when editing measurements and annotations. To set the new color, click the text box and use the Choose Color dialog that appears.

Current Tool Color—Changes the color of the currently-selected measurements or annotations. To set the new color, click the text box and use the Choose Color dialog that appears.

Locked Tool Color—Changes the color of all locked measurements and annotations in the viewports. To set the new color, click the text box and use the Choose Color dialog that appears.

Toolbar Icon Size—Increases and decreases the size of toolbar icons. The maximum height is 128 pixels and the minimum height is 12 pixels.

⚠ The toolbar will be cut off if its size exceeds the span of the InteleViewer window.

The toolbar icon size is specific to a workstation, and therefore does not roam.

Date Format—Customizes the display of date information. You can choose to display Full, Long, Medium, and Short date information.

Time Format—Customizes the display of time information. You can choose to display Full, Long, Medium, and Short time information. Choose Override local time setting to display the time according to the 24-hour clock convention.

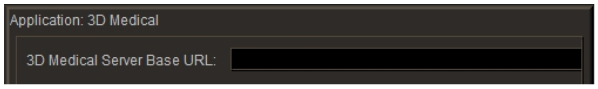
Theme—Customizes the color of the interface. Choose Classic for bright work environments and Dark for dim work environments.

Font Size—Customizes the size of characters.

3D Medical Preferences

Set the 3D Medical preferences to configure InteleViewer to open images in 3D Medical, a 3D printing application.

To use this feature, ask your PACS administrator to enable the Grant Study Access and 3D Medical privileges in your user account.



3D Medical Server Base URL— The URL to launch the 3D Medical application.

See Also

Printing 3D Models of Studies 782

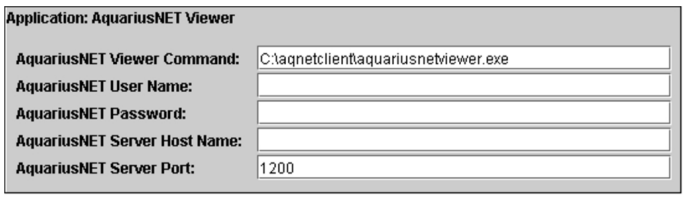
AquariusNET Viewer Preferences

Set the AquariusNET Viewer preferences to configure viewing of 3D images generated by the AquariusNET server from TeraRecon Inc.

For information on using the AquariusNET client and server, please refer to your AquariusNET product documentation.

The AquariusNET Viewer preferences are workstation-specific, and therefore will not roam.

AquariusNET Viewer Preferences



AquariusNET Viewer Command—The path to launch the executable of the AquariusNET Viewer application. To specify additional launch options (such as `-OneInstance`), separate each parameter with a space. If a parameter requires a space, use double-quotes around the parameter.

AquariusNET User Name—The user name required to log in to the AquariusNET server.

AquariusNET Password—The password required to log in to the AquariusNET server.

AquariusNET Server Host Name—The host name of the AquariusNET server.

AquariusNET Server Port—The TCP port number of the AquariusNET server.

See Also

Viewing 3D Images 829

BIRADS Preferences

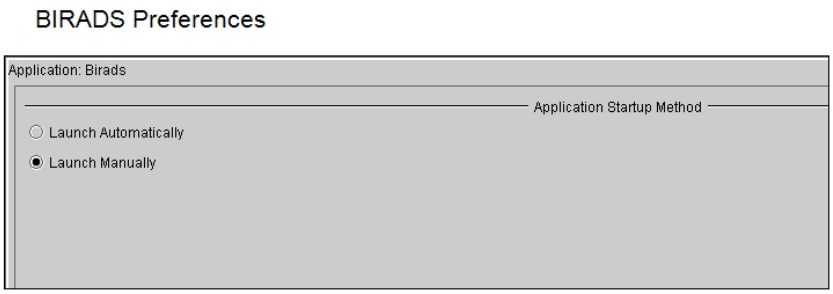
Set the BIRADS preferences to automatically or manually display InteleRIS BIRADS worksheets for mammography studies.

To access this feature, it must be enabled on your PACS. Also, ask your PACS administrator to enable the Third-Party RIS and BIRADS privileges in your user account.

You can display BIRADS worksheets in Internet Explorer 8 and higher and Chrome.

Launch Automatically— Displays the InteleRIS BIRADS worksheet when you open a mammography study.

Launch Manually— Displays InteleRIS BIRADS worksheets only when you click the BIRADS icon in the menu.

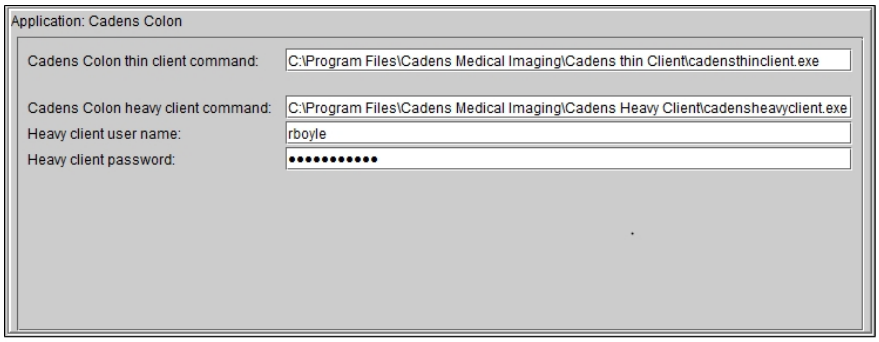


Cadens Colon Preferences

Set the Cadens Colon preferences to configure InteleViewer to open images in the Cadens Colon software. For information on using Cadens Colon, refer to your Cadens product documentation.

To use this feature, ask your PACS administrator to enable the appropriate privileges in your user account.

The Cadens Colon settings are not specific to a workstation, and therefore will roam.



Cadens Colon Thin Client Command— The path to the executable file that launches Cadens Colon Thin Client.

Cadens Colon Heavy Client Command— The path to the executable file that opens Cadens Colon Heavy Client.

Heavy Client User Name— Your Cadens Colon user name. This is required when launching Cadens Colon Heavy Client.

Heavy Client Password— Your Cadens Colon password. This is required when launching Cadens Colon Heavy Client.

The thin client and heavy client commands are defined by default. InteleViewer will launch the thin client if both are installed on the workstation. In most cases, there will only be one client installed on your workstation and that version of Cadens Colon software will be launched.

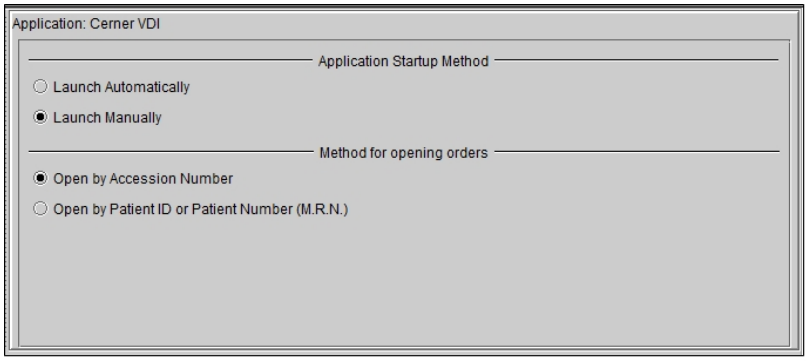
See Also

Viewing Colonoscopy Studies 838

Cerner Visual Desktop Integration (VDI) Preferences

Set the Cerner VDI preferences to manually or automatically launch Cerner VDI when you open a study. You set the preferences to open the study by accession number, or by patient ID or number. For information on using Cerner VDI, refer to your Cerner product documentation.

To use this feature, ask your PACS administrator to enable the Cerner VDI and Third-Party RIS privileges in your user account.



Launch Automatically—Launches Cerner VDI automatically when you open a study in InteleViewer.

Launch Manually—Allows you to launch Cerner VDI manually by clicking the Cerner VDI icon on the toolbar.

Open by Accession Number— Opens the study in Cerner VDI by accession number.

Open by Patient ID or Patient Number (M.R.N.)— Opens the study in Cerner VDI by Patient ID or Patient Number.

See Also

Viewing Studies with Cerner Visual Desktop Integration (VDI) 839

ClickView Preferences

Set the ClickView preferences to define the URL that is used to launch ClickView. For information on using ClickView, refer to your ClickView product documentation.

The ClickView preferences are workstation-specific, and therefore do not roam.

To use this feature, InteleViewer must be integrated with ClickView, and PACS administrator must enable the Third-Party RIS and ClickView privileges in your user account.

ClickView Server Base URL—The URL of the ClickView server host.

See Also

Using ClickView for Ultrasound Reports 582
PowerScribe 360 with ClickView 156

Corridor4DM Preferences

Set the Corridor4DM preferences to view nuclear medicine (NM) images in the Corridor4DM software from INVIA. For more information on using Corridor4DM, refer to your INVIA Corridor4DM documentation.

To use this feature, ask your PACS administrator to enable the Corridor4DM privilege and the Third-Party Viewer privilege in your user account.

Corridor4DM Command—The path to launch the Corridor4DM executable file.

See Also

Viewing Nuclear Medicine Images in Corridor4DM 843

DICOM Preferences

Set the DICOM preferences to send data to remote DICOM servers, as well as search for and view DICOM images from remote DICOM servers, including other PACS systems.

To view DICOM images from remote DICOM servers, the DICOM Query feature must be enabled. For more information, contact your PACS administrator. The DICOM preferences are workstation-specific, and therefore do not roam.

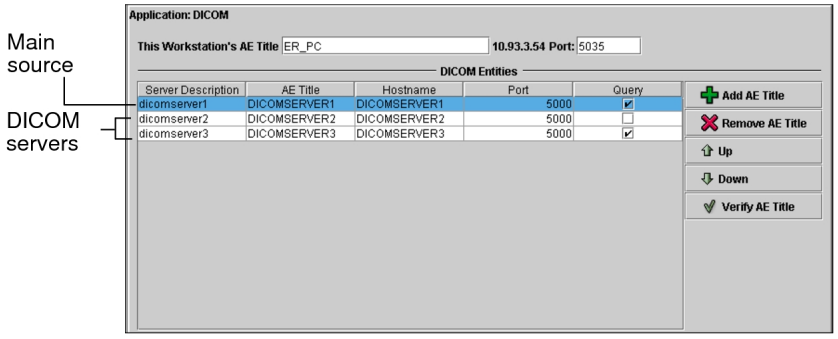
In the DICOM preferences, you define the DICOM servers which can be searched. These servers then appear in the Data Sources list of the Search tool. You can choose to search all the servers in the Data Sources list, or just a selection, every time you perform a search.

Additionally, the Workstation AE title may be required to search a remote DICOM server or to configure printing to film, if the DICOM server or printer you are using requires an AE title to recognize the workstation.

⚠ The DICOM Service receives images on port 5035 by default. If you are using Windows XP with Service Pack 2 or later versions of Windows, the firewall, which is enabled by default, may block access to this port. For more information, contact your PACS administrator.

To use this feature, ask your PACS administrator to configure your user account.

DICOM Preference with the DICOM Query Feature



Workstation AE Title—Identifies the Application Entity (AE) Title of this workstation. It is used by the DICOM server to recognize the workstation on the network. However, note that some DICOM servers do not require this information. If this is the case with the servers to which you are connecting, you can leave this field blank.

⚠ If the workstation AE title is required by a DICOM server, you must make sure to configure the workstation AE title on the DICOM server as well. Otherwise, you will not be able to connect. Do so for each DICOM server required.

This option also enables printing to a DICOM film printer. It is used by the DICOM printer to recognize the workstation on the network.

The AE Title is case-sensitive and should contain a maximum of sixteen characters. Some printer models do not require this information in order to accept print jobs from the workstation. If this is the case with the printer you are using, you can leave this field blank.

📋 An AE Title is a unique identifier for DICOM devices (such as scanners, printers, and workstations). If you do not have this information, contact your PACS administrator.

Port—Specifies the port number of the DICOM Service for receiving images. By default, the port number is 5035.

Set the following options to configure the DICOM servers. Detailed information is provided in “Defining DICOM Servers” below.

Server Description—Describes the server that will be connected to when searching for remotely-stored DICOM images.

AE Title—The Application Entity (AE) Title of the DICOM server to connect to when searching for remotely-stored DICOM images. The AE title is case-sensitive.

📋 The Application Entity (AE) Title is a unique identifier for DICOM devices (such as scanners, printers, and workstations). If you do not have this information, contact your PACS administrator.

Hostname and Port—The hostname and port number of the DICOM server to connect to when searching for remotely-stored DICOM images or sending data to that DICOM server.

📋 If you do not have this information, contact your PACS administrator.

Query—Enable if you want to search the selected server.

Verify AE Title—Tests whether a connection can be established to the DICOM server by using the AE Title and Hostname provided.

In order to perform remote searches or send data to DICOM servers, you need to define a list of DICOM servers. Once you have created this list, choose the server that will act as the main source. This ensures that it is selected by default in the Search tool and that, when you open a study, it is always opened from this server first (provided that you have not deselected the server, or selected the IntelePACS or Local Database as data sources in the Search tool). If the study you are opening is not found on the main source, it will be opened from one of the remaining servers, in priority order.

It is possible that not all series pertaining to the study exist on the server selected as the main source. If this is the case, the remaining series will be opened from the other selected servers.

To define a DICOM server:

1. Click Add AE Title.
2. Enter the server description, AE title, hostname, and port information of the DICOM server in the corresponding fields.
3. To add more DICOM servers to the list, repeat step 1 as many times as is necessary.
4. Enable Query to display the corresponding server in the Search tool as a data source.

   If the Query checkbox is disabled, you will not be able to search that server, but you can still send data to the server.

5. Select the server from which you would like studies to be opened from first, and click Up until it is located at the top of the list.

   This server will also be selected by default in the Search tool.

6. Repeat step 5 for the other servers as necessary to reflect the required priority order.
7. Click Apply.

   Your changes are saved. The selected DICOM servers will be available the next time you perform a search.

To edit a DICOM server:

1. Do any of the following, as required:

To:	Then:
Remove a server from the list	Select the row you would like to delete and click Remove AE Title.
Move the server to a higher position	Select the server in the list and click Up. When you open a study, InteleViewer will first attempt to open it from the first server in the list. If unavailable, it will then attempt to open it from the other servers on the list, in the order in which they appear.
Move the server to a lower position	Select the server in the list and click Down.

2. Click Apply.

   Your changes are saved.

To reorder columns in the DICOM Entities list:

- Click and drag the column heading to its required position.

Setting the Location for a Workstation

IntelePACS uses site codes to improve the streaming of images for InteleViewerworkstations. A site code is a short, alphanumeric identifier that designates a workstation’s and server’s location. Your PACS administrator assigns the site codes for the workstations and servers for your site.

A single-site IntelePACS has a single site code. In this case, IntelePACS uses the configured retrieval priority of each server storing the requested images to determine from which server to stream.

However, in a multi-site enterprise or InteleOne XE environment, the same study may be stored on servers at multiple sites. IntelePACS uses the workstation's site code and the site code of image servers to determine the best physical location of a server from which to stream the requested images.

For radiologists working remotely or in complex networks, their workstations' site code may be assigned to a site that is physically located far away, even when another site is nearer and can stream images to their workstations more quickly. In this situation, your PACS administrator can manually set the workstation's site code to match the site code of the server that is geographically closest to the radiologist's workstation so that images can be streamed faster.

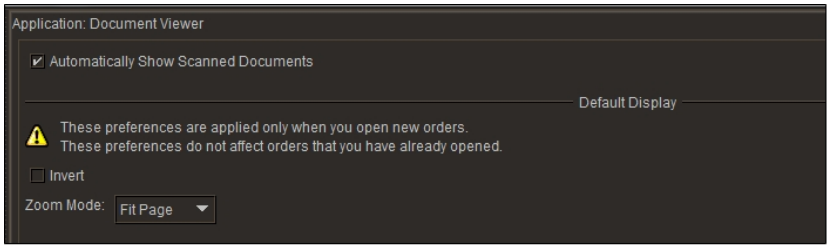
A workstation can have both an AE title and a site code assigned to it. For image streaming in a multi-site enterprise or InteleOne XE environment, the assigned site code overrides the AE title's associated site code. The workstation's AE title still functions normally for DICOM transfers.

To set the site code for a workstation:

1. From the main menu, choose **Utilities | User Preferences** (**Ctrl+U**).
2. Under Application, click **DICOM**.
3. In the **Workstation Location** field, click the site code that identifies the workstation's location.
4. Click **Apply** or **OK**.

Document Viewer Preferences

Set the Document Viewer preferences to customize the behavior of the Document Viewer.



Automatically Show Scanned Documents—When you enable this option and you open an order, the Document Viewer automatically opens and displays the scanned documents that are associated with that order. When you disable this option and you open an order, the Document Viewer does not open, and you must click Show Scanned Documents button in the Patient Record tab to open the Document Viewer.

InteleViewer applies the preferences described below only when you open new orders. These preferences do not affect orders that you have already opened.

Invert—Reverses the colors of a scanned document. For example, black text appears white, and a white background appears black.

Using the Invert button in the Scanned Documents window updates the Invert Document Viewer preferences to the most recent invert usage.

Zoom Mode—This option lets you set the default magnification level for scanned documents. You can zoom in to get a close-up view of your document or zoom out. Fit Page adjusts the magnification so the document fills the document window. Fit Width or Fit Height adjusts the magnification so that the document fills the document window horizontally or vertically. Actual Size displays the document at 100% magnification.

See Also

Viewing Scanned Documents 321

3rd Party Collaboration Tools

This menu offers user preferences for configuring the integration of third-party collaboration tools with InteleViewer.

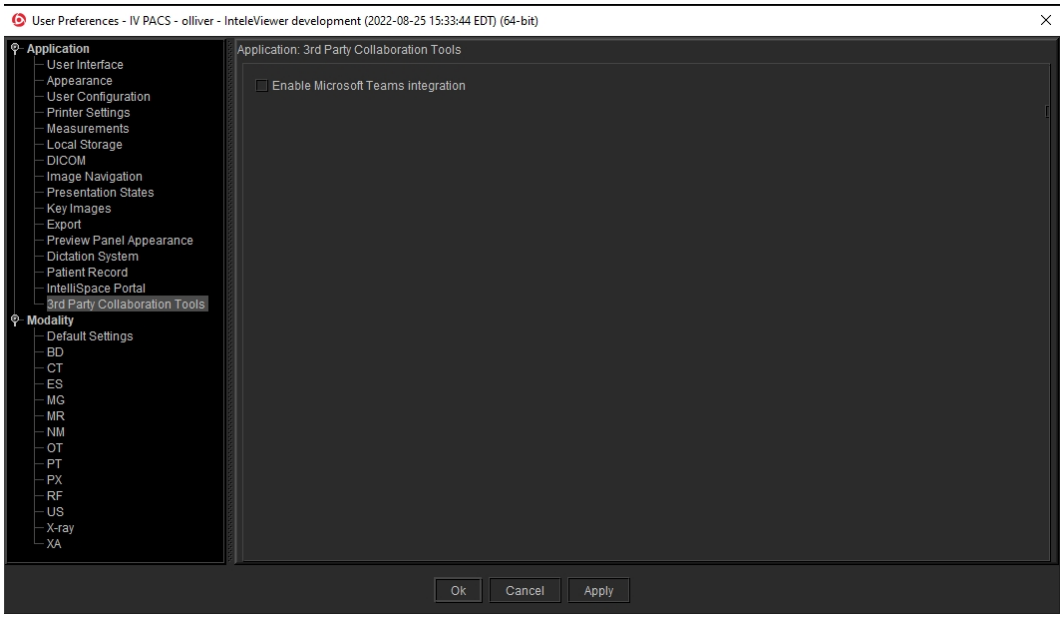
Microsoft Teams

Set the Microsoft Teams Preferences to configure InteleViewer with Microsoft Teams. Only Windows users can access this functionality through User Preferences.

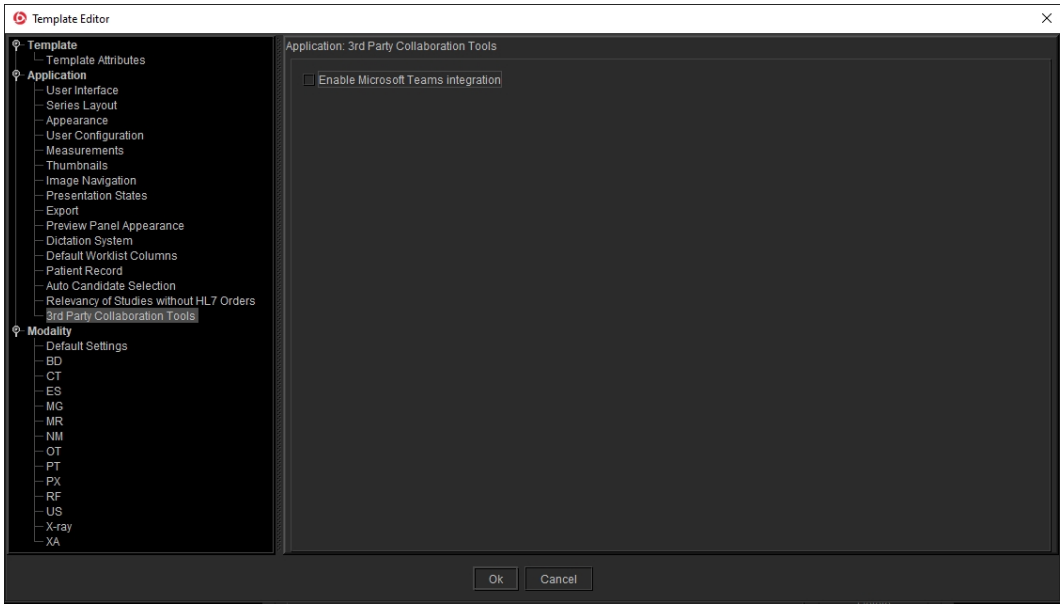
To enable the Microsoft Teams integration:

1. From the main menu, choose **Utilities | User Preferences (Ctrl+U)**.
2. Under Application, click **3rd Party Collaboration Tools**.
3. Mark the **checkbox** to enable or disable the Microsoft Teams integration.
4. Click **Apply** or **OK**.

There is no need to log out the session for this change to take effect.



Users can also access this functionality through the Template Editor regardless of the operating system they used.



When enabled, Windows users will be able to see and potentially use a new Microsoft Teams Icon in the InteleViewer toolbar.

Clicking the Microsoft Teams Icon will copy the study information listed below (no PHI) to the clipboard:

- Accession Number
- Study Description
- Study Date

and bring forward the Microsoft Teams application if already running with a valid session on the workstation, otherwise it will be launched at the login page.

Users will be able to paste the information copied on the clipboard to the active chat window of Microsoft Teams.

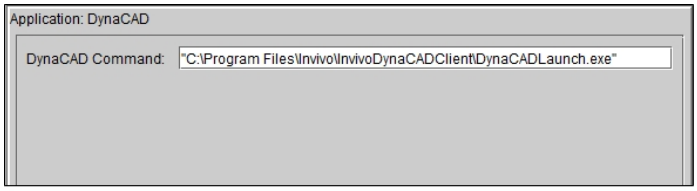
If no study is open in the viewport, clicking the Microsoft Teams Icon will only bring forward or launch the Microsoft Teams application without copying the study information.

DynaCAD Preferences

Set the DynaCAD preferences to configure InteleViewer to open images in Invivo's DynaCAD software. For information on using DynaCAD, refer to your DynaCAD product documentation.

The DynaCAD preferences are workstation specific, and therefore do not roam.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer and DynaCAD privileges in your user account.



DynaCAD Command—Specifies the path to the DynaCAD application.

See Also

Viewing Images with DynaCAD 839

Epic Peer Review Preferences

Use the Epic Peer Review preferences to override the default directory and prefix for the Epic Peer Review event XML files. The default directory and prefix are configured in your

PACS and apply to all workstations. However, you can specify a different directory and prefix for your workstation if required for testing or configuration purposes. The Epic Peer Review preferences are workstation-specific, and therefore will not roam.

To view the Epic Peer Review preferences in the InteleViewer User Preferences dialog, the Epic Peer Review feature must be enabled in your PACS. Also, ask your PACS administrator to enable the Third-Party RIS and Epic Peer Review privileges in your user account.

InteleViewer and Epic communicate through event XML files. When a user opens a study in the Epic peer review system, the images open in a new InteleViewer window and a new Patient Record tab appears for the study.

File Drop Directory—The path where the Epic Peer Review event XML files are stored by both InteleViewer and Epic.

Filename Prefix—The prefix that the Epic peer review system uses for the event XML filenames.

To configure the Epic Peer Review preferences:

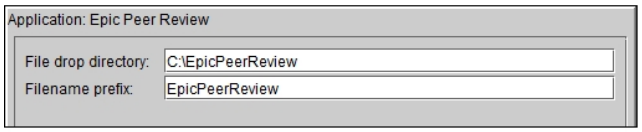
1. In File Drop Directory, type the path where the Epic Peer Review event XML files from InteleViewer and Epic are stored.

   The directory must be located on a local drive. Network drives are not supported.

   InteleViewer automatically creates all directories and subdirectories in the specified path.

2. In Filename Prefix, type the prefix that the Epic peer review system uses for the event XML filenames.

   The event XML filename format is PREFIX-YYYYMMDDHHMMSS.xml.



3. Click Apply.

Epic Preferences

Set the Epic preferences to create a new output path to define the folder where you want InteleViewer to store the event XML files for each Epic organization. The Epic

preferences are workstation-specific, and therefore will not roam.

To view the Epic preferences in the InteleViewer User Preferences dialog, the Epic feature must be enabled in your PACS. Also, ask your PACS administrator to enable the Third-Party Viewer and Epic privileges in your user account.

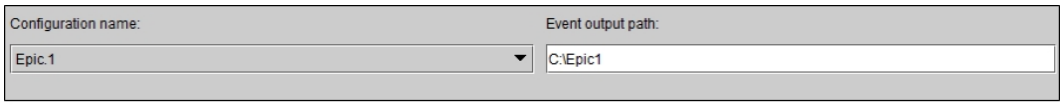
Configuration Name—The name of the Epic configuration defined for an organization.

Event Output Path—The path defining where InteleViewer will store the event XML files for the Epic organization defined in the Configuration Name list.

To configure the Epic preferences:

1. From the Configuration Name list, select the Epic organization.
2. In the Event Output Path text box, type the path where you want the event XML files dropped for that organization.

   Make sure that you have created the folders in the path that you defined in the Event Output Path text box.
3. Click Apply.
4. If you are finished with the configuration window, click OK.



Export Preference

Set the export preference for creating movies from images and using Record Screen to create a video of your workstation screen for Intelerad Technical Support.

Location of ffmpeg.exe—Sets the path to the executable file used for recording, converting and streaming video.

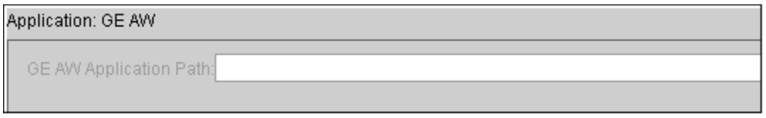
GE AW Preferences

Set the GE AW preferences for viewing images, using version 2.0 or version 3.2 of the GE AW application.

To use this feature, ask your PACS administrator to configure your user account.

For information on using GE AW, please refer to your GE product documentation.

GE AW Preferences



GE AW Application Path—The path to the executable file (also known as a program file) of the GE AW application.

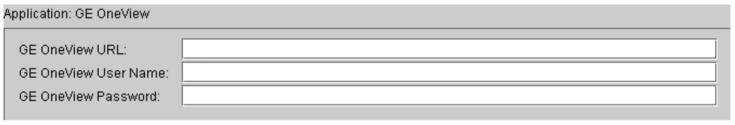
GE OneView Preferences

Set the GE OneView preferences to open an order with the GE OneView RIS.

To use this feature, ask your PACS administrator to enable the Third-party RIS privilege in your user account.

For information on using GE OneView, please refer to your GE OneView product documentation.

GE OneView Preferences



GE OneView URL—The URL of the GE OneView application.

GE OneView User Name—The username for the GE OneView application.

GE OneView Password—The password for the GE OneView application.

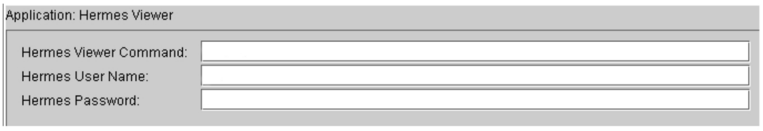
Hermes Viewer Preferences

Set the Hermes Viewer preferences to view nuclear PET/CT/MR images in the Hermes Viewer software from Hermes Medical Solutions.

To use this feature, ask your PACS administrator to configure your user account.

For information on using Hermes Viewer, please refer to your Hermes Medical Solutions product documentation.

Hermes Viewer Preferences



Hermes Viewer Command—The path to launch the executable of the Hermes Viewer application.

Hermes User Name—The username for the Hermes Viewer application.

Hermes Password—The password for the Hermes Viewer application.

The Hermes Viewer preferences are workstation-specific, and therefore will not roam.

See Also

Third-Party Integrations 828

Hologic SecurView

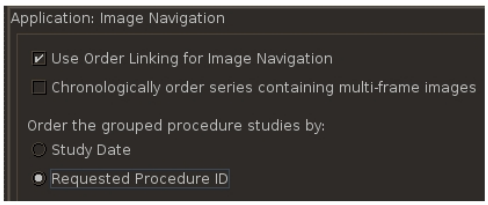
Output file path—The path to the XML output file.

Output file name—The name of the XML output file.

To use this feature, ask your PACS administrator to enable the Third-party Viewer privilege in your user account.

Image Navigation Preferences

Configure the image navigation preferences to set how to navigate through series in linked orders, and group and sort series with still images and multi-frame images.



Use Order Linking For Image Navigation—Enable this option to navigate through series in all linked orders sequentially. For example, order A (two series) is linked to order B (three series) and the selected viewport contains the first series in order A. If you navigate through series using the `Page Down` key, InteleViewer displays the second series in order A in the selected viewport, then the first series in order B, and so on.

Disable this option if you want to navigate through series for each linked order separately. In the above example, if you navigate through series using the `Page Down` key, InteleViewer disregards order linking and displays only the series in order A in the

selected viewport. To navigate through series in order B, you must select the viewport that contains a series from order B.

This option is enabled by default.

This option does not apply when you navigate through reading steps and comparable priors in a sequence protocol.

Chronologically Order Series Containing Multi-Frame Images—When you enable this option, InteleViewer groups still image datasets interspersed with multi-frame image datasets, and sorts them in chronological order. For example, a series with six still images (s1, s2, s4, s6, s7, and s8) and three multi-frame images (m3, m5, and m9), is grouped and sorted as follows:

s1, s2 m3 s4 m5 s6, s7, s8 m9

When you disable this option, InteleViewer groups all still images first in a dataset, and then groups and chronologically sorts the multi-frame image datasets. For example, a series with six still images (s1, s2, s4, s6, s7, and s8) and three multi-frame images (m3, m5, and m9), is grouped and sorted as follows:

s1, s2, s4, s6, s7, s8 m3 m5 m9

This option is disabled by default.

Order the grouped procedure studies

Determine the sort order in which grouped procedure studies are displayed. Select one of the following:

- **Study Date**— Sort in descending order by Study Date, followed by Study Instance UID (lexicographic comparison) if the date is the same, and then Study ID (lexicographic) if the UID is the same.
- **Requested Procedure ID**— Sort in ascending order by Requested Procedure ID; however, if the Requested Procedure IDs are the same or missing, then the sort order defaults to Study Date.

See Also

Linking Orders 326
Navigating Through a Study 382

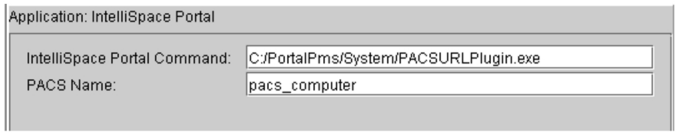
IntelliSpace Portal Preferences

Set the IntelliSpace Portal preferences to configure viewing of 3D images generated by the IntelliSpace Portal software from Philips. For information on using the IntelliSpace Portal, please refer to your IntelliSpace product documentation.

The IntelliSpace preferences are workstation-specific, and therefore do not roam.

The image below includes example values for the various fields. These values will likely differ for your installation.

IntelliSpace Portal Preferences



IntelliSpace Portal Command—The path to launch the executable of the IntelliSpace Portal application. To specify additional launch options, separate each parameter with a space. If a parameter requires a space, use double-quotes around the parameter.

PACS Name—The name you have assigned to the PACS that stores the images to be retrieved by this application.

See Also

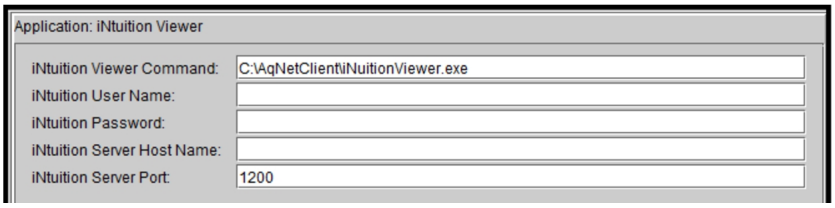
Viewing 3D Images 829

iNtuition Viewer Preferences

Set the iNtuition Viewer preferences to configure viewing of 3D images generated by the iNtuition server from TeraRecon Inc. For information on using the iNtuition client and server, please refer to your iNtuition product documentation.

The iNtuition Viewer preferences are workstation-specific, and therefore do not roam.

iNtuition Viewer Preferences



iNtuition Viewer Command—The path to launch the executable of the iNtuition Viewer application. To specify additional launch options (such as `-OneInstance`), separate each parameter with a space. If a parameter requires a space, use double-quotes around the parameter.

iNtuition User Name—The user name required to log in to the iNtuition server.

iNtuition Password—The password required to log in to the iNtuition server.

iNtuition Server Host Name—The host name of the iNtuition server.

iNtuition Server Port—The TCP port number of the iNtuition server.

See Also

Viewing 3D Images 829

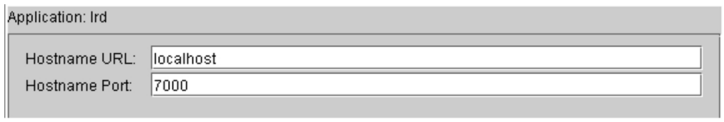
IRD RIS Preferences

Set the IRD preferences to configure InteleViewer to open an order with the IRD RIS.

To use this feature, ask your PACS administrator to configure your user account.

For information on using IRD, please refer to your IRD product documentation.

IRD Preferences



Hostname URL—The host name of the IRD server

Hostname Port—The TCP port number of the IRD server.

Key Images Preferences

Set the Key Images preference to enable or disable auto-saving of key image series when you close the study. To always save a key image series without being prompted, enable Automatically Save Key Images Series Without Prompting Me. To be prompted to save or discard a key image series, disable this option.

This option is disabled by default. The Key Images preference is not specific to a workstation and therefore will roam.

To use this feature, ask your PACS administrator to enable the Key Images Creation privilege in your user account.

Local Storage Preferences

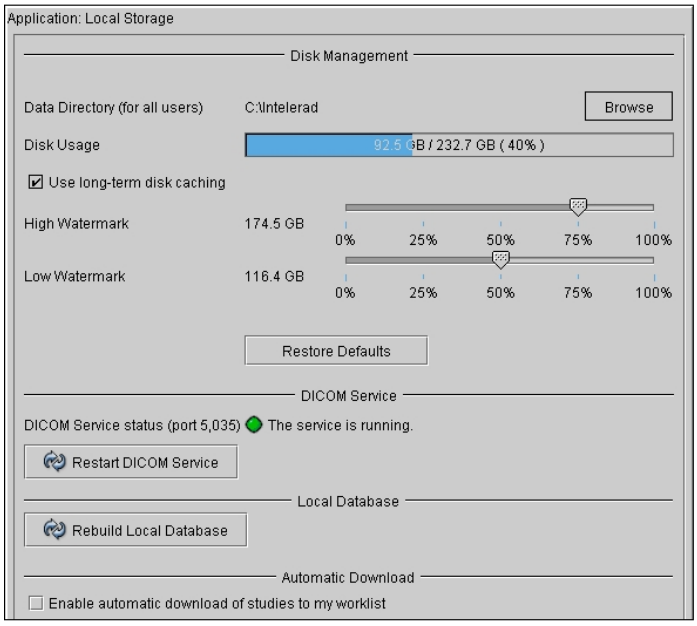
Set the local storage preferences to configure local caching of already-viewed image data and configure DICOM storage on your workstation. The storing of image data on the local disk allows you to load any previously-viewed images more quickly. DICOM storage allows you to send images to the workstation's local disk in advance of viewing.

The local storage preferences are specific to a workstation, and therefore do not roam.

To use this feature, ask your PACS administrator to configure your user account.

⚠ InteleViewer does not encrypt the patient health information that it stores on your workstation for DICOM Service and long-term disk caching. Enabling these features could put patient health information at risk. Contact your PACS administrator before enabling DICOM Service or long-term disk caching.

Local Storage Preferences



Data Directory—Specifies the directory where InteleViewer stores routed images (if DICOM Service is configured on your system), swaps image data to disk when the available system memory runs low, caches image data for previously-viewed images (if

Use Long-Term Disk Caching is active), and caches scanned documents associated with the currently-opened orders in the Document Viewer window.

Image data and scanned documents that are stored on your local workstation are not stored permanently. To save image data permanently, you must export DICOM images to a local or network directory. In the case of scanned documents, they are automatically deleted when you close the order or exit InteleViewer.

To change the default location, click Browse, navigate to the required location, and then click Select Folder. This location is set for all users on the workstation. It cannot be customized by account.

Use Long-Term Disk Caching—Enables the storage of previously-viewed images on the local data directory. If the DICOM Service is installed on your workstation, this option is activated by default. If the DICOM Service is not installed on your workstation, to access this option the default Data Directory cannot be the Temp folder. For example, on Windows XP and Windows 2000 you must change the location to a folder other than:

```
C:\Documents and Settings\<yourusername>\Local Settings\Temp
```

The quality of the previously-viewed images in the cache is the same as the compression ratio at which they were viewed. Therefore, to cache full-quality images you must make sure to view them at lossless compression.

Your user account must be configured to access this feature. For more information, contact your PACS administrator.

High Watermark—Sets the maximum percentage of total disk space you can use before InteleViewer deletes images from the local cache. For example, if you set the high water mark to 75%, when you have used over 75% of your disk space, InteleViewer begins to delete files—starting with the oldest files first—to free space on your disk. InteleViewer performs watermark checks every 10 minutes.

Low Watermark—Sets the limit for deleting images from your local cache. When your used disk space exceeds the high watermark, InteleViewer deletes images from your local cache—starting with the oldest files first—until it reaches the low watermark percentage.

To prevent cached studies from being deleted before you have viewed them, you should preserve enough space for them. To do so, first delete all files located at `C:\Intelerad\InteleViewerDicom`. (This directory may be empty if you have just installed InteleViewer.) Make note of disk usage at this point (for example, 50GB), and set the low watermark sufficiently above this level (for example, 70GB). The difference between the low watermark and the disk usage represents the space preserved for cached studies.

Restore Defaults—Restores the default data directory location. On Windows XP and Windows 2000 this is:

`C:\Documents and Settings\<yourusername>\Local Settings\Temp`

DICOM Service Status—Indicates whether the DICOM Service has been installed on your workstation and if it is currently running.

Restart DICOM Service—Restarts the DICOM Service if the process has stopped.

This option is available only if the DICOM Service is installed.

Rebuild Local Database—Rebuilds the local InteleViewer database, removing all prior information and repopulating it with information on the DICOM image files currently stored in your cache. This option is available only if the DICOM service is installed. You would typically use this option if images in your database have been corrupted or when the search results do not accurately reflect what is located on your workstation.

When rebuilding the database, the percentage of studies completed appears and updates as the rebuild progresses. The default location of the local database is:

`C:\Program Files\Intelerad Medical Systems\InteleViewer\InteleViewerDB`

Enable Automatic Download of Studies to my Worklist— Enable to download studies from the PACS to your workstation's cache before you open them from the worklist. InteleViewer retrieves studies in the order that they appear in the Ready sub-tab of the Worklist tab. Studies are not downloaded automatically for orders locked by another user or already open for dictation. If you open a study that is not automatically downloaded, InteleViewer retrieves and caches the study normally. This option is most useful when using a workstation with a slow network connection.

Disable to cache studies on your workstation only when you open them. Disabling this option reduces PACS and network load in environments where there are many users retrieving studies from the PACS.

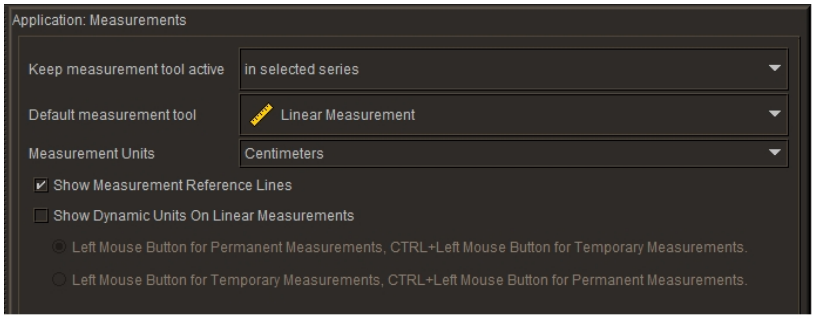
If you enable this option, DICOM Service must already be installed and running on your workstation.

See Also

Exporting DICOM Data 751
About Installing InteleViewer 41

Measurement Preferences

Set the measurements preferences to customize the behavior of the measurement tools.



Keep Measurement Tool Active— Sets the location to limit where the measurement tool remains active. You can select to keep the measurement tool active in a selected series, a selected image, or in all viewports. Depending on your selection, if you move your mouse outside the selected series, selected image, or a viewport, InteleViewer reverts to the previously selected tool. You can also choose to keep the measurement tool active for just one measurement, after which InteleViewer reverts to the tool you selected previously.

Default Measurement Tool— Sets the default measurement tool. The default tool is the one that is active when you click the measurement tool in the toolbar.

Measurement Units— Allows you to set the default measurement unit. Options include either millimeters or centimeters.

Show Measurement Reference Lines— Sets viewing preferences for reference lines when measuring straight and orthogonal lines. By default, reference lines are enabled.

Show Dynamic Units on Linear Measurements— Enable to show measurement units as you draw a line. The sub-options allow you to define the behavior further: To specify that the left-mouse button be used to draw permanent measurement lines, and **CTRL** + the left-mouse button be used to draw temporary measurement lines, enable the

applicable sub-option. To specify that the left-mouse button be used to draw temporary measurement lines, and **CTRL** + the left-mouse button be used to draw permanent measurement lines, enable the applicable sub-option.

See Also

Measuring Lines, Areas, Angles, and Volumes 503

MediRad RIS

Output file path—The path to where the text output file is located.

Output file name—The name of the text output file.

To use this feature, ask your PACS administrator to enable the Third-party RIS privilege in your user account.

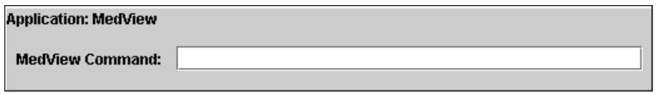
MedView Preferences

Set the MedView preferences to view nuclear medicine and PET/CT images in the MedView software from MedImage. For information on using MedView, please refer to your MedView product documentation.

To use this feature, ask your PACS administrator to configure your user account.

The MedView preferences are workstation-specific, and therefore do not roam.

MedView Preferences



MedView Command—The path to launch the executable of the MedView application.

See Also

Viewing Nuclear Medicine and PET/CT Images 834

Merge CADstream preferences

To open MR studies in Merge CADstream, set the Merge CADstream preferences. For more information on using Merge CADstream, refer to your Merge CADstream

documentation.

To use this feature, ask your PACS administrator to enable the Merge CADstream privilege and the Third-Party Viewer privilege in your user account.

JRE Path—The path to the Java Runtime Environment folder. By default, Merge CADstream provides this path during the integration with InteleViewer. Change this path only if a different path was used to install Merge CADstream.

Application Path—The path to launch the Merge CADstream executable file.

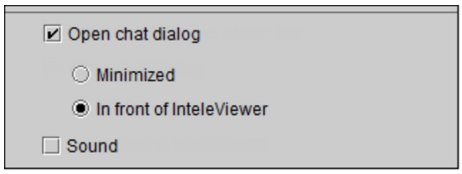
User Name—The path to add the user name to log in to Merge CADstream. The default is the shared user name in the PACS for your facility.

See Also

Viewing Images in Merge CADstream 842

Messaging Preferences

Set the messaging preferences to display the Chat window and play a sound whenever a user sends a new message.



Open Chat Dialog—Displays the Chat window when a user sends a new message. Choose Minimized to display a minimized Chat window in the Windows taskbar. Choose In Front of InteleViewer to display the Chat window on top of the InteleViewer window (the default).

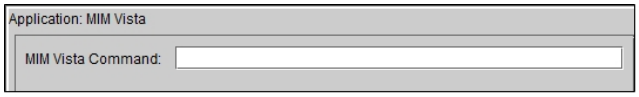
Sound—Plays the default beep sound notification that is configured with your computer when a user sends a new message. You can modify both the type of sound used for the notification and the volume through the Windows sound preferences.

MIM Vista Preferences

Set the MIM Vista preferences to configure InteleViewer to open an order with the MIM Vista application.

For information on using MIM Vista, please refer to your MIM Vista product documentation.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer and MIM Vista privileges in your user account.



MIM Vista Command—Specifies the path to launch the executable of the MIM Vista application.

Mirada XD Preferences

Set the Mirada XD preferences to view PET/CT, MR, and CT images in the Mirada software from Mirada Medical. For information on using Mirada XD, please refer to your Mirada XD product documentation.

The Mirada preferences are workstation-specific, and therefore do not roam.

To use this feature, ask your PACS administrator to configure your user account.

Mirada XD Preferences

Mirada XD Command—The path to launch the executable of the Mirada XD application.

See Also

Viewing Nuclear Medicine and PET/CT Images 834

Patient Record

Set the Patient Record preferences to customize the behavior for the patient record tab and set the relevancy preference to identify the relevant prior studies.

Automatically open Patient Record Tab— When you enable this option and you launch

InteleViewer from an external application, the Patient Record tab is automatically brought to the front. When you disable this option, the Patient Record tab maintains the current state of the window. For example: if the search pane is minimized, then it remains in the minimized state only.

By default, this option is enabled.

Auto-Relevancy—You can select the default setting from the list for relevancy from this preference. InteleViewer will use this default value to identify relevant prior studies that appear in the Patient Record tab. By default, Same Body Part is selected. This preference does not affect orders that you have already opened.

PenRad Preferences

Set the PenRad MIS (Mammography Information System) preferences to create a new output path to define the folder where you want InteleViewer to store the event XML files for each PenRad organization.

To view the PenRad MIS preferences in the InteleViewer User Preferences dialog, the PenRad feature must be enabled in your PACS. To use this feature, ask your PACS administrator to enable the Third-Party Viewer and PenRad privileges in your user account.

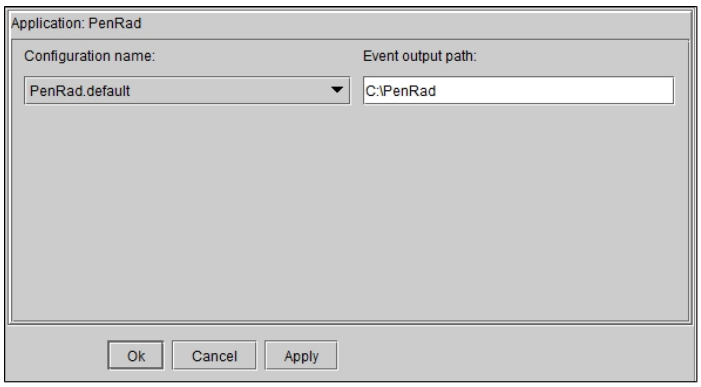
Configuration Name—The name of the PenRad configuration defined for an organization.

Event Output Path—The path defining where InteleViewer will store the event XML files for the PenRad organization defined in the Configuration Name list.

To configure the PenRad preferences:

1. From the Configuration Name list, select the PenRad organization.
2. In the Event Output Path text box, type the path where you want the event XML files dropped for that organization.

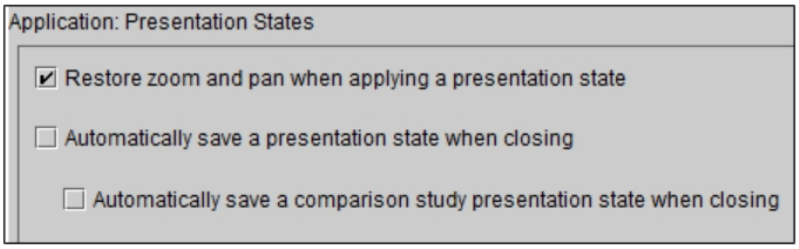
   Make sure that you have created the folders in the path that you defined in the Event Output Path text box.
3. Click Apply.
4. If you are finished with the configuration window, click OK.



The PenRad preferences are workstation-specific, and therefore will not roam.

Presentation State Preferences

Set the presentation state preferences to determine how to save presentation states and what image manipulations are restored when you apply them.



Restore Zoom and Pan When Applying a Presentation State—Displays images with zoom and pan image manipulations saved in presentation states.

Automatically Save a Presentation State When Closing a Study—Saves presentation states when you close a study or when you close InteleViewer.

Automatically Save a Comparison Study Presentation State When Closing— Saves the presentation state of the comparison studies when you close the study or when you close InteleViewer, even if that study is no longer displayed on the screen.

Preview Panel Appearance

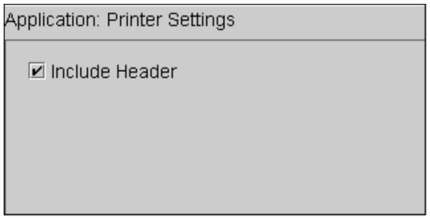
Report View Background Color—Sets the background color of the Report Preview Panel in the Patient Record tab and the Worklist tab.

Report Preview Foreground Color—Sets the text color of the Report Preview Panel in the Patient Record tab and the Worklist tab.

Printer Preferences

Set printing preferences to customize the default behavior when printing images.

Printing Preferences



Include Header— Include the header details when printing images.

Pro Medicus Preferences

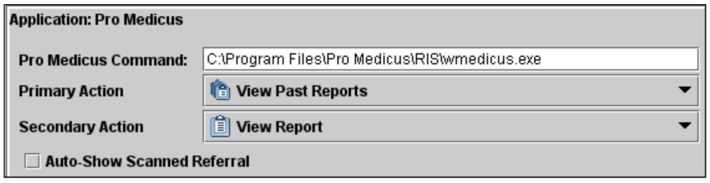
Set the Pro Medicus preferences to configure InteleViewer to open images with Pro Medicus for clinical letters and reports.

To use this feature, ask your PACS administrator to configure your account.

For information on using Pro Medicus, please refer to your Pro Medicus product documentation.

The Pro Medicus preferences are workstation-specific, and therefore will not roam.

Pro Medicus Preferences



Pro Medicus Command—The path to launch the executable of the Pro Medicus application.

Primary Action—The primary action that appears in the toolbar. You can choose from View Past Reports, View Report, View Scanned Referral, View Clinical Details, View Invoice, View Referrer, View Worksheet, and Toggle Synch with Pro Medicus.

Secondary Action—The secondary action that appears in the toolbar. You can choose from View Past Reports, View Report, View Scanned Referral, View Clinical Details, View Invoice, View Referrer, View Worksheet, and Toggle Synch with Pro Medicus.

Auto-Show Scanned Referral—Automatically displays the Scanned Referral window when you open the study.

See Also

Viewing Images for Orthopedic Templating 833

qiVue Preferences

Set the qiVue preferences to configure InteleViewer to open images in peerVue's qiVue software. For information on using qiVue, please refer to your qiVue product documentation.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer, Reporting Worklist, and Dictate Report privileges in your user account.

The qiVue preferences are workstation-specific, and therefore do not roam.

qiVue Preferences

qiVue Server Base URL—The URL used to connect to the qiVue server.

Default Work Space—Defines which workspace to launch when clicking the qiVue icon in the toolbar.

See Also

Viewing Images for Peer Reviews 835

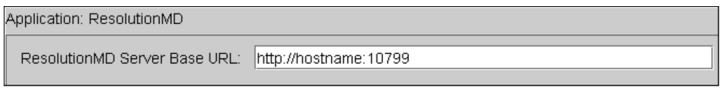
ResolutionMD Preferences

Set the ResolutionMD preferences to configure InteleViewer to open images and reports with ResolutionMD.

For information on using ResolutionMD, please refer to your ResolutionMD product documentation.

To use this feature, ask your PACS administrator to configure your user account.

ResolutionMD Preferences

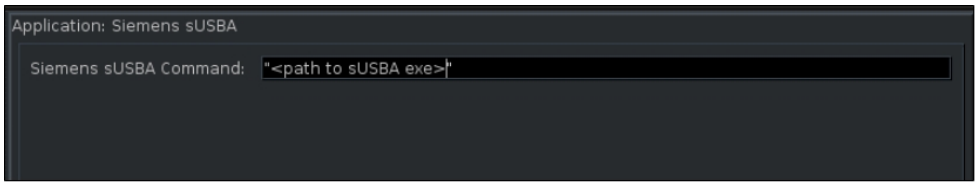


ResolutionMD Server Base URL—The URL of the Resolution Server to connect to the path to launch the executable of the ResolutionMD application.

Siemens sUSBA Preferences

Set the Siemens sUSBA preferences to view breast ultrasound (US) images in the syngo.Ultrasound Breast Analysis (sUSBA) software from Siemens. For more information on using sUSBA, refer to your Siemens sUSBA product documentation.

To use this feature, ask your PACS administrator to enable the Siemens sUSBA privilege and the Third-Party Viewer privilege in your user account.



Siemens sUSBA Command— The path to launch the Siemens sUSBA executable file.

See Also

Viewing Images in Siemens sUSBA 842

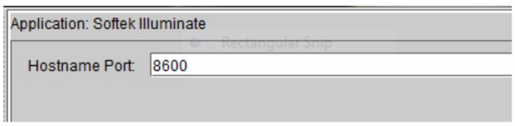
Softek Illuminate Preferences

Softek Illuminate automatically retrieves and displays all of the patient's clinical documentation, for example, radiology reports and clinical notes.

For information on using Softek Illuminate, please refer to your Softek Illuminate product documentation.

To use this feature, ask your PACS administrator to enable the Third-party RIS privilege in your user account.

Softek Illuminate Preferences



Hostname Port—The port number used by Softek to listen to requests. The value is 8600.

SyngoVia Preferences

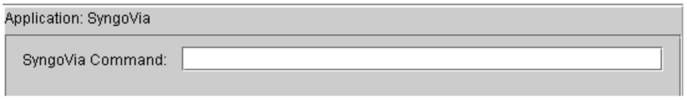
Set the SyngoVia preferences to view nuclear/PET/CT/MR images in the syngo.via software from Siemens.

Your user account must be configured to access this feature. For more information, contact your PACS administrator.

For information on using syngo.via, please refer to your Siemens syngo.via product documentation.

The SyngoVia preferences are workstation-specific, and therefore will not roam.

SyngoVia Preferences



SyngoVia Command—The path to launch the executable of the syngo.via application. You can add the following parameters to the path for more flexibility:

Enter:	To add:
-append	Specified images to the current workflow. If no workflow is currently in process, this parameter is ignored.
-priors	Prior data of the DICOM study instance UID, according to the rules in the mapping table.
-a	Accession number.

Enter:	To add:
-s1	Study instance UID.
-nseries	Number of series. (Used only as a qualifier to the -s1 parameter.)
-s2	Series instance UID.
-pid	Studies with the DICOM patient ID.
-lwwc	Current Windows user credentials as login information syngo.via.

The parameters -a, -s1, -s2, and -pid are mutually exclusive. Specifying more than one will cause an error.

See Also

Third-Party Integrations 828

TraumaCad Preferences

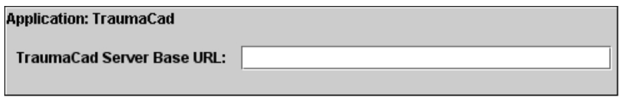
Set the TraumaCad preferences to configure InteleViewer to open images in TraumaCad, an orthopedic templating application from Orthocrat.

The TraumaCad preferences are workstation-specific, and therefore will not roam.

To use this feature, ask your PACS administrator to configure your user account.

For information on using TraumaCad, please refer to your TraumaCad product documentation.

TraumaCad Preferences



TraumaCad Server Base URL—The URL of the TraumaCad Server.

See Also

Viewing Images for Orthopedic Templating 833

TraumaCADCitrix Preferences

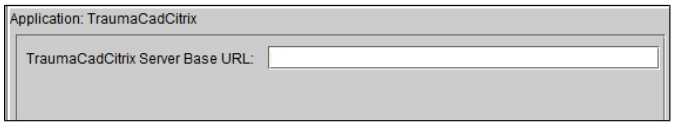
When you are working in a Citrix environment, set the TraumaCadCitrix preferences to configure InteleViewer to open images in TraumaCad, an orthopedic templating application from Orthocrat.

To use this feature, ask your PACS administrator to configure your user account.

The TraumaCadCitrix preferences are workstation-specific, and therefore will not roam.

For information on using TraumaCad, please refer to your TraumaCad product documentation.

TraumaCADCitrix Preferences



TraumaCadCitrix Server Base URL—The URL of the TraumaCadCitrix Server.

ViewPoint Preferences

Set the ViewPoint preferences to view 3D or 4D ultrasound images in the ViewPoint software from GE Healthcare.

To use this feature, ask your PACS administrator to configure your user account.

For information on using ViewPoint, please refer to your ViewPoint product documentation.

The ViewPoint preferences are workstation-specific, and therefore will not roam.

ViewPoint Preferences

ViewPoint Command—The path to launch the executable of the ViewPoint application.

See Also

Viewing 3D and 4D Ultrasound Images 836

Vitrea 3D

Set the Vitrea preferences to view images in 3D mode. Intelerad offers two Vitrea 3D integrations. The Version 1 integration enables you to view images using the Vitrea 3D application, while the Version 2 integration enables you to view images using either the Vitrea 3D Core or the Vitrea Advanced applications.

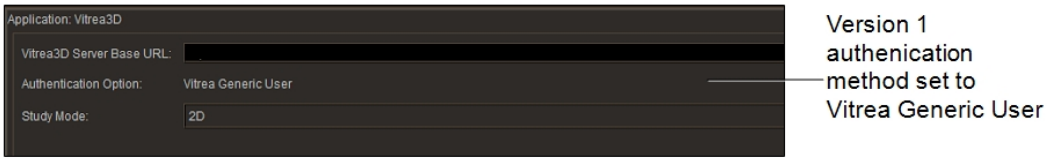
For information on using these products, please refer to your Vitrea product documentation.

To use this feature, ask your PACS administrator to configure your user account.

To view images by using Vitrea 3D, you must be using a Windows workstation with Internet Explorer. Vitrea preferences are workstation-specific and therefore do not roam.

Set the Vitrea 3D preferences to view images in 3D mode, using version 1 or 2 of the Vitrea application.

If your workflow uses the Vitrea generic user authentication for your installation, the User and Domain text boxes are replaced by Authentication Option, a non-editable field that displays the type of user authentication configured for Vitrea 3D. For more information, contact Intelerad Technical Support.



Vitrea 3D Server Base URL—The URL of the Vitrea server.

Authentication Option—The configured authentication method (version 1 only).

User—By default, this field contains your InteleViewer user name—which is also the user name for your IntelePACS account.

Domain—The domain for Vitrea (version 1 only).

Study Mode—The viewing mode of the study. By default the mode is set to 2D (version 1 only).

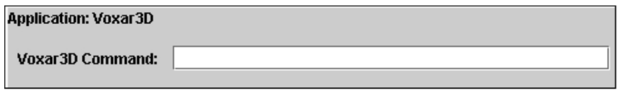
Voxar 3D Preferences

Set the Voxar 3D preferences to configure viewing of 3D images generated by the Voxar 3D software from Barco. For information on using Voxar 3D, please refer to your Voxar 3D product documentation.

To use this feature, ask your PACS administrator to enable theThird-Party Viewer and Voxar 3D privileges in your user account.

The Voxar 3D preferences are workstation-specific, and therefore do not roam.

Voxar 3D Preferences



Voxar 3D Command—The path to launch the executable of the Voxar 3D application. To specify additional launch options, separate each parameter with a space. If a parameter requires a space, use double-quotes around the parameter.

See Also

Viewing 3D Images 829

Setting Modality Preferences

Use the modality preferences to customize the image layout, default window level settings, image overlay, and display properties that are applied when you open images. You can set the window level preference and define *window level presets*, either globally or for individual modalities.

If your IntelePACS is configured to use *advanced layout management*, you can also create complex layout protocols which are used to control the display of images and prior studies. .

For each modality, you can either apply the default preference settings or apply customized settings which are defined per modality. Therefore, to define preferences, you must first choose a modality or choose to set default preferences that can apply to all modalities.

To set a modality preference:

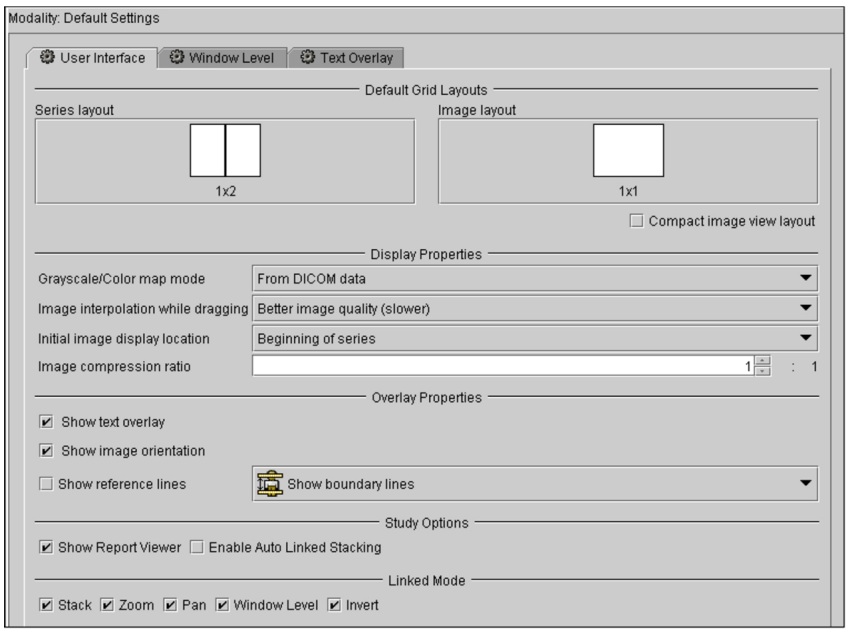
1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Do one of the following:
   - To set the default preferences, click Default Settings in the menu.
   - To set the preferences for a specific modality, click the modality name in the menu.

See Also

Configuring Layout Protocols 806

Setting Modality User Interface Preferences

You can use the user interface preferences to customize the grid layout for images and series, the text overlay, and reference lines. You can also customize image interpolation, the first image to display, and the default compression ratio.



See Also

Setting Text Overlay Preferences 144

Setting the Default Grid Layout Preferences

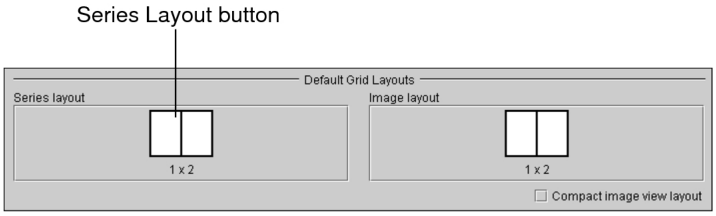
You can customize the layout of series and images in the viewports. If you have a multiple-monitor configuration, keep in mind that the series layout icons indicate the number of rows and columns that will appear across all monitors.

If your system is configured with multiple monitors, the keyboard shortcuts provide additional control over the series and image layout.

The default grid layout preferences roam with the layout profile.

To set the default grid layout preferences:

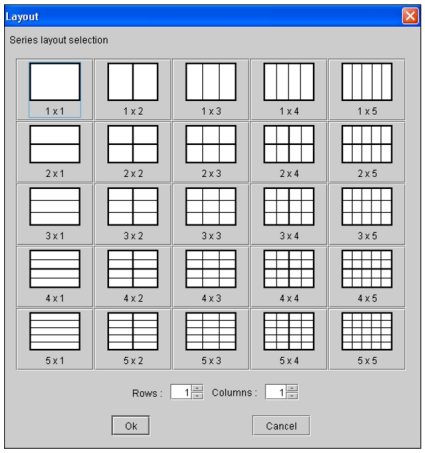
1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality whose preferences you want to set, and then click the User Interface tab.
3. Click the Series Layout button.



   The Layout dialog appears.

4. Click the required layout icon. To choose a custom layout, enter the number of rows and columns in the corresponding fields.

   The icons indicate the way in which multiple series will appear on screen, organized in rows and columns. For example, a 2 x 3 layout will display a total of six series across all monitors, organized in two rows and three columns.



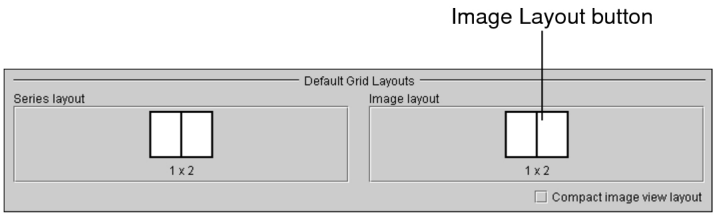
Keep your monitor configuration in mind when choosing a layout. For example, if you are using a dual-monitor system, choose a layout with an even number of columns to split images evenly across the two screens.

5. Click OK.

   You can also modify the series layout while viewing images. For information, see “Changing the Viewport Layout" (page 408).

6. Click the Image Layout button.

   The Layout dialog appears.



7. Click the required layout icon. To choose a custom layout, enter the number of rows and columns in the corresponding fields.

   The icons indicate the way in which multiple images will appear in the series viewport, organized in rows and columns. For example, a 2 x 3 layout will display a total of six images in the viewport, organized in two rows and three columns.

8. Click OK.
9. Do one of the following:

To:	Then:
Automatically reduce the number of viewports in the image layout when you open a series that contains fewer images than required for the selected layout	Activate Compact Image View Layout.
Maintain all viewports in the selected image layout, even if many of them are empty	Deactivate Compact Image View Layout.

10. Click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.

Setting the Display Property Preferences

You can customize the default image quality and the first image that is displayed in the series.

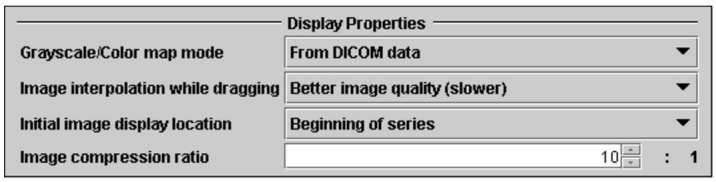
To set the display property preferences:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality with the preferences you want to set.
3. In the User Interface tab, configure the initial Grayscale/Color Map Mode of the image by selecting a mode from the list.
4. To set the image interpolation speed, choose an option from the Image Interpolation While Dragging list.

Choose:	To:
Reduced Image Quality (faster)	Obtain higher speed by reducing the image quality when using tools that require you to drag on screen (for example, when stacking, zooming, or panning) or when using the cine or image scroller.
Better Image Quality (slower)	Retain higher image quality while using tools that require you to drag on screen (for example, when stacking, zooming, or panning) or when using the cine or image scroller. This option may reduce performance while dragging.

5. To customize the image in the series that is displayed by default, choose an option from the Initial Image Display Location list.

   You can choose Beginning of Series, Middle of Series, or End of Series.



6. To set the default image compression, enter a value in the Image Compression Ratio field.

   If you have a slow network connection, it is recommended that you use more compression.

   This preference is ignored for lossy DICOM JPEG images.

7. Click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.

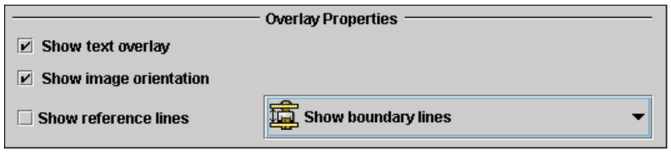
Customizing Overlay Preferences

You can customize viewport features such as the display of text overlay information, reference lines, and image orientation.

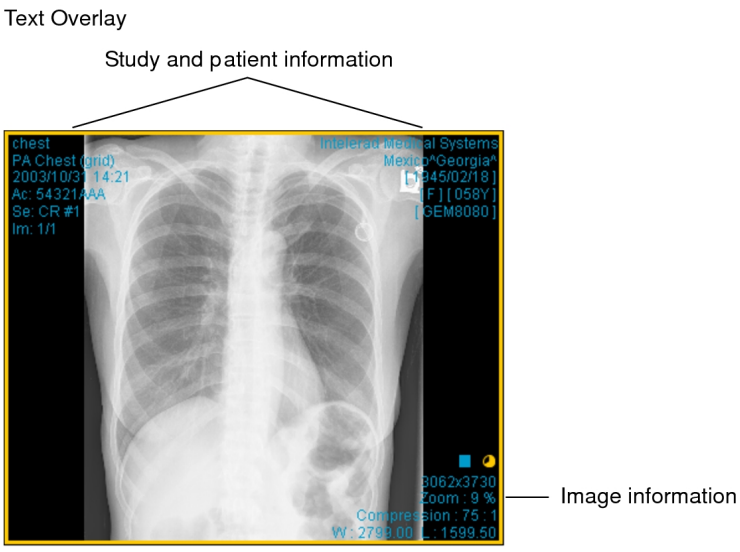
You can also configure the text that appears in the text overlay.

To customize the overlay preferences:

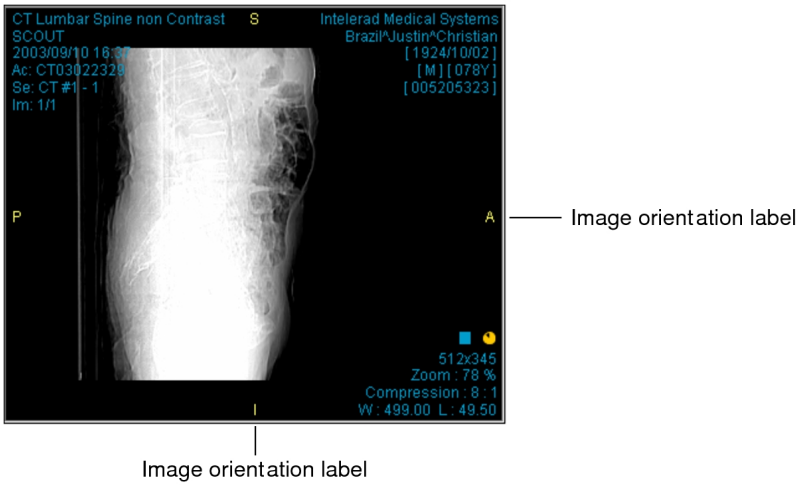
1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality whose preferences you want to set.



3. To display the related patient, study, and image information when you open images, select Show Text Overlay.



4. To display image orientation labels when appropriate to the series, select Show Image Orientation.



5. To show the series cross-reference lines, select Show Reference Lines, and then set the default reference line setting. You can choose Show Boundary Lines or Show Current Line Only.
6. Click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.

Customizing Study Option Preferences

You can customize actions, such as report viewing and image manipulating that you can perform on studies.

To customize study options:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality you want to customize.
3. To display associated reports when you open a study, select Show Report Viewer.
4. To activate the Auto Linked Stacking tool when stacking multiple series simultaneously, select Enable Auto Linked Stacking.
5. Click Apply to save your changes.

Customizing Viewport Linking Preferences

You can customize which image manipulation tools are enabled when viewports are linked.

To customize viewport linking:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality you want to customize.
3. In Linked Mode, select the image manipulations that you want enabled when viewports are linked.

If you are defining the modality default settings, the Invert option is only applicable to MG modalities.

4. Click Apply to save your changes.

Customizing Cine Preferences

For US modalities, you can customize the autoplay options for current and prior temporal cine ultrasound series. For XA, RF, and US modalities, you can enable cine to play only in the selected viewport.

InteleViewer does not use chronological order to differentiate between priors. For example, you can set the series layout to a 1 x 3 grid, where the left-most viewport displays an axial view of the second-most recent prior study, the middle viewport displays an axial view of the current study, and the right-most viewport displays an axial view of the most recent prior study. InteleViewer will first play the cine clip of the second-most recent prior study and not the cine clip of the most recent prior.

To customize cine ultrasound autoplay preferences:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the US modality.
3. In Autoplay Cine Clips, Autoplay Prior Cine Clips, or both, choose one of the following options:

To:	Choose:
Not play any cine clips when loading the current/prior ultrasound series.	None
Play the first cine clip. The first cine clip is the top left-most cine clip in the current viewport layout.	First
Play all cine clips when loading current and prior ultrasound series in a viewport.	All

4. Click Apply to save your changes.

To restrict the cine playback to the selected viewport only:

1. To restrict the cine playback to the selected viewport, enable Play Cine Clip or Cine Loop in Selected Viewport Only. This ensures that the images in the other viewports do not update until the cine playback is paused. This feature is disabled by default, and as a result, the images in the other viewports continually update while the cine series is being played.
2. Click Apply to save your changes.

See Also

Using the Cine Tool 404
Using the Cine Real-Time Player 400

Image Grouping Preferences

Use the Image Grouping modality preferences to customize how images from US, XA, RF, or OT modalities are grouped and split into datasets. For example, you can separate non-diagnostic (secondary-capture) images, such as scanned documents, from diagnostic images in a series. This lets you to focus on diagnostic images when reviewing, and ensures that secondary images are easily visible and not overlooked.

Because series images can be classified in a variety of ways, InteleViewer provides the following Image Grouping options that you can enable and disable in various combinations depending on your needs:

- Group Scalar Images
- Split By Image Size
- Split Secondary Captures

The following table describes how the options affect the way series images are grouped or split.

You must enable Group Scalar Images for the Split By Image Size and Split Secondary Captures options to take effect.

To:	Group Scalar Images	Split By Image Size	Split Secondary Captures
Group all series images into one dataset.	Enable	Disable	Disable
Group all secondary capture images into one dataset and all other series images into another.	Enable	Disable	Enable
Group series images into a separate dataset for each image size.	Enable	Enable	Disable or Enable
Split series images and secondary capture images into one dataset per image.	Disable	N/A	N/A

The Image Grouping preferences roam with the general profile.

Changes to the Image Grouping options take effect only on any new series that you open.

To set Image Grouping Preferences:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the US, XA, RF, or OT modality.
3. Enable or disable the Image Grouping options as desired.
4. To save your changes, click Apply.

Configuring Mouse-Wheel Stacking and Navigation

For RF, US, and XA modalities, you can set the mouse wheel to either stack images when the mouse is positioned over a multi-image dataset and navigate through images when over a single-image dataset, or always navigate through series regardless of the viewport dataset.

You can also use the mouse wheel to navigate through series during cine playback regardless of the configuration of the mouse wheel.

To configure mouse-wheel functionality:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the RF, US, or XA modality, and then click the User Interface tab.
3. In Mouse Wheel, choose one of the following options:

To:	Choose:
Stack through images when over a multi-image viewport, and navigate through series when over a single-image viewport.	Use the Mouse Wheel to Stack Through Images in a Multi-Image Viewport
Always navigate through series regardless of the dataset in a viewport.	Always Use the Mouse Wheel to Navigate

When navigating through series using a mouse wheel, you can choose to update all viewports with the next page of series, or navigate through series in the current viewport only. To do so, middle-click a viewport and choose Series In All Viewports or Series in Current Viewport. If an active sequence protocol is associated with the modality, the Navigate Through menu also includes options for navigating through Steps and Priors.

See Also

Navigating Through a Study 382
Stacking Images 387

Setting the Sequence Protocol Preferences

For CT, MR, US, X-ray, PT, RF, ES, NM, OT, and XA modalities, you can configure InteleViewer to automatically fill viewports for which no matching series are found. The unmatched viewports are filled with series that are not currently displayed in other viewports.

To set the sequence protocol preferences:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality whose preferences you want to set, and then click the User Interface tab.
3. Under Sequence Protocol, do one of the following:
    - To allow InteleViewer to automatically fill an unmatched viewport with the first non-displayed series for the corresponding study, enable the Fill Unmatched Viewports with Non-Displayed Series preference. In this case, an unmatched viewport effectively reverts to an "Any" view. If multiple unmatched viewports are present, the viewports are filled sequentially. Series are selected sequentially in the same order as they appear in the Thumbnail strip.
    - To leave an unmatched viewport empty, disable the Fill Unmatched Viewports with Non-Displayed Series preference. The empty viewport displays a message indicating that no matching series was found for the specified view rule. For example, "No matching series was found for: 1st Prior X-ray Decub".

Setting Window Level Preferences

Use the window level preferences to set default window levels. Window level settings consist of values for the width and level (contrast and brightness) of an image.

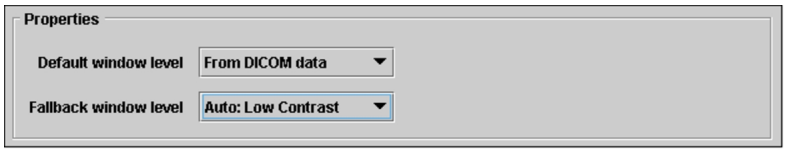
To set window level preferences:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality whose preferences you want to set and then click the Window Level tab.
3. Choose an option from the Default Window Level list. If you have already defined window level presets, they appear in addition to the default settings below.

Choose:	To:
From DICOM Data	Obtain the window level setting from the DICOM data contained in the image. This option is set by default.
Auto: Low Contrast	Automatically apply a low-contrast window level setting when images are opened.
Auto: Medium Contrast	Automatically apply a medium-contrast window level setting when images are opened.

Choose:	To:
Auto: High Contrast	Automatically apply a high-contrast window level setting when images are opened.
Full Range	Use the full range of intensity values contained in the image.

The auto window level settings are generated automatically from the DICOM image source and differ from window level presets.



4. If you selected From DICOM Data in step 3, choose an option from the Fallback Window Level list.

   The fallback window level setting is applied if an image does not have DICOM window level data.

5. Click Apply to save your changes.

   The window level setting is applied to all studies from the selected modality when they are opened.

See Also

Adjusting the Window Levelling 489

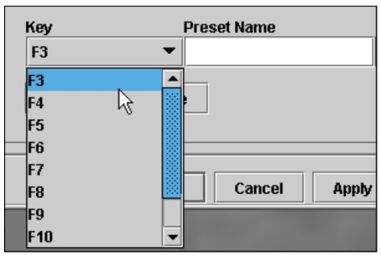
Creating Window Level Presets

You can define *window level presets*. A window level preset is a pre-defined window level setting that you can apply automatically by using an associated keyboard shortcut. Use window level presets to define one or more window level settings and associate them with particular keys on the keyboard. You can then quickly apply a preset by using the keyboard shortcut. You can create, modify, and delete presets, as required.

To create window level presets:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality whose preferences you want to set, and then click the Window Level tab.

3. Scroll to the bottom of the window and then select a keyboard shortcut from the Key list.

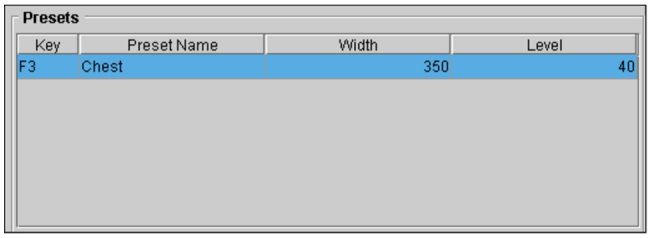


4. In the Preset Name field, enter a name that reflects the intended use of the preset.

   The Add button becomes active.

5. Enter the width and level settings in the corresponding fields.
6. Click Add.

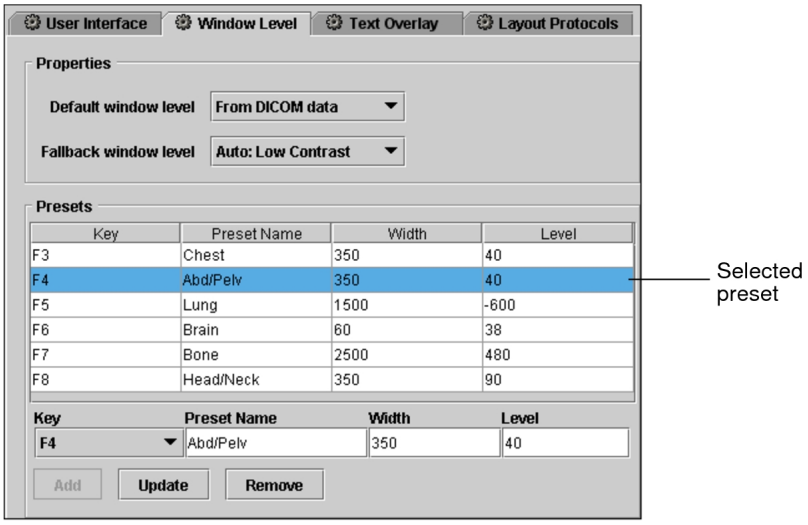
   The new preset is added to the list.



7. Click Apply to save the new preset.

To modify window level presets:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality whose preferences you want to set, and then click the Window Level tab.
3. Select the preset that you want to modify.



4. Do the following, as required:

   - Enter a new name in the Preset Name field.
   - Enter new width and level settings in the corresponding fields.
   - From the Key list, choose the keyboard shortcut to associate with the preset.

   You cannot select a key that is already in use.

5. Click Update.

   The preset is updated to reflect your changes.

6. Click Apply to save your changes.

To delete window level presets:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality whose preferences you want to set, and then click the Window Level Presets tab.
3. Select the preset that you want to delete.
4. Click Remove.
5. Click Apply.

   The preset is deleted.

Setting Text Overlay Preferences

Use the text overlay preferences to choose what information you would like to display and where it will appear in the viewport. Each modality has a default configuration, which can be restored at any time.

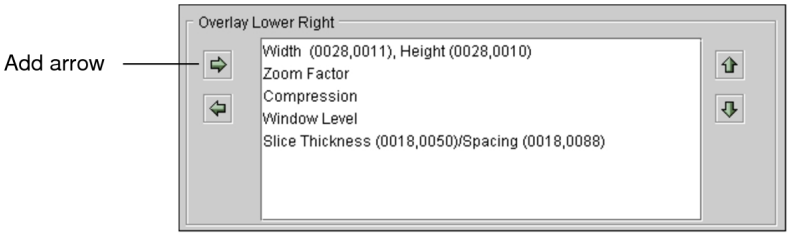
To set text overlay preferences:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose the modality whose preferences you want to set, and then click the Text Overlay tab.

   By default, each modality is pre-configured to display a logical set of text overlay information.

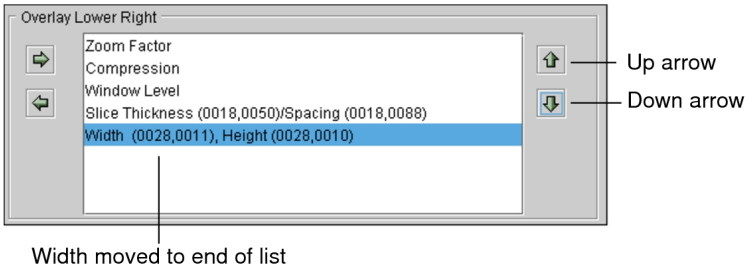
3. To add overlay elements, click the required element in the Available Overlay Elements box and then do one of the following:

   - Drag it to the required display location.
   - Click the Add arrow that corresponds to the required display location.

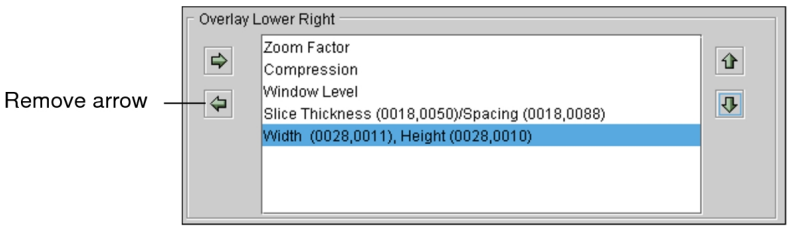


   The overlay element is added to the list, and appears in the text overlay at the selected location.

4. To change the order in which the elements are displayed, click an element and drag it to the new position or click the up and down arrows.



5. To remove an overlay element, click the element, and then click the Remove arrow or drag it back to the Available Overlay Elements box.



   The element is removed from the display location, and appears in the Available Overlay Elements box.

6. Repeat steps 3 and 4 as required.
7. To suppress the display of overlay entries that have no information, select Hide Overlay Elements With No DICOM Values.

   If this option is deactivated, a dash appears for elements with no DICOM information.

8. Click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.
9. To reset overlay elements to their original locations, click Restore Defaults.

See Also

Displaying the Text Overlay and Image Overlay....71
Setting Modality User Interface Preferences....130

Setting Mammography and Tomosynthesis Preferences

You can customize the position of mammography images for either ventral or dorsal viewing using the MG modality preferences.

For tomosynthesis images, you can choose targeted stacking speed and slice position. You can set these preferences using the MG modality preferences.

For navigating through steps in mammography sequence protocols, you can choose how InteleViewer adjusts images from prior studies.

To set mammography viewing preferences:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).
2. Under Modality, click MG.
3. To set the viewing preferences, click the User Interface tab then choose Ventral Viewing or Dorsal Viewing.
4. Click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.

To set tomosynthesis preferences:

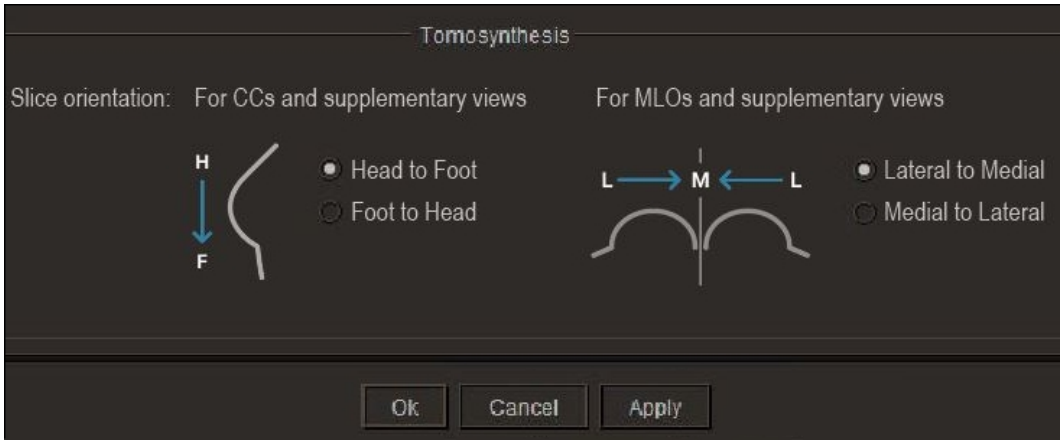
1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).

   The User Preferences dialog appears.

2. Under Modality, click MG.
3. To adjust the targeted stacking speed, under Tomosynthesis, drag the control for Default Stacking Speed from 1 frame per second (fps) to 35 fps. The default speed is 10 fps.

   The actual stacking speed depends on your system's CPU power and physical memory availability.

4. To set the slice positioning do any of the following:



   - For CC series and its supplementary views, choose From Foot to Head or From Head to Foot. The default for CC slice positioning is From Foot to Head.

- For MLO series and its supplementary views, choose From Lateral to Medial or From Medial to Lateral. The default for MLO slice positioning is From Lateral to Medial.

Your changes for slice positioning apply to every new study you open. They do not affect studies that are already open.

5. Click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.

To set preferences for prior images in sequence protocols:

1. From the main menu, choose Utilities | User Preferences (**CTRL+U**).

   The User Preferences dialog appears.

2. Under Modality, click MG.

   The modality preferences for mammography appears.

3. Under Prior Navigation, enable one of the following:

Enable this option:	To make these adjustments to viewports with prior images:
Reset Pan and Zoom so All Images Fit Their Viewports	Adjust both current and prior images to fit their viewports for maximum viewing and same size comparison.
Keep Pan and Zoom for the Current Study	Do not change the pan and zoom settings for the current study. For the prior images, apply the pan and zoom of the current study. Some areas of prior images might not be visible in their viewports.

4. Click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.

Setting Reporting Worklist Module Preferences

Customize the Reporting Worklist Module interface to suit your needs. You can set the background color of the interface as well as the column layout.

Customizing the Interface

Customize the appearance of the user interface to optimize it for your reading environment. The preferences you set are stored on the IntelePACS server. When you log in to InteleViewer on any workstation, your preferences follow you and are automatically applied at that workstation.

This section describes preferences that relate to the Reporting Worklist Module.

To customize the interface:

1. From InteleViewer, choose Utilities | User Preferences (**CTRL+U**).

   The User Preferences dialog appears.

2. In the menu, click Appearance.
3. To change the appearance of the interface, in Application Theme, select an option from the Theme list.

Select:	To:
Dark	Optimize the interface appearance for low-light (reading room) environments.
Classic	Use the original InteleViewer light-gray interface, which is suitable for environments with more ambient light.

   You must restart InteleViewer to apply the new theme.

4. To increase or decrease the size of the typeface used in the interface, choose an option from the Font Size list.
5. Set any other preferences, as required.
6. Click OK.

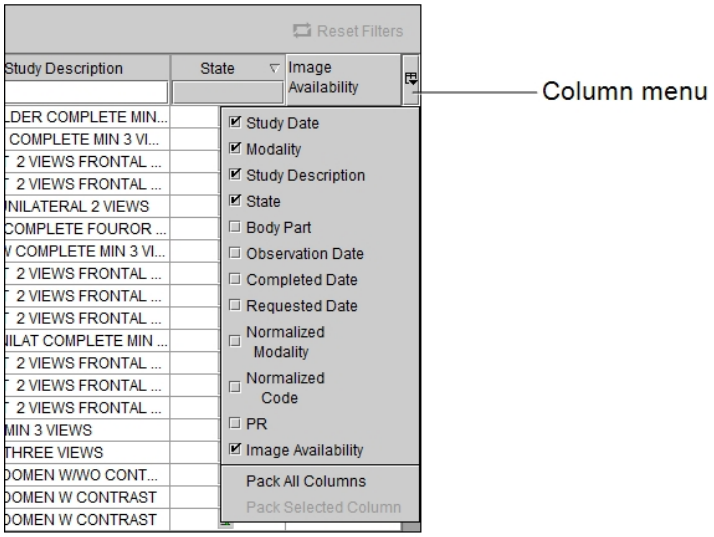
Showing and Hiding Columns

You can choose which columns of information appear in the worklist or the Patient History panel. Any changes you make to the columns visibility are saved automatically.

To show and hide columns:

1. Click the Column menu or right-click a column heading.

   All available columns appear, and a check mark next to a column name indicates that it is currently being displayed.



2. Select a heading to show or hide the column.

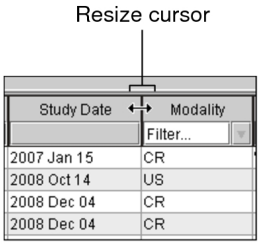
Customizing the Column Layout

You can resize, hide, display, and customize the position of all columns in the worklist or the To Sign panel. Any changes you make to the layout are saved automatically.

To resize columns:

1. Place your cursor over the column heading, near the divider between columns.

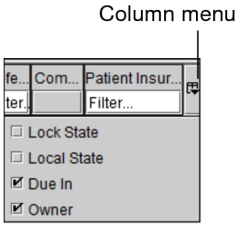
   The cursor changes to indicate you can resize it.



2. To resize the column, do one of the following:

Do this:	To:
Drag Left	Reduce the column width.
Drag Right	Increase the column width.
Double-click	Automatically adjust the column width to match the widest element.

3. To automatically adjust the width of columns to match the widest element, click the Column menu and choose Pack All Columns or Pack Selected Column.



To change column position:

1. Click the heading of the column whose position you want to change and drag it to the new position.
2. When you reach the required column position, release the mouse button.

   The column is moved to the selected location.

To display a horizontal scroll bar:

- Click the Column menu or right-click anywhere in the column heading.

  The horizontal scroll bar appears at the bottom of the worklist.

Choosing a Dictation System

You can configure the Reporting Worklist Module to work with several digital dictation systems:

- Intelerad's Dictation Module
- Multi-Method Reporting with Dictation Module (MMR with Dictation Module)
- PowerScribe 360 and RadWhere (unidirectional or bi-directional)
- ClickView
- Dolbey Fusion Dictate
- Voice2Dox from Integrated Document Solutions

- Crescendo
- MedInformatix
- COMRAD
- Winscribe
- rMan from MTIcube Incorporated
- DigiDictate-IP from Crescendo
- Comdic
- Fluency for Imaging

If you are using a hand-held tape recorder or other device, you can also choose not to use an integrated digital dictation system.

To digitally dictate reports, your system must be configured with a dictation voice recorder. For information on using all other digital dictation systems, please refer to the product documentation.

To choose a dictation system:

1. From InteleViewer, choose Utilities | User Preferences (`Ctrl+U`).

   The User Preferences dialog appears.

   ⚠ You cannot change your dictation system if you have any Patient Record tabs currently open or if your dictation is being transferred to the IntelePACS server. Close Patient Record tabs and wait for dictations to transfer before continuing.

2. From the Application menu, click Dictation System.
3. From the Current Dictation System list, select the system that you want to use.

   The dictation system is workstation-specific, and therefore does not roam.

Select:	To dictate reports by using:
No Dictation System	A hand-held tape recorder or other system. You cannot create an addendum when No Dictation System is selected.
Muti-Method Reporting with Dictation Module	A version of Multi-Method Reporting that you use to create custom report templates.

Select:	To dictate reports by using:
Dictation Module	Intelerad's Dictation Module.
PowerScribe	A unidirectional version of PowerScribe from Nuance Healthcare Systems.
RadWhere	A unidirectional version of RadWhere from Nuance Healthcare Systems.
IDS	Voice2Dox from IDS. When you select either IDS or Voice2Dox as your dictation system, you are selecting the Voice2Dox speech-recognition system. IDS, however, is an earlier version of the system.
MedInformatix	MedInformatix Dictation System.
Dolbey	Dolbey Fusion Dictate.
COMRAD	COMRAD Dictation System.
WinScribe	WinScribe Digital Dictation.
Bi-directional RadWhere	RadWhere from Nuance Healthcare Systems.
PowerScribe 360	PowerScribe 360 from Nuance Healthcare Systems.
PowerScribe 360 with ClickView	PowerScribe 360 from Nuance Healthcare Systems or ClickView (ultrasound orders). Your IntelePACS must be integrated with ClickView.
rMan	rMan from MTIcube Inc.
Voice2Dox	Voice2Dox from IDS. When you select either IDS or Voice2Dox as your dictation system, you are selecting the Voice2Dox speech-recognition system. IDS, however, is an earlier version of the system.
Crescendo	DigiDictate-IP by Crescendo.
Comdic	Comdic Dictation System.
Fluency for Imaging	Fluency for Imaging from M*Modal.

4. Refer to the appropriate section below for configuration specifications.

5. Click OK.

   The application window for the dictation system appears when you log in to InteleViewer. If you selected a PowerScribe dictation system, a message appears when you log in to InteleViewer indicating the launch status of the dictation system.

See Also

About Dictating Reports 575

Multi-Method Reporting

These preferences affect audible feedback, how report templates are matched, and SpeechMike button mapping when using the M*Modal Speech Understanding platform with InteleViewer.

Allow Click to Record on SpeechMike—Initiates voice recording when you click the Record button on the SpeechMike. When enabled, click the Record button to dictate and click it again to pause.

Use Audible Recording Indicator—Emits a beep when you begin a dictation.

Always on Top—Sets the MMR with Dictation Module window to always appear on top of other InteleViewer windows.

Manage Template Matching—Opens the Manage Report Templates window. Use this to choose which report templates to add to the list of templates that a user can select from the Multi-Method Reporting window and modify report template matching rules.

To use this feature, ask your PACS administrator to enable the Manage Report Templates privilege in your user account.

Manage Template Matching—Opens the Manage Report Templates window. Use this to choose which report templates to add to the list of templates that a user can select from the Multi-Method Reporting window and modify report template matching rules.

To use this feature, ask your PACS administrator to enable the Manage Report Templates privilege in your user account.

Manage Report Templates—Opens the Report Template Manager which you use to create, edit, rename, duplicate, and delete custom report templates. From here, you can also access the Quick Text Manager to edit and create quick texts.

See Also

Multi-Method Reporting 662
Managing Quick Texts 678
Accessing the Report Template Manager 698

Dictation Module

Allow Click to Record on the SpeechMike—Initiates voice recording when you click the Record button on the SpeechMike. When enabled, you click the Record button to dictate and click the record button again to pause.

Use Audible Recording Indicator—Enables a beep to sound when dictation begins.

Send For Transcription When the EOL Button is Pressed on the SpeechMike—Sends the dictation for transcription when you press the EOL button on the SpeechMike.

Send for Transcription When Command button is Pressed on Speechmike—Sends the dictation for transcription when you press the Command button on the SpeechMike.

PowerScribe

Application Path—The path to the executable file (also known as a program file) of the PowerScribe application. If you do not know the path, you can click Browse to locate the executable file.

Exchange Folder—The location of the exchange file (also called study.xml) that the Reporting Worklist Module uses to share data with the PowerScribe application. If you do not know the path, you can click Browse to locate the exchange folder.

Synchronization—Select the desired synchronization between InteleViewer and PowerScribe:

Synchronization Mode	Description
Automatic Synchronization	Any order open from the worklist or the Search tool is automatically synchronized with PowerScribe.
Semi-Automatic Synchronization	Any order open from the worklist is automatically synchronized with PowerScribe. Orders that are open from the Search tool must be manually synchronized with PowerScribe. This is the default synchronization mode.

Synchronization Mode	Description
Manual Synchronization	If there are no orders open for dictation and you open an order from the worklist, then the order is automatically synchronized with PowerScribe. All subsequent orders that you open from the worklist must be manually synchronized with PowerScribe. Orders that are open from the Search tool must be manually synchronized with PowerScribe.

The synchronization mode roams with the general profile.

See Also

Opening Orders for Dictation with Third-Party Systems 306

Bi-directional RadWhere

Prompt to Save Contents on Discard—When you enable this option, InteleViewer prompts you to save changes to a study (such as key images and impressions) whenever you discard your RadWhere dictation in progress. If you do not enable this option, InteleViewer will automatically discard any changes you have made to a study when you discard your RadWhere dictation in progress.

Always Show RadWhere—Maximize RadWhere in InteleViewer when opening an order.

IDS or MedInformatix

Hostname—The unique name (alias) used to identify the computer on the network.

Host Port—The host port number.

Dolbey

Dolbey Application Path—The path to the executable file (also known as a program file) of the Dolbey application. If you do not know the path, you can click Browse to locate the executable file.

Dolbey Exchange Folder—The location of the exchange file (also called study.xml) that the Reporting Worklist Module uses to share data with the Dolbey application. If you do not know the path, you can click Browse to locate the exchange folder.

WinScribe

WinScribe Application Path—The path to the executable file (also known as a program file). If you do not know the path, you can click Browse to locate the executable file.

WinScribe Service URL—The WinScribe server host name.

PowerScribe 360

Prompt to Save Contents on Discard—When you enable this option, InteleViewer prompts you to save changes to a study (such as key images and impressions) whenever you discard your PowerScribe 360 dictation in progress. If you do not enable this option, InteleViewer will automatically discard any changes you have made to a study when you discard your PowerScribe 360 dictation in progress.

Always Show PowerScribe 360—Displays PowerScribe 360 when you open an order in InteleViewer.

PowerScribe 360 with ClickView

Prompt to Save Contents on Discard—When you enable this option, InteleViewer prompts you to save changes to a study (such as key images and impressions) whenever you discard your PowerScribe 360 dictation in progress. If you do not enable this option, InteleViewer will automatically discard any changes you have made to a study when you discard your PowerScribe 360 dictation in progress.

Always Show PowerScribe 360—Displays PowerScribe 360 when you open an order in InteleViewer.

See Also

Using ClickView for Ultrasound Reports 582
ClickView Preferences 97

rMan

rMan Application Path—The path to the executable file (also known as a program file) of the rMan application. If you do not know the path, you can click Browse to locate the

executable file.

rMan Exchange Folder—The location of the exchange file (also called study.xml) that the Reporting Worklist Module uses to share data with the rMan application. If you do not know the path, you can click Browse to locate the exchange folder.

Voice2Dox

Exchange Folder—The location of the exchange file (also called study.xml) that the Reporting Worklist Module uses to share data with the Voice2Dox application. If you do not know the path, you can click Browse to locate the exchange folder. The name of the exchange folder should match the name specified for this folder by the Voice2Dox application.

Port Number—The host port number. The host port should match the value set by the Voice2Dox application. The default is 8500, and is set in PACS configuration file.

Crescendo

Exchange Folder—The location where InteleViewer and Crescendo read and write files for synchronization.

Send Filename— The name of the file InteleViewer creates when a new order is opened.

Receive Filename— The name of the file that Crescendo creates to report the results of the dictation.

Interrupt Filename— The name of the file that InteleViewer creates to inform Crescendo to stop the current dictation.

Comdic

Ensure that the values you enter are the same as the values Comdic uses. For more information, contact your PACS administrator.

Exchange Folder—The location of the send file (also called request.xml) and receive file (also called result.xml) that the Reporting Worklist Module uses to share data with the Comdic application.

Send filename—The name of the file InteleViewer creates when a new order is opened. InteleViewer creates it in the Exchange Folder and Comdic detects it from there.

Context change filename—The name of the file that InteleViewer sends to Comdic to interrupt the current dictation.

Receive filename—The name of the file that Comdic creates containing the results of the dictation.

Fluency for Imaging

Application path—The path to the executable file (also known as a program file) of the Fluency for Imaging application. If you do not know the path, you can click Browse to locate the executable file.

Input folder— The path to the folder used by InteleViewer to send messages to Fluency for Imaging. Browse to the location of the IN folder where Fluency for Imaging is installed; for example, C:\Mmodal\FluencyForImaging\Reporting\Xml\IN.

Output folder— The name of the folder into which Fluency for Imaging creates files to indicate events which are processed by InteleViewer. Browse to the location of the OUT folder where Fluency for Imaging is installed; for example, C:\Mmodal\FluencyForImaging\Reporting\Xml\OUT.

Supported Dictation Voice Recorders

If you are using the Dictation Module, use one of the dictation voice recorder models listed below. While other models may function with the software, these are the only models supported by Intelerad.

To use the dictation voice recorders, you must verify after installation that the dictation software is installed on your workstation. You must install the drivers included with the product. You can usually obtain the drivers from the company and from Intelerad in the InteleBrowser Installers page.

The Reporting Worklist Module does not support use of barcode readers that are integrated into the SpeechMike.

If you are using a third-party dictation or viewing system, refer to your product documentation for information on suggested dictation devices.

Intelerad does not provide legacy support for models with serial connectors.

Philips SpeechMike

The following are Philips dictation voice recorders supported by Intelerad:

Philips SpeechMike Pro Models

- SpeechMike Pro 5274
- SpeechMike Pro PLUS 5276
- SpeechMike Pro 6274
- SpeechMike Exec Pro 7274
- SpeechMike Pro LFH3200

Philips SpeechMike Classic Models

- SpeechMike Classic 5262
- SpeechMike Classic PLUS 5272
- SpeechMike Classic 6264
- SpeechMike Classic 6284
- SpeechMike Exec Classic 7262
- SpeechMike Pro LFH3210

Philips SpeechMike Air Models

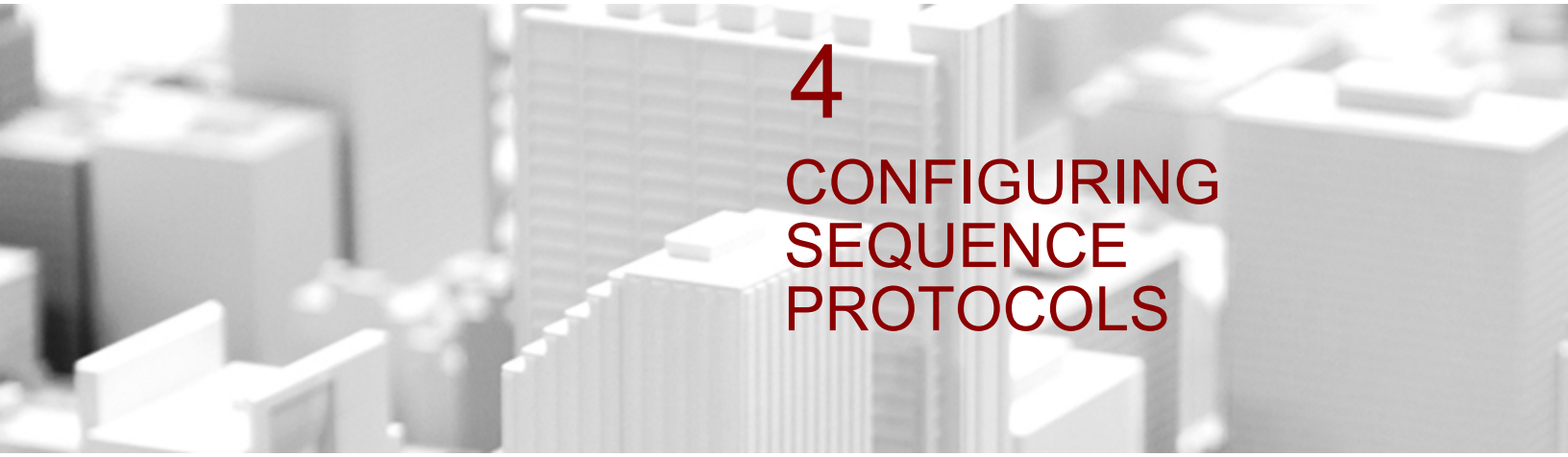
- SpeechMike Air Classic Wireless LFH3010
- SpeechMike Air Wireless LFH3000/01

Philips SpeechMike drivers version 2.7 or higher are required for 64-bit operating systems.

Olympus Dictation Microphone

The following are Olympus dictation voice recorders supported by Intelerad:

- DirectREC DR-2000
- DirectREC DR-2100
- DirectREC DR-2300



4 CONFIGURING SEQUENCE PROTOCOLS

When viewing studies, you can reduce the number of manual adjustments you have to make with sequence protocols.

In this chapter:

About Configuring Sequence Protocols 161

Understanding the Protocol Preview 161

Understanding Reading Steps and Views 163

Understanding Prior Studies in Sequence Protocols 166

Creating Sequence Protocols 168

Matching Sequence Protocols 218

Managing Sequence Protocols 226

Navigating Through Reading Steps and Comparable Priors 242

Viewing Repeat Images 244

About Configuring Sequence Protocols

As a radiologist, the way that a scanner arranges images in a study might not match your preferred arrangement for reading. To automatically select, arrange, and adjust images to suit your workflow, you can configure sequence protocols.

To create and maintain sequence protocols, ask your PACS administrator to enable the Advanced Layout Management privilege in your user account. To create and maintain mammography sequence protocols, ask your PACS administrator to enable the Mammography Features privilege.

A *sequence protocol* specifies how to select, adjust, and arrange images and prior images in a consistent manner. You can create your own sequence protocols to identify current and multiple prior studies and control how they are displayed in the viewports. You can also use sequence protocols created by other users.

InteleViewer chooses a sequence protocol automatically based on matching rules. A *matching rule* specifies criteria to determine whether or not to apply a sequence protocol to a study. These criteria include modality, procedure codes, Uniform Study Descriptors (normalized modality, body parts, and details), and DICOM study descriptions.

A sequence protocol contains reading steps. A *reading step* specifies how InteleViewer to lay out images in viewports. You can use keyboard commands to view the next or previous step.

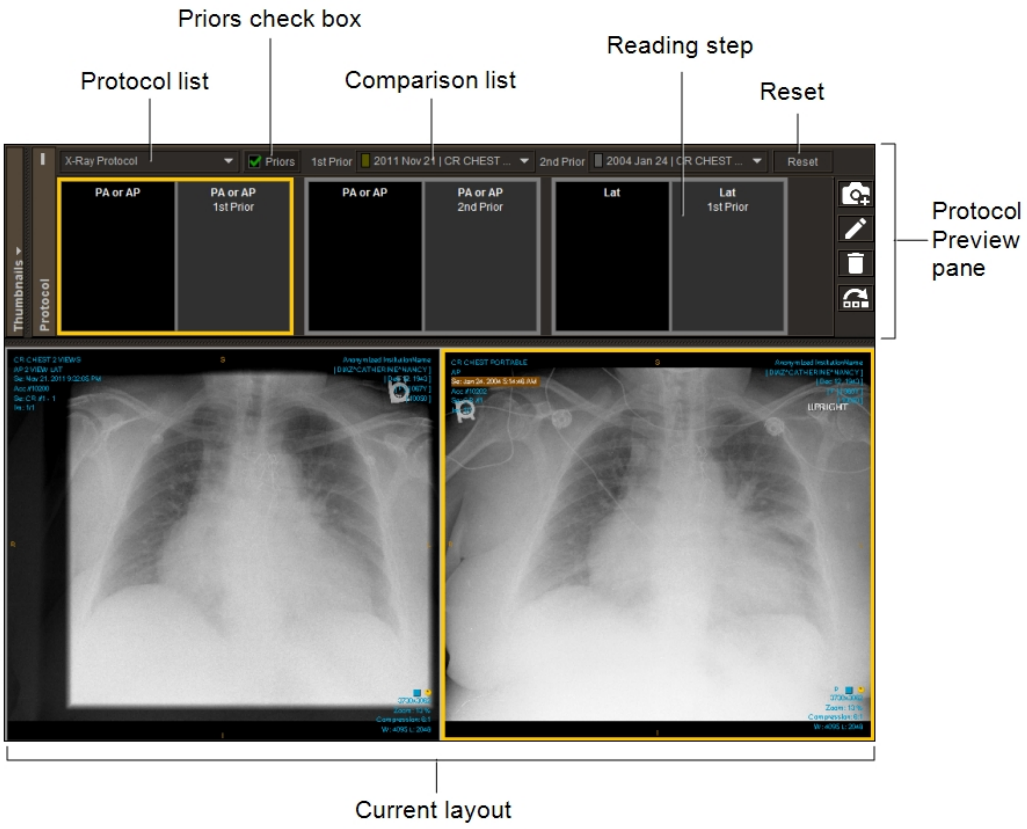
For each reading step, you configure views. A *view* specifies which images to display from a study. Other view options specify how to adjust images for display in their viewport. You can also choose whether to perform on-the-fly reconstructions, as well as set up direct side-by-side comparisons of current and prior images.

Sequence protocols are stored on the IntelePACS server for each user. You can also share sequence protocols and steps, and use the sequence protocols created by other users. Every time you log in to IntelePACS and open an order, InteleViewer chooses the most specific sequence protocol on the server.

Sequence protocols are saved for each layout profile. To see a given sequence protocol, make sure that the right profile is selected.

Understanding the Protocol Preview

You can view reading steps, matching sequence protocols, and relevant prior studies in the Protocol Preview pane. You can also capture, edit, delete, and reorder reading steps.



The Protocol Preview pane appears to the right of the Thumbnail strip. If your workstation has multiple monitors, the Protocol Preview pane can span across them. The Protocol Preview contains the following:

- Protocol list
- Priors check box
- Comparison list (if priors are available)
- Reset button
- reading steps for the current sequence protocol
- buttons to create a new step, edit a layout, delete a step, and reorder steps

The Protocol list contains all activated sequence protocols that match the current study's normalized modality. You can select another protocol in the Protocol list. By default, InteleViewer applies the best-suited sequence protocol for the current study, which is shown as the first entry in the list.

When enabled, the Priors check box displays the reading steps in the sequence protocol that are in the protocol's With Priors list. Enabling this check box consequently displays

contains comparable prior studies that you can use to override the prior studies automatically picked by the sequence protocol.

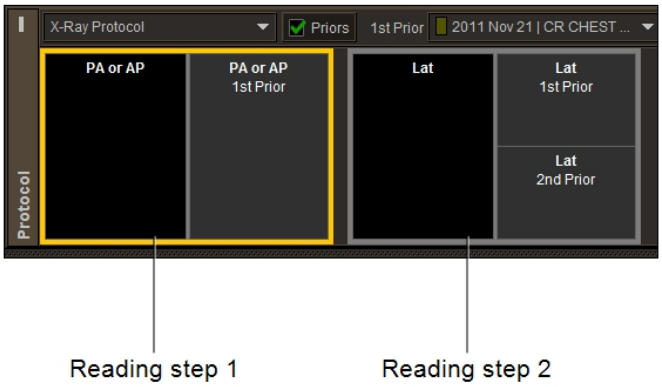
See Also

Using the Study Color Coding Scheme 63
Navigating Through Reading Steps and Comparable Priors 242

Understanding Reading Steps and Views

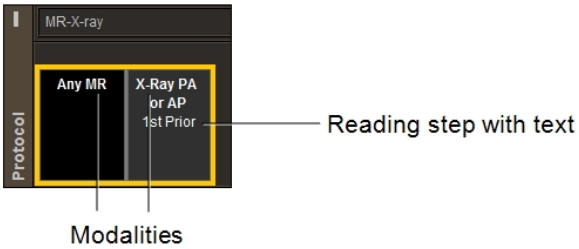
When creating a sequence protocol, you define its reading steps and views. A *reading step* specifies the layout of images across all monitors of your workstation. A reading step specifies one or more views. Each view occupies one viewport.

In the example below, reading step 1 includes two views and reading step 2 includes three views.



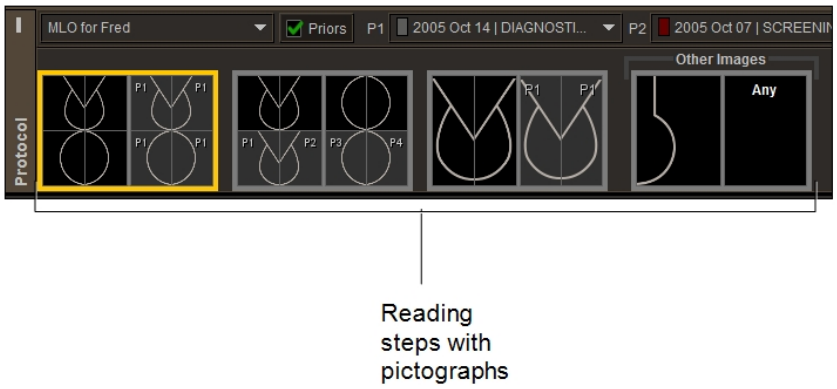
Reading steps for non-mammography images display the view rules in text format.

Reading Steps for Non-Mammography Sequence Protocol



Reading steps for mammography images show pictographs. The quadrant symbol indicates that the mammography image displays in four proportional sections. The CAD marks symbol indicates that the mammography image displays with CAD marks and a summary of findings.

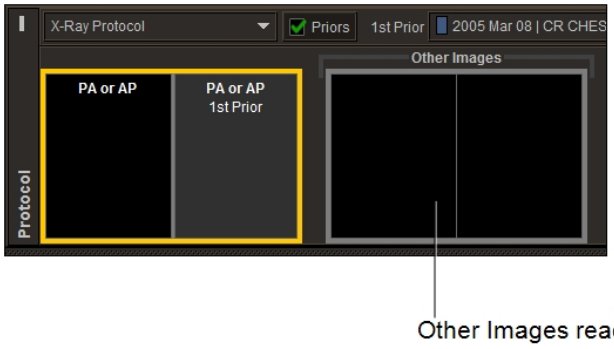
Reading Steps for a Mammography Sequence Protocol



To prevent you from having to create multiple similar reading steps for mammography and tomosynthesis sequence protocols that contain 2D images, InteleViewer considers 2D and generated 2D views as interchangeable. When a sequence protocol specifies one or the other and no matching image is found, InteleViewer displays the other if available. InteleViewer matches GE V-Preview 2D images to generated 2D views in sequence protocols. If a sequence protocol is configured for a regular 2D view, and no matching 2D image is found, InteleViewer matches a V-Preview 2D image to the regular 2D view.

InteleViewer skips a reading step when no matching series is found. Skipped reading steps do not appear in the Protocol Preview pane. If the sequence protocol contains a reading step with a view for which no matching series is found, InteleViewer will either fill the unmatched viewport with the first non-displayed series for the corresponding study, or leave the viewport empty, depending on the Fill Unmatched Viewports with Non-Displayed Series modality preference.

If the current study includes series that do not match any of the sequence protocol views, InteleViewer automatically includes an Other Images reading step. The Other Images reading step contains images with views not included in the sequence protocol reading steps. For example, if oblique images are included in an X-ray study but the current sequence protocol does not have reading steps that specify these views, InteleViewer displays oblique views as part of the Other Images reading step.



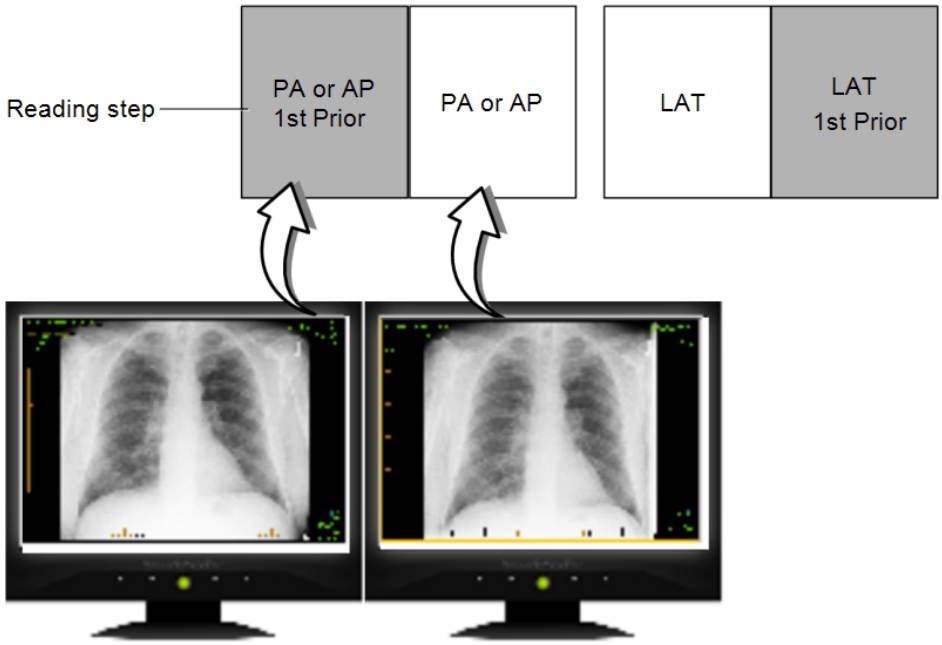
Other Images reading step

The series layout in the Other Images reading step is based on the series layout defined in the default modality preferences or the customized settings for a particular modality. For example, a 2 x 3 series layout in the Other Images reading step will display a total of six series across all monitors, organized in two rows and three columns.

In a multiple-monitor configuration, you can have different series layouts on each individual screen. For example, if you use a dual-monitor configuration, you can create a Chest X-ray 2 Views sequence protocol that instructs InteleViewer to lay out X-ray images on two portrait monitors as follows:

- The first reading step instructs InteleViewer to lay out the posterior-anterior view of the most recent prior X-ray study in the left monitor, and the posterior-anterior view of the current X-ray study in the right monitor.
- The second reading step instructs InteleViewer to lay out the lateral view of the current X-ray study in the left monitor, and the lateral view of the most recent prior X-ray study in the right monitor.

Example of a Chest X-Ray 2-Views Sequence Protocol with Two Reading Steps



See Also

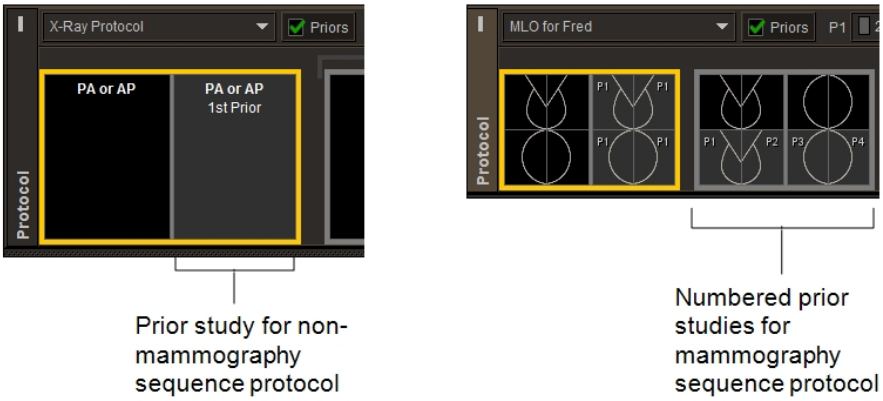
Sharing Sequence Protocols 228
Creating Sequence Protocols Using the Sequence Protocol Manager 191
Setting the Sequence Protocol Preferences 139

Understanding Prior Studies in Sequence Protocols

You can view and choose prior studies to use in a sequence protocol from the Protocol Preview pane. By default, InteleViewer displays the best-matching prior studies. To display other prior studies, you can use the Comparison list.

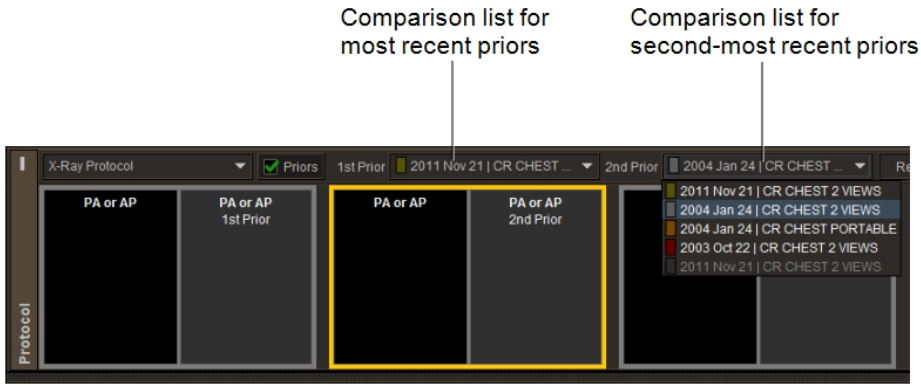
A reading step's view for a prior study is distinguished with a gray background. For mammography studies each prior is numbered.

Reading Steps for Prior Studies



A sequence protocol can contain two lists of reading steps: a list for no prior studies and another list with prior studies. The Priors check box, when enabled, applies the reading steps with prior studies if it is available. When the current sequence protocol matches one or more priors, InteleViewer enables Priors. Priors is disabled when InteleViewer does not find any matching priors.

The Comparison list contains comparable prior studies that you can use as the comparison studies in the sequence protocol. When a sequence protocol uses multiple priors, InteleViewer displays a separate Comparison list for each prior study. The prior study that best matches the matching criteria of the view is automatically selected in the list. Priors studies that match the views in the reading steps are displayed in reverse chronological order in the list, from most recent to oldest.



The prior studies in the Comparison list have dedicated color codes to differentiate between prior studies when loaded in the viewports. A study with a black square is more recent than the current study.

If you mark a new prior study as relevant, the colored squares for the comparison priors in the list are automatically updated to indicate their new position in the priors timeline relative to the new study currently loaded in the viewport.

If you mark a comparison prior as nonrelevant, InteleViewer removes it from the list the next time InteleViewer the protocol. You can revert the selected comparison priors to those matched automatically with the Reset button. For example, assume you have a sequence protocol that uses a one-year-old prior and a two-year-old prior. When you open study A, studies B and C are selected as the one-year-old prior and two-year-old prior, respectively. If you then select prior study D instead of prior study B, and prior study E instead of prior study C, and click the Reset button, InteleViewer will revert the sequence protocol to show prior studies B and C.

Creating Sequence Protocols

You can create sequence protocols using the Protocol Capture tool or the Sequence Protocol Manager.

You can use the Protocol Capture tool to quickly create sequence protocols, reading steps, and views by using the InteleViewer layout features and viewports.

You can use the Sequence Protocol Manager to create sequence protocols by assigning reading steps and views that were previously created using the Sequence Protocol Manager, or to create reading steps and views for the purposes of sharing.

When creating a sequence protocol, you specify the number of viewports per monitor, the number of images per viewport, and how to adjust images for display.

Typically you would follow this workflow to create sequence protocols:

- Determine the most common procedures based on the classification results displayed in the preview tables in the Study Classifier panels. Usually, the five or ten most-common procedures represent about 30% of the data on the IntelePACS.
- Create the study classifier mappings for your five most-common procedures. For more information, contact your PACS administrator.
- Create the sequence protocols for the five most-common procedures.
- Repeat the steps above for the next ten-most common procedures, and keep repeating these steps as required.

See Also

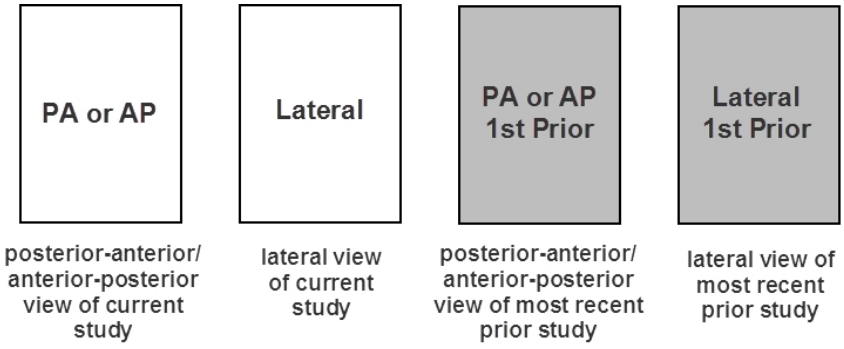
Creating Sequence Protocols Using the Protocol Capture Tool 172
Creating Sequence Protocols Using the Sequence Protocol Manager 191

Guidelines for Creating Sequence Protocols

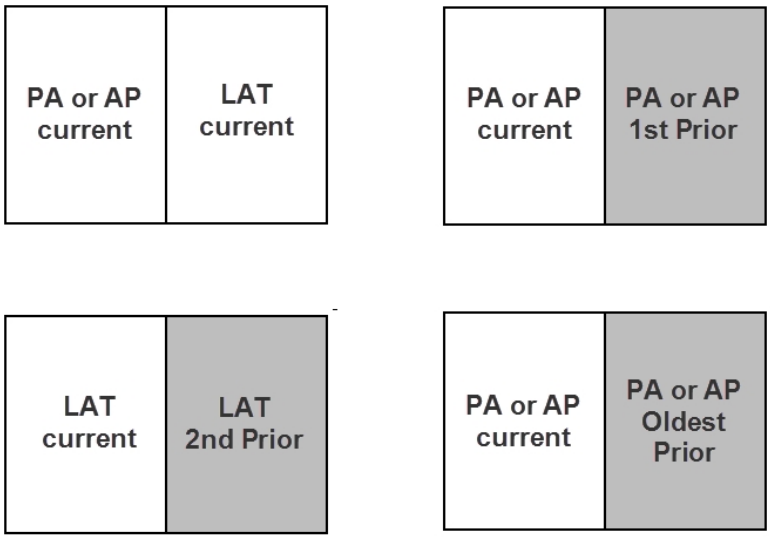
When creating sequence protocols, you should follow these guidelines.

Determine the layouts. How will images be laid out? Which images should be shown side-by-side? In what order should images be shown?

View the study description to look at which views are contained in a study. For example, a “Chest 2 Views” study can have the following four views:



Choose how you want to arrange views for each monitor. For example, on a dual-monitor configuration, you may want to display the following layouts for the “Chest 2 Views” study:



Survey your use cases. How many images should be displayed simultaneously on your workstation? Would you like to keep one viewport blank? Is there a sequence of images taken at different times? Are there multiple images taken during a single test? If so, can images from different parts of the body be arranged in a way that preserves those spatial relationships? For example, if you are showing images from the right and left sides of the body, place the left image to the left of the right image.

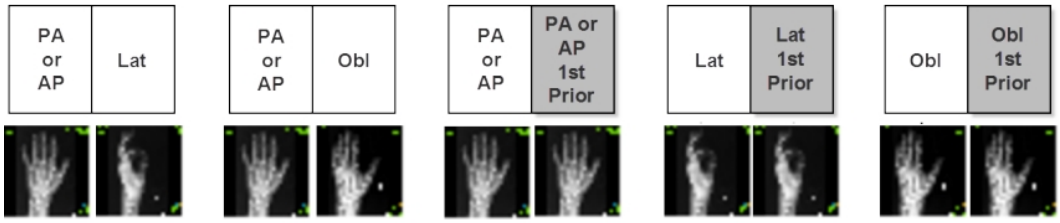
Specify the remaining details for the sequence protocols. For example, images in a time series should be shown left to right, oldest to most recent.

Create a sequence protocol for procedures that contain a large number of series or when their diagnosis involves a lot of comparisons with prior studies.

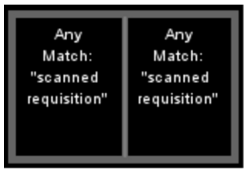
Define as many specific sequence protocols as you can, and resort to general or fallback sequence protocols for all others. You should create at least one fallback sequence protocol for each modality type, like “CT ABDOMEN”.

Create specific sequence protocols for studies for which you can reliably set up series matching. For example, you could create a sequence protocol with the following reading steps for viewing an X-ray of the left hand. The sequence protocol assumes that the X-ray study includes three series, each with one image.

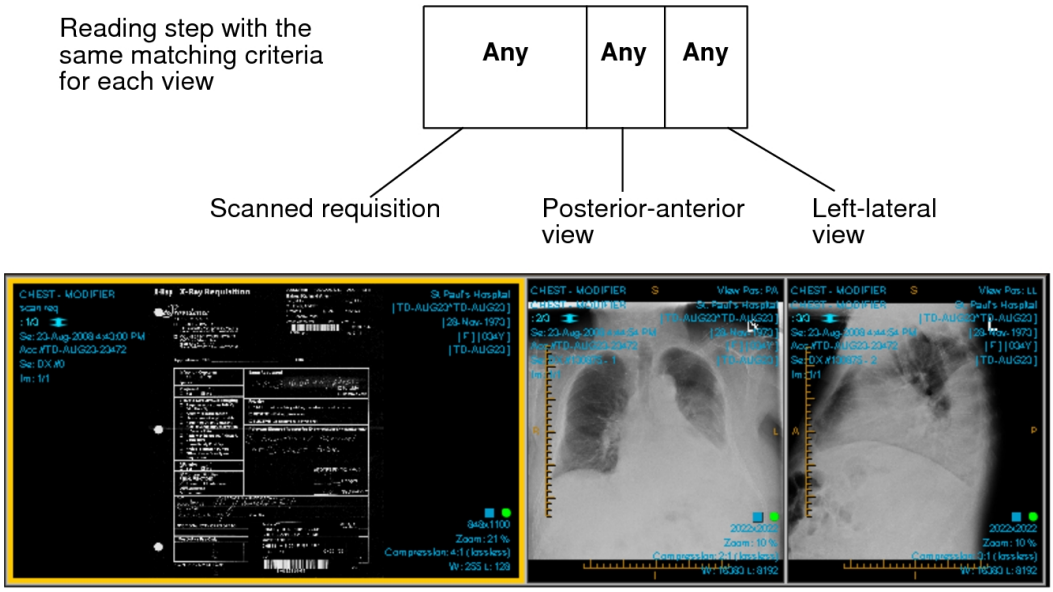
Example of Sequence Protocol for X-Ray of Left Hand Study



Create an “Any” view, where all the input matching rules are set to Any, to indicate that no matching criteria is required and any unmatched series can be assigned to the viewport location. This is useful if you want to display particular images (such as, localizer or scout images or modality screenshot images), scanned requisitions, or other paper forms in a reading step instead of the Other Images reading step. For example, to compare two scanned requisitions side-by-side, you can create a reading step with two Any views, where each contains “scanned requisition” in the series description.

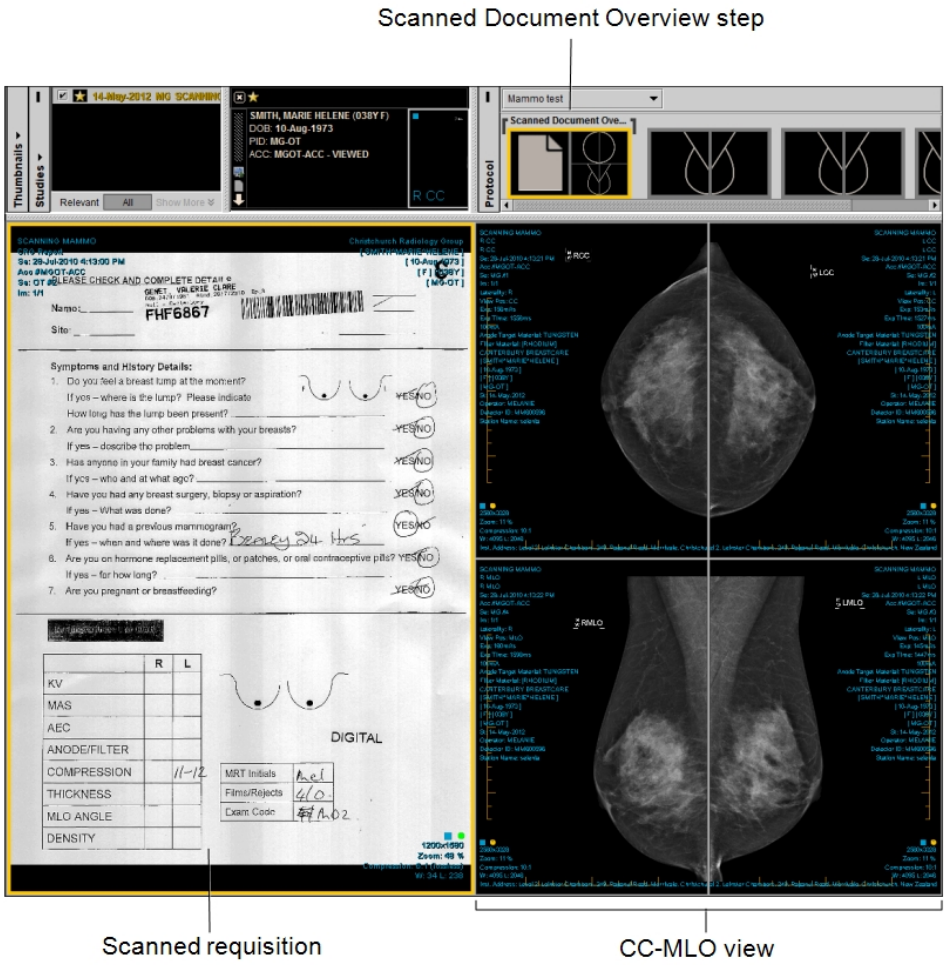


Create a sequence protocol with the same views repeated several times in the same reading step so InteleViewer can lay out all the images side-by-side in the viewports. For example, a DX series may contain a scanned requisition and two images (the posterior-anterior view of the chest, and the left-lateral view of the chest) in a dataset. To display all images side-by-side in the viewports, you could create a reading step with three “Any” views that have no series description matching criteria. In this way, the views will match all images. Each image will appear in the viewports without any duplication of the images being displayed in the reading step.



Displaying Scanned Documents in Mammography Studies

You can display scanned documents in mammography studies by adding the Scanned Document Overview smart reading step to your mammography sequence protocol. The step has a two-monitor, non-uniform grid layout, where the scanned document appears in the left monitor and a CC-MLO view of the current mammography study appears in the right monitor.



For InteleViewer to match the scanned document to the mammography study, the scanned document must be stored as an OT series with a series description that matches the keywords or phrases defined by your PACS administrator. For more information, contact your PACS administrator.

If several scanned documents match the defined keywords or phrases, InteleViewer will display repeated views of the scanned documents in the current mammography study. Scanned documents not matching any of the defined keywords or phrases will appear in the Other Images reading step in the Protocol Preview pane.

Creating Sequence Protocols Using the Protocol Capture Tool

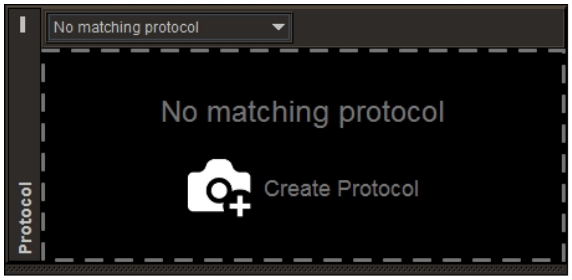
You can use the Protocol Capture tool to quickly create sequence protocols, reading steps, and views by using the InteleViewer layout features and viewports.

The view options specify matching criteria for images, reformat options, and display options. If a viewport is empty and you do not change the view options, it defaults to an Any viewport for the current modality.

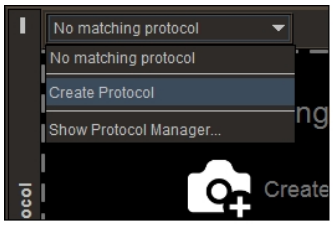
The reading steps that you create using the Protocol Capture tool are linked to the current sequence protocol. These steps do not appear in the Sequence Protocol Manager for sharing or assignment to other sequence protocols.

To create a sequence protocol using the Protocol Capture tool:

1. Open a study that matches the modality for which you want to create a sequence protocol. See “About Opening Studies and Series" (page 361).
2. Set the series and image viewport layout as required. See “Changing the Viewport Layout" (page 408).
3. To specify a series as a starting point for setting the view options for a viewport, drag the series to the desired viewport. See “Dragging Thumbnail Images to Viewports" (page 455).
4. Repeat step 3 for each viewport, as required.
5. In the Protocol Preview pane, click Create Protocol.

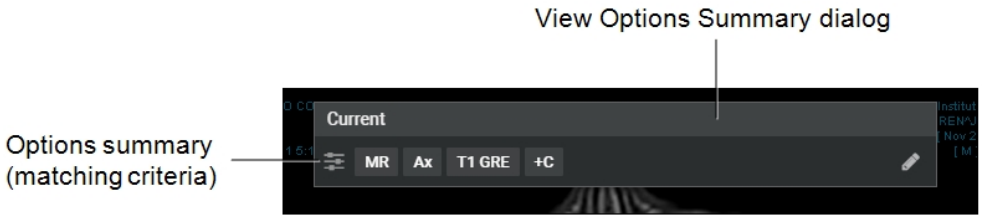


You can also click Create Protocol in the Protocol list.

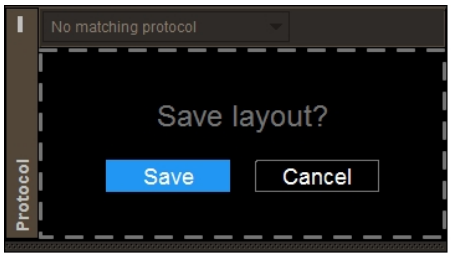


6. To modify the view options for a viewport, in the corresponding View Options Summary dialog, click the Edit icon or the options summary.

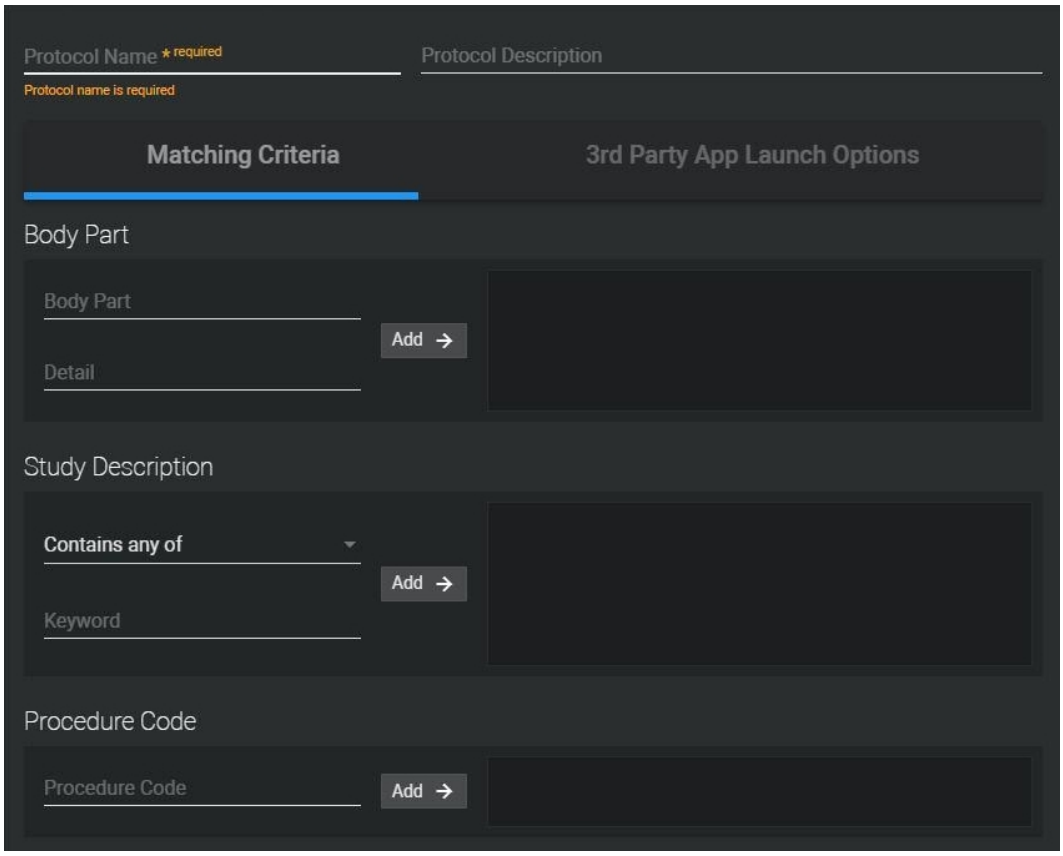
If you intend to configure the sequence protocol to automatically open a third-party application, make sure that the view options for the top-left viewport correspond to the series in the current study that you want to view in the third-party application.



7. Set the view options as required, and then click Done. See “Setting View Options Using the Protocol Capture Tool" (page 175).
8. Repeat steps 6 and 7 for each viewport, as required.
9. To save the sequence protocol, in the Protocol Preview pane, click Save.



10. In the Protocol Name field, enter a name for the sequence protocol.



11. Optionally, in the Protocol Description field, enter a description for the sequence protocol.
12. In the Matching Criteria tab, set the matching rules for the sequence protocol. See “Setting Matching Rules Using the Protocol Capture Tool" (page 185).
13. Optionally, in the 3rd Party Launch Options tab, select the third-party application that opens automatically when the sequence protocol is in use. See “Setting the Third-Party Application Launch Options" (page 188).
14. Click Done.

Setting View Options Using the Protocol Capture Tool

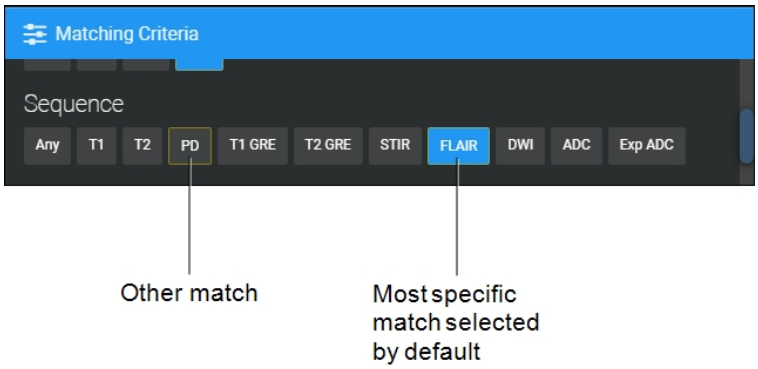
For each view in a sequence protocol step, you can set the following view options:

- Matching criteria for images
- Reformat options (CT and MR only)
- Display options

InteleViewer uses a view’s options to determine which images to display and how to adjust them. The view options can be as simple as defining the view orientation, or as

complex as defining the view orientation, thickness, and contrast. You can also specify whether the view is for current or prior studies.

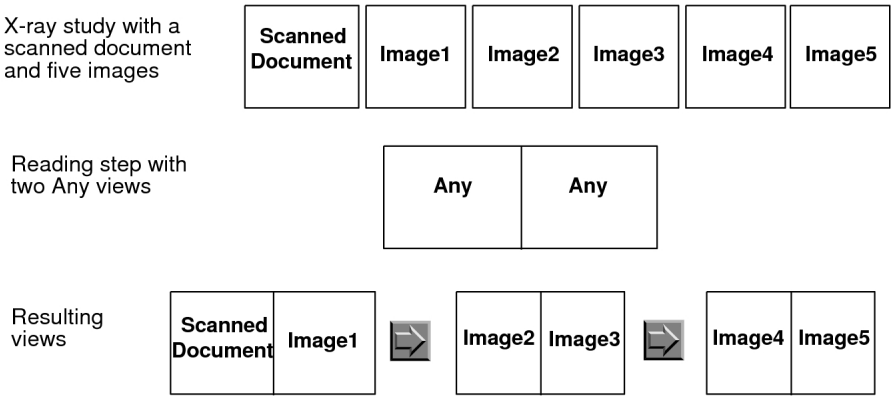
When you create a reading step or edit a view's options using the Protocol Capture tool, InteleViewer automatically pre-sets the view options for the series to match the viewport. These settings appear with a yellow outline in the View Options dialog. If more than one match is detected for a given attribute, InteleViewer selects the first image.



You can also force the view to be empty and set whether the view is required for the reading step to appear.

Display options determine how images are displayed in the viewport, and include sorting, rotation, color map, scaling, and flip options.

When all the matching criteria are set to Any, then the reading step containing that view will match all the series of the corresponding modality and chronology. This type of view is referred to as an *Any* view. For example, you can create an X-ray sequence protocol that contains a reading step with two Any views. Both these views will match all the series in an X-ray study. If you have an X-ray study with a scanned document and five images in the same series, then applying the sequence protocol to this study will result in three sets of views. InteleViewer displays only one of the views in the viewport. You can use the **LEFT ARROW** or **RIGHT ARROW** keys to move between the views.



If you set matching criteria other than Any, the view matches specific series only. In this case, all non-diagnostic images (generic datasets), such as a scout images and scanned documents, are ignored and will not match the view, regardless of the series description setting. If the Manufacturer DICOM value for a series is "PACSGEAR", or if the series description begins with "scout", "loc", "topogram", "scan", "req", or "3-pl", the series will not match the view.

When the Fill Unmatched Viewports With Non-Displayed Series modality user preference is enabled, and the sequence protocol contains a reading step with a view for which no matching series is found, then the unmatched view reverts to an Any view. In this case, InteleViewer automatically fills the unmatched viewport with the first non-displayed series for the corresponding study. If multiple unmatched viewports are present, the viewports are filled sequentially. Series are selected sequentially in the same order as they appear in the Thumbnail strip.

See Also

View Options 177

View Options

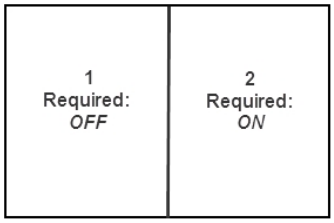
Use these options to customize the view for a reading step in a sequence protocol when using the Protocol Capture tool. Some of the following view options may appear for specific modalities only.

Empty Viewport—Enable to force the viewport to be empty regardless of whether the Fill Unmatched Viewports with Non-Displayed Series modality user preference is enabled.

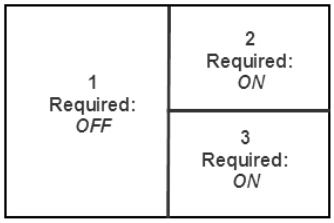
Secondary Image—Enable to display a secondary image. This option works with the matching criteria for Secondary Images. For example, enable this option to display a scanned document. Enabling this option replaces most options with Secondary Images option in the Matching Criteria options.

Required—Enable to show the reading step if the required view or one of the required views is matched. If the step includes more than one required view, the step appears if one of the required views are matched. InteleViewer displays unmatched views as part of the Other Images reading step in the Protocol Preview pane.

For example, for step 1, if a series is not matched with view 2, step 1 will not appear in the sequence protocol. Step 2 appears if a series matches either view 2 or 3, and does not appear if a series match is not found for views 2 and 3.



Step 1



Step 2

Matching Criteria

Chronology—Specifies whether the series appearing in the viewport should come from the current or prior study. Choose one of the following options:

Option	Description
Current	The current study
*n*th Prior	A recent prior, arranged from most recent to last.
Oldest Prior	The oldest prior

Ultrasound Type—Specifies the ultrasound (US) view according to the view position. You can choose Scalar, Cine, or Any. Use Any to match any US view. This option is not available when Secondary Image is enabled.

View Orientation—Specifies the view according to the view position. This option is not available when Secondary Image is enabled.

For X-ray, choose one of the following view positions:

View Position	Description
Any	Match any X-ray view
PA or AP	Posterior/Anterior or Anterior/Posterior images
Lat	All lateral images (with a right-lateral and left-lateral orientation)
Decub	All decubitus images (Right Lateral Decubitus and Left Lateral Decubitus)
Obl	All oblique images (Right Lateral Oblique and Left Lateral Oblique)

InteleViewer determines the view position of the X-ray image by matching the DICOM value for the View Position attribute contained in the image to the predefined DICOM values (AP, PA, LL, RL, RLD, LLD, RLO, and LLO). If the image does not have the DICOM View Position data, then InteleViewer searches for these values in the series

description: “lat,” “dec,”, or “obl.’ If there is no match, then InteleViewer will not apply the reading step containing that view (excluding Any view).

For CT or MR, choose one of the following view positions:

View Position	Description
Any	Match any view
Ax	All Axial images
Sag	All Sagittal images
Cor	All Coronal images

Slice Thickness—Specifies the slice thickness. You can choose Thinnest, Thickest, or Any. Use Any to match any thickness. This option is not available when Secondary Image is enabled.

InteleViewer determines the slice thickness by matching the DICOM value for the Slice Thickness attribute to an image in the series. If the series has more than one image, InteleViewer uses an image in the middle of the series.

Contrast Presence—Specifies whether or not a contrast agent is present. You can choose +C (with contrast), -C (without contrast), or Any. Use Any to match any or a particular CT view regardless of whether a contrast agent is present. InteleViewer determines the presence of a contrast agent by matching the DICOM value for Contrast Bolus Agent attribute to that of the images in the series. This option is not available when Secondary Image is enabled.

For example, you open a CT study that contains the following DICOM value for Contrast Bolus Agent:

```
(0018,0010) ContrastBolusAgent LO #10 1 [OMNIPAQUE]
```

InteleViewer uses this value as the matching criteria. Since the Contrast Bolus Agent value is equal to “Omnipaque,” InteleViewer determines that this study has a contrast agent. If a sequence protocol contains a reading step that specifies a view with contrast, then only CT series with contrast will match that view. If you open a CT study that contains the DICOM value for Contrast Bolus Agent of “no,” “none,” or “off,” or is empty, then InteleViewer will not apply the sequence protocol to the CT study.

Window Level—InteleViewer determines the window level. This option is not available when Secondary Image is enabled.

The window level is determined by matching the DICOM value for Window Width and Window Level to the values defined in the following table:

Window Level	Matching Criteria
Any	InteleViewer matches any or a particular CT view regardless of whether the DICOM values for Window Center and Windows Width are specified in the image.
Lung	If the DICOM value for Window Center is less than or equal to -300, then InteleViewer identifies the study as a lung study. If the DICOM value for Window Center is less than or equal to 0 and the value for Window Width is greater than or equal to 1000, then InteleViewer identifies the study as a lung study.
Bone	If the DICOM value for Window Center is greater than or equal to 200, then InteleViewer identifies the study as a bone study. If the DICOM value for Window Center is greater than or equal to 100, and the value for Window Width is greater than or equal to 1000, then InteleViewer identifies the study as a bone study.
Soft tissue	InteleViewer identifies the series as soft tissue in the following scenarios: • If the DICOM value for Window Center is between 0 and 100 (0 < Window Center < 100), regardless of the Window Width value. • If the DICOM value for Window Center is between -300 and 0 (-300 <= Window Center <= 0), or between 100 and 200 (100 <= Window Center <= 200), and the Window Width value is less than or equal to 1000.

For example, you open a CT study that contains the following DICOM values for Window Center and Window Width:

```
(0028,1050) WindowCenter DS #4 1 [80.0]

(0028,1051) WindowWidth DS #6 1 [186.0]
```

InteleViewer uses these values as the matching criteria. Since the Window Center attribute value is equal to “80,” InteleViewer determines that this study has a window level value of “Soft Tissue.” If a sequence protocol contains a reading step with a view where the Reconstruction Algorithm is set to Soft, then only CT series with a window level value of “Soft Tissue” will match that view.

Use Series Description—Enable to create rules. The rule you create is based on the text you enter and the matching operator you specify. The rule will be used to identify the series (such as, localizer or scout images or modality screenshot images) or document. For example, if the series description in the view options specifies the Equals operator and the text “scan req,” and Any is chosen for all other matching criteria, then InteleViewer will match the view to a study containing the series description “scan req.”

You can create multiple rules by adding new lines and selecting additional operators. No more than 50 rules can be combined at once to identify matching series descriptions. Within the maximum of 50, you cannot use more than one Equals operator or more than one Begins With operator.

Setting multiple rules for series description cannot be done using the Protocol Manager, but only by accessing Matching Criteria dialog via View Options.

The series description text is case-insensitive. Blank entries are unusable as match criteria; the rule will be discarded after selecting Done.

If you set matching criteria other than Any, the view matches specific series only. In this case, all non-diagnostic images (generic datasets), such as a scout images and scanned documents, are ignored and will not match the view, regardless of the series description setting.

Choose an operator in the following table to determine how the series description should match the text.

Choose:	To match series descriptions that:
Contains All Of	Contain all of the specified text, in any order. Use quotation marks to specify exact phrases.
Contains Any Of	Contain at least one of the specified text, in any location. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins With	Begin with the specified text. Studies with the text located elsewhere in the description (such as in the middle) will not be matched.
Contains None Of	Do not contain any of the specified text.

When using the Contains All Of, Contains Any Of, and Contains None Of operators, partial matches are supported—the specified text does not require preceding and

following spaces in the study description to match. For example, if the study description contains “abdomen pelvic,” the text “abdo” will match.

Sequence—Choose one of the following sequences: T1 (T1-weighted), T1 GRE (T1 Gradient Echo), T2 (T2-weighted), T2 GRE (T2 Gradient Echo), PD (Proton Density), DWI (Diffusion Weighted Imaging), ADC (Apparent Diffusion Coefficient), Exp ADC (Exponential ADC), STIR (Short T1 Inversion Recovery), FLAIR (Fluid Attenuated Inversion Recovery), and Any. Use Any to match any or a particular MR view regardless of whether a sequence is specified in the series description. This option is not available when Secondary Image is enabled.

If you cannot find the required sequence in the MR view option, define a new sequence by using series matching.

InteleViewer determines the sequence by matching the series description to a series in the MR study, as well as matching the DICOM values for flip angle and inversion time to the values defined in the following table:

Sequence	Match Criteria
T1	Series description contains T1 as any part of the string (including T1W or T1_Axial) and the flip angle is ≥ 90 degrees.
T1 GRE	Series description contains T1, FLASH, SPGR, FSPGR, MPSPGR, or FMPSPGR as any part of the string (including T1 GRE, T1 FFE, and T1 CE-FFE) and the flip angle is < 90 degrees.
T2	Series description contains T2 and the flip angle is ≥ 90 degrees.
T2 GRE	Series description contains T2, GRE, FFE, FISP, MPGR, GRASS, FMPGR, or MERGE (including T2 with any additional characters) and the flip angle is < 90 degrees.
PD	Series description contains PD.
STIR	Series description contains STIR or the inversion time value is < 250 ms.
FLAIR	Series description contains FLAIR or the inversion time value is ≥ 250 ms.
DWI	Series description contains DWI, DW, diffusion, or diff.
ADC	Series description contains ADC or apparent.
Exp ADC	Series description contains exponential.

For example, you open an MR study that contains the series description “SAG T1 FSE-LT” and the following DICOM value for FlipAngle:

```
(0018,1314) FlipAngle DS # 4 1 [94.0]
```

InteleViewer uses these values as the matching criteria. Since the FlipAngle attribute value is equal to “94” and the series description contains “T1,” InteleViewer determines that this study has a T1 sequence. If a sequence protocol contains a reading step with a view where the sequence value is equal to “T1,” then only MR series with a FlipAngle attribute value greater than or equal to “90” will match that view.

If there are several sequences that match a series description (for example, SAG T1 FLAIR), InteleViewer will rank the sequences in the following order: T1, T2, PD, T1_GRE, T2_GRE, STIR, FLAIR, DWI, ADC, EXP ADC.

Fat Saturation—Specifies whether or not to match a series based on fat saturation. You can choose No Fat Sat or Fat Sat. This option is not available when Secondary Image is enabled.

If you choose Fat Sat, a series matches if the series description contains FAT SAT, CHEM SAT, SPIR, SPAIR, WaterSEL, FS, FATSAT, FAT_SAT, F/S, or F_S, and does not contain NO FATSAT, NO FS, NOFS, WOFS, NO_FS, WO_FS, WO/FS, or NO/FS.

If you choose No Fat Sat, a series matches if the series description does not contain FAT SAT, CHEM SAT, SPIR, SPAIR, WaterSEL, FS, FATSAT, FAT_SAT, F/S, or F_S.

If you open an MR study that contains the text “FSE” or “FSPGR,” InteleViewer will not apply the sequence protocol to the MR study.

Contrast Presence—Specifies whether or not a contrast agent is present. You can choose +C (with contrast), -C (without contrast), or Any. Use Any to match any or a particular MR view regardless of whether a contrast agent is present. This option is not available when Secondary Image is enabled.

InteleViewer determines the presence of a contrast agent by matching the DICOM value for Contrast Bolus Agent to that of the images in the series.

For example, you open an MR study that contains the following DICOM value for Contrast Bolus Agent:

```
(0018,0010) ContrastBolusAgent LO #10 1 [OMNIPAQUE]
```

InteleViewer uses this value as the matching criteria. Since the Contrast Bolus Agent value is equal to “Omnipaque,” InteleViewer determines that this study has a contrast agent. If a sequence protocol contains a reading step with a view where the +C (with contrast) option is selected, then only MR series with a Contrast Bolus Agent value will match that view. If you open an MR study that contains the DICOM value for Contrast Bolus Agent of “no,” “none,” or “off,” or is empty, then InteleViewer will not apply the sequence protocol to the MR study.

3D—Specifies whether or not the series description contains 3D. You can choose No 3D or 3D.

Reformat Options

Enable Reformats—Enable to activate and set the reformat options.

📋 Your reformat settings are maintained when this option is disabled.

Plane—Specifies the orientation for the view. You can choose Ax (Axial), Cor (Coronal), or Sag (Sagittal). Choose Don't Modify to preserve the original view orientation.

Thickness—Specifies the thickness for the reformat. Choose Custom, and enter a thickness value from 0 to 50 (in millimeters). Choose Don't Modify to preserve the original thickness.

Slabbing Algorithm—Specifies the intensity projection of the slice. Choose one of the following algorithms:

Algorithm	Description
AVG (average intensity projection)	Display the average pixel value for the slab.
MIP (maximum intensity projection)	Display the maximum pixel value for the slab.
MINIP (minimum intensity projection)	Display the minimum pixel value for the slab.

Display Options

Enable Display Options—Enable to activate and set the display options.

📋 Your display settings are maintained when this option is disabled.

Initial Image—Specifies the image in the series that is displayed by default. You can choose Beginning of Series, Middle of Series, or End of Series.

Color Map Mode—Specifies the initial grayscale or color map mode of the image. You can choose From DICOM Data, Inverse of DICOM Data, Low Pixel Values as White, or Low Pixel Values as Black.

Sorting—Specifies how you want to sort the images in multi-image series. You can choose Sort By Image Number, Sort By Image Position, Sort By Image Temporal Position, or Sort By Image Time.

Viewport Scale—Specifies the size of the series, as a percentage, relative to the viewport.

Rotation Angle—Specifies the rotation angle of the series in the viewport. You can choose -90°, 0°, 90°, or 180°.

Flip—Specifies whether to flip the series horizontally or vertically. You can choose Horizontal, Vertical, or both to flip the series both horizontally and vertically.

Window Level—Automatically applies the window level setting to the series in the study. You can choose the window level presets: Lung, Bone, and Soft Tissue, or choose the window level setting from the DICOM data contained in the image. You can also set custom width and level values by choosing Custom.

The Window Level setting is active regardless of if Enable Display Options is enabled or disabled.

By default, InteleViewer applies the following window level settings to CT studies:

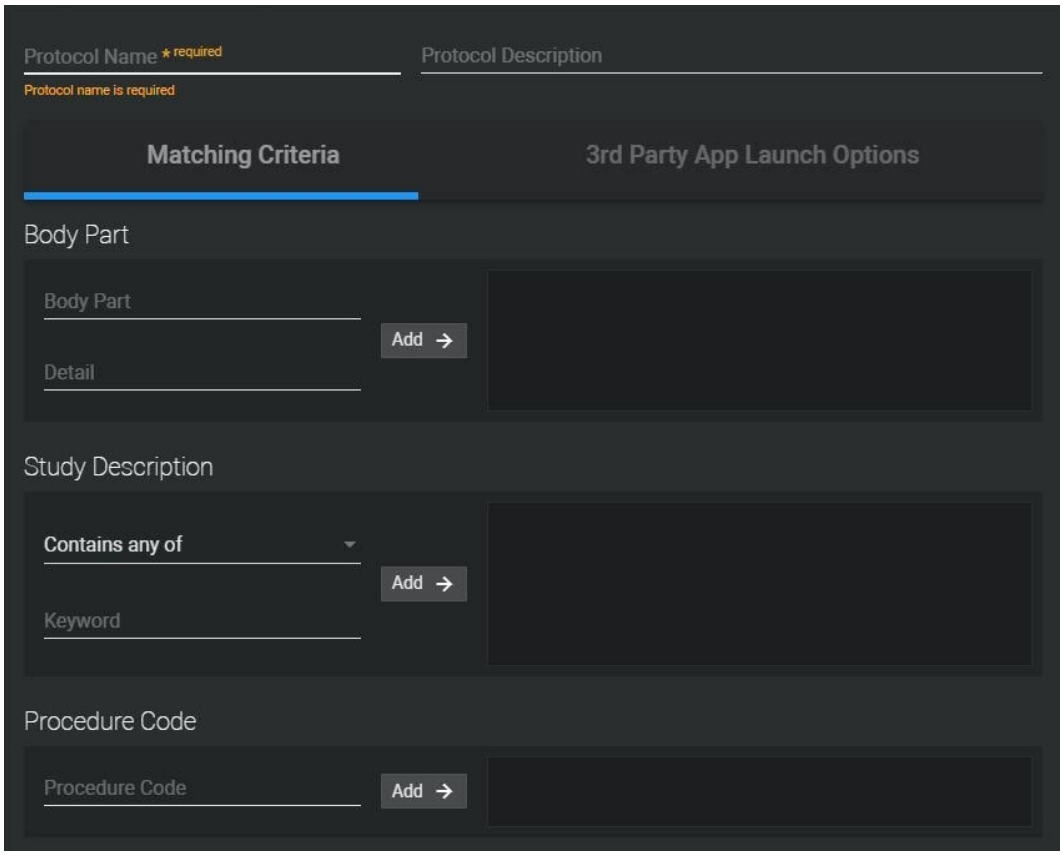
Preset Name	Width	Level
Lung	1500	-600
Bone	2500	480
Soft Tissue	350	40

If the CT modality user preferences include Lung, Bone, or Soft Tissue window level presets, InteleViewer will use these presets as the matching criteria instead of the same presets defined by the view. Furthermore, window level presets in a presentation state will override presets defined by a view.

Setting Matching Rules Using the Protocol Capture Tool

When you create a sequence protocol using the Protocol Capture tool, you can use these options to specify one or more matching rules for the sequence protocol. When a sequence protocol is public, all users inherit the same matching rules.

To edit the matching rules for an existing sequence protocol, you must use the Sequence Protocol Manager.



To set the Body Part matching rule:

1. Click the Matching Criteria tab.
2. Under Body Part, select the body part from the list.

   InteleViewer automatically detects the body part of the current study and adds it as a matching rule.

   To find a body part, in the Body Part field, enter the first few letters of the body part you are searching for, and the filtered results will appear in the list.

   The body parts appearing in the list are generated from the list of procedure attributes as defined in Study Classifier. The body parts list is empty if no body parts have been defined in Study Classifier by your PACS administrator.

   When no body part is found in the Body Part field, InteleViewer does not use a specific body part to match. In this case, “All Body Parts” appears in the Uniform Study Descriptor column in the Protocols list in the Protocol Manager.

3. Select the details in the list.

The details list is empty if no Study Classifier mappings have been created by your PACS administrator.

When no detail is found in the Detail field, InteleViewer does not use a specific detail to match. In this case, “All (Details)” appears in the Uniform Study Descriptor column in the Protocols list.

4. Click Add.
5. Repeat steps 1 to 3 to add another body part matching rule.

To set the study description matching rule:

1. Under Study Description, choose an operator to determine how the study description should match the text.

Choose:	To match study descriptions that:
Contains All Of	Contain all of the specified text, in any order. Use quotation marks to specify exact phrases.
Contains Any Of	Contain at least one of the specified text, in any location. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins With	Begin with the specified text. Studies with the text located elsewhere in the description (such as in the middle) will not be matched.
Contains None Of	Do not contain any of the specified text.

When using the Contains All Of, Contains Any Of, and Contains None Of operators, partial matches are supported—the specified text does not require preceding and following spaces in the study description to match. For example, if the study description contains “abdomen pelvis,” the text “abdo” will match.

2. In the Keyword field, enter the text that will identify the studies to which you want to apply this sequence protocol.

   The text is case insensitive.

3. Click Add.
4. Repeat steps 1 to 3 to add another study description matching rule.

To set the Procedure Code matching rule:

1. Under Procedure Code, select the procedure code along with the procedure description, if available.

   To find a procedure code, in the Procedure Code field, enter the first few letters of the code you are searching for, and the filtered results will appear in the list.

   The procedure codes and procedure descriptions appearing in the list are generated from the list of normalized procedure codes and descriptions as defined in Study Classifier. For more information, contact your PACS administrator.

   The procedure codes list is empty if no Study Classifier mappings have been created by your PACS administrator.

2. Click Add.
3. Repeat steps 1 and 2 to add another procedure code matching rule.

Setting the Third-Party Application Launch Options

The sequence protocol can be configured to automatically open the third-party application relevant to the series open in the viewports.

- **TeraRecon iNtuition**: When the sequence protocol matches a study, or when you select the sequence protocol from the Protocol list, the sequence protocol opens the series shown in the top-left viewport in TeraRecon iNtuition.
- **TeraRecon AquariusNET**: When the sequence protocol matches a study, or when you select the sequence protocol from the Protocol list, the sequence protocol opens the series shown in the top-left viewport in TeraRecon AquariusNET.
- **Image Fusion**: When you open the appropriate studies and choose the appropriate multimodality sequence protocol, the sequence protocol opens all the relevant series found in the viewports in Image Fusion once all the images have streamed to InteleViewer.

To set the third-party application:

1. Click the 3rd Party App Launch Options tab.
2. Enable the option for the application that you want the sequence protocol to open.

Adding Reading Steps Using the Protocol Capture Tool

You can add a reading step to an existing sequence protocol using the Protocol Capture Tool.

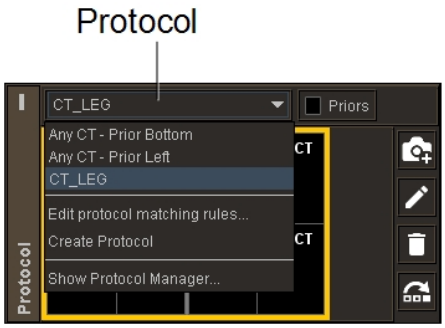
When adding a reading step that contains a Prior view, the step is automatically created as a With Priors step, and is available by enabling the Priors check box in the Protocol Preview pane. If the reading step does not contain a "prior" view, you can choose to add the step to the current With Priors or No Priors steps.

Reading steps and views that you create using the Protocol Capture tool are linked to the corresponding sequence protocol and do not appear in the Sequence Protocol Manager for sharing or assignment to other sequence protocols.

To add a reading step to a public sequence protocol, you must use the Sequence Protocol Manager.

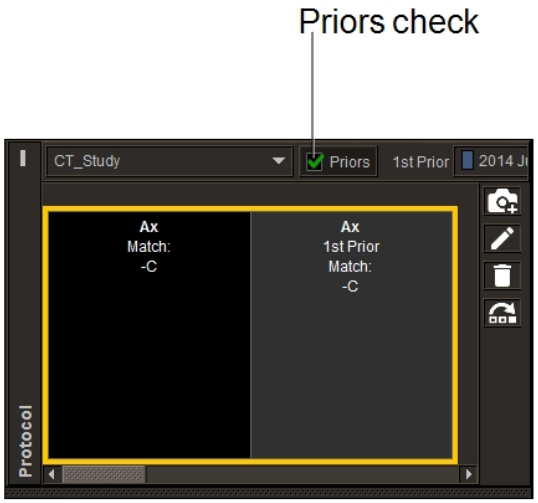
To add a reading step to a sequence protocol:

1. If required, open a study with the modality that matches the sequence protocol to which you want to add a reading step. See “About Opening Studies and Series" (page 361).
2. If required, choose a sequence protocol from the Protocol list.

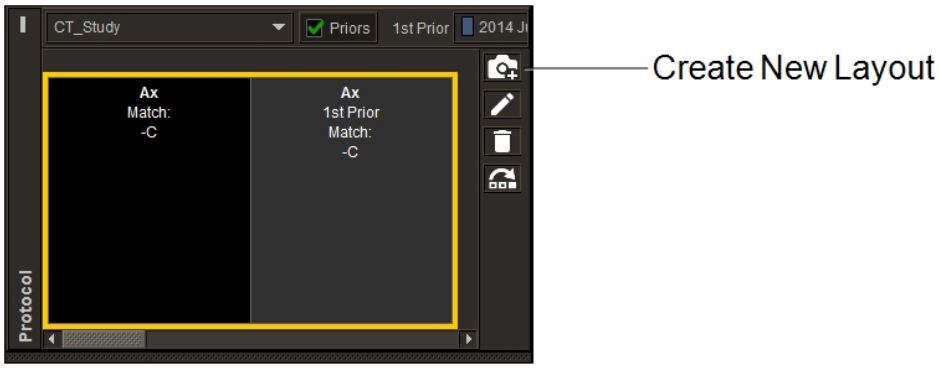


3. To set the position of the new reading step within the sequence protocol, select the reading step that is to the left of where you want to add the new reading step.
4. Set the series and image viewport layout as required. See “Changing the Viewport Layout" (page 408).
5. To specify a series as a starting point for setting the view options for a viewport, drag the series to the desired viewport. See “Dragging Thumbnail Images to Viewports" (page 455).
6. Repeat step 5 for each viewport, as required.
7. If the reading step does not contain a prior view, enable the Priors check box to add it as a With Priors reading step, or disable the Priors check box to add it as a No Priors reading step.

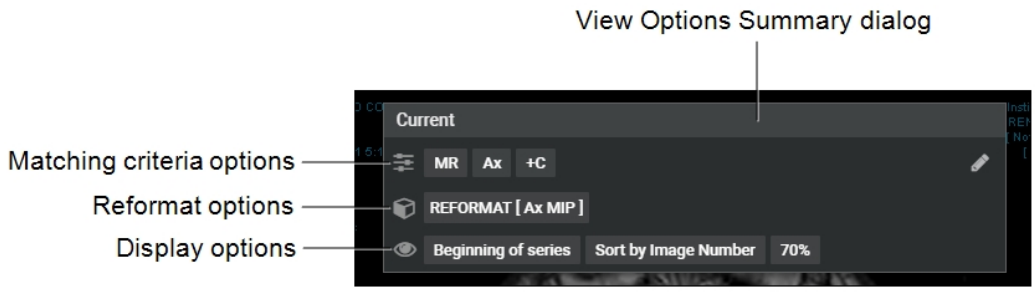
A reading step that contains a prior view is automatically saved as a With Priors reading step.



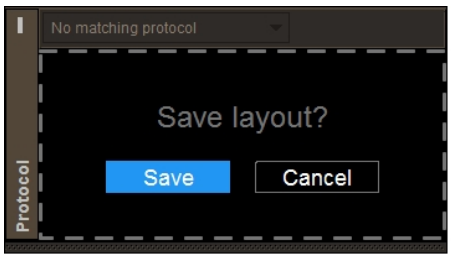
8. In the Protocol Preview pane, click the Create New Layout icon .



9. To modify the view options for a viewport, in the corresponding View Options Summary dialog, do one of the following:
   - To open the View Options dialog with the Matching Criteria options visible, click the Edit icon or the matching criteria options.
   - To open the View Options dialog with the Reformat options visible, click the reformat options.
   - To open the View Options dialog with the Display options visible, click the display options.



10. Set the view options as required. See “Setting View Options Using the Protocol Capture Tool" (page 175).
11. Repeat steps 9 and 10 for each viewport, as required.
12. To save the reading step, in the Protocol Preview pane, click Save.

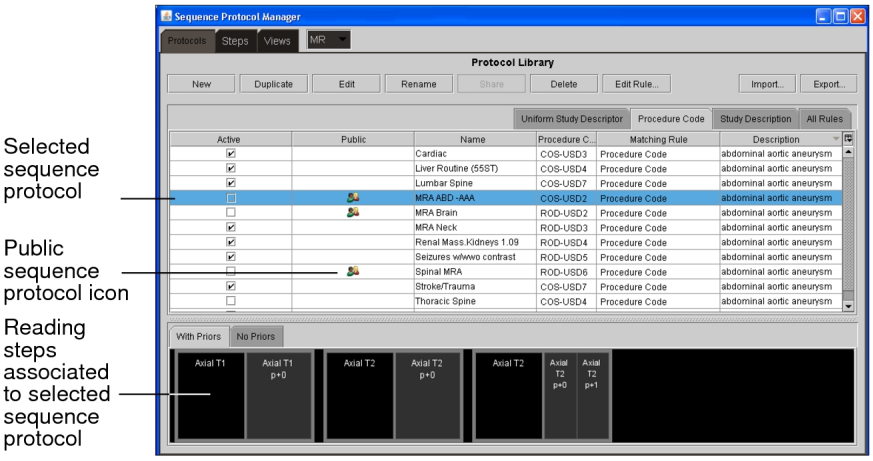


Creating Sequence Protocols Using the Sequence Protocol Manager

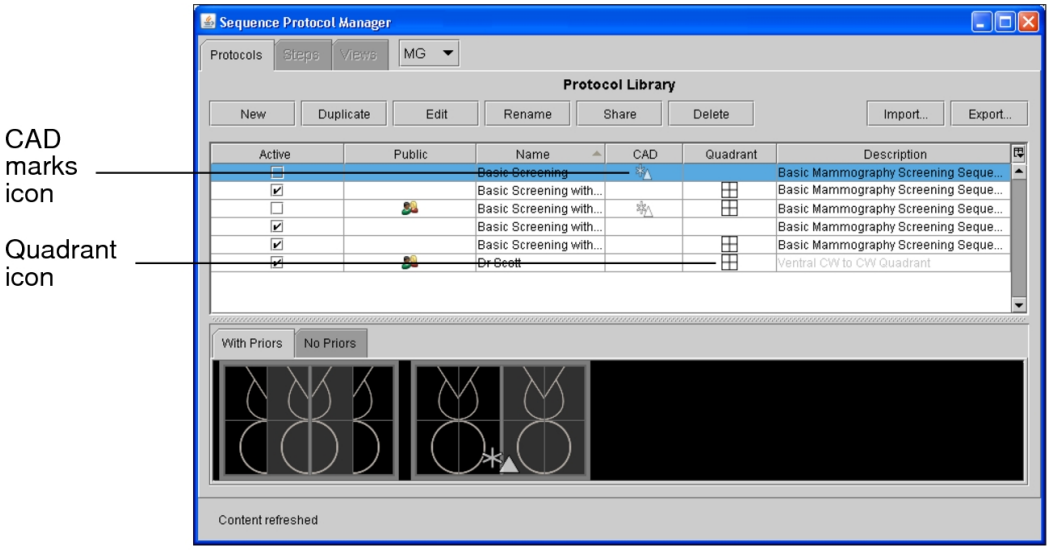
You can create and maintain sequence protocols by using the Sequence Protocol Manager. When creating a sequence protocol, you specify the number of viewports per monitor and the number of images per viewport, as well as set the options for the study. Make sure to create and activate sequence protocols (which are activated by default) before opening a study to ensure proper sequence protocol matching.

To use this feature, ask your PACS administrator to enable the Advanced Layout Management privilege (for non-mammography studies) or the Mammography Features privilege (for mammography studies) in your user account.

Sequence Protocol Manager Displaying MR Sequence Protocols



Sequence Protocol Manager Displaying Mammography Sequence Protocols

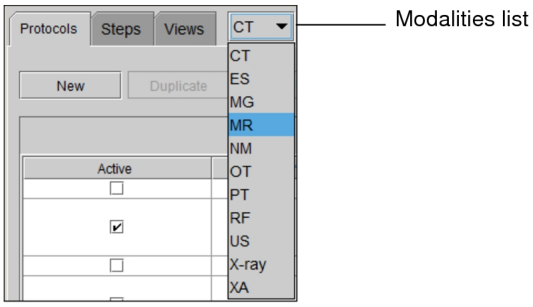


To create a sequence protocol:

1. Choose Utilities | Show Protocol Manager.

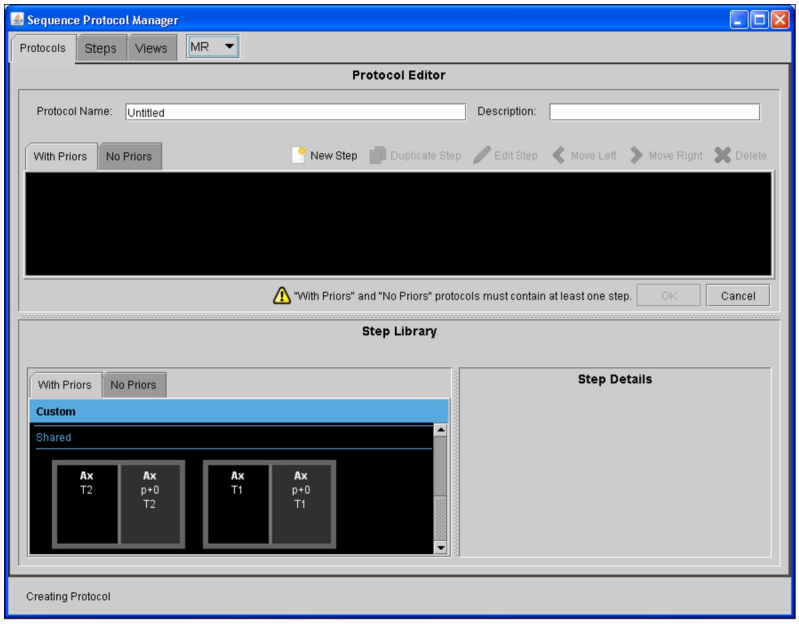
   The Sequence Protocol Manager appears. By default the Protocols tab is active.

2. Click the Modalities list and choose a modality.



3. Click New.

   The Protocol Editor appears. By default, the With Priors tab is active.



4. In the Protocol Name field, enter a descriptive name for the sequence protocol that will clearly identify it.

   The protocol name will appear on the Sequence Protocols panel. The name must be unique and can contain alphanumeric characters, spaces, and dashes. If you want to export the sequence protocol, make sure the name does not contain the following restricted characters: backward slash (\), forward slash (/), colon (:), asterisk (*), question mark (?), quotation mark (“), less-than sign (<), greater-than sign (>), and vertical bar (|).

5. In the Description field, enter a description for the sequence protocol.
6. To add a reading step to your sequence protocol, drag a reading step from the Step Library to the Protocol Preview panel.

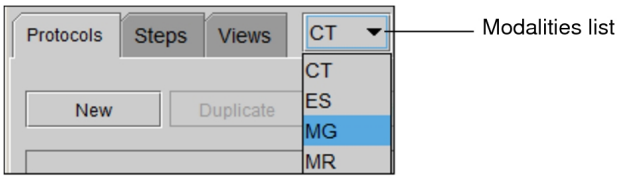
7. To create a new reading step, do one of the following:
    - To create a new reading step in the Step Library, see “Creating Reading Steps" (page 196).
    - To create a new reading step in the sequence protocol, click New Step and follow steps 3 to 13 in “Creating Reading Steps" (page 196).

    Keep in mind that you cannot share reading steps stored in the sequence protocol.
8. Add additional reading steps, as required.
9. To rearrange the order of your reading steps in the sequence protocol, do one of the following:
    - Press the Move Left or the Move Right buttons.
    - Drag the reading step to a new location.
10. To create readings steps for studies with no priors, click the No Priors tab in the Protocol Preview panel and the No Priors tab in the Step Library. Repeat steps 6 and 7.
11. To copy a reading step in the sequence protocol, select the reading step, and then click Duplicate Step.
12. To edit a reading step in the sequence protocol, select the reading step, and then click Edit Step.
13. To remove a reading step from the sequence protocol, select the reading step, and then click Delete.
14. Click Save.

    The sequence protocol appears in the Protocols List as a private sequence protocol with the Active checkbox enabled.
15. To specify the matching rules, see “Creating Matching Rules Using the Sequence Protocol Manager" (page 213).
16. Click Close.

To create a mammography sequence protocol:

1. Choose Utilities | Show Protocol Manager.
2. Click the Modalities list and choose the MG modality.



To access the MG modality from the list, your user account must be assigned the Mammography Features privilege.

3. Click New.

   The Protocol Editor appears. By default the With Priors tab is selected.

4. In the Protocol Name field, enter a descriptive name for the sequence protocol that will clearly identify it.

   The protocol name will appear on the Sequence Protocols panel. For each modality, the protocol name must be unique and can contain alphanumeric characters, spaces, and dashes. If you want to export the sequence protocol, make sure the name does not contain any of the following restricted characters: backward slash (\), forward slash (/), colon (:), asterisk (*), question mark (?), quotation mark (“), less-than sign (<), greater-than sign (>), and vertical bar (|).

5. In the Description field, enter a description for the sequence protocol.
6. Do one of the following:

   - To add a reading step to your sequence protocol, expand one of the sets of views then drag a reading step from the Step Library to the Protocol Preview panel. For example, to add a reading step for an implant, click Implant Displaced Views then drag a reading step.
   - To add a smart reading step to your sequence protocol, click the Additional Views heading and then drag a smart reading step from the Step Library to the Protocol Preview panel.

   You can identify a smart reading step by the shading around its border.

7. To include CAD marks in a reading step, in the Protocol Preview panel, select a reading step, and then click CAD.
8. To add the Quadrant options to a reading step, in the Protocol Preview panel, select a reading step, and then click Quadrant.

9. To apply the chest wall to chest wall orientation to a reading step, that is displayed in the same orientation, in the Protocol Preview panel, select a reading step, and then click Chest Wall to Chest Wall.
10. Add additional reading steps, as required.
11. To rearrange the order of your reading steps in the sequence protocol, do one of the following:
    - Press the Move Left or the Move Right buttons.
    - Drag the reading step to a new location.
12. Click the No Priors tab in the Protocol Preview panel and the No Priors tab in the Step Library. Repeat steps 6 to 8.

    You must include a sequence of reading steps for studies with priors and studies without priors for any given sequence protocol.
13. To remove a reading step from the sequence protocol, select the reading step, and then click Delete.
14. Click Save.

    The sequence protocol appears in the Protocols List as a private sequence protocol with the Active checkbox enabled.
15. Click Close.

Creating Reading Steps

You use the Step Editor to create the reading steps that indicate the way in which multiple series will appear on screen. Once created, the reading steps are stored in the Step Library.

The Step Library has private steps and shared steps. The library is segregated on whether or not a reading step contains priors.

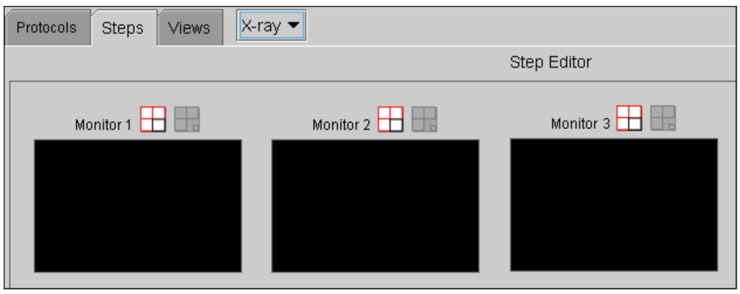
To create a reading step:

1. In the Sequence Protocol Manager, click the Steps tab.

   The Step Library appears. By default the With Priors tab is selected.
2. Click New.

The Step Editor appears providing a default 1 x 1 series layout for every monitor detected on your workstation, up to a maximum of six monitors. This number may not correspond to the physical monitors connected to your workstation. The monitor layouts that appear in the Step Editor are based on the layout profiles stored on the IntelePACS server for your workstation and user name. When you log in to InteleViewer, the system automatically detects the number of monitors used for viewing images and selects the appropriate layout profile. For example, if the system detects three monitors for viewing images, then InteleViewer selects the 3-monitor layout and you will see three monitor icons. For more information on layout profiles, see “About Roaming User Profiles" (page 77).

Example of a 3-Monitor Layout



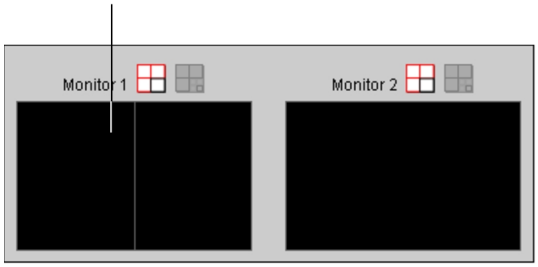
3. To change the series layout, click the Current Monitor Layout tool of the target monitor icon.

   The Monitor Series Layout dialog appears.

4. Click the required layout icon, and then click Save.

   The target monitor icon indicates the way in which multiple series will appear on screen, organized in rows and columns. For example, a 1 x 2 layout will display a total of two series on a particular monitor, organized in one row and two columns.

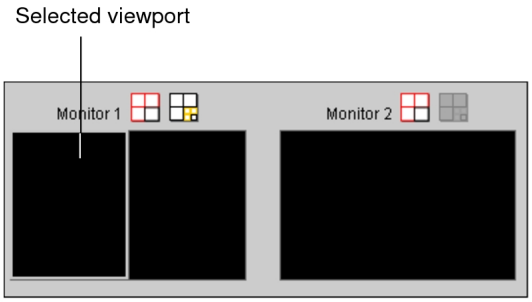
Series layout is set to a 1 x 2 symmetrical grid for the first monitor in a dual-monitor configuration



If you choose an asymmetrical series layout, the viewports change position depending on the shape of the window. For example, a 3 + 1 layout will display three viewports to the left of the window and one viewport to the right of the window for a landscape monitor orientation. For a portrait monitor orientation, three viewports will display at the top of the window and one viewport at the bottom of the window. For more information on series layouts, see “Changing the Viewport Layout" (page 408).

5. To set the image layout, click a viewport to select it.

   The selected viewport is highlighted.

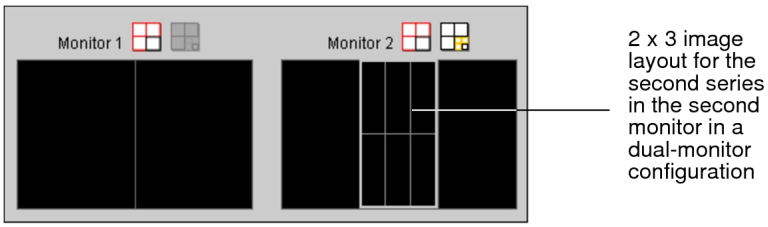


6. Click the Image Layout tool .

   The Image Layout dialog appears.

7. Click the required layout icon, and then click Save.

   The selected viewport in the target monitor icon indicates the way in which multiple images will appear in the series viewport, organized in rows and columns. For example, a 2 x 3 layout will display a total of six images in the viewport, organized in two rows and three columns.

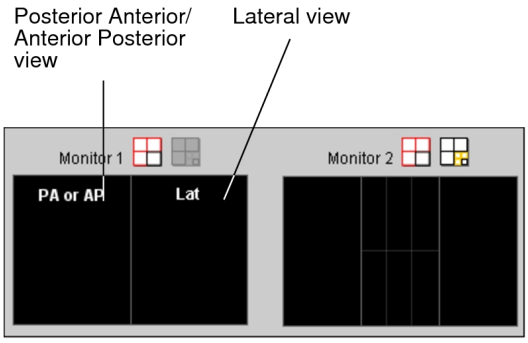


8. To add a view to the viewport, drag the view from the View Library to the viewport in the required target monitor icon in the Step Editor Preview panel.

You cannot drag a view with a 2 x 2 or 3 + 1 reformat to a target monitor icon without a 1 x 1 series layout.

If you cannot find the required view in the View Library, you can create a new view. See “Creating Views in the Sequence Protocol Manager" (page 201).

The text displayed in the viewport corresponds to the type of view that will appear in the viewport. For example, a 1 x 2 series layout can display a series with Posterior Anterior or Anterior Posterior images in the left half of the left monitor and a series with lateral images in the right half of the left monitor.



You can drag and swap views in the target monitor icon as required.

You can also choose to keep a viewport blank. A blank viewport will not display a series, but the message “Empty view in protocol” will appear.

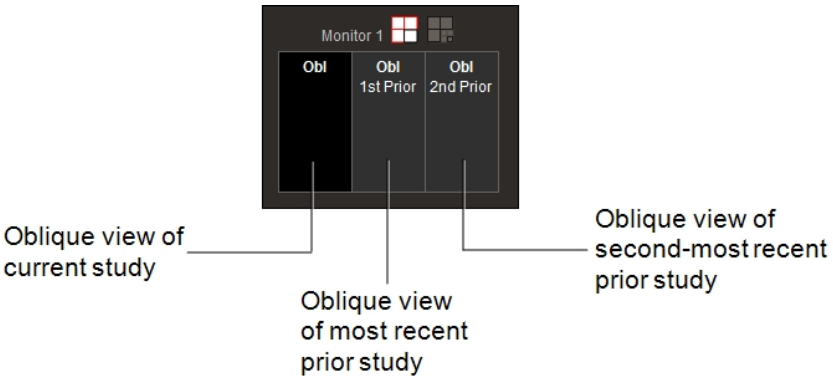
9. To indicate that a view is required, select the view in the Step Editor, and then in the Basic tab of the View Details section, enable Required.

   If a reading step includes a required view, it will appear only if that view exists. InteleViewer displays unsupported views as part of the Other Images reading step in the Protocol Preview pane.

   An asterisk (*) appears in the bottom right-hand corner of a reading step (in the applicable view) that has been marked required.

10. To specify whether the series appearing in the viewport should come from the current or prior study, choose one of the following options: Current (the default), Prior Number, Months Old, Most Recent, or Oldest Prior.

For example, you can create a reading step that will show three series: the axial view of the current study, the axial view of the most recent prior study, and the axial view of the second-most recent prior study.



If you choose the Prior Number or the Month Old option, click the up-arrow button or down-arrow button to set the desired value. You can also enter the required number. For example, if you select or enter “3” for the Prior Number option, then the third-most recent prior study will appear in the viewport.

You can identify the series by the background color of the viewport in the monitor icon. A black background indicates a current study and a shaded background indicates a prior study: The text displayed in the shaded viewport indicates the chronological order of the prior study from most recent to oldest with respect to the current study.

This text:	Indicates this prior study:
1st Prior	Most recent prior.
<number> Prior	“2nd Prior” is the second-most recent prior, “3rd Prior” is the third-most-recent prior, “4th Prior” is the fourth-most recent prior, up to a value of 25.
<number> Month Old Prior	The number of months that the study is old relative to the current study, including priors that occur 30 days before and 30 days after the current study. For example, if you enter “12” for the Month Old option, then the 12-months old prior study will appear in the viewport if available. Otherwise, an 11-months old or 13-months old prior study will appear instead.
◪	Most recent (which could include an image from the current or prior study).

This text:	Indicates this prior study:
Oldest Prior	Oldest prior.

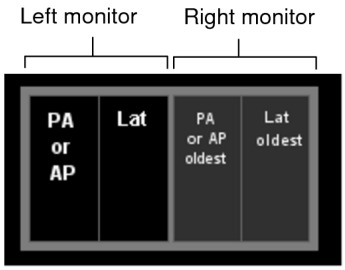
11. To set display options, click the Display Options tab, and do the following:

    - Enable the Enable Display Options check-box.
    - Select the desired options for the various fields. Refer to “Series Display" (page 818).

    If you have enabled these options, an eye icon appears in the lower right-hand corner of a reading step for the applicable view. The icon is also visible for those same reading steps in the Protocol Preview panel.

12. Add views to the viewport as required.
13. Repeat steps 3 to 12 for each monitor layout.

    In this example, the reading step includes a posterior-anterior view and a lateral view of the current study in the left monitor, and a posterior-anterior view of the oldest study and a lateral view of the oldest study in the right monitor.



    Skip this step if you want the series view layout of the first monitor to span across all monitors once the step is applied. In this case, enable Stretch the First Monitor’s Layout Over all Monitors.

14. In the Step Editor, click Save.

    The reading step is saved in the Step Library as a private reading step and appears in the Private panel with a highlighted outline.To share your reading step with other users, see “Sharing Sequence Protocols" (page 228).

Creating Views in the Sequence Protocol Manager

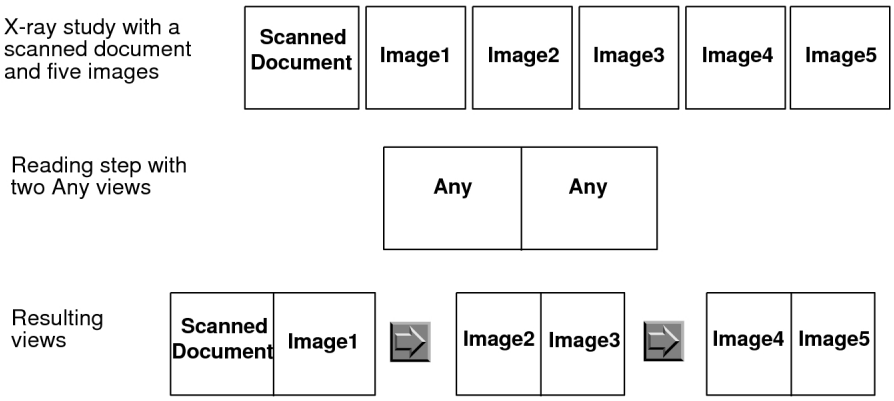
For each reading step within a sequence protocol, you use the View Editor to create the views that correspond to a series. Views contain the series matching criteria that

InteleViewer will use to determine whether the sequence protocol will be used to display the study.

Depending on the modality, the series matching criteria can be as simple as defining the view orientation, or as complex as defining the view orientation, thickness, contrast, and window level. For MR and CT studies, you can also define the reformat options to automatically reconstruct images when loading a CT or MR study that matches a sequence protocol.

For PT, RF, ES, NM, OT, and XA studies, or optionally for CT, MR, US, and X-ray studies, you can specify the text that will be used to distinguish particular images. For example, a sequence protocol for NM studies could contain “scan” and “gallium” matching criteria.

When all the series matching criteria are set to “Any,” then the reading step containing that view will match all the series. This type of view is referred to as the *Any* view. In this case, InteleViewer uses the DICOM value for the Series Description attribute, if it's set in the view options, as the matching criteria. For example, you can create an X-ray sequence protocol that contains a reading step with two Any views. Both these views will match all the series in an X-ray study. If you have an X-ray study with a scanned document and five images in the same series, then applying the sequence protocol to this study will result in three views. InteleViewer displays only one of the views in the viewport. You can use the **LEFT ARROW** or **RIGHT ARROW** keys to move between the views.



If you set matching criteria other than "Any", the view matches specific series only. In this case, all non-diagnostic images (generic datasets), such as a scout images and scanned documents, are ignored and will not match the view, regardless of the series description setting. If the Manufacturer DICOM value for a series is "PACSGEAR", or if the series description begins with "scout", "loc", "topogram", "scan", "req", or "3-pl", the series will not match the view.

When the Fill Unmatched Viewports With Non-Displayed Series modality user preference is enabled, and the sequence protocol contains a reading step with a view for which no matching series is found, then the unmatched view reverts to an Any view. In this case, InteleViewer automatically fills the unmatched viewport with the first non-displayed series for the corresponding study. If multiple unmatched viewports are present, the viewports are filled sequentially. Series are selected sequentially in the same order as they appear in the Thumbnail strip.

To create a view:

1. In the Sequence Protocol Manager, click the Views tab.

   The View Library appears.

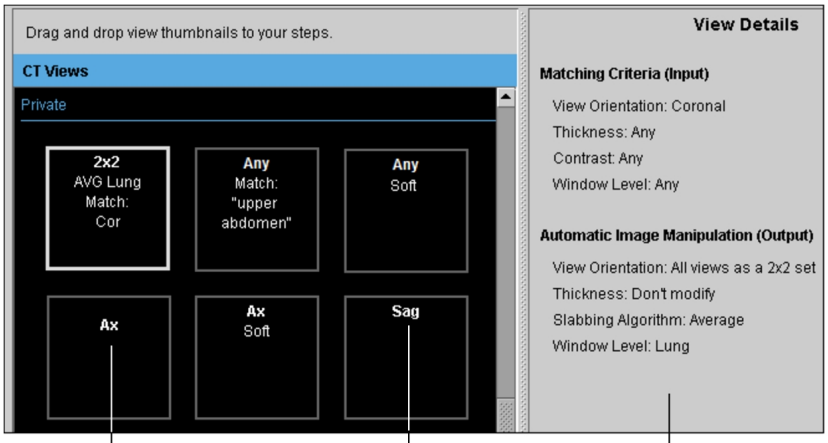
2. Click New.

   The View Editor of the selected modality in the Modalities list appears.

3. Set the options in the View Editor as required by the modality. The View Editor options change depending on the type of modality. Detailed information is provided in the following sections.

4. Click Save.

   The text displayed in the view icon and the View Details panel of the View Library indicates the series matching criteria, image options, and reformatting options (for CT and MR studies only). For PT, RF, ES, NM, OT, and XA studies, the View Details panel displays only the Series Description option along with the text that will be used to identify the series.



The view is saved in the View Library as a private view and appears in alphabetical order in the Private panel with a highlighted outline. The private views appear in the Private panel as follows: views without a view orientation, then views without a view orientation but with reformatting information, and finally views with a view orientation.

To share your view with other users, see “Sharing Sequence Protocols" (page 228).

Abbreviations for options are typically used to display the text in the view icon in order to fit the information in the icon. The following table provides a list of abbreviations used and the corresponding option.

Abbreviation	Option
+C	With Contrast
2x2	All views as a 2x2 set
3x3	All views as a 3+1 set
ADC	Apparent Diffusion Coefficient
AVG	Average
Ax	Axial
-C	Without Contrast
Cor	Coronal
Decub	Decubitus

Abbreviation	Option
DWI	Diffusion Weighted Imaging
Exp ADC	Exponential ADC
Fat Sat	Fat Saturation
Lat	Lateral
Left Lat	Left Lateral
Obl	Oblique
Right Lat	Right Lateral
Sag	Sagittal
Soft	Soft Tissue
Thk	Thickest
Thn	Thinnest

See Also

Series Matching 212

US View Editor Options

Use these options to customize the views for a US study.

Ultrasound Type—Specifies the ultrasound (US) view according to the view position. You can choose Scalar or Cine, or Any. Use Any to match any US view.

X-Ray View Editor Options

Use these options to customize the views for an X-ray study.

View Orientation—Specifies the X-ray view according to the view position. Choose one of the following view positions:

View Position	Description
PA or AP	Posterior/Anterior or Anterior/Posterior images
Lateral	All lateral images (with a right-lateral and left-lateral orientation)
Decubitus	All decubitus images (Right Lateral Decubitus and Left Lateral Decubitus)

View Position	Description
Oblique	All oblique images (Right Lateral Oblique and Left Lateral Oblique)
Any	Match any X-ray view

InteleViewer determines the view position of the X-ray image by matching the DICOM value for the View Position attribute contained in the image to the predefined DICOM values (AP, PA, LL, RL, RLD, LLD, RLO, and LLO). If the image does not have the DICOM View Position data, then InteleViewer searches for these values in the series description: “lat,” “dec,”, or “obl.’ If there is no match, then InteleViewer will not apply the reading step containing that view (excluding Any view).

CT View Editor Options

Use these options to customize the views for a CT study.

View Orientation—Specifies the CT view according to the view position. You can choose: Axial, Sagittal, Coronal, or Any. Use Any to match any CT view. For example, you want to match any CT image provided that the window level setting matches “bone.”

InteleViewer determines the view position by matching the DICOM value for the View Orientation attribute to that of each image in the series.

Thickness—Specifies the slice thickness. You can choose: Thinnest, Thickest, or Any. Use Any to match any thickness. You can also use the text fields to enter a range of values (from 0 to 50 millimeters), specifying a lower limit, upper limit, or both. Invalid slice thickness values appear in red.

InteleViewer determines the slice thickness by matching the DICOM value for the Slice Thickness attribute to an image in the series. If the series has more than one image, InteleViewer uses an image in the middle of the series.

Contrast—Specifies whether or not a contrast agent is present. You can choose: With Contrast, Without Contrast, or Any. Use Any to match any or a particular CT view regardless of whether a contrast agent is present. InteleViewer determines the presence of a contrast agent by matching the DICOM value for Contrast Bolus Agent attribute to that of the images in the series.

For example, you open a CT study that contains the following DICOM value for Contrast Bolus Agent:

```
(0018,0010) ContrastBolusAgent LO #10 1 [OMNIPAQUE]
```

InteleViewer uses this value as the matching criteria. Since the Contrast Bolus Agent value is equal to “Omnipaque,” InteleViewer determines that this study has a contrast agent. If a sequence protocol contains a reading step that specifies a view with contrast, then only CT series with contrast will match that view. If you open a CT study that contains the DICOM value for Contrast Bolus Agent of “no,” “none,” or “off,” or is empty, then InteleViewer will not apply the sequence protocol to the CT study.

Window Level (input)—InteleViewer determines the window level by matching the DICOM value for Window Width and Window Level to the values defined in the following table:

Window Level	Matching Criteria
Lung	If the DICOM value for Window Center is less than or equal to -300, then InteleViewer identifies the study as a lung study. If the DICOM value for Window Center is less than or equal to 0 and the value for Window Width is greater than or equal to 1000, then InteleViewer identifies the study as a lung study.
Soft tissue	InteleViewer identifies the series as soft tissue in the following scenarios: • If the DICOM value for Window Center is between 0 and 100 (0 < Window Center < 100), regardless of the Window Width value. • If the DICOM value for Window Center is between -300 and 0 (-300 <= Window Center <= 0), or between 100 and 200 (100 <= Window Center <= 200), and the Window Width value is less than or equal to 1000.
Bone	If the DICOM value for Window Center is greater than or equal to 200, then InteleViewer identifies the study as a bone study. If the DICOM value for Window Center is greater than or equal to 100, and the value for Window Width is greater than or equal to 1000, then InteleViewer identifies the study as a bone study.
Any	InteleViewer matches any or a particular CT view regardless of whether the DICOM values for Window Center and Windows Width are specified in the image.

For example, you open a CT study that contains the following DICOM values for Window Center and Window Width:

```
(0028,1050) WindowCenter DS #4 1 [80.0]
```

```
(0028,1051) WindowWidth DS #6 1 [186.0]
```

InteleViewer uses these values as the matching criteria. Since the Window Center attribute value is equal to “80,” InteleViewer determines that this study has a window level value of “Soft Tissue.” If a sequence protocol contains a reading step with a view where the window level value is equal to “Soft Tissue,” then only CT series with a window level value of “Soft Tissue” will match that view.

Window Level (output)—Automatically applies the window level setting to the series in the study. You can choose the window level presets: Lung, Bone, and Soft Tissue, or choose the window level setting from the DICOM data contained in the image (the default). You can also enter the required width and level settings in the corresponding fields.

By default, InteleViewer applies the following window level settings to CT studies:

Preset Name	Width	Level
Lung	1500	-600
Bone	2500	480
Soft Tissue	350	40

If the CT modality user preferences include Lung, Bone, or Soft Tissue window level presets, InteleViewer will use these presets as the matching criteria instead of the same presets defined by the view. Furthermore, window level presets in a presentation state will override presets defined by a view.

Reformat Using Advanced Visualization—Automatically reformats the view and displays it by using the options that you define. You can define the following default options:

- Thickness for the reformat (in millimeters)
- Orientation/view of the reformat
- Slabbing options (Average, MIP, and MinIP)

Use Don’t Modify to preserve the original view orientation or thickness value.

The Advanced Visualization functionality applies only to CT or MR series that have at least 10 parallel, equidistant, and equally sized images—each with a resolution greater than 2 x 2.

See Also

About the Advanced Visualization Toolbar....466

MR View Editor Options

Use these options to customize the views for an MR study.

View Orientation—Specifies the MR view according to the view position. You can choose: Axial, Sagittal, Coronal, or Any. Use Any to match any MR view. For example, you want to match any MR image provided that the sequence matches “T1 GRE.”

Contrast—Specifies whether or not a contrast agent is present. You can choose: With Contrast, Without Contrast, or Any. Use Any to match any or a particular MR view regardless of whether a contrast agent is present.

InteleViewer determines the presence of a contrast agent by matching the DICOM value for Contrast Bolus Agent to that of the images in the series.

For example, you open an MR study that contains the following DICOM value for Contrast Bolus Agent:

```
(0018,0010) ContrastBolusAgent LO #10 1 [OMNIPAQUE]
```

InteleViewer uses this value as the matching criteria. Since the Contrast Bolus Agent value is equal to “Omnipaque,” InteleViewer determines that this study has a contrast agent. If a sequence protocol contains a reading step with a view where the Contrast option is selected, then only MR series with a Contrast Bolus Agent value will match that view. If you open an MR study that contains the DICOM value for Contrast Bolus Agent of “no,” “none,” or “off,” or is empty, then InteleViewer will not apply the sequence protocol to the MR study.

Sequence—Choose one of the following sequences: T1 (T1-weighted), T1 GRE (T1 Gradient Echo), T2 (T2-weighted), T2 GRE (T2 Gradient Echo), PD (Proton Density), Diffusion Weighted Imaging (DWI), Apparent Diffusion Coefficient (ADC), Exponential ADC, STIR (Short T1 Inversion Recovery), FLAIR (Fluid Attenuated Inversion Recovery), and Any. Use Any to match any or a particular MR view regardless of whether a sequence is specified in the series description.

If you cannot find the required sequence in the MR View Editor, define a new sequence by using series matching.

InteleViewer determines the sequence by matching the series description to a series in the MR study, as well as matching the DICOM values for flip angle and inversion time to the values defined in the following table:

Sequence	Match Criteria
T1	Series description contains T1 as any part of the string (including T1W or T1_Axial) and the flip angle is ≥ 90 degrees.
T1 GRE	Series description contains T1, FLASH, SPGR, FSPGR, MPSPGR, or FMPSPGR as any part of the string (including T1 GRE, T1 FFE, and T1 CE-FFE) and the flip angle is < 90 degrees.
T2	Series description contains T2 and the flip angle is ≥ 90 degrees.
T2 GRE	Series description contains T2, GRE, FFE, FISP, MPGR, GRASS, FMPGR, or MERGE (including T2 with any additional characters) and the flip angle is < 90 degrees.
PD	Series description contains PD.
DWI	Series description contains DWI, DW, diffusion, or diff.
ADC	Series description contains ADC or apparent.
Exponential ADC	Series description contains exponential.
STIR	Series description contains STIR or the inversion time value is < 250 ms.
FLAIR	Series description contains FLAIR or the inversion time value is ≥ 250 ms.

For example, you open an MR study that contains the series description “SAG T1 FSE-LT” and the following DICOM value for FlipAngle:

```
(0018,1314) FlipAngle DS # 4 1 [94.0]
```

InteleViewer uses these values as the matching criteria. Since the FlipAngle attribute value is equal to “94” and the series description contains “T1,” InteleViewer determines that this study has a T1 sequence. If a sequence protocol contains a reading step with a view where the sequence value is equal to “T1,” then only MR series with a FlipAngle attribute value greater than or equal to “90” will match that view.

If there are several sequences that match a series description (for example, SAG T1 FLAIR), InteleViewer will rank the sequences in the following order:

- Exponential ADC
- ADC
- DWI
- T2 GRE
- T1 GRE
- FLAIR
- STIR
- PD
- T2
- T1

Options—Choose 3D, Fat Sat, or both.

InteleViewer determines the option by matching the text in the series description to the values defined in the following table:

Option	Series Description
3D	Series description contains 3D.
Fat Sat	Series description contains FAT SAT, CHEM SAT, SPIR, SPAIR, WaterSEL, FS, FATSAT, FAT_SAT, F/S, or F_S, but does not contain NO FATSAT, NO FS, NOFS, WOFS, NO_FS, WO_FS, WO/FS, or NO/FS. If you open an MR study that contains the text “FSE” or “FSPGR,” InteleViewer will not apply the sequence protocol to the MR study.

Reformat Using Advanced Visualization—Automatically reformats the view and displays it by using the options that you define. You can define the following default options:

- Thickness for the reformat (in millimeters)
- Orientation/view of the reformat
- Slabbing options (Average, MIP, and MinIP)

Use Don’t Modify to preserve the original view orientation or thickness value.

The Advanced Visualization functionality applies only to CT or MR series that have at least 10 parallel, equidistant, and equally sized images—each with a resolution greater than 2 x 2.

See Also

About the Advanced Visualization Toolbar.....466

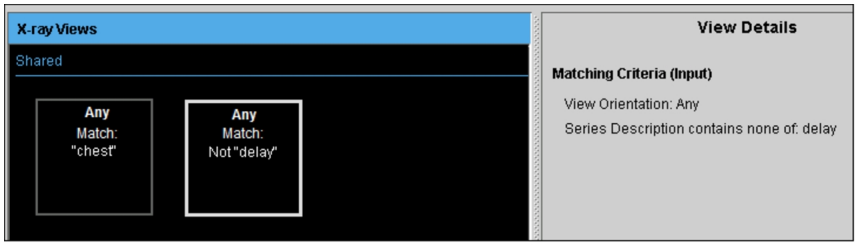
Series Matching

For PT, RF, ES, NM, OT, and XA studies, or optionally for CT, MR, US, and X-ray studies, you can define a series description match that allows you to distinguish particular images (such as, localizer or scout images or modality screenshot images), scanned requisitions, or other paper forms to let InteleViewer know which series or document to display.

Use the Series Description option in the Matching Criteria (Input) section of the View Editor to specify the text that will be used to identify the series or document. For example, if the series description in the US View Editor specifies the Equals operator and the text “scan req,” and “Any” is chosen for the Ultrasound Type option, then InteleViewer will match the view to an ultrasound study containing the series description “scan req.”

If you set matching criteria other than "Any", the view matches specific series only. In this case, all non-diagnostic images (generic datasets), such as a scout images and scanned documents, are ignored and will not match the view, regardless of the series description setting.

The series matching criteria that you enter is case-insensitive and will appear with the operator in the View Details panel of the View Library. For example, if the series description specifies the Contains None Of operator and the text “delay,” the View Library will show a view with the text label “Match: Not delay” and the View Details pane will show the text “Series description contains none of: delay.”



Choose an operator in the following table to determine how the series description should match the text.

Choose:	To match series descriptions that:
Contains All Of	Contain all of the specified text, in any order. Use quotation marks to specify exact phrases.

Choose:	To match series descriptions that:
Contains Any Of	Contain at least one of the specified text, in any location. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins With	Begin with the specified text. Studies with the text located elsewhere in the description (such as in the middle) will not be matched.
Contains None Of	Do not contain any of the specified text.

Partial matches are supported for the Contains All Of, Contains Any Of, and Contains None Of operators. For example, entering “abdo” in the study description will match all studies that contain “abdomen pelvic” or “abdominal.”

Creating Matching Rules Using the Sequence Protocol Manager

You can use the Protocol Library to create and maintain matching rules for public or private sequence protocols.

You cannot create matching rules for mammography sequence protocols.

To use this feature, ask your PACS administrator to enable the Manage Profile Templates privilege in your user account.

When a sequence protocol is public, all users inherit the same matching rules. If you want different matching logic, create a private version of the sequence protocol.

To create a matching rule:

1. In the Sequence Protocol Manager, click the Protocols tab (selected by default).

   The Protocol Library appears.

2. Click the Modalities list and choose a modality.

   The Protocols list displays all the public and private sequence protocols for the selected modality.

3. Select the sequence protocol, and do one of the following:

   - To set the matching rule type to Procedure Code, click the Procedure Code tab.

- To set the matching rule type to Uniform Study Descriptor, click the Uniform Study Descriptor tab.
- To set the matching rule type to Study Description, click the Study Description tab.

4. Click Edit Rule.

   The Edit Rule dialog appears.

5. Set the matching criteria as required. Detailed information is provided in the following sections.

   Once you create the matching rule, it is saved with the sequence protocol.

   You can also modify the matching rule anytime after it has been created. However, keep in mind that if the matching rule is for a public sequence protocol, all users of that sequence protocol inherit the same matching rules and are therefore affected by any changes to the sequence protocol. See “Editing Sequence Protocols" (page 230).

To set the Procedure Code matching rule:

1. In the Edit Rule dialog, in the list, select the procedure code along with the procedure description, if available.

   The following format is used to display procedure codes in the list:

   ```
   <procedure code> || <procedure description>
   ```

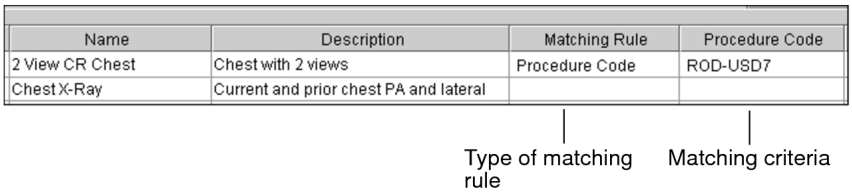
   To find a procedure code, in the Procedure Code field, enter the first few letters of the code you are searching for, and the filtered results will appear in the list.

   The procedure codes and procedure descriptions appearing in the list are generated from the list of normalized procedure codes and descriptions as defined in Study Classifier. For more information, contact your PACS administrator.

   The procedure codes list is empty if no study classifier mappings have been created by your PACS administrator.

2. To add more procedure codes, click Add and repeat step 1 as required.
3. To delete a procedure code, click Delete next to the procedure code that you want to delete.
4. Click OK.

The Protocols list displays the procedure code matching criteria in the Procedure Code column, as well as the matching rule type in the Matching Rule column.



If there are several matching criteria for a rule, each appears on a separate line.

To set the Uniform Study Descriptor matching rule:

1. In the Edit Rule dialog, select the body part in the list.

   To find a body part, in the Body Part field, enter the first few letters of the body part you are searching for, and the filtered results will appear in the list.

   The body parts appearing in the list are generated from the list of procedure attributes as defined in Study Classifier. The body parts list is empty if no body parts have been defined in Study Classifier by your PACS administrator.

   When no body part is found in the Body Part field, InteleViewer does not use a specific body part to match. In this case, “All (Body Parts)” appears in the Uniform Study Descriptor column in the Protocols list.

2. Select the details in the list.

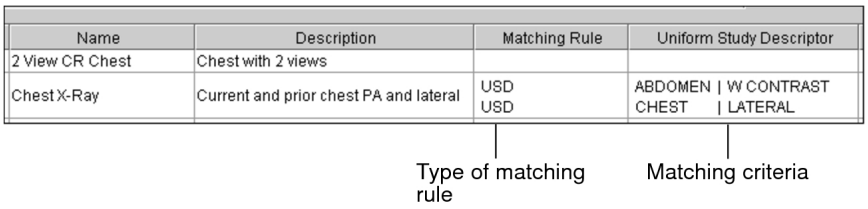
   The details list is empty if no study classifier mappings have been created by your PACS administrator.

   When no detail is found in the Detail field, InteleViewer does not use a specific detail to match. In this case, “All (Details)” appears in the Uniform Study Descriptor column in the Protocols list.

3. To add more body parts and details, click Add and repeat steps 1 and 2 as required.
4. To delete a body part or detail, click Delete next to the body part and detail that you want to delete.
5. Click OK.

   The Protocols list displays the Uniform Study Descriptor matching criteria in the Uniform Study Descriptor column, as well as the matching rule type in the Matching

Rule column.



To set the study description matching rule:

1. In the Edit Rule dialog, choose an operator to determine how the study description should match the text.

Choose:	To match study descriptions that:
Contains All Of	Contain all of the specified text, in any order. Use quotation marks to specify exact phrases.
Contains Any Of	Contain at least one of the specified text, in any location. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins With	Begin with the specified text. Studies with the text located elsewhere in the description (such as in the middle) will not be matched.
Contains None Of	Do not contain any of the specified text.

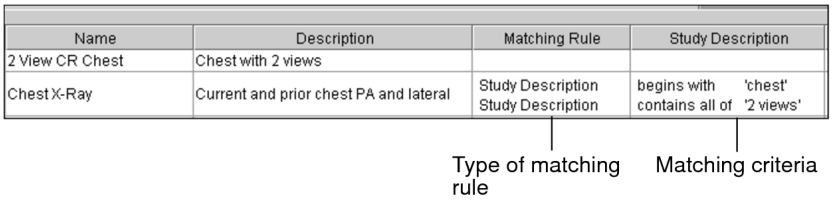
   When using the Contains All Of, Contains Any Of, and Contains None Of operators, partial matches are supported—the specified text does not require preceding and following spaces in the study description to match. For example, if the study description contains “abdomen pelvis,” the text “abdo” will match.

2. In the Study Description field, enter the text that will identify the studies to which you want to apply this sequence protocol. If entering multiple words, separate each with a space.

   The text is case insensitive.

3. To add more study descriptions, click Add and repeat steps 1 and 2 as required.
4. To delete a study description, click Delete next to the study description that you want to delete.
5. Click OK.

The Protocols list displays the study description matching criteria in the Procedure Code column, as well as the matching rule type in the Matching Rule column.



See Also

Creating Sequence Protocols Using the Sequence Protocol Manager 191

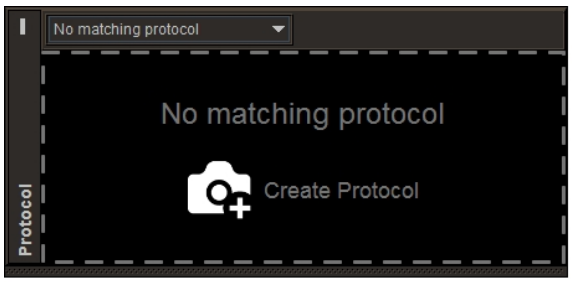
Creating Mammography Sequence Protocols

When you create a mammography with the Protocol Capture tool, InteleViewer displays the Protocol Layout Manager to let you choose the steps and views.

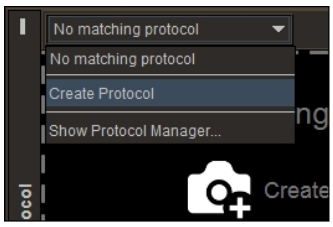
To prevent you from having to create multiple similar reading steps for mammography and tomosynthesis sequence protocols that contain 2D images, InteleViewer considers 2D and generated 2D views as interchangeable. When a sequence protocol specifies one or the other and no matching image is found, InteleViewer displays the other if available. InteleViewer matches GE V-Preview 2D images to generated 2D views in sequence protocols. If a sequence protocol is configured for a regular 2D view, and no matching 2D image is found, InteleViewer matches a V-Preview 2D image to the regular 2D view.

To create a mammography sequence protocol using the Protocol Capture tool:

1. Open a mammography study for which you want to create a sequence protocol. See “About Opening Studies and Series" (page 361).
2. In the Protocol Preview, click Create Protocol.



You can also click Create Protocol in the Protocol list.



3. Use the Layout Protocol Manager to create and save your sequence protocol. See “Creating Sequence Protocols Using the Sequence Protocol Manager" (page 191).

Matching Sequence Protocols

To automatically lay out studies in the viewports, sequence protocols contain *matching rules* that define the criteria used by InteleViewer to determine whether the sequence protocol should be applied to the study.

For each sequence protocol that you create, you can add as many matching rules as required. This is useful in an InteleOne XE or multi-site IntelePACS environment where studies from site A, for example, have procedure codes and studies from site B have no procedure codes. In this case, you may want to add a Uniform Study Descriptor matching rule that defines studies from site B with a specific modality and body part to be matched, but may also want to match a specific procedure code that defines studies from site A.

When InteleViewer tries to determine whether the sequence protocol should be applied to the study, it uses several matching methods to compare the attributes of the study with the criteria in the matching rule. If InteleViewer does not find a match, it continues through the matching rules until a match is found or until it no longer finds any rules, in which case it moves on to the next sequence protocol in the Protocol Library. If a specific sequence protocol cannot be found for the study, then InteleViewer does not apply a sequence protocol to the study.

As a general rule, the more specific a sequence protocol, the more likely it is to be selected. Once InteleViewer applies the most relevant sequence protocol, reading steps are realized based on the available views.

If your workflow uses grouped procedures, and you open an order with multiple procedures from the worklist, InteleViewer matches a sequence protocol to the most recent procedure in the group. For example, if you open an order comprised of three procedures, chest, abdomen, and pelvis, where the chest procedure is the most recent procedure in the group, InteleViewer matches a CT sequence protocol.

Matching Methods

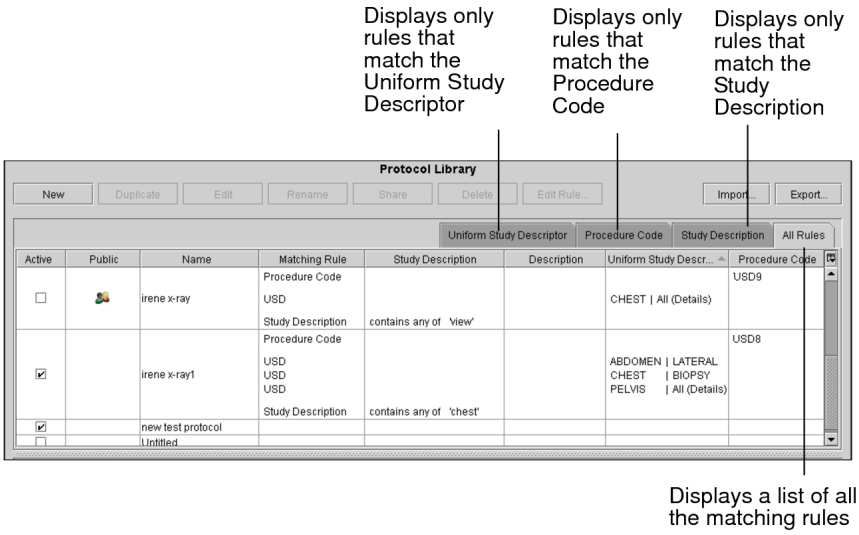
To select the most appropriate sequence protocol, InteleViewer uses the following three matching methods in this order: Normalized Procedure Code, Uniform Study Descriptor, then Study Description.

You can set the matching rules when you create a sequence protocol using the Protocol Capture tool. For more information see “Creating Sequence Protocols Using the Protocol Capture Tool" (page 172).

You can also view, create, and edit matching rules for sequence protocols, except mammography, by using the Protocol Library table in the Sequence Protocol Manager. The table has four columns that display the matching criteria for each rule used to identify the sequence protocol.

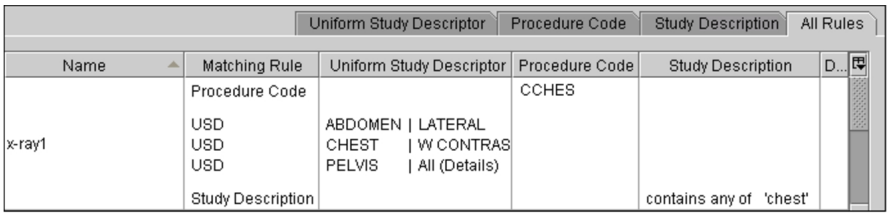
The Protocol Library table also has four tabs you can use to display or hide all the various matching rules for the selected type of modality. The tabs are: Procedure Code, Uniform Study Descriptor, Study Description, and All Rules.

The Procedure Code and Uniform Study Descriptor tabs are not visible if the Study Classifier feature is not configured on your IntelePACS.



When a sequence protocol has several matching rules, each appears in a separate row in the Protocol Library table.

Example of a Sequence Protocol with Three Matching Rules



When “All (Body Part(s))” appears in the Uniform Study Descriptor column, this means that the sequence protocol will match any body part. For example, a study with the body part “abdomen” and another study with the body part “chest” would both be matched to the same sequence protocol. When “All (Details)” appears in this column, this means that the sequence protocol will match any detail. You can specify more than one body part and detail, if necessary. In this case, any one of the body parts and details must match.

Matching Method: Normalized Procedure Code

The sequence protocol is matched based on the Normalized Procedure Code as defined by Study Classifier in InteleBrowser.

Matching Method: Uniform Study Descriptor (USD)

The sequence protocol is matched based on a combination of normalized modality, body parts, and details. These attributes are assigned to each procedure by Study Classifier in InteleBrowser. Within this method, InteleViewer uses the following three submethods in this order:

- exact match on normalized modality, body parts, and details
- exact match on normalized modality and body parts
- exact match on normalized modality

The normalized modality must exactly match one of the modalities accepted by InteleViewer: CT, ES, MG, MR, NM, OT, PT, RF, US, X-ray, and XA. CR and DX modalities are not recognized and should be mapped to the X-ray modality.

If InteleViewer cannot find a specific sequence protocol for the study, it does a partial match of a sequence protocol using a USD rule that is looking for at least all the body parts of the study. Finally, if InteleViewer still cannot find a specific sequence protocol for the study, it does a partial match of a sequence protocol using a USD rule that is looking for some of the body parts of the study.

Any partially-matched sequence protocols appear in the Protocol list in the Protocol Preview pane where they can be manually applied.

Matching Method: Study Description

The sequence protocol is matched based on the DICOM study description. This method is useful for matching prior studies that do not have an order.

Since study descriptions vary between different vendor modalities, it is difficult to apply study descriptions across all modalities. As a result, InteleViewer has a difficult time effectively applying sequence protocol rules because of the variability of the proprietary DICOM study descriptions. For this reason, it is recommended that you use the Procedure Code or USD methods. To use these methods, the Study Classifier feature must be configured on your IntelePACS. For more information, contact your PACS administrator.

See Also

Creating Matching Rules Using the Sequence Protocol Manager 213

Examples of Matching Sequence Protocols

For example, you create the following three CT sequence protocols:

Sequence Protocol Name	Matching Rule	Uniform Study Descriptor	Procedure Code	Study Description
CT Chest w/contrast	Procedure Code USD	CHEST | W CONTRAST	CTCHESTC	
CT Chest Fallback (any CT chest)	USD Study Description	CHEST | All (Details)		contains any of 'chest'
CT Fallback (any CT)	USD	All (Body Part(s)) | All (Details)		

Using the example sequence protocols above, here are a few sample studies and the matching methods that InteleViewer will use to select the sequence protocol that will be applied to the study.

Example 1: Matching on Procedure Code

You open a study with the following Study Classifier attributes:

- Procedure Code: CTCHESTC
- Normalized Modality: CT
- Body Part: CHEST
- Details: W CONTRAST
- DICOM Study Description: CHEST

In this case, all the sequence protocols match this study. However, since InteleViewer first uses the procedure code matching method and “CT Chest w/contrast” matches the procedure code “CTCHESTC,” InteleViewer applies this sequence protocol to the study.

Example 2: Matching on Uniform Study Descriptor

You open a study with the following Study Classifier attributes:

- Procedure Code: empty
- Normalized Modality: CT
- Body Part: CHEST
- Details: W CONTRAST
- DICOM Study Description: CHEST

In this case, since the study does not have a procedure code, InteleViewer does not use the procedure code matching method. InteleViewer uses the USD matching method and applies the “CT Chest w/contrast” sequence protocol to the study since it exactly matches the normalized modality, body part, and details attributes of the study.

Example 3: Matching on Uniform Study Descriptor

You open a study with the following Study Classifier attributes:

- Procedure Code: CTCHEST2
- Normalized Modality: CT
- Body Part: CHEST
- Details: empty
- DICOM Study Description: CHEST

In this case, InteleViewer follows this process to select the sequence protocol that will be applied to the study:

- InteleViewer first uses the procedure code matching method. The “CT Chest w/contrast” sequence protocol does not match the study since it has the procedure code “CTCHESTC” and the study has the procedure code “CTCHEST2”.
- InteleViewer then uses the USD matching method. The “CT Chest w/contrast” sequence protocol does not match the study since its attributes (normalized modality = CT, body part = “CHEST,” and details = “W CONTRAST”) do not exactly match those of the study (normalized modality = CT, body part = “CHEST”, and details are empty).
- InteleViewer then attempts to match the “CT Chest Fallback” and “CT Fallback” sequence protocols, and they both match the study. Since the normalized modality and body part attributes of the “CT Chest Fallback” sequence protocol (normalized modality = CT, body part = “CHEST”) exactly match the normalized modality and body part attributes of the study (normalized modality = CT, body part = “CHEST”), InteleViewer applies this sequence protocol to the study.

Example 4: Matching on Uniform Study Descriptor

You open a study with the following Study Classifier attributes:

- Procedure Code: empty
- Normalized Modality: CT
- Body Part: CHEST, ABDOMEN, PELVIS
- Details: W CONTRAST
- DICOM Study Description: CHEST

In this case, InteleViewer follows this process to select the sequence protocol that will be applied to the study:

- InteleViewer does not use the procedure code matching method since the study does not have a procedure code.
- InteleViewer then uses the USD matching method. The “CT Chest w/contrast” and “CT Chest fallback (any CT chest)” sequence protocols do not match the study since their body part attribute (body part = “CHEST”) does not exactly match those of the study (body part = “CHEST, ABDOMEN, PELVIS”).
- InteleViewer then attempts to match the “CT Fallback (any CT)” sequence protocol to the study. Since the body part attribute (body part = “All (Body Part(s))”) matches any body part of the study, InteleViewer applies this sequence protocol to the study.

Although InteleViewer determines that the “CT Fallback (any CT)” sequence protocol is the best match for the study, it also uses the USD partial match method to match the “CT

Chest fallback (any CT chest)" sequence protocol. In this case, the "CT Chest fallback (any CT chest)" sequence protocol appears in the Protocol list in the Protocol Preview pane where it can be manually applied.

Matching Legacy Mammography Sequence Protocols

For sequence protocols created in InteleViewer 4.16.1 and later, InteleViewer uses the same process to match sequence protocols for all modalities. For sequence protocols created in InteleViewer 4.15.1 and earlier, InteleViewer uses this process to match a mammography sequence protocol to a study:

- InteleViewer determines the distinct projections in the current study.
- For each active mammography sequence protocol, InteleViewer matches the sequence protocol with the most distinct projections in the current study.
- If there are several sequence protocols that match, then InteleViewer matches the sequence protocol with the highest percentage of matched reading steps.
- Finally, if there are still several sequence protocols that match (with the same percentage of matched reading steps), InteleViewer matches the sequence protocol whose name is first in alphabetical order.

If your workflow uses multi-procedure orders with multiple modalities, InteleViewer matches an MG sequence protocol if there is an MG procedure in the group. For example, if you open an order comprised of a US procedure and MG procedure, InteleViewer matches an MG sequence protocol. This will work if you open an order from the worklist or a third-party application that starts InteleViewer by providing an accession number.

Matching Relevant Prior Studies to Sequence Protocols

By using sequence protocols, you can display current studies with multiple relevant prior studies. For example, in a three-monitor configuration, you can display the following prior views for an X-ray study:

When you open a current study that contains relevant priors, InteleViewer uses the same procedure code and study description matching criteria for priors as it does for the current study. When using the Unified Study Descriptor matching method, InteleViewer selects any prior that has at least one body part that matches the sequence protocol, and ignores the details. For example, you create the following X-ray sequence protocol with three matching rules:

Sequence Protocol Name	Matching Rule	Uniform Study Descriptor	Procedure Code	Study Description
Protocol1	Procedure Code		CHEST12	
	USD	CHEST | With Contrast		
	Study Description			contains all of 'view'

You open an X-ray study that contains two relevant priors. The current study contains the procedure code attribute "CHEST12," the most recent prior study contains the body part "CHEST" and details "Without Contrast", and the oldest prior study contains the DICOM study description attribute "CHEST 2 VIEWS FRONTAL AND LATERAL."

In this case, the sequence protocol matches the current study and both the relevant prior studies. InteleViewer first uses the procedure code matching method to match the procedure code "CHEST12" to the current study. InteleViewer then uses the USD method to match the body part "CHEST" to the most recent prior study. Finally, InteleViewer uses the DICOM study description matching method to match "CHEST 2 VIEWS FRONTAL AND LATERAL" to the oldest prior study.

The sequence protocol would also match a study containing body parts "CHEST" and "ABDOMEN," or a study containing body parts "CHEST" and "PELVIS."

Matching Prior Studies to Mammography Sequence Protocols

A sequence protocol for a mammography study may specify many prior studies. InteleViewer chooses the first prior study based on an ideal prior date range. InteleViewer does not use this date range for subsequent prior studies.

To find a match for the first prior study, InteleViewer partitions the candidate priors into groups:

- Studies that are more recent than the ideal prior date range.
- Studies in the ideal prior date range.
- Studies older than the ideal prior date range.

InteleViewer then attempts to match the ideal prior in the studies in the ideal prior date range. Depending on whether your IntelePACS is configured to use keywords, InteleViewer selects the ideal prior study as follows:

If IntelePACS is configured to:	**Then the ideal prior is:**
Use keywords	The prior study with a Unified Study Descriptor or study description that matches any of the configured keywords. If there is a tie, InteleViewer selects the oldest study. The keywords used for matching mammography prior studies can be configured by Intelerad Technical Support. Please contact the Intelerad Technical Support for more information.
Not use keywords	The prior study for which the sequence protocol matches the most projections. If there is a tie, InteleViewer selects the study closest to the ideal prior date.

If no match is found, InteleViewer next attempts to match a prior in the studies more recent than the ideal prior date range. InteleViewer selects the first study (older to recent) for which the sequence protocol matches at least one projection.

Finally, InteleViewer attempts to match a prior in the studies older than the prior date range. InteleViewer selects the first study (recent to older) for which the sequence protocol matches at least one projection.

Managing Sequence Protocols

You can activate and deactivate sequence protocols, and share, edit, copy, and delete sequence protocols, reading steps, and views. You can also export and import sequence protocols to and from your computer.

Activating and Deactivating Sequence Protocols

InteleViewer searches only activated sequence protocols for possible matches.

When you create a new sequence protocol, InteleViewer activates the protocol by default. However, you can choose to deactivate a sequence protocol at any time. To ensure proper sequence protocol matching before opening a study, activate or deactivate the sequence protocols as required.

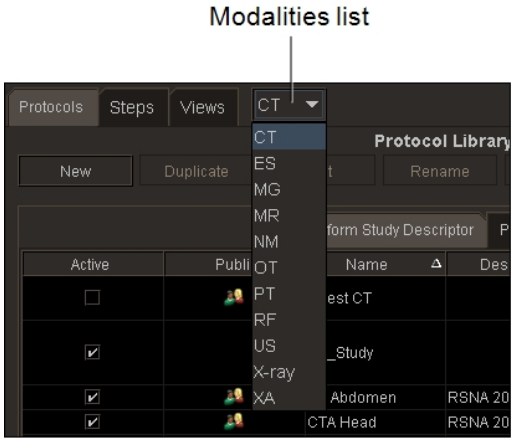
To activate or deactivate a sequence protocol:

1. In the Sequence Protocol Manager, click the Protocols tab.

   The Protocol Library appears.

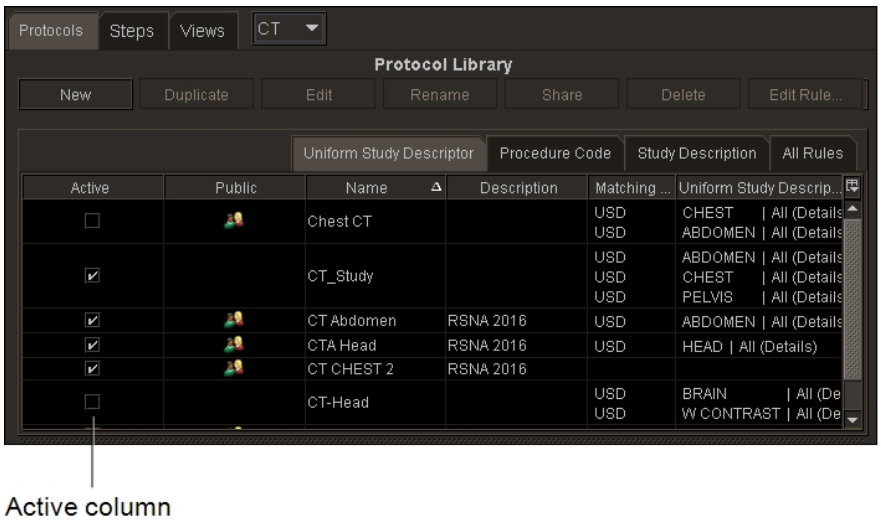
2. Click the Modalities list and choose a modality.

   The Protocols list displays all the public and private sequence protocols for the selected modality.



3. From the Protocol Library, enable or disable the Active check box for the

corresponding sequence protocol.



Sharing Sequence Protocols

You can share your private sequence protocols, reading steps, and views with other users. When you share your private sequence protocols, reading steps, and views, you make them public, and users with the Manage Profile Templates privilege can also modify them. To restrict access to your sequence protocols, reading steps, and views, keep them private.

To share sequence protocols, reading steps, and views, ask your PACS administrator to enable the Manage Profile Templates privilege for your account and for the accounts of the users who will use your shared items.

Once you share a sequence protocol, reading step, or view, you cannot make it private again. To keep it private, you can duplicate the sequence protocol, reading step, or view, and share the duplicate with other users.

Your private and all public sequence protocols and reading steps roam with the layout profile.

When you share a sequence protocol that uses private reading steps and views, they lose their link to the Step and View Library. Any subsequent changes from the Protocol Editor to the private reading steps and views will not be reflected in the sequence protocol.

If you want updates to the private views to be reflected in the reading step, you first need to share the private views, and then create the reading step from these shared views.

If you want updates to the private reading steps and views to be reflected in the sequence protocol, you first need to share the private views, create the reading steps from these shared views, and then create the sequence protocol from these shared reading steps.

To ensure that updates to private reading steps and views are always reflected in public sequence protocols, create public sequence protocols by using public reading steps and public views.

To share a sequence protocol:

1. In the Sequence Protocol Manager, click the Protocols tab (selected by default).

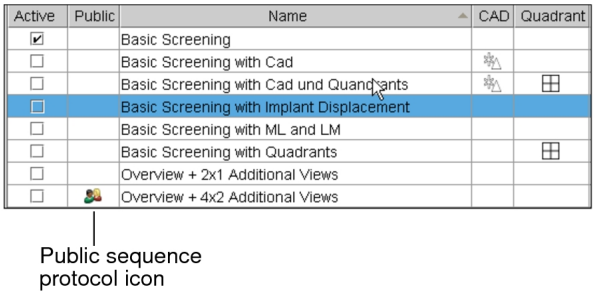
   The Protocol Library appears.

2. Click the Modalities list and choose a modality.

   The Protocols list displays all the public and private sequence protocols for the selected modality.

3. Select the sequence protocol, and click Share.

   The Public icon appears next to the sequence protocol to indicate that it is public.



4. Click Close.

To share a reading step:

1. In the Sequence Protocol Manager, click the Steps tab.

   The Step Library appears.

2. Click the Modalities list and choose a modality.

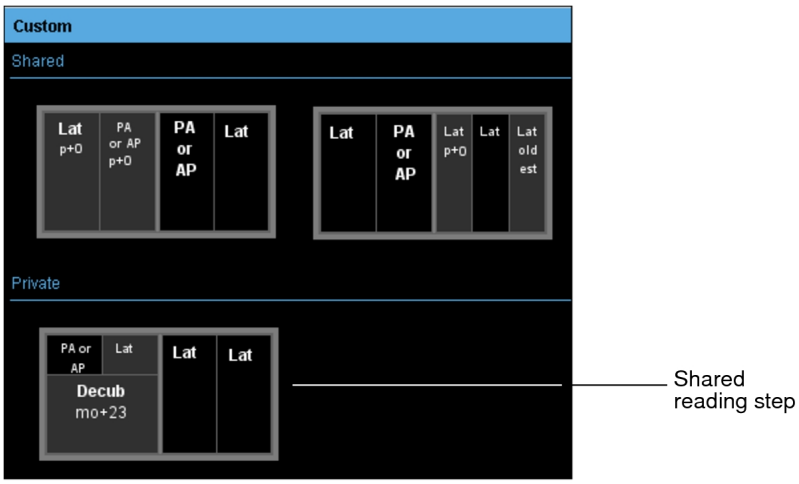
   The Step Library displays all the private and shared reading steps for the selected modality.

3. Do one of the following:

- To share a reading step for studies with priors, click the With Priors tab (selected by default), and select the reading step.
- To share a reading step for studies without priors, click the No Priors tab, and select the reading step.

4. Click Share.

   The reading step appears in the Shared section. A message appears in the status bar to indicate that the reading step was successfully shared.



To share a view:

1. In the Sequence Protocol Manager, click the Views tab.

   The View Library appears.

2. Click the Modalities list and choose a modality.

   The View Library displays all the private and shared views for the selected modality.

3. Select the view, and click Share.

   The view appears in the Shared section. A message appears in the status bar to indicate that the view was successfully shared.

Editing Sequence Protocols

Once you have created a sequence protocol, reading step, or view, you can modify any of its options to further refine it. The following table lists the tools you can use to edit sequence protocols:

You can edit this item:	With this tool:
Private and public sequence protocols	Protocol Preview or Protocol Manager
Private and public reading steps and views	Protocol Manager
Private reading steps and views	Protocol Preview
Private mammography and tomography reading steps and views	Protocol Preview

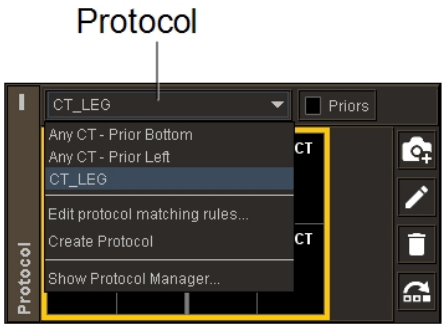
To edit public sequence protocols, reading steps, or views, ask your PACS administrator to enable the Manage Profile Templates privilege in your user account.

⚠ Any changes to a public sequence protocol, reading step, or view affect all users of that sequence protocol, reading step, or view. To modify a public sequence protocol, reading step, or view without affecting all its users, duplicate it in the Protocol Manager and make it private.

To edit a sequence protocol name, matching rule, or third-party application using the Protocol Preview pane:

1. Open a study with the modality that matches the sequence protocol that you want to edit. See “About Opening Studies and Series" (page 361).
2. If required, choose the sequence protocol that you want to edit from the Protocol list.

   If the Manage Profile Templates privilege is disabled in your user account, you can edit private sequence protocols only.



3. From the Protocol list, select Edit Protocol Matching Rules.
4. Modify the sequence protocol name, matching rules, or third-party application as required.
5. Click Done.

To edit a sequence protocol using the Sequence Protocol Manager:

1. Choose Utilities | Show Protocol Manager.

   You can also choose Show Protocol Manager from the Protocol List in the Protocol Preview.

2. In the Sequence Protocol Manager, click the Protocols tab (selected by default).

   The Protocol Library appears.

3. Click the Modalities list and choose a modality.

   The Protocols list displays all the public and private sequence protocols for the selected modality.

4. Do one of the following:

   - Select the sequence protocol and click Edit.
   - Double-click the sequence protocol.

5. Modify the necessary information.
6. Click OK, and then click Close.

   The sequence protocol is updated to reflect your changes.

To edit a sequence protocol matching rule using the Sequence Protocol Manager:

1. In the Sequence Protocol Manager, click the Protocols tab (selected by default).

   The Protocol Library appears.

2. Click the Modalities list and choose a modality.

   The Protocols list displays all the public and private sequence protocols for the selected modality.

3. Select the sequence protocol and do one of the following:

   - To modify a Procedure Code rule, click the Procedure Code tab.
   - To modify a Uniform Study Descriptor rule, click the Uniform Study Descriptor tab.
   - To modify a Study Description rule, click the Procedure Code tab.

4. Click Edit Rule.

5. Modify the necessary information.
6. Click OK.

   The sequence protocol is updated to reflect your changes.

To edit a reading step using the Sequence Protocol Manager:

1. Choose Utilities | Show Protocol Manager.
2. In the Sequence Protocol Manager, click the Steps tab.

   The Step Library appears.

   You can also edit reading steps by using the Protocol Editor. See “Creating Sequence Protocols Using the Sequence Protocol Manager" (page 191).

3. Click the Modalities list and choose a modality.

   The Step Library displays all the private and shared reading steps for the selected modality.

4. Do one of the following:

   - To edit a reading step for studies with priors, click the With Priors tab (selected by default), and select the reading step.
   - To edit a reading step for studies without priors, click the No Priors tab, and select the reading step.

5. Click Edit.

   The Step Editor appears.

6. Modify the necessary information.

   If you are editing a reading step to be without priors, then the newly edited reading step will appear in the No Priors tab. If you are editing a reading step to be with priors, then the newly edited reading step will appear in the With Priors tab.

7. Click OK, and then click Close.

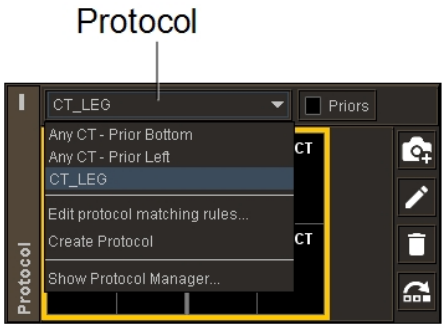
   The Step Library is updated to reflect your changes.

To re-order steps using the Protocol Preview pane:

1. Open a study with the modality that matches the sequence protocol that you want to edit. See “About Opening Studies and Series" (page 361).

2. If required, choose a sequence protocol from the Protocol list.

   You can re-order steps only in private sequence protocols.

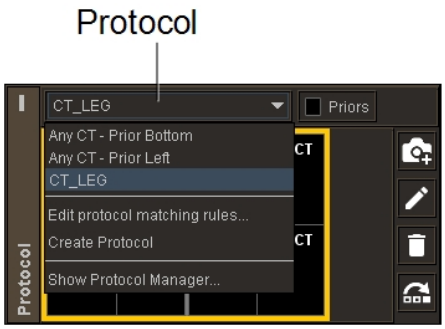


3. Click Reorder Layout Steps, drag and drop steps, then click OK.

To edit a view using the Protocol Preview pane:

1. Open a study with the modality that matches the sequence protocol that you want to edit. See “About Opening Studies and Series" (page 361).
2. If required, choose a sequence protocol from the Protocol list.

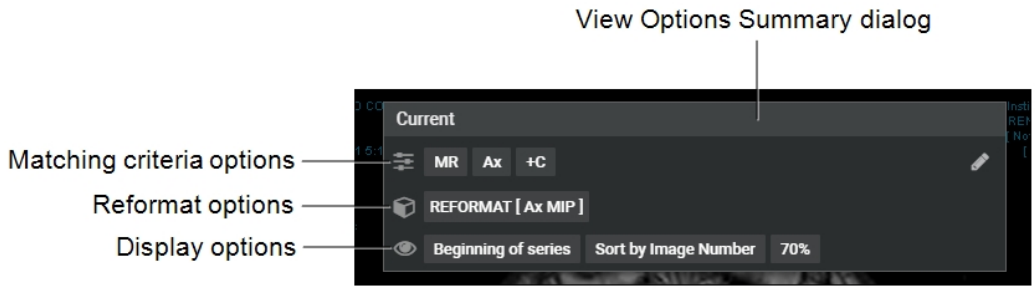
   You can re-order steps only in private sequence protocols.



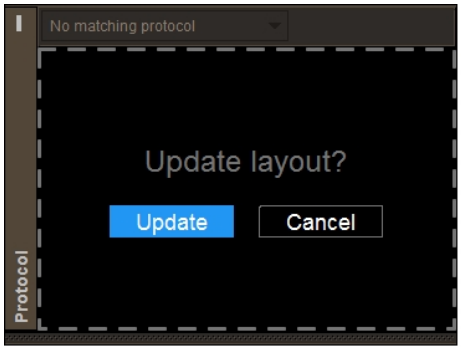
3. In the Protocol Preview pane, select the reading step that you want to modify.
4. Click Edit Layout.
5. To modify the view options for a viewport, in the corresponding View Options Summary dialog, do one of the following:

   - To open the View Options dialog with the Matching Criteria options visible, click the Edit icon or the matching criteria options.
   - To open the View Options dialog with the Reformat options visible, click the reformat options.

- To open the View Options dialog with the Display options visible, click the display options.



6. Set the view options as required. See “Setting View Options Using the Protocol Capture Tool" (page 175).
7. Repeat steps 5 and 6 for each viewport, as required.
8. To save the layout, in the Protocol Preview pane, click Update.



To edit a view using the Sequence Protocol Manager:

1. In the Sequence Protocol Manager, click the Views tab.

   The View Library appears.

2. Click the Modalities list and choose a modality.

   The View Library displays all the private and shared views for the selected modality.

3. Select the view, and click Edit.

   The View Editor appears.

4. Modify the necessary information.

5. Click OK, and then click Close.

   The View Library is updated to reflect your changes.

See Also

Copying and Deleting Sequence Protocols 236

Copying and Deleting Sequence Protocols

You can quickly create multiple sequence protocols, reading steps, and views with similar settings by copying them, and changing the information to suit your needs. When you copy a public sequence protocol, reading step, or view, it automatically becomes private.

You can delete any public or private sequence protocols, reading steps, or views that you no longer require. However, if you delete a reading step or view that is used in a public sequence protocol, you can still use the reading step or view, but it will not be linked to the Step or View Library.

To delete public sequence protocols, reading steps, or views, ask your PACS administrator to enable the Manage Profile Templates privilege in your user account. To delete a reading step for a public sequence protocol, you must use the Sequence Protocol Manager.

If you delete a view, the reading steps using that view will remember it and it will keep working. However, there is no longer a link. For example, if you have two sequence protocols that use the same reading step and you modify the reading step, then both sequence protocols will change. If you delete the reading step and then modify that reading step in one of the sequence protocols, the other sequence protocol will not be modified because the link no longer exists.

⚠ Deleting a public or private sequence protocol, reading step, or view cannot be undone and affects all users of that sequence protocol, reading step, or view. When you delete a reading step or view that is used by other users in their own sequence protocols, it can still be used. However, the reading step or view will no longer be referenced to any reading step or view in the library.

To copy a sequence protocol:

1. In the Sequence Protocol Manager, click the Protocols tab.

   The Protocol Library appears.

2. Click the Modalities list and choose a modality.

   The Protocols list displays all the public and private sequence protocols for the selected modality.

3. From the Protocol Library, select a sequence protocol.

4. Click Duplicate.

   The new copy appears in the Protocols list, and contains the same reading steps and views that were defined in the original.

5. Click Rename.

   The Rename Protocol dialog appears.

6. Enter a new name for the sequence protocol, and then click Rename.

   The new name appears in the Protocols list.

To copy a reading step:

1. In the Sequence Protocol Manager, click the Steps tab.

   The Step Library appears.

2. Click the Modalities list and choose a modality.

   The Step Library displays all the private and shared reading steps for the selected modality.

3. Do one of the following:

   - To copy a reading step for studies with priors, click the With Priors tab (selected by default), and select the reading step.
   - To copy a reading step for studies without priors, click the No Priors tab, and select the reading step.

4. Click Duplicate.

The new copy appears in the Private section as a private reading step with a white border indicating that it is not part of the Step Library.

To copy a view:

1. Choose Utilities | Show Protocol Manager.
2. In the Sequence Protocol Manager, click the Views tab.

   The View Library appears.
3. Click the Modalities list and choose a modality.

   The View Library displays all the private and shared views for the selected modality.
4. Select the view.
5. Click Duplicate.

   The new copy appears in the Private section as a private view and contains the same options that were defined in the original.

To delete a sequence protocol using the Sequence Protocol Manager:

1. Choose Utilities | Show Protocol Manager.
2. In the Sequence Protocol Manager, click the Protocols tab.

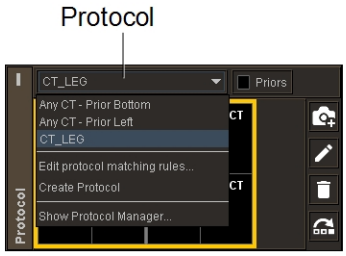
   The Protocol Library appears.
3. Click the Modalities list and choose a modality.

   The Protocols list displays all the public and private sequence protocols for the selected modality.
4. From the Protocol Library, select a sequence protocol.
5. Click Delete.
6. Click Delete in the confirmation dialog that appears.

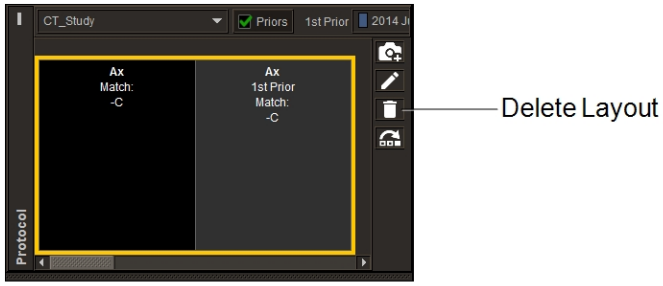
   The sequence protocol is deleted from the Protocols list, as well as the IntelePACS server.
7. Click Close.

To delete a private reading step from the Protocol Preview pane:

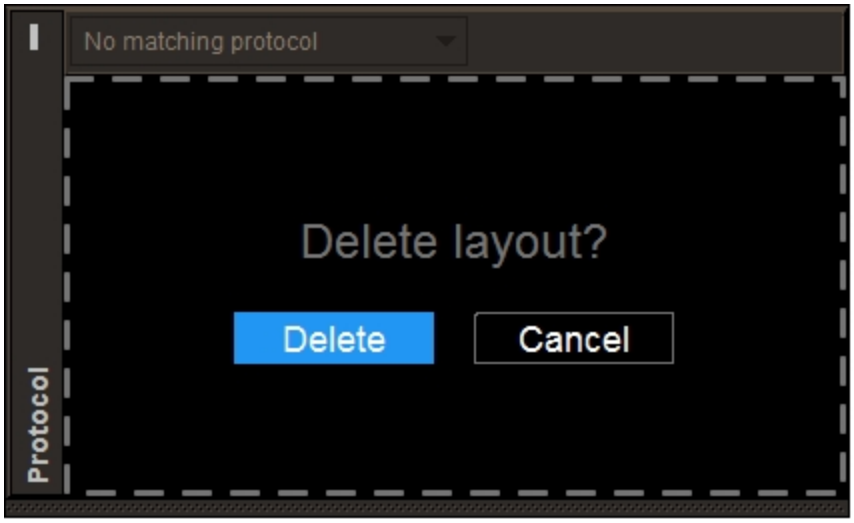
1. Open a study with the modality that matches the sequence protocol that you want to edit. See “About Opening Studies and Series" (page 361).
2. If required, choose the sequence protocol from the Protocol list.



3. In the Protocol Preview pane, select the reading step that you want to delete.
4. Click the Delete Layout icon.



5. Click Delete.



To delete a private or public reading step using the Sequence Protocol Manager:

1. Choose Utilities | Show Protocol Manager.
2. In the Sequence Protocol Manager, click the Steps tab.

   The Step Library appears.
3. Click the Modalities list and choose a modality.

   The Step Library displays all the public and private reading steps for the selected modality.
4. Do one of the following:
   - To delete a reading step for studies with priors, click the With Priors tab (selected by default), and select the reading step.
   - To delete a reading step for studies without priors, click the No Priors tab, and select the reading step.
5. Click Delete.
6. Click Delete in the confirmation dialog that appears.

   The reading step is deleted from the Step Library, as well as the IntelePACS server.
7. Click Close.

To delete a view:

1. Choose Utilities | Show Protocol Manager.
2. In the Sequence Protocol Manager, click the Views tab.

   The View Library appears.
3. Click the Modalities list and choose a modality.

   The View Library displays all the public and private views for the selected modality.
4. Select the view.
5. Click Delete.
6. Click Delete in the confirmation dialog that appears.

The view is deleted from the View Library, as well as the IntelePACS server.

7. Click Close.

Exporting and Importing Sequence Protocols

If your user account is not assigned the Manage Profile Templates privilege for sharing sequence protocols, you can still make your sequence protocols available to others. Save your sequence protocols to your computer and then send them by email to your colleagues. Your colleagues can save your sequence protocols to their computers and import them into InteleViewer.

Importing sequence protocols from a different monitor layout profile or from a modality type that does not match the one currently selected in the Modalities list will cause an error message to appear.

To export a sequence protocol:

1. In the Sequence Protocol Manager, click the Protocols tab.

   The Protocol Library appears.

2. Click the Modalities list and choose a modality.

   The Protocols list displays all the public and private sequence protocols for the selected modality.

3. From the Protocol Library, select the sequence protocol.
4. Click Export.

   The Choose Protocol Export Location dialog appears.

5. Select the folder where you want to save your sequence protocol.
6. Click Select Folder.

   The sequence protocol is saved as a *.json* file when using IntelePACS 4.16.1 or later, or as an *.xml* file when using IntelePACS 4.15.1 or lower. The name of the saved file is the name of the sequence protocol.

   Sequence protocol files that are saved as *.json* files cannot be imported in InteleViewer when you are connected to IntelePACS 4.15.1 or lower.

- Since sequence protocols are modality-specific, it is recommended that you store protocols in an appropriately-labeled folder. For example, store CT protocols in a folder named “CT Sequence Protocols”.

To import a sequence protocol:

1. In the Sequence Protocol Manager, click the Protocols tab.

   The Protocol Library appears.

2. Click Import.

   The Choose Protocol Files to Import dialog appears.

3. Select the sequence protocol file that you want to import.

   - If you're using IntelePACS 4.15.1 or lower, you cannot import *.json* sequence protocol files. As a result, *.json* sequence protocol files do not appear in the list of available files.

4. Click Import.

   The sequence protocols you import appear in the Protocols list in the Protocol Library. All imported sequence protocols are private.

Navigating Through Reading Steps and Comparable Priors

Once InteleViewer matches a sequence protocol to a study, you can navigate sequentially through each reading step in the sequence protocol, or move through comparable priors to compare them to the current study. You can use the Comparison list to view comparable priors that occur in the past or in the future relative to the current study, if they are available.

- If you change the comparable prior using the Patient menu while navigating through reading steps, the comparable prior will not be selected in the Comparison list, and will therefore not be reflected when you go to the next or previous reading step in the sequence protocol.

To navigate through reading steps and comparable priors:

1. To navigate through reading steps, do the following:

Press:	To move to:
HOME	The first reading step.
END	The last reading step.
RIGHT ARROW	The next reading step.
LEFT ARROW	The previous reading step.

   For single-image-set modalities, you can also use the mouse to navigate through reading steps. Middle-click a viewport and choose Steps from the Navigate Through menu, and then rotate the mouse wheel to move to the next or previous reading step in the study. For US, XA, and RF modalities, you must enable the Always Use the Mouse Wheel to Navigate modality preference to navigate through reading steps using the mouse.

   For repeated views, InteleViewer displays all repeated images before moving to the next reading step. As you press the arrow keys or use the mouse wheel, you display all repeated views for the given reading step.

2. To navigate through comparable priors, do the following:

Press:	To move to:
CLOSE BRACKET]	The next comparable prior.
OPEN BRACKET [	The previous comparable prior.

   You can change the default keyboard shortcuts for navigating through comparable priors in the Layout section of the Keyboard Shortcuts tab in the User Configuration user preferences window. For more information, see “Assigning Keyboard Shortcuts" (page 785). For Mammography and X-ray studies, regardless of the keyboard shortcuts, you can also use the **UP ARROW** and **DOWN ARROW** keys to navigate to the next or previous comparable prior.

   For single-image-set modalities, such as MR and CT, you can also use the mouse to navigate through comparable priors. Middle-click in a viewport and choose Priors from the Navigate Through menu, and then rotate the mouse wheel to move to the next or previous comparable prior. For US, XA, and RF modalities, you must enable

the Always Use the Mouse Wheel to Navigate modality preference to navigate through reading steps using the mouse.

When you navigate through prior studies in a sequence protocol, InteleViewer does not display a prior study that does not match at least one view in the current reading step.

3. To navigate through series, do the following:

Press:	To move to:
PAGE DOWN	The next series in the study.
PAGE UP	The previous series in the study.

You can also use the mouse to navigate through series. Middle-click a viewport and choose Series in All Viewports to update all viewports with the next page of series, or select Series in Current Viewport to navigate through series in the current viewport only. You can then use the mouse wheel to move to the next or previous series. For US, XA, and RF modalities, you must enable the Always Use the Mouse Wheel to Navigate modality preference to navigate through series using the mouse.

If you navigate through series, or drag a new series into a viewport, the reading steps no longer apply. To return to the reading steps, middle-click a viewport, choose Steps from the Navigate Through menu, and then rotate the mouse wheel.

See Also

Viewing Mammography Images 423

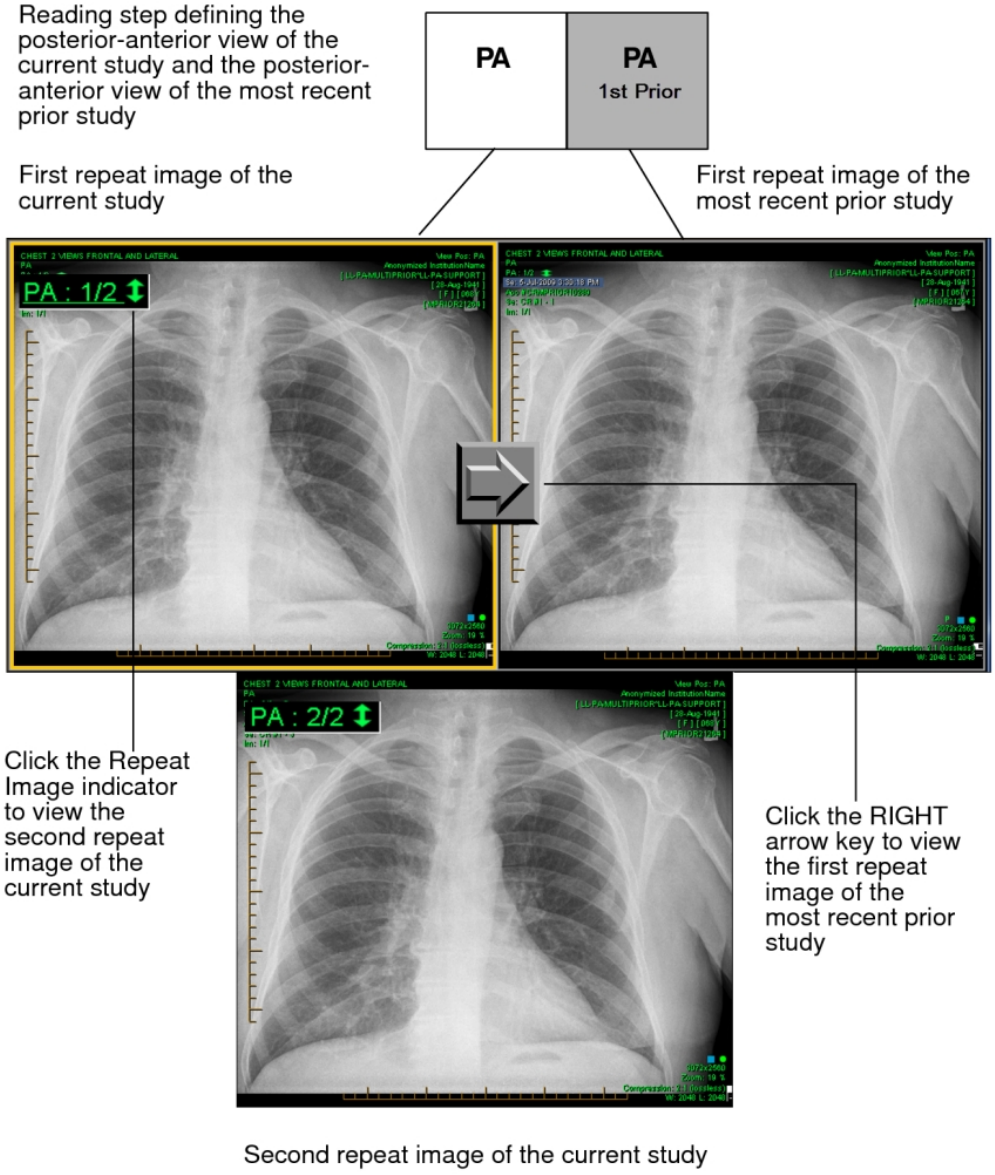
Viewing Repeat Images

Often a study contains two or more images that match a view in a step. These images are *repeat images*. If repeat images exist for both the current study and the comparable prior study, as you move through the images, InteleViewer automatically displays repeat images for both the current study and comparable prior studies up to the total number of repeat images in the current study.

For example, if the current study contains four repeat images and the comparable prior study contains six repeat images, as you move through the study, InteleViewer displays a

maximum of four repeat views automatically for both the current and the comparable prior study.

To view the remainder of the repeat images for the current study or comparable prior study, click the Repeat Image indicator in the Layout View text overlay of the respective study.



To view repeat images in both the current study and comparable prior study automatically:

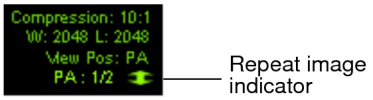
- Press the left or right arrow keys to move through repeat images.

  Although the repeat images appear automatically in the viewports, the same reading step remains selected.

To view repeat images for the current study or comparable prior study:

- Click the Repeat Image indicator in the viewport to view repeat images.

  The image number changes to reflect the image you are viewing.



5 SEARCHING FOR STUDIES

Comprehensive searching capabilities allow you to sort through your vast array of study data to find what you need, quickly and easily.

In this chapter:

About Searching for Studies 249

Basic Searching 250

Advanced Searching 253

Search Filters 258

Using Special Characters 260

Searching for Restricted Studies 260

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Searching for Teaching Cases and Collections 264

Sorting Search Results 269

Searching for all Studies for a Patient 270

Searching and Retrieving Prior Studies from an External Archive 271

Copying and Pasting Study Data 272

About Searching for Studies

In a typical radiological workflow, the studies that a physician views are preselected by worklist software or by a person who assigns studies. You can also find specific studies with which you want to work. Study information located on your workstation, the IntelePACS, or on another DICOM server can be accessed by using the Search tool.

You must have access to the DICOM Query feature to search remote DICOM servers.

Use the basic or advanced search options in the Search tool to access your preferred search filters and sort your search results to control how they are displayed. If you have access to teaching cases and collections, you can also search for them. If you have access to the Break-Glass Access feature, you can view restricted studies.

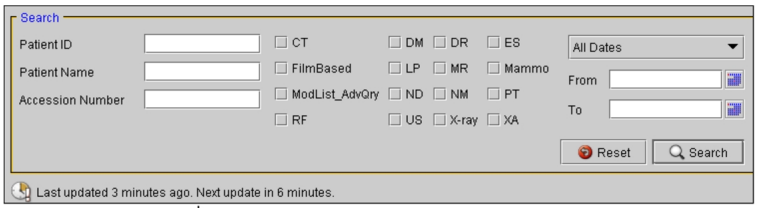
You can search for patient priors on an external archive that is not indexed by your IntelePACS, and retrieve the study images for viewing in InteleViewer. See “Searching and Retrieving Prior Studies from an External Archive" (page 271).

Once you have found the required studies, open them for viewing.

Use the search options to create complex, refined searches. You can use as many search filters as required, as well as create custom date ranges and perform more complex filtering.

To find the required patient studies, you can choose to search by using the basic search options, or perform an advanced search to filter the studies based on the related study information, such as the name of the referring physician.

Once you perform a search, the results are refreshed automatically. This will allow you, for example, to see additional studies that match your search criteria as they appear on the queried DICOM servers, the IntelePACS, or your workstation without having to search again.



Time since last refresh and time remaining until next refresh

Icons in the Data Sources list and the Location column of the Study list and Series list indicate where the images are located. Images can be located on the server (*remote*), on

your local workstation (*local*), or both. The following icons are used to indicate the location of the study or series.

Location Icon:	Indicates:
	Images are located on your workstation only.
	Images are located on a remote server only (can be a DICOM server or IntelePACS).
	Images are located on both a remote server and your workstation.

See Also

DICOM Preferences 98
Searching for Teaching Cases and Collections 264
Searching for Restricted Studies 260
About Opening Studies and Series 361

Basic Searching

The basic search options provide access to the most commonly-used search criteria, so that you can easily find the studies you require. When using the basic search options, the search window contains the following sections:

Search filters—Specify the type of information for which to search.

Data Sources list—Specifies which locations to search. The list of sources available depends on the list of DICOM servers you configured in the DICOM preferences. If you have access to multiple organization codes, they also appear here. The Local Database source specifies images that are already on your workstation.

You either must have access to the DICOM Query feature or have access to multiple organization codes for the Data Sources list to appear.

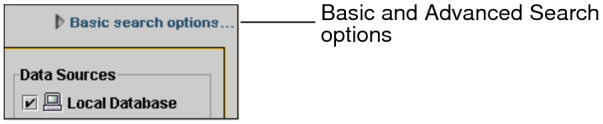
Modality filters—Filters studies based on the type of scanner used to acquire images.

Study list—Displays the studies found in the database that match your search filter settings.

Series list—Displays all series in the selected studies.

To use basic search:

1. Do one of the following:
   - From the InteleViewer main menu, choose File | Search Tool.
   - Click the Search tab.
2. If you have access to the Teaching Cases feature, click the Teaching Case tab.
3. If the advanced search options appear, click Basic Search Options in the top right corner of the Search tool.



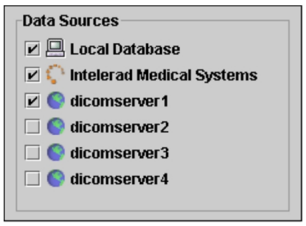
4. If the DICOM Query feature is available, or if you have access to multiple organizations, select any or all data sources you would like to search. If you do not have access to these features, the Data Sources list does not appear.

   You must select at least one source.

   If you have not already defined the DICOM servers to appear in the Data Sources list, see "DICOM Preferences" (page 98) for information on how to do so.

   If you connected to the IntelePACS when you logged in, you will see the IntelePACS server listed as one of the available servers.

Connected to InteleP ACS



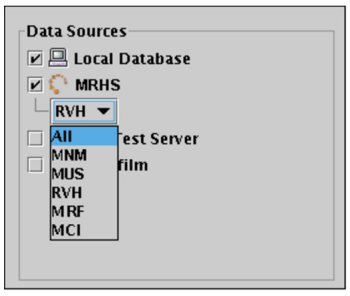
5. Specify the date on which the study was acquired. Do one of the following:

Do this:	Description:
Choose a date or range of dates from the Date list.	To limit the number of search results, you must choose an option

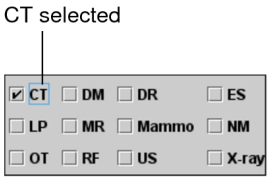
Do this:	Description:
	other than All Dates from the Date list, or use at least one other search filter. Otherwise, an error message appears.
Specify a custom date by entering the earliest date in the From field and the most recent in the To field, in the form of: YYYY-MM-DD. Or click the Calendar buttons and use the calendar to choose the required dates.	

6. If your facility contains multiple organizations, choose one from the Organization list, or choose All.

   If the DICOM Query feature is enabled, or you have access to multiple organizations, the Organization list appears in the Data Sources list.



7. Select one or more modality filters.

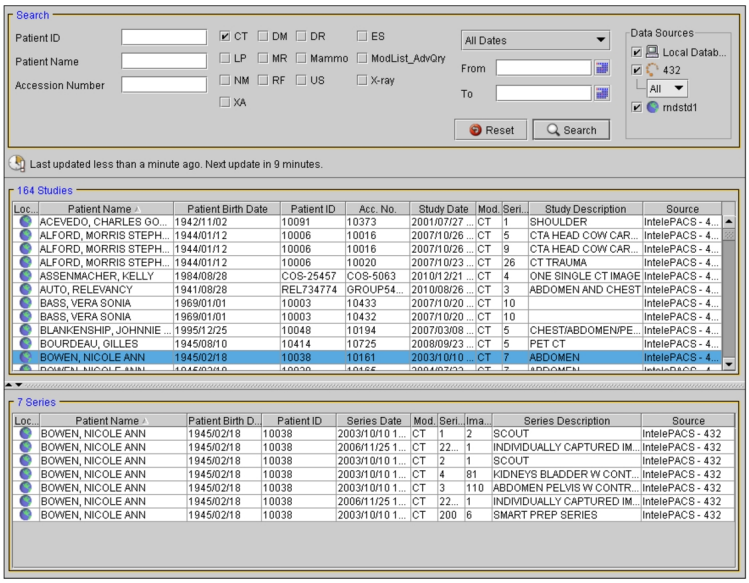


   If you do not select any modality filters, studies from all modalities will be displayed.

8. Set the search filters, as required. See “Search Filters" (page 258).
9. Click Search.

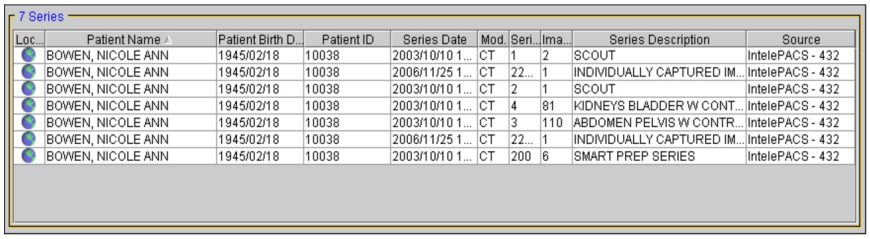
Studies that match the criteria you specified appear in the Study list. It may take a few moments for the search results to appear, depending on the amount of data.

Search Results for all CT Scans Performed Between a Custom Range of Dates (with the DICOM Query Feature)



10. To list the series, click a study in the Study list.

    The series in the study appear in the Series list below.



Advanced Searching

Use the advanced search options to create complex, refined searches. You can use the basic search filters, as well as create custom date ranges and perform more complex study filtering.

When you use the advanced search options, the search window contains the following sections.

Data Sources list—Allows you to select which locations to search. The list of sources available depends on the list of DICOM servers you configured in the DICOM preferences. If you have access to multiple organization codes, they also appear here.

You either must have access to the DICOM Query feature or have access to multiple organization codes for the Data Sources list to appear.

Modality filters—Filters studies based on the type of scanner used to acquire images.

Date filters—Allow you to search for studies acquired on a particular date, or within a range of dates.

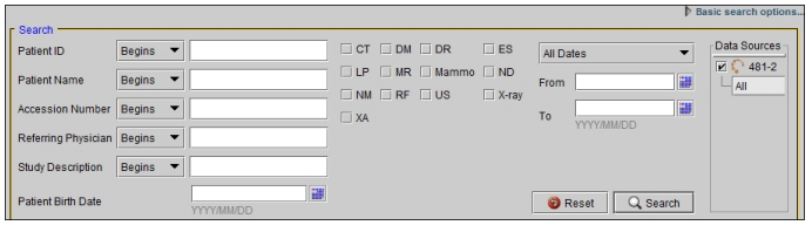
Search filters—Search based on various information related to the study, such as the name of the referring physician, study description, alternate patient ID (or NHS, RAMQ, OHIP numbers) or accession number.

If you search for studies by alternate patient ID, your search will not return studies stored on your local database or on your DICOM servers.You can only use the alternate patient ID to search for studies on IntelePACS.

Study list—Displays the studies found in the database that match your search filter settings.

Series list—Displays all series in the selected study.

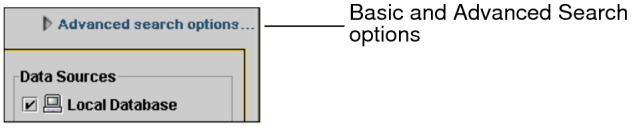
Advanced Search Options



To use advanced search:

1. Do one of the following:
    - From the InteleViewer main menu, choose File | Search Tool.
    - Click the Search tab.
2. If you have access to the Teaching Cases feature, click the Teaching Case tab.

3. If the basic search options appear, click Advanced Search Options in the top right corner of the Search tool.



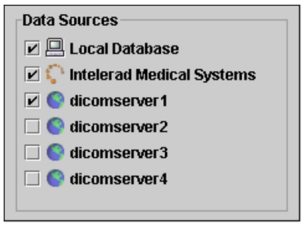
4. If the DICOM Query feature is enabled, or if you have access to multiple organizations, select any or all data sources you would like to search. If you do not have access to this feature, the Data Sources list does not appear.

   You must select at least one source.

   If you have not already defined DICOM servers to appear in the Data Sources list, see “DICOM Preferences" (page 98) for information on how to do so.

   If you connected to the IntelePACS when you logged in, you will see the IntelePACS server listed as one of the available servers.

   Connected to the IntelePACS



5. Specify the date on which the study was acquired. Do one of the following:

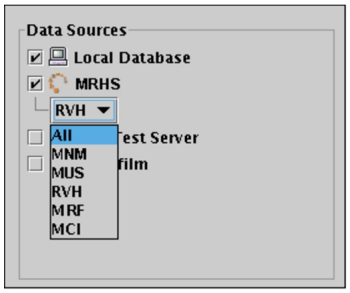
Do this:	Description:
Choose a date or range of dates from the Date list.	 To limit the number of search results, you must choose an option other than All Dates from the Date list, or use at least one other search filter. Otherwise, an error message appears.
Specify a custom date by entering the	

Do this:	Description:
earliest date in the From field and the most recent in the To field, in the form of: YYYY-MM-DD. Or click the Calendar buttons and use the calendar to choose the required dates.	

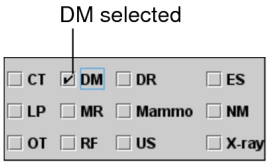
6. If your facility contains multiple organization codes, choose one from the Organization list, or choose All.

   If the DICOM Query feature is enabled, or you have access to multiple organizations, the Organization list appears in the Data Sources list.

   This filter is only available if you chose to connect to the IntelePACS when you logged in.



7. Select one or more modality filters.



   If you do not select any modality filters, studies from all modalities will be displayed.

8. To use the study filters, enter the text to search for in the corresponding study filter field, and then select Begins, Contains, or Equals.

Select:	To search for:
Begins	Study information that begins with the specified text.
Contains	Study information that contains the specified text anywhere.

Select:	To search for:
Equals	Study information that matches all text exactly as specified. Note that this option is only applied for the Patient ID field or when the selected data source is a DICOM server. For all other fields, this operation acts like the Begins operation.

For example, to find studies based on a particular accession number, enable Begins and enter the first few digits of the number in the Accession Number field.

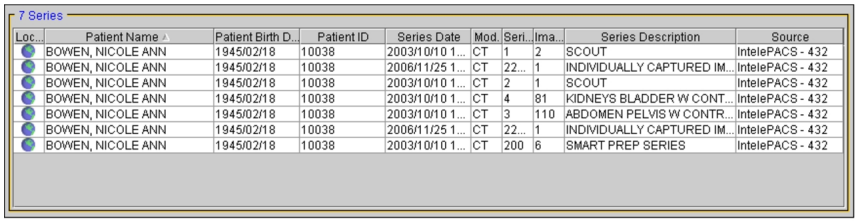
9. To search by the patient's date of birth, do one of the following:
   - Type the year, month and day corresponding to the patient's date of birth (YYYY-MM-DD).
   - Select the date of birth from the calendar.
10. Click Search.

    Depending on your IntelePACS configuration, you may receive an error message because your search filtering was not specific enough. When using the Referring Physician, Study or Series Description, or Requested Procedure ID filter, you may need to make your search more specific by using one of these filters: Patient ID, Patient Name, or Accession Number. You can also use a Date Filter.

    All studies that match the criteria you specified appear in the Study list. It may take a few moments for the search results to appear, depending on the amount of data being transferred.

11. To list the series, click a study in the Study list.

    The series appear in the Series list below.



Icons in the Location column indicate where the images are located. Images can be located on the server (*remote*), on your local workstation (*local*), or both. The following icons are used to indicate the location of the study or series.

Location Icon:	Indicates:
	Images are located on your workstation only.
	Images are located on a remote server only (can be a DICOM server or IntelePACS).
	Images are located on both a remote server and your workstation.

See Also

DICOM Preferences 98

Search Filters

You can use the following search filters when performing advanced or basic searches.

Modality Filters—Search for studies obtained from the selected modality or modalities. If you do not select at least one, studies from all modalities on the IntelePACS will be displayed.

Date Filter—Searches for studies that were acquired on the specified date, or during the specified date range. In the Advanced Search window, you can set a customized date range.

Patient ID—Searches for the specified Patient ID. Your IntelePACS may use another term, such as *M.R.N.* or *Patient Number*. A Patient ID is a institution-wide patient identifier, and can contain any alphanumeric character.

You can enter a partial sequence to search for Patient IDs that begin with that sequence, or leave this field blank to search for all Patient IDs.

You can search for multiple patient IDs by separating them with a “\” character. See your PACS administrator for more information.

Patient Name—Searches for the specified patient name. Enter the last name of the patient, or enter the last name followed by the first name and separated by a comma or a “^” symbol.

When you use a comma, the search is treated as a wildcard search with the wildcard implicitly inserted between the last name and the first name as well as the end of the first name of the patient. You do not need to enter the “*” symbol to perform a wildcard search since there is already an implicit wildcard inserted between the last name and the first name as well as the end of the first name of the patient. For example, if you enter `Doe,John` or `Doe, John`, your search results will return patients named:

- Doe, John
- Doe, Johnson
- Doe, Thomas John
- Doestoyevski, John

When you use the “^” symbol, the search is also treated as a wildcard search, but with the wildcard implicitly appended to the end of the first name. You do not need to enter the “*” symbol to perform a wildcard search since there is already an implicit wildcard at the end of the first name. For example, if you enter `Doe^John,` your search results will return patients named:

- Doe, John
- Doe, Johnson

To use this filter, ask your PACS administrator to configure your user account to allow you to view and search for patient names.

Accession Number—Searches for an *accession number*, a unique study identification number. Depending on your IntelePACS configuration, another term, such as *Requisition* or *Exam Number*, can be used instead.

Referring Physician—Searches for studies requested by a particular physician. Enter the last name of the physician, or enter the last name followed by the first name and separated by a comma or “^” symbol.

You may find the required name more easily by using the Contains filter.

Study Description—Searches for text contained in the Study Description field. For example, you could search for the word “chest” or “head” to display only studies related to that anatomy.

Patient Date of Birth— Searches for studies belonging to a patient with a specific date of birth.

Using Special Characters

When using search filters, the following special characters can be used to modify your search.

Character	Description
% (percent sign)	Matches any string of alphanumeric characters. For example, searching for “test%” would return matches for “test”, “tests”, and “testing”.
_ (underscore)	Matches a single alphanumeric character. For example, searching for “test_” would return matches for “test” and “tests” but not “testing”.
[ ] (square brackets)	Matches any alphanumeric character contained within the brackets. For example, typing `[abc]` will match a, b, or c.

If you want to search for text that contains these characters (and not use them to modify your search), then simply encase them in square brackets ([]). For example, to search for a study description that contains an underscore, enter `[_]` in the search filter.

Searching for Restricted Studies

In some situations, your access to certain patient studies may be restricted. This can occur, for example, when you are treating a patient but you are not the patient’s referring physician. As one of the patient’s physicians, however, you still need to review the patient’s studies. To override this restriction, you can *break the glass* to grant yourself access to the patient’s studies.

When you grant yourself access to a patient’s studies, you have access to only those studies that were performed on or before the date you broke the glass. You will not have access to any new studies that were performed after you broke the glass. To access these new studies you will need to break the glass again.

Once you have broken the glass for a patient, you do not have to break the glass subsequently to access the patient's studies. For example, if you break the glass, and then close the patient studies only to return later, you will not have to break the glass again to re-open the study.

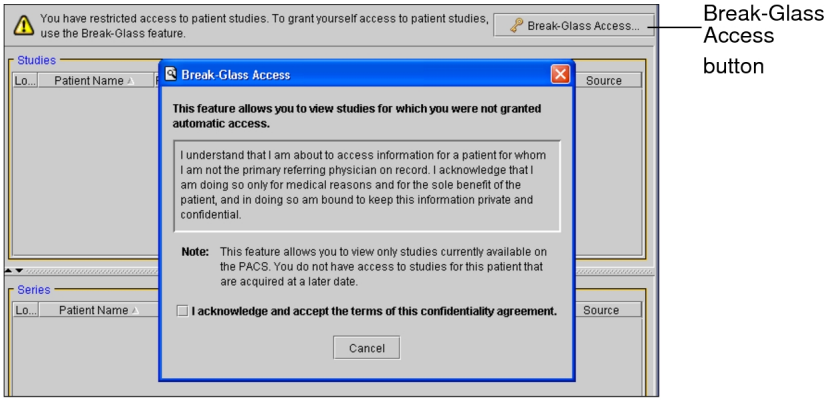
Your PACS administrator monitors access to restricted studies. The IntelePACS creates an audit trail to monitor such access. This ensures appropriate access to studies.

To use this feature, ask your PACS administrator to enable the necessary privileges in your user account.

To search for a restricted study:

1. In the Search tab, click Break-Glass Access.

   The Break-Glass confidentiality agreement appears.



2. To accept the terms of the confidentiality agreement, click the check box.
3. Do one of the following:

   - Type the full patient ID.
   - Type the comma-separated full patient name and the full patient date of birth. For example, type the following: Jones, John and 19740601.

   To search by patient name and patient date of birth, your user account must be assigned the necessary privileges. For more information, contact your PACS administrator.

4. Click Search or press **ENTER**.

   The patient name, sex and age appear. This allows you to make sure this is in fact the patient for whom you are searching.

5. If this is your patient, click Access Patient Studies. Click Cancel if this is not the patient for whom you are searching.

   The patient's studies appear.

Searching for Study Tags

You can search folders and events to view, edit, and delete the study tags that they contain. You can customize the list of study tags in a folder or event by specifying the sort order and showing or hiding columns. You can view the study tags in anyone's public folders and events. Only you can view the study tags in your private folders and events. You cannot view other users' private study tags.

Your search terms match when they are all contained in the words of folders and events names. Searching is case insensitive. The following table lists examples.

This search term:	Matches these folder and event names:	Does not match these folder and event names:
pan	pan pancreatic lesion spanner wrench Zoom With Pan	elbow complete ribs unilateral pelvis no contrast
ear THROAT	ear throat throat YEARLY exam	nose ear infection throat view
wristcomp	wristcomp NoWristCompression	wrist compression completewrist compression wrist

You can refresh the Study Tags dialog or Study Tags tab by pressing **F5**.

To search for tag in a folder:

1. In the Save Study Tags dialog or Study Tags tab, click the Folders tab.
2. In the Search field, start typing the name of the desired folder.

The list of folders updates to display only the folders with names that contain the text that you type.

3. Click the desired folder.
4. In the list of tags, click the desired tag to select it.

   You can add or remove tags to and from your selection by **CTRL+**clicking other tags.

To search for a study tag in a calendar event:

1. In the Save Study Tags dialog or Study Tags tab, click the Events tab.
2. Do one of the following:

   - In the Search field, start typing the name of the desired event. To include events that start at a different date than today, choose a date in Start Date. The list of events updates to display only the upcoming events with names that contain the text that you type.
   - Use the calendar to navigate to the desired date.
3. Click the desired event.
4. In the list of tags, click the desired tag to select it.

   You can add or remove tags to and from your selection by **CTRL+**clicking other tags.

To customize the list of tags:

1. To sort the list in the Save Study Tags dialog or Study Tags tab, click a column header.

   You can sort in reverse order by clicking the same column again.

2. To hide or show columns, click the column selector icon , enable or disable the desired columns, and click Done.

Searching for a Key Image Series

Key image series are series that contain a set of *key images* (possibly with annotations) that have been saved to the IntelePACS. This is also known as a *DICOM presentation state*.

Only key image series from an Intelerad IntelePACS can be searched for by using this method.

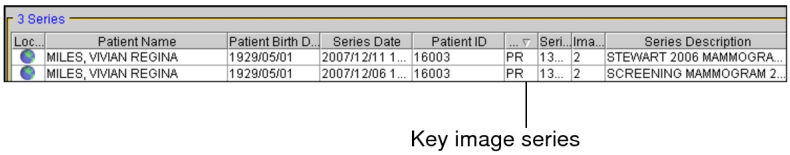
Key image series are saved with the study from which the images originated. To access these series, you can search for the original study and find the series with a modality of *PR*, which indicates that the series contains key images. Series with a modality of PR and a description of “IMS PRESENTATION” are InteleViewer presentation states, not key images.

Once you have found the required key image series, you can view it as you would any other.

To search for a key image series:

1. Search for the study that contains the key image series. See “About Searching for Studies" (page 249).
2. Select the study in the Study list.

   The series appear in the Series list below. The key image series is indicated by the modality PR. Series with a modality of PR and a description of “IMS PRESENTATION” are InteleViewer presentation states, not key images.



See Also

Working with Presentation States 742
About Opening Studies and Series 361
Working with Key Images 716

Searching for Teaching Cases and Collections

A *teaching case* is a scrapbook of images from a given patient, and related case information, that has been saved on the IntelePACS. A *teaching collection* is a group of teaching cases, from one or more patients.

Searching for teaching cases and collections stored on the IntelePACS is a very similar process to searching for patient studies. You can use modality search filters, as well as

perform more complex filtering. Though teaching cases themselves are stored with a modality of *PR* (for *presentation*), the modality filters allow you to search based on the modality of the originating study.

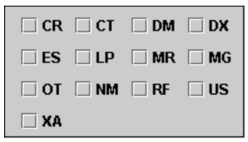
To use this feature, ask your PACS administrator to enable the View Teaching Files privilege in your user account.

To search for a teaching case:

1. Do one of the following:
   - From the InteleViewer main menu, choose File | Search Frame.
   - Click the Search tab.
2. Click the Teaching Case tab.

   The Teaching Case search panel appears. The filters that are available depend on your IntelePACS configuration, and may vary from the examples provided here.

   To edit a teaching case, it is important that you search for it by using the Teaching Case panel, not the Patient panel; otherwise, you will only be able to open the images for viewing. See “Editing Teaching Cases" (page 731).
3. Select one or more modality filters.

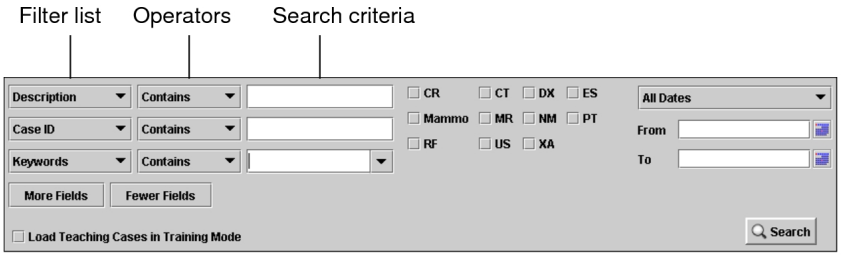
   

   If you do not select any modality filters, teaching cases from all modalities on the IntelePACS are displayed.
4. To add more search filters, click More Fields. To remove search filters, click Fewer Fields.
5. Choose an option from the filter list and enter the search criteria in the corresponding fields. Use spaces to separate multiple words or phrases.

   Case filters roam with the general profile.

   The keywords entered are remembered the next time you add case details. Previously-used keywords appear in the list as you type. You can choose existing keywords from the list or create new ones. The list of available Anatomy and

Pathology filter options depend on your IntelePACS configuration. For more information, contact your PACS administrator.



6. Choose an operator to determine how the search criteria should match the study information.

   For example, if you want to find cases with descriptions that begin with “LUMBAR”, choose Begins and enter `LUMBAR` in the Description field.

Select:	To search for cases that:
Contains	Contain all of the specified text, in any position. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins	Begin with the specified text. Cases with the text located elsewhere (such as in the middle) will not be matched.
Contains Any	Contain at least one of the specified words, in any location. Use quotation marks to specify exact phrases.
Contains None	Do not contain any of the specified words.

   Operators roam with the general profile.

7. Specify the date on which the case was last modified.
8. Click Search.

   All cases that match the criteria you specified appear in the Teaching Cases list. It may take a few moments for the search results to appear, depending on the amount of data being transferred.

9. To list all series the case contains images from, click it in the Teaching Cases list.

If a teaching case has just been anonymized, upon clicking it, you may see its Series list empty, along with the following notification below: “The selected teaching case contains [x] series that has been deleted from IntelePACS”, where [x] is the number of series included in the teaching case. This notification simply means that the anonymization is still in progress. It will be hidden, and the missing series will be displayed in the list, as soon as the process is completed.

To search for a teaching collection:

1. Do one of the following:
   - From the InteleViewer main menu, choose File | Search Tool.
   - Click the Search tab.
2. Click the Teaching Collection tab.

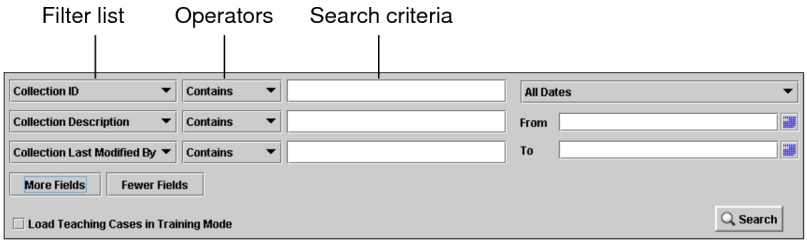
   The Teaching Collection search panel appears.
3. To add more collection filters, click More Fields. To use fewer fields, click Fewer Fields.
4. Choose an option from the filter list and enter the search criteria in the corresponding fields. Use spaces to separate multiple words or phrases.

   Use spaces to separate multiple words or phrases. The filters that are available depend on your IntelePACS configuration, and may vary from the examples provided here.

   Collection filters roam with the general profile.

   The keywords entered will be remembered the next time you add case details. Previously-used keywords appear in the list as you type. You can choose existing keywords from the list or create new ones.

   The list of available Anatomy and Pathology options depend on your IntelePACS configuration. For more information, contact your PACS administrator.



5. To determine how the search criteria should match the study information, choose an operator.

Select:	To search for collections that:
Contains	Contain all of the specified text, in any order. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins	Begin with the specified text. Collections with the text located elsewhere (such as in the middle) will not be matched.
Contains Any	Contain at least one of the specified words, in any location. Use quotation marks to specify exact phrases.
Contains None	Do not contain any of the specified words.

   For example, if you want to find cases with descriptions that contain the text "CARDIO", choose Contains and enter `CARDIO` in the Collection Description field.

   Operators roam with the general profile.

6. Specify the date on which the collection was last modified. See "Advanced Searching" (page 253).
7. Click Search.

   All collections that match the criteria you specified appear in the Teaching Collections list. It may take a few moments for the search results to appear, depending on the amount of data being transferred.

8. Click a collection in the list to view the cases associated with it.

   You can also choose to edit a teaching collection. This option is accessible from the right-click menu when you select a teaching collection from the Teaching Collections list. For more information, see "Editing Teaching Collections" (page 736).

See Also

Saving Data 740

Sorting Search Results

Once you have performed a search, you can organize the information to easily find the studies you require (or cases and collections, if you have access to the Teaching Cases feature). For example, you can sort studies by their descriptions to view studies of similar areas together.

InteleViewer preserves the sorting order of the last columns you selected, so you can apply multiple levels of sorting at a given time.

By default, studies are sorted in ascending order by the name of the patient and the study date. Series are sorted in ascending order by the name of the patient, the series date, and the series number.

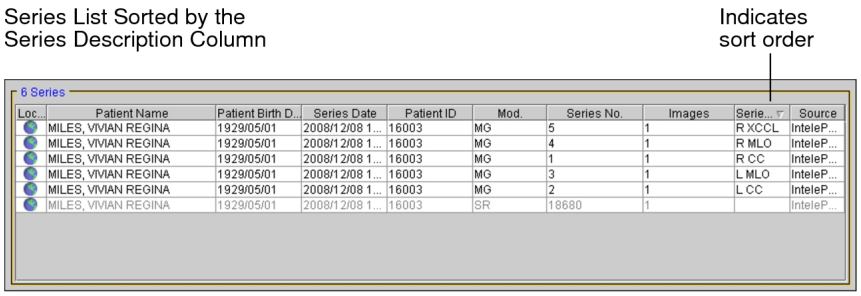
Your sorting preferences will roam with the general profile between sessions and workstations.

To sort studies and series:

1. Do one of the following:

   - To sort studies, click a column heading in the Study list.
   - To sort series, click a column heading in the Series list.

   The information is sorted in descending order and an arrow appears in the selected column heading to indicate the sort order.



2. To sort in ascending order, click the column heading again.
3. Repeat steps 1 to 2 as required.

   If you have access to the teaching cases feature, you can also sort search results for teaching cases and collections in the same way.

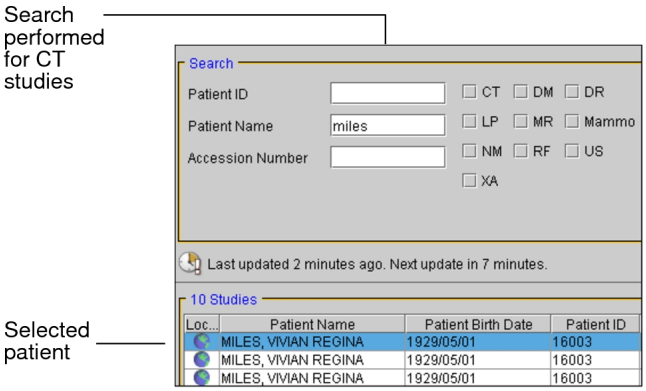
Searching for all Studies for a Patient

When you search for studies, your search results may not contain all of the studies for a particular patient, depending on the search filters that you used. For example, if you search for studies from only one modality, your results will not display studies that the patient may have obtained from other modalities.

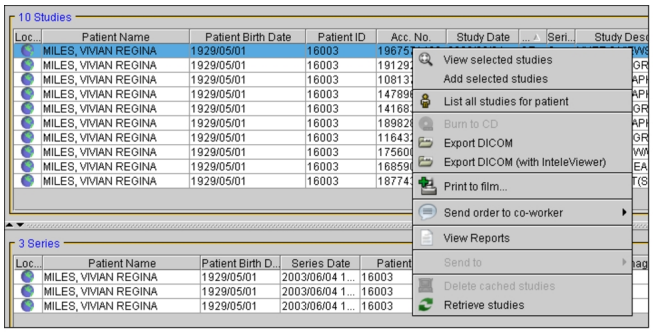
However, you can list all patient studies to quickly view all of the studies stored in the database for a selected patient.

To list all patient studies:

1. Search for a study. See “Using the Studies List" (page 442).
2. Select the study or the corresponding series in the list.
3. To select multiple studies or series, do one of the following:
   - **CTRL**-click each required study or series.
   - To select a range, click the first study or series and drag to the last one in the range.
   - To select all studies or series, press **CTRL+A**.



4. In the Studies or Series list, right-click and choose List All Studies For Patient.



All studies for the selected patient appear in the Study window.

Searching and Retrieving Prior Studies from an External Archive

If this feature is configured on your IntelePACS, you can search for patient priors on an external archive that is not indexed by your IntelePACS, and retrieve the study images for viewing in InteleViewer. You can search an external archive for patient priors from the Search tab and the Patient Record tab.

To use this feature, your PACS administrator must enable the Search External Archive user privilege and disable the Restrict Access to DICOM Extern Results in Portals restriction in your user account.

The external archive can be a government health organization archive, such as Dossier Santé Québec (DSQ), or another external DICOM source. Depending on the external archive that is configured on your IntelePACS, you can either search by patient health insurance number, or by patient name and date of birth.

The patient information (patient ID) for a study that you retrieve from an external archive is different from the information that is stored on your IntelePACS for that patient. As a result, the retrieved studies are associated with a different patient on IntelePACS. To view the retrieved prior studies for comparison with the current study in InteleViewer, you must use the candidate patient feature to set the patient that is associated with the retrieved study and the current patient as being the same patient. When you use the candidate patient feature to mark a patient as a candidate patient in the Patient Record tab, relevant studies from the candidate patient appear as relevant in the Studies list for the current study. When the Automated Candidate Patient Selection user preference is enabled, InteleViewer automatically sets candidate patients that meet the minimum confidence level threshold as being the same patient as the current patient.

In order for retrieved studies to appear in the Patient Record tab or Studies list, an HL7 order must be present in IntelePACS for that study. Some external archives, such as Dossier Santé Québec, automatically create and send an HL7 order to IntelePACS when you retrieve studies. If your external archive does not automatically create an HL7 order, ask your PACS administrator to enable the Automatic Order Generation (AOG) feature on your IntelePACS.

To search an external archive for prior studies and retrieve the images:

1. From the Search tab or Patient Record tab, click Search External Archives.

   A web browser window opens.

2. If you click Search External Archives from the Patient Record tab and the required patient information is present in the patient data, the search initiates automatically. Otherwise, enter the patient health insurance number or the patient name and date of birth, and then press **ENTER** or click the Search icon .

   Once the query is complete, a list of prior studies appears.

3. To retrieve offline images for a study, click the Offline icon .

   Depending on the number of images to retrieve, the image retrieval process may take some time to complete.

4. Once the images are retrieved, you can view the images in InteleViewer. See “Viewing Priors of Patient Candidates" (page 319).

   If the Patient Record tab for the current study is open before you retrieve the images from the external archive, you must refresh the Patient Record tab for the retrieved studies to appear in the candidate patient list and Studies list.

Copying and Pasting Study Data

When you select a study or series in the Search tool, all displayed information (such as accession number and patient name) can be copied to the Windows system clipboard and then pasted into another application, such as a RIS/HIS application or e-mail message.

To copy and paste study data:

1. In the Search tool, click a study or series to select it.
2. To select multiple studies or series, do one of the following:
   - **CTRL**-click multiple entries.
   - To select a range, click the first and drag to the last one in the range.
   - To select all, press **CTRL+A**.
3. Press **CTRL+C**.

   The information listed in the Search tool is copied to the system clipboard.
4. Choose the application into which you want to paste the information.
5. Press **CTRL+V**.

   The information is pasted into the selected application.

6 ACCESSING ORDERS

Comprehensive filtering capabilities allow you to sort and find the orders you need, quickly and easily.

In this chapter:

About Accessing Orders 275

About the Worklist 275

Filtering the Worklist 276

Updating the Worklist 292

Sorting the Worklist 293

Viewing Locked Orders 294

Changing Order Priority 294

Prefetching Images 296

Understanding the Patient Record Tab 296

Viewing the Patient Record Tab 300

Updating the Patient Record 301

Opening Orders 301

Linking Orders 326

Copying and Pasting Worklist Data 331

Copying and Pasting Order Information 332

About Accessing Orders

You can access orders that are currently in progress and orders that are complete and ready for dictation.

The ability to access orders that are in progress enables you to view images that are available before the order is complete. You can then dictate the order but only if the status changed to Complete while you are viewing it and if the order is not reserved for another radiologist.

You can use the powerful filtering features to refine and sort the orders in the worklist to accommodate your preferred workflow. Filters can be saved for repeated use, and you can layer them to apply more than one set of filtering criteria.

Once you have found the order that you require, open it for viewing and dictation.

See Also

About Dictating Reports 575

About the Worklist

The Worklist tab displays the orders acquired within a specified time range configured by Intelerad. Every order that appears in the worklist is available for you to dictate, except for orders that are locked or reserved by other users. You can use the filters in the worklist to find and select your required orders.

If the RIS assignment groups feature is available on your IntelePACS, and your user account is assigned the Hide Unassigned Orders or Orders not Associated With RIS Assignment Groups restriction, then this worklist displays only those orders that are assigned to you or to a RIS assignment group to which you belong.

If the User Credentials feature is available on your IntelePACS, then you will have access only to orders that you have the credentials to dictate.

The worklist displays only orders that:

- you have the credentials to dictate.
- are assigned to you.
- are part of RIS assignments groups to which you belong.

To view orders that are not displayed in your worklist, you can do a search by accession number in the Ready tab of the Worklist or in the Search tab. For more information, contact your PACS administrator.

The Worklist tab is comprised of the following sub-tabs:

Not Ready—Displays all orders that have been scheduled (requested) and not yet acquired (or completed). By default, orders are displayed from the past 12 hours to 48 hours ahead of the present day and time.

Ready—Displays all completed (or acquired) orders. You can also view orders with any status when filtering by accession number. This can be useful if, for example, you are interrupted to view a specific case. Instead of using the Search tool to find the case, you can enter the accession number in the worklist.

Dictated—Displays all orders that have been dictated in the past 48 hours.

Overview—Displays all orders regardless of the state of the order. By default, orders are displayed from the past 24 hours to 12 hours ahead of the present day and time.

If you require a different time frame for the Not Ready, Overview and Dictated tabs, contact your PACS administrator.

See Also

Understanding the Double Reads Worklist 606
Understanding the Critical Results Tab 649

Filtering the Worklist

You can filter the worklist to display only the orders you need, so that you can view the related images and dictate reports. Your PACS administrator can also create a profile template that automatically sets the columns that will be visible by default for the Not Ready, Ready, Dictated, and Overview tabs in the worklist for all radiologists at your facility. For more information, contact your PACS administrator.

User preferences take priority over default columns and may override the columns selected in the profile template.

The Reporting Worklist Module performs *remote filtering*, rather than local filtering. That is to say, filters are applied to the data that is coming from the IntelePACS (rather than from your local workstation) in order to provide you with the most current data possible at that moment.

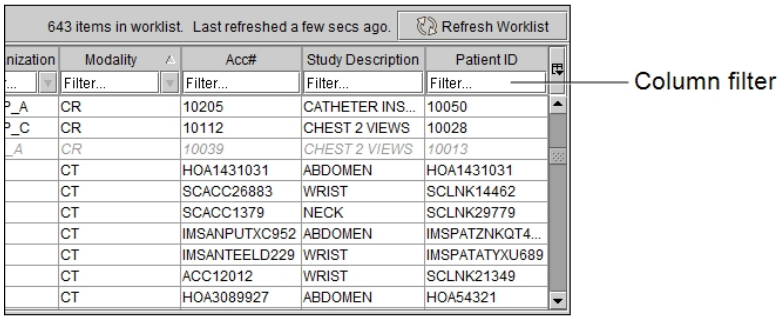
See Also

Understanding the Double Reading Workflow 612
Understanding the Critical Results Tab 649
Understanding the Double Reads Worklist 606
Applying Filters 278
About Worklist Filters 277

About Worklist Filters

You can use column filters or saved filters to display specific orders based on the filtering criteria.

Column filters appear below the worklist column headers. Depending on the column, you can either enter text or select from a predefined list of filtering options. After applying column filters, you can save the current filter criteria as a personal saved filter.

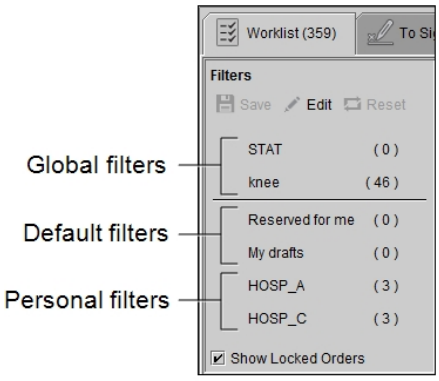


Saved filters appear in the worklist Filters list and provide quick access to predefined sets of filter criteria. All saved filters are stored on the IntelePACS server. Saved filters can include:

Global filters—Created by your PACS administrator and available to all radiologists at your facility. You can make them visible by adding them to the worklist Filters list. Global filters always appear above personal and default filters in the Filters list.

Default filters—Created by Intelerad and available in the Not Ready, Ready, and Dictated worklist tabs. Default saved filters include the Reserved For Me, With Images, Today, and My Drafts filters. The Reserved For Me filter displays all orders that you have reserved for dictation. The With Images filter displays orders that contain images. The Today filter contains orders from the current study date. The My Drafts filter displays draft reports and addenda. If you use the reading slot assignment workflow, the Assigned to Me filter displays all orders automatically assigned to you by the Intelerad Assignment Engine.

Personal filters—Created by and available to an individual radiologist. You can save commonly used filter criteria as personal filters to quickly apply them to your worklist. Every time you log in to a workstation on your network by using your IntelePACS account, your personal filters will follow you and automatically be available in your session on that particular workstation.



Enable the Show Locked Orders option in the Filters list to display orders that are reserved or locked by another user.

You can apply saved or column filters to the worklist, rename and delete personal filters, and select and reorder the saved filters that appear in the Filters list.

See Also

Applying Filters 278
Creating Personal Worklist Filters 281
Managing Worklist Filters 282
Filter and Column Descriptions 283

Applying Filters

You can filter the worklist using column filters or saved filters.

When you use the column filters, the worklist displays the orders that match all the filter criteria. For example, entering "knee" in the Study Description column filter and selecting "Hospital A" from the Organization column filter list displays only orders from Hospital A that contain the word "knee" in the study description. Entering two or more words separated by a space in a column filter displays orders that contain either of those two words. For example, entering “head chest” in the Study Description column filter displays all orders that contain the word “head” or “chest” in the study description.

You can use double quotes around words to search for an exact match. For example, typing " CT BRAIN WO CON" in the Study Description column filter displays orders that exactly match that text typed in double quotes.

You can apply one or several saved filters from the worklist Filters list. When you apply one saved filter, the worklist displays the orders that match all the filter criteria in the saved filter. For example, if a saved filter includes a "knee" Study Description filter and a "Hospital A" Organization filter, the worklist displays only orders from Hospital A that contain the word "knee" in the study description. When you apply one saved filter, you can further refine the orders in the worklist by using the column filters. For example, after applying a saved filter that displays orders with the word "knee" in the study description, you can select "Hospital B" from the Organization column field to display orders that match only both "knee" and "Hospital B".

You can apply two or more saved filters at the same time by linking the corresponding filters. When you apply two or more saved filters, the worklist displays orders that match at least one filter among the linked saved filters. For example, if you link a saved filter that displays "STAT" orders to a saved filter that displays orders for "Hospital A", the worklist displays orders for Hospital A and STAT orders, and not just "STAT" orders from "Hospital A".

Partial matches are supported for all filters except Acc #, which performs an exact match. For example, entering “abdo” in the Study Description field filters for all studies containing these characters anywhere in the study description. Therefore, results could contain study descriptions like “abdomen pelvis,” “abdomen with contrast,” and “abdominal.”

When filtering, you are filtering based on the text that appears in the worklist only (not text that may be contained inside a report, for example).

When you exit the Reporting Worklist Module, any saved filters you are currently using are applied automatically the next time you log in.

- Enable the Show Locked Orders option in the Filters list to display orders that are reserved or locked by another user.

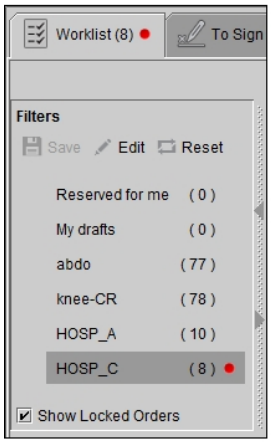
To apply column filters:

1. In the desired column filter field, do one of the following:
   - Enter the filter text and then press **ENTER**.
   - Click the filter menu button and then select one or more options from the list.
2. Apply additional column filters as required.
3. To disable all filters, in the Filters list, click Reset.

To apply a saved filter:

1. In the Filters list, click the saved filter to apply it.

   A red dot indicates that a filter contains STAT orders.

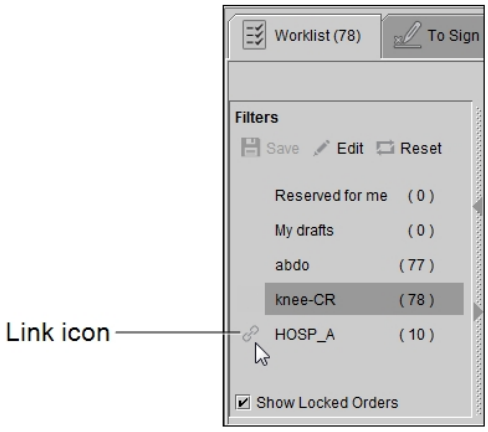


2. Click the saved filter again to disable it, or click Reset to clear all filters.

To apply multiple saved filters:

1. In the Filters list, click a saved filter to apply it.
2. Hover your mouse cursor to the left of the saved filter that you want to link to the selected filter, and then click the link icon.

   When applying more than one saved filter, though the filter text displayed in the column filter fields disappear, the filters are still applied.



3. Link other filters to the already selected filters as required.
4. Click a selected filter to disable it or click Reset to clear all filters.

See Also

Creating Personal Worklist Filters 281
About Worklist Filters 277

Creating Personal Worklist Filters

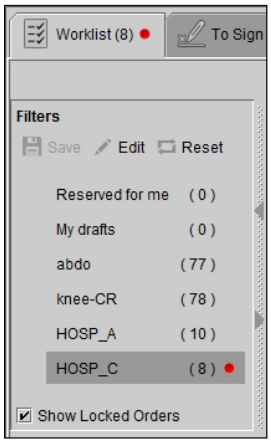
You can create personal filters to quickly apply them to your worklist. For example, you can create a personal filter to display STAT CT cases from a specific organization. By creating commonly used personal filters, you can bypass setting the filter criteria manually each time. There is no limit to the number of personal filters you can create.

To create a filter:

1. Filter the worklist, applying as many column filters as required.
2. In the Filters list, click Save .

   The filter automatically appears in the Filters list and is highlighted to indicate it is being applied. The filter name is derived from the criteria that you defined. A red dot

indicates that a filter contains STAT orders.



See Also

Applying Filters 278
Managing Worklist Filters 282

Managing Worklist Filters

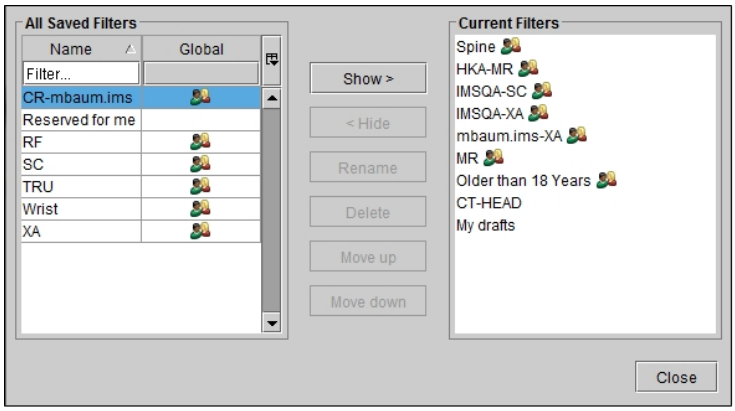
You can select the filters that appear in the Filters list, reorder the filters in the list, and rename and delete personal filters.

To rename and delete global filters, you must have the proper user privileges. For more information, contact your PACS administrator.

To manage filters:

1. In the Filters list, click Edit .

   The Edit Filters dialog appears. Global filters are indicated by a shared icon .



2. To search for a filter in the All Saved Filters table, do one of the following:
    - Click the Global column header. The global filters are displayed above the personal filters.
    - Type the name of the filter in the Name column text box to display filters containing that name.
    - Click the Name column header to sort filters in ascending or descending order.
3. To hide a filter from the Filters list, in the Current Filters list, select the filter you want to hide and click Hide.
4. To display a filter in the Filters list, in the All Saved Filters list, select the filter you want to display and click Show.
5. To delete a filter from the Filters list permanently, in All Saved Filters, select the filter you want to remove and click Delete.
6. To rename a filter, select it in the All Saved Filters or Current Filters lists and click Rename. Enter a new name in the dialog that appears and click Rename.
7. To reorder the filters in the Filters list, click a filter in the Current Filters list and then select Move Up or Move Down.

    You can reorder filters within their own category only. Global filters always appear above all other filters and are a separate category to personal and default filters.

8. Click Close to save your changes.

Filter and Column Descriptions

You can view the following columns and use the following filters in the worklist. A subset of these also appear in the Patient History panel in the Worklist tab and the Patient

Record tab. In the case of the worklist Patient History panel, you cannot filter the columns.

The filters are case-insensitive. For any given filter, you can enter a partial sequence to search for all orders containing that sequence anywhere in the text. Use a space between two or more criteria to filter for multiple criteria.

Column	Description	Available in These Tabs
Acc #	Displays the *accession number* of the order. The accession number is a unique order identification number. Depending on your IntelePACS configuration, another term, such as *Requisition* or *Exam Number*, may be used instead. To filter by Accession Number, enter the accession number in the text box. This filter supports only exact matches. Partial matches to the text you enter will not appear.	All
Alternate Patient ID	Depending on your IntelePACS configuration, this column displays an alternate custom patient ID, such as NHS number, RAMQ number or OHIP number. The column name that appears by default is Alternate Patient ID. For more information, contact your PACS administrator.	All
Assigned To	Displays the last name and first name of the radiologist who was assigned to report the order. Depending on your IntelePACS configuration, this column will display the name of the reporting radiologist as determined by the IntelePACS or as defined by the RIS directly. By hovering the mouse cursor over this column, you can see the source of the assignment: PACS or RIS. To filter by Assigned To, enter the first or last name of the radiologist in the text box.	Ready, Not Ready
CC Physicians	Displays the names of the referring physicians who received copies of the report. To filter by CC Physicians, enter the first or last name of the referring physician in the text box.	All

Column	Description	Available in These Tabs
	A dash indicates that this information is not present in the order.	
Completed Date	Displays the date and time the scan was completed for the order. Although you cannot filter by Completed Date, you can sort by Completed Date.	Ready, Dictated, Overview
Critical Result Status	Displays the status of the order's critical result—Pending, To Be Called, Viewed, Done, and Acknowledged. You cannot filter by Critical Result Status. To display this column, the Critical Results feature must be available on your IntelePACS. Also, ask your PACS administrator to enable the Communicate Critical Results privilege in your user account.	Dictated
Date of Birth	Displays the date of birth (YYYYMMDD) of the patient associated with the order. You cannot filter by Date of Birth.	All
Due In	Displays the time remaining for reading the order. Orders that are close to being overdue, that is, within 15 minutes of the deadline, are indicated by an amber background. Overdue orders are indicated by a negative sign and a red or cyan background. Due-in time is indicated in days, hours and then minutes. For example: -1 d 2 h 6 min which translates as 1 day, 2 hours and 6 minutes overdue. You cannot filter by Due In. The due-in times are configured in Study Classifier by your PACS administrator.	Ready
Entering Organization	Displays the organization code that uniquely identifies the department or group to which the order belongs. For linked orders, you can have multiple entering organization codes. To filter by Entering Organization, enter the organization code in the text box.	Not Ready, Ready, Dictated

Column	Description	Available in These Tabs
Image Count	Displays the total number of images on the IntelePACS for the order. The first number indicates the number of images on your local workstation. The second number indicates the number of images on the IntelePACS. A question mark (?) indicates that the image information is currently unknown. When filtering to show orders with images, the filter is based on the total number of images indicated in the Image Count column. To hide orders without images, click the Filter icon and select Hide Orders Without Images.	All
Impression	Displays the impression for the order. Click the Filter icon to select a specific impression: All Orders, With Impressions, or With Impression Discrepancies.	Overview
Last Dictated	Displays the date and time of the last dictation or addendum created by the user for the order. Click the Filter icon to select a specific time frame: Last 2 Hours, Last 6 Hours, Last 12 Hours, Last 24 Hours, Today, or All (Last 48 Hours). By default, InteleViewer lists dictated orders and addendums from the last 48 hours. If you require a larger time frame, contact your PACS administrator.	Dictated
Local State	Displays the local state of the order. This is an internal filter used by the Intelerad Technical SupportCenter for troubleshooting purposes. You cannot filter by Local State.	Not Ready, Ready
Lock State	Displays the lock status of the order: Dictatable, Dictate-Reserved, Dictate-Locked, or Dictate-Parked. This is an internal filter used by the Intelerad Technical SupportCenter for troubleshooting purposes.	Not Ready, Ready, Dictated

Column	Description	Available in These Tabs
	You cannot filter by Lock State.	
Modality	Displays the modality or modalities of the order. Click the Filter icon to select one or more modalities. If you do not select at least one modality, orders from all modalities will be displayed. The modality filters are only available if they are defined in your IntelePACS configuration. For more information, contact your PACS administrator.	All
Order Credentials	Displays the credentials required to dictate the order. The column is hidden by default.	Not Ready, Ready, Dictated
Observation Date	Displays the date and time the scan was started. You cannot filter by Observation Date.	All
Organization	Displays orders based on the organization to which you belong. Click the Filter icon to select one or more organization codes. If you do not select at least one organization code, orders from all organizations will be displayed. The organization filters are only available if they are defined in your IntelePACS configuration. For more information, contact your PACS administrator.	All
Owner	Displays the person who is currently reporting an order or the person to which this order was reserved. You can still view images for orders that are reserved or being reported by others. You cannot filter by Owner.	Not Ready, Ready, Dictated
PACS Assignment	Displays the last name and first name of the radiologist who was assigned by the IntelePACS to report this order. For example, if your IntelePACS is configured to use the Intelerad Assignment Engine (IAE), then this column	Not Ready, Ready

Column	Description	Available in These Tabs
	displays the name of the radiologist who is automatically assigned to this order. This column can also display the name of the radiologist who is manually assigned to this order by a technologist via the Technologist Portal. This column will be empty if the name of the radiologist is defined by the RIS directly. To filter by PACS Assignment, enter the name of the radiologist in the text box.	
Patient Age	Displays the age of the patient at the time that the order was created. Click the Filter icon to select one of the following age ranges: younger than 18 years, older than 18 years, or all ages. The filter may not be available on your IntelePACS. For more information, contact your PACS administrator.	All
Patient Class	Displays the particular categorization of the patient associated with this order such as inpatient, outpatient, or emergency. Click the Filter icon to select one or more patient class codes. If you do not select at least one, orders from all patient classes will be displayed. The patient class filters are only available if they are defined in your IntelePACS configuration. For more information, contact your PACS administrator.	Not Ready, Ready, Dictated
Patient ID	Displays the patient ID of the patient associated with the order. A patient ID is an institution-wide patient identifier, and can contain any alphanumeric character. Depending on your IntelePACS configuration, another term, such as *M.R.N.* or *Patient Number*, may be used instead. To filter by Patient ID, enter the ID in the text box.	All

Column	Description	Available in These Tabs
Patient Insurance Type	Displays the insurance of the patient associated with the order. To filter by Patient Insurance Type, enter the type in the text box.	Not Ready, Ready, Dictated
Patient Location	Displays the location of the patient associated with the order. Patient location could refer to a patient's initial assigned location—for example, the nursing station, or a particular clinic or department. This field may also signify the location of the patient after an order cancellation or before a discharge. Click the Filter icon to select one or more patient location codes. If you do not select at least one, orders from all locations will be displayed. The patient location filters are only available if they are defined in your IntelePACS configuration. For more information, contact your PACS administrator.	All
Patient Name	Displays the name of the patient associated with the order. To filter by Patient Name, enter the first or last name of the patient in the text box.	All
Priority	Displays the priority of the order. When the priority level is set to STAT, a red dot indicator will display next to worklist filters and in the Worklist tab. Note that your IntelePACS may be configured to use other terms and colors for the priority levels. As such more than one priority code may be considered "STAT" and trigger the indicator. Click the Filter icon to select one or more priority codes. If you do not select at least one, orders for all priorities will be displayed. The priority filters are only available if they are defined in your IntelePACS configuration. For more information,	All

Column	Description	Available in These Tabs
	contact your PACS administrator.	
Reading Group	Displays the reading group of the order. To filter by Reading Group, enter the reading group in the text box.	Not Ready, Ready, Dictated
Referring Physician	Displays the name and RIS ID (if available) of the referring physician who requested the scan. To filter by Referring Physician, enter the first or last name of the referring physician in the text box.	All
Requested Date	Displays the date and time the patient was scheduled to arrive. You cannot filter by Requested Date.	All
RIS Assignment	Displays the name of the radiologist who was assigned by the RIS to report this order. To filter by RIS Assignment, enter the name of the radiologist in the text box.	Not Ready, Ready
Site	Displays the site code (the physical location) associated with the order. Click the Filter icon to select one or more sites. If you do not select at least one, orders for all sites will be displayed. The site filters are only available if they are defined in your IntelePACS configuration. For more information, contact your PACS administrator.	All
Study Date	Displays the date and time selected by your IntelePACS and configured by Intelerad for the study date calculation. By hovering the mouse cursor over this column, you can see which step in the order workflow has been defined as the study date for your IntelePACS (the requested date, the observation date, or the completed date). By default, this column displays the date and time the scan was started.	All

Column	Description	Available in These Tabs
	If the IntelePACS works with a Radiology Information System (RIS), this column displays one of the dates and times sent from the RIS as selected by your IntelePACS. If IntelePACS uses Automatic Order Generation (AOG), this column displays the dates and times from the images in IntelePACS. Click the Filter icon to select a specific study date: All Dates, Today, Last 12 Hours, Last 24 Hours, Last 48 Hours, Last 7 Days, Last 30 Days, 60 to 90 Days, or Over 30 Days. If you do not select a study date, orders for all dates will be displayed.	
Study Description	Displays the RIS description of the studies associated with the order. For example, you could search for the word “chest” or “head” to display only orders related to that anatomy. To filter by Study Description, enter the description of the study in the text box.	All
Technologist	Displays the name of the technologist who performed the exam. To filter by Technologist name, enter the first or last name of the technologist in the text box.	All
Body Part	Displays the Body Part associated with the order.	Patient Record
Image Availability	Displays availability status icons of images for relevant priors	Patient Record

See Also

Understanding the Critical Results Tab 649
Understanding the Double Reads Worklist 606
Applying Filters 278

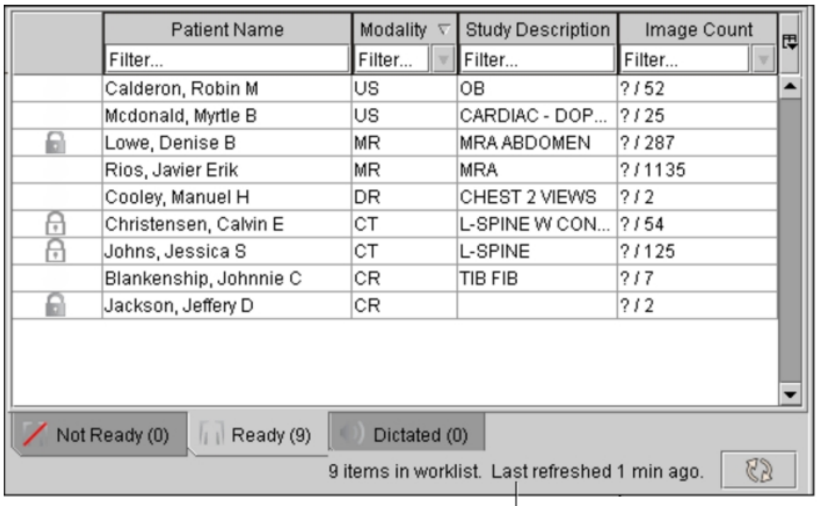
Updating the Worklist

As you are working, the worklist automatically updates during regular intervals to display new orders and remove those that have been reported from the list. The worklist also tracks information on which orders are locked by another user. *Locked orders* are not available for you to report, either because they have been opened by another user or because they have been reserved. Locked orders are represented by a lock icon .

You can show or hide these orders as necessary, by enabling or disabling the Show Locked Orders check box in the Filter section.

Depending on your user restrictions, orders that are locked or reserved by other users might not appear in your worklist. To avoid seeing orders locked or reserved by other users, your user account must be assigned the Hide Orders Locked and Reserved by Others restriction. Although these orders no longer appear in the worklist, they do appear in searches you perform for studies with an order that is reserved or locked by another user. When this restriction is enabled, the Show Locked Orders check box is not available. For more information, contact your PACS administrator.

The exact interval of time between automatic updates depends on your IntelePACS configuration. The default is every five minutes; however, you can choose to manually update the worklist when you need to make sure you are working with the most current orders. The amount of time that has elapsed since the last worklist update appears in the status.



Amount of elapsed time since the last

To update the worklist:

- Do one of the following:
  - Click the Worklist tab and then press **F5**.
  - Click Refresh .

Sorting the Worklist

Once you have filtered the worklist, you can further organize the information to easily find the exams you require. For example, you can sort orders by their descriptions to view similar areas together, or by priority to view all urgent cases at the top of the list. Your sorting criteria are saved automatically when you exit.

You can sort the worklist data by primary, secondary, and tertiary criteria and your sort order is saved when you restart the application. An arrow appears in the column heading to indicate the primary column and whether it is in ascending or descending order (secondary and tertiary sorting is applied, but no icon appears).

Each time you click a column it moves to the first place in the sort order, and any previously-clicked columns move down one level. Clicking the same column more than once switches between ascending and descending order.

For example, to sort columns primarily by assigned radiologist and secondarily by the organization, first click the Organization column and then click the Assigned To column.

Once you click another column to set its priority, you can no longer go back and change previous columns to ascending or descending order without affecting the priority.

To sort columns:

1. View the worklist, if you are not already.

   In this example, we will sort orders in the worklist by the following criteria:

   - Primary: Priority (in descending order)
   - Secondary: Study Date (in ascending order)
   - Tertiary: Patient Name (in ascending order)
2. Click the column that you want to assign tertiary priority. If necessary, click the column heading again to sort the information in descending order.

The information is sorted in ascending order and an arrow appears in the selected column heading to indicate the sort order.

3. Click the column that you want to assign secondary priority. If necessary, click the column heading again to sort the information in descending order.

   Notice that the column you selected in step 2 is changed to secondary priority.

4. Click the column that you want to assign first priority. If necessary, click the column heading again to sort the information in descending order.

   This column becomes the first priority. Notice that the column selected in step 3 is sorted as second priority, and the column selected in step 2 is sorted as third priority.

Viewing Locked Orders

The worklist tracks which orders are locked by another user. *Locked orders* are not available for you to report, either because they have been opened by another user or because they have been reserved. Locked orders are represented by a lock icon .

You can show or hide these orders as necessary, by enabling or disabling Show Locked Orders in the Filter section.

Depending on your user restrictions, orders that are locked or reserved by other users might not appear in your worklist. To avoid seeing orders locked or reserved by other users, your user account must be assigned the Hide Orders Locked and Reserved by Others restriction. Although these orders no longer appear in the worklist, they do appear in searches you perform by accession number in the Ready tab, as well as in searches in the Search tab. When this restriction is enabled, the Show Locked Orders check box is not available. For more information, contact your PACS administrator.

Changing Order Priority

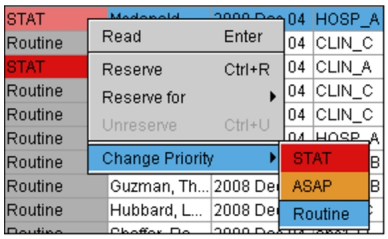
You can change the priority of orders directly from the worklist or the Patient Record tab. There are three priority levels available, typically named “STAT, “URGENT” and “Routine”; however, your IntelePACS may be configured to use other terms for these priority levels.

To use this feature, ask your PACS administrator to enable the Dictate Report privilege in your user account.

To change the priority of a single order:

1. Right-click an order in the worklist and select Change Priority.

   A list of priorities appears.



2. Select a priority.

   The order is updated to reflect the change in priority.

To change the priority of multiple orders:

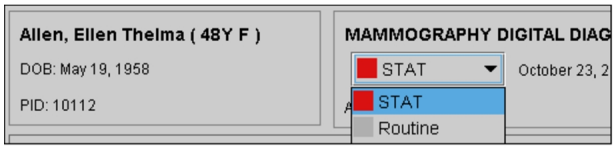
- Do one of the following:

  - To select a range of orders in succession, press **SHIFT** while left-clicking an order at beginning of the range and then press **SHIFT** while left-clicking an order at the end of the range.
  - To select multiple orders randomly, press **CTRL** while clicking the left mouse button on the individual orders.

  The orders are updated to reflect the change in priority.

To change the order priority from the Patient Record tab:

1. In the Patient Record tab, click the Status list.



2. Select a new priority for the order.

   The order status is updated in both the Patient Record tab and the refreshed Worklist tab.

Prefetching Images

When orders are opened for dictation, the corresponding images are *streamed* in from the IntelePACS.

Prefetching allows images to be automatically retrieved to your workstation when you *reserve* the corresponding order. This ensures that all images are available for viewing when you open the orders for dictation. InteleViewer prefetches images for the reserved order and the most recent relevant prior that is indexed with the same patient ID as the reserved order.

If your site has a slow network connection, the prefetching functionality helps you work more efficiently. For example, before dictating, you can first sort the worklist and reserve all cases of interest. By the time you are ready to open these cases for dictation, the corresponding images have already been saved onto your local disk. Additionally, reserving orders from the Not Ready tab prefetches the images allowing you to get images to your workstation.

The location the images are saved in is determined by your InteleViewer local storage preferences.

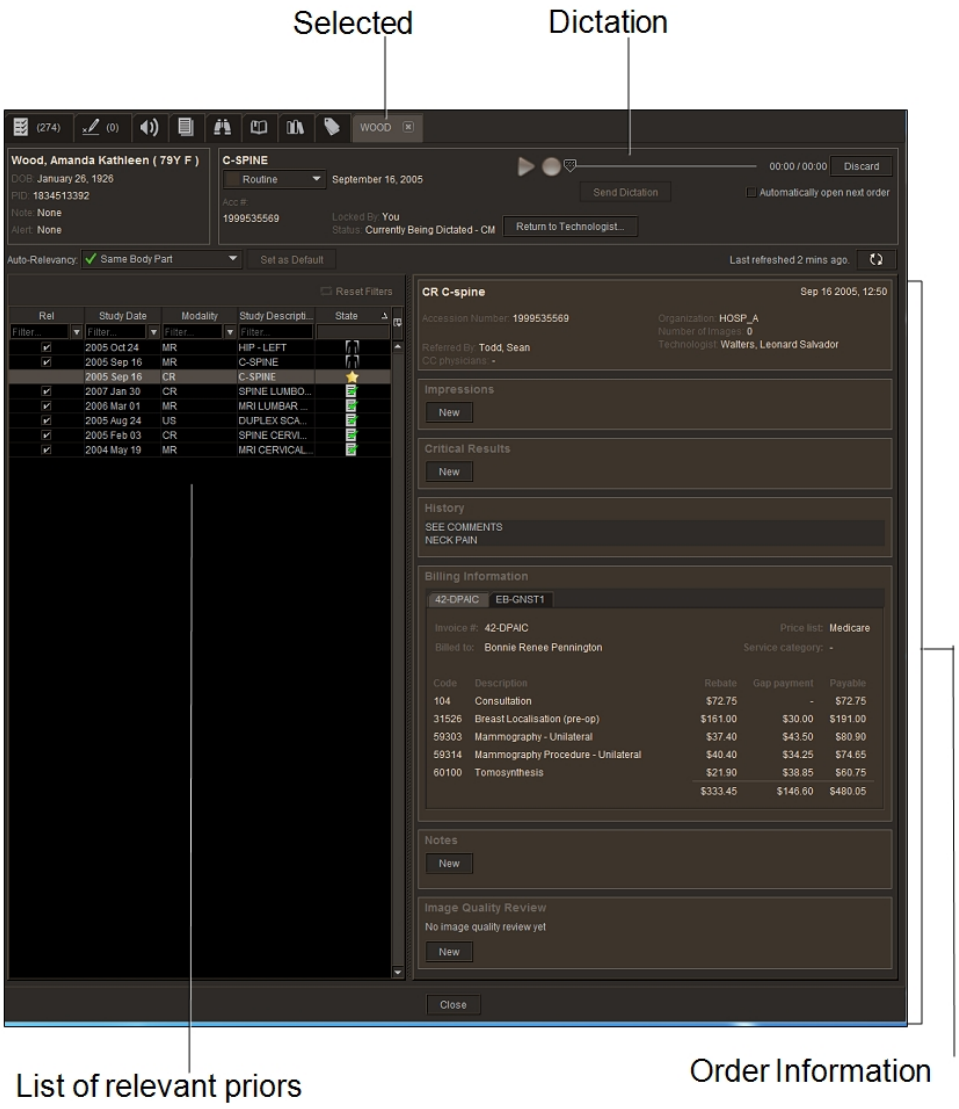
See Also

Local Storage Preferences 113
Reserving Orders 337

Understanding the Patient Record Tab

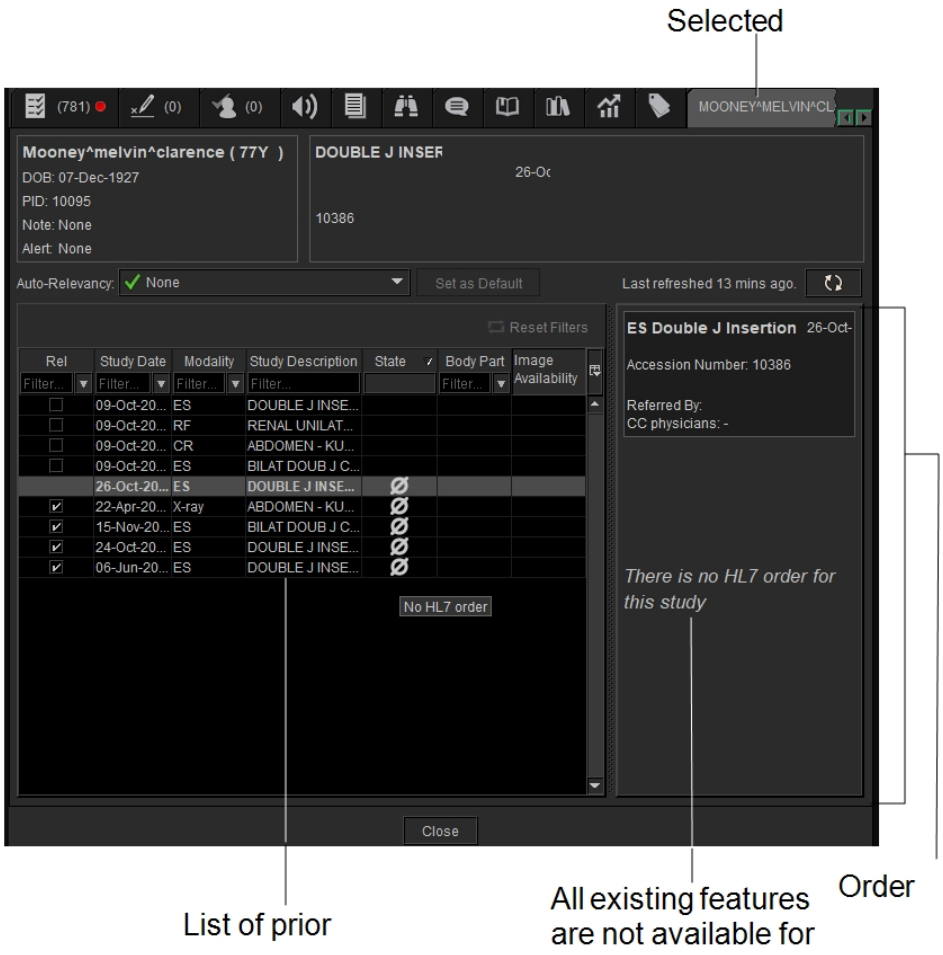
When you open an order in InteleViewer, the Patient Record tab opens, where you can view the patient information, exam information, transcribed reports, and related priors. You can also listen to audio dictations.

When you click a row for a related prior, the information for that related prior is displayed in the Order Information panels.



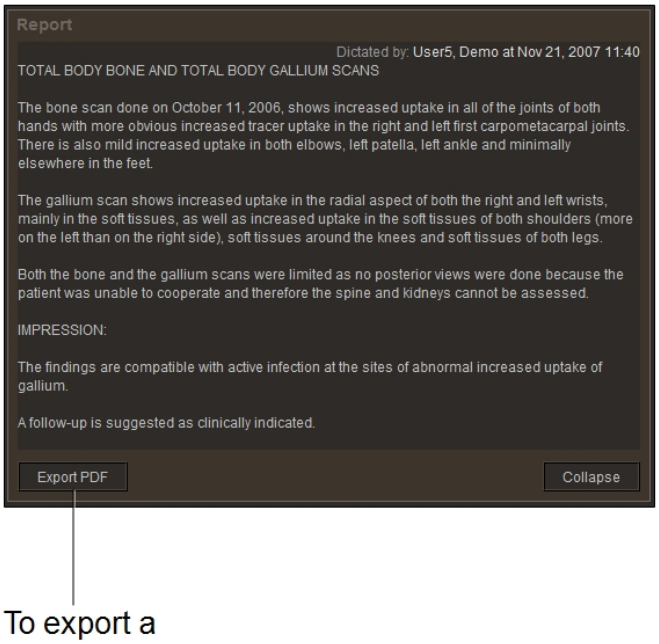
You can also view studies without HL7 orders in the Patient Record tab. Only the study date, modality, and study description data are available for those DICOM-only studies.

When you click a row for a prior study without HL7 order data, the limited exam information is displayed at the top Order Information panel. A message “There is no HL7 order for this study” is displayed in the Order Information panel.



You can listen to audio reports in InteleViewer if you are using the Dictation Module, MMR with Dictation Module, or PowerScribe 360. You can listen to audio from only unsigned reports.

You can export transcribed reports as Adobe Portable Document Format (PDF) files, which can then be printed or sent via email or fax.

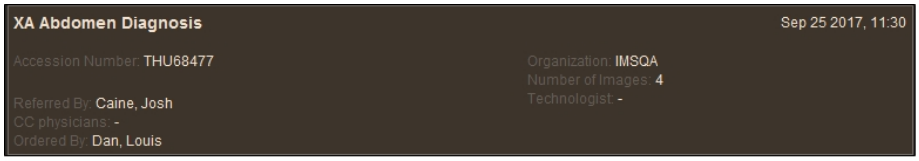


To export a

You can also export reports using the following methods:

- Automatically: Your PACS administrator sets up the rules to determine how to format the report, the people to send it to, and how the report should be distributed.
- From the InteleBrowser View Report page. For detailed information, refer to the *InteleBrowser User Guide*.

You can view exam information at the top Order Information panels: who referred the patient, who ordered the exam, where it was done, and who performed the exam.



Depending on how your PACS is configured, you can view the following information:

Impressions—View or create general clinical impressions, typically between physicians in an emergency department and the radiologist.

Critical Results—Record follow-up actions you took to communicate findings to the referring physician.

History—The patient's background and reason for the study requisition. This is communicated through HL7 from a RIS or other system. This information is read-only.

Billing Information—Invoices for the open order or the selected prior. InteleViewer retrieves the invoice information and totals from the RIS. The information is read-only.

Notes—You can add messages to convey information to technologists or radiologists about the images associated with the order.

Image Quality—Review and evaluate images produced by technologists. The feedback you provide regarding the quality of images is useful for measuring and evaluating technologists' performance. There is no limit to the amount of reviews you can do for an order.

Peer Review—Evaluate the diagnostic accuracy of radiologists' reports. Discrepant peer review findings are escalated to the Quality Control manager and Quality Committee for evaluation and completion of the reviews.

Scanned Documents—Click Open Scanned Documents to display associated documents in the Document Viewer.

See Also

Listening to Audio Reports 587
Order Notes 640
Creating Impressions in the Patient Record Tab 659
Adding Critical Results 652
Viewing Patient History in the Patient Record 572
Viewing Billing Information 325
Reviewing the Quality of Images 463
Reviewing Reports in an Ad-Hoc Workflow 622
Viewing Scanned Documents 321

Viewing the Patient Record Tab

When you open an order in the Patient Record tab, you can view the patient information, transcribed report, related priors, and audio dictations.

To view the Patient Record tab:

- Do either of the following:
  - In the Worklist tab, select the order that you require.
  - Open the order from either the Worklist tab or Search tool and view the Patient Record tab.

Updating the Patient Record

Update an in progress order to display current patient and order information.

Since you cannot dictate an order that is in progress, click the Refresh Worklist button as often as necessary to track the status of the order. If the status of the order changes from In Progress to Complete while you are viewing the order, you can dictate the order but only if it is not reserved or locked for dictation by another user.

To update the patient record:

- Do one of the following:
  - From the patient record, press **F5**.
  - From the patient record, click Refresh Worklist .

  InteleViewer loads any new images or series for the current study and any new related series.

Opening Orders

To dictate an order, you must first open it. Once you open an order for dictation, the corresponding images are opened in the viewports so that you can view them as you dictate. You can open only one order at a time, but there is no limit to the number of orders you can have open simultaneously. Each order you open appears in its own Patient Record tab, and the Reporting Worklist Module maintains synchronization between the current Patient Record tab and the images that appear in the viewports.

If you open an order with no associated images, the No Images tab appears. If the Alias Studies feature is configured on your IntelePACS, InteleViewer automatically opens the images contained within another order.

When you open an order, it is locked for your use and cannot be dictated by other users. The order remains locked as long as you have it open. If you close it or exit InteleViewer (without dictating it), the lock is removed automatically so that another user can access it. Similarly, you cannot dictate orders that are reserved for or locked by other users.

You can also reserve a selection of orders so that others cannot dictate them.

If you are using the Intelerad Dictation Module, the patient history, impressions, and dictation controls are fully integrated into InteleViewer.

See Also

Choosing a Dictation System 150
Reserving Orders 337
About Configuring Layout Protocols 807
Using the Alias Studies Panel 447

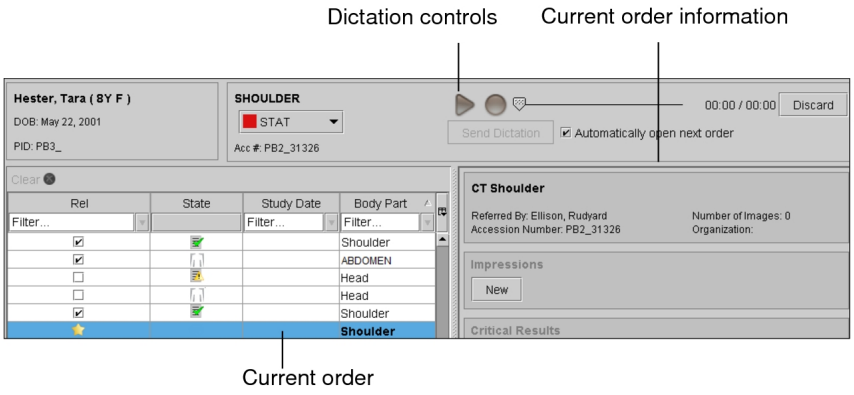
Opening Complete Orders

Use the worklist to select the orders that are ready for dictation.

If you use grouped procedures in your workflow, you will not be able to dictate individual procedures from a group. You must create a single dictation for the entire order. If you use linked orders in your workflow, once you link the orders, InteleViewer creates a single dictation for all the linked orders.

When you open an order, a Patient Record tab appears, the images are opened in InteleViewer, and the order is locked for your use.

The Patient Record tab displays the patient information, history, and impressions for the opened exams. If you use critical results in your workflow, then the critical results for the opened exams appear. If you are using the Dictation Module, the dictation controls also appear. A Patient Record tab appears for each order you open, and when you open multiple patient orders, the Patient Record tab of the newest order is always placed to the left of the Patient Record tab of the last order you opened.



To open an order from the worklist:

1. Find the order that you require. See “Filtering the Worklist" (page 276).
2. Do one of the following:

- Double-click the order.
- Right-click the order and then choose Read This Order.
- Press **ENTER**.

Potential Patient Safety Risk

Images may be missing from a series for a variety of reasons. Depending on the situation, InteleViewer may or may not be able to detect missing images in a series.

When InteleViewer is able to detect missing images, such as when missing images are caused by a failure in the asynchronous image ingestion process, InteleViewer displays a warning dialog when you open an order. Series with missing images are also identified by a warning icon displayed in the text overlay in the viewport, and along the top of the study panel in the Thumbnail strip.

In other situations, such as when the modality scanner sends only a subset of images, InteleViewer cannot detect if there are missing images. As a result, InteleViewer does not display a warning dialog to inform you of missing images. You must be aware of such a possibility, and measures should be taken in order to minimize the chances of this happening. Providing proper training on the workflow and establishing controls in business operations are ways to minimize these risks.

If a warning dialog appears due to missing images, do the following:

a. Click Copy to Clipboard to copy all of the study information in the Missing Images dialog to the Windows system clipboard.
b. Paste the information in a text file or email.
c. Send the information to your PACS administrator.

Opening Incomplete Orders

Open orders that do not yet contain all images to provide early feedback on the images that are available, to request additional images, or to have a preview of your upcoming workload.

You can view patient information, priors, and impressions. You can communicate critical results, review the quality of the available images, reserve incomplete orders and change their priority.

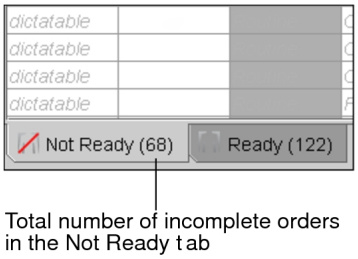
You cannot dictate incomplete orders. If an order has been completed during the time that you are viewing it, clicking the Refresh Worklist button updates the order and

displays the dictation controls to allow you to dictate the order. You can only dictate the order if it is not reserved or locked for dictation by another user.

To open an incomplete order:

1. From the worklist, click the Not Ready tab.

   A list of incomplete orders appears.



2. Do one of the following:

   - Double-click the order.
   - Right-click the order and then choose View.
   - Select the order and then press **ENTER**.

   The Patient Record tab appears and the available images are opened in InteleViewer. Click Refresh in the Patient Record tab periodically to see if the order status has changed to Complete.

3. To dictate an order that is complete and not reserved or locked by another user, click Locked for Dictation.

   The dictation controls appear.

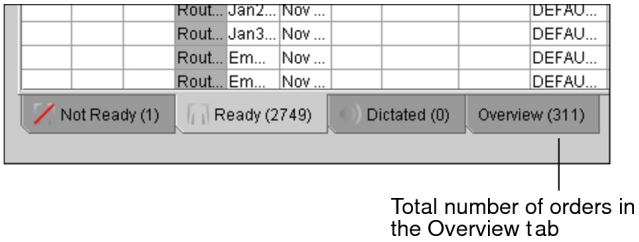
Opening Orders from the Overview Tab

The Overview tab provides a global view of all orders, regardless of the state of the order, obtained 24 hours in the past and 12 hours in the future.

You can view the same patient information as in the other Worklist tabs and you can perform the same actions. For example, you can reserve orders, dictate orders, review the quality of images, and communicate critical results.

To view all orders:

1. From the worklist, click the Overview tab.



2. Do one of the following:

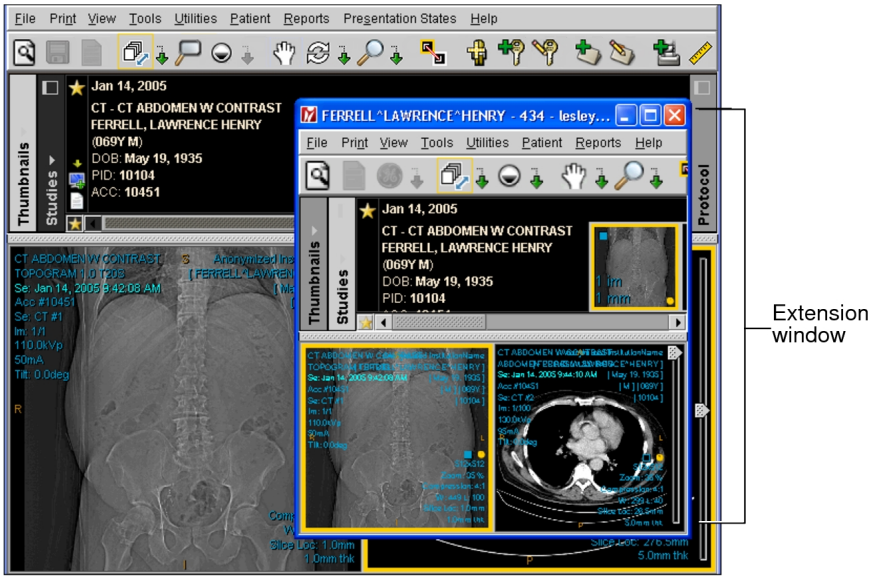
   - Double-click the order.
   - Right-click the order and then choose View.
   - Select the order and then press **ENTER**.

   The Patient Record tab appears and the available images are opened in InteleViewer.

Opening an Order in an Extension Window

Open a different order for the same patient in a secondary window. This window, an extension of the main InteleViewer window, allows you to perform regular InteleViewer actions separate from the primary InteleViewer window.

You can move the extension window anywhere in your monitor. InteleViewer retains the size and position of the extension window so the next time you open the extension window, it appears in the same location. Images in the extension window appear according to the grid layout preferences set for that modality in the User Preferences dialog. You can only open one extension window at a time.



To open an extension window:

1. Open an order.
2. Do one of the following:
   - Press **E** on your keyboard.
   - From the main menu, select Utilities | Show Extension Window.
   - Right click on the loaded study, and then from the radial menu that appears, click the Extension window button .
   - From the Thumbnail strip, click the Extension window button.

   The first series of the study you selected appears in the Extension window.
3. Resize or move the window as required.

Opening Orders for Dictation with Third-Party Systems

If your IntelePACS is configured to do so, you can use InteleViewer to open an order and then dictate a report with a third-party dictation system. InteleViewer is fully integrated with PowerScribe 360 and bi-directional RadWhere allowing for simultaneous updates to orders in both applications.

When using InteleViewer with any of the other third-party dictation systems, you have to manually synchronize the state of the order in both applications. This can be useful if, for example, you are interrupted with an urgent case while dictating a report with a third-

party tool. You can use the Search tool to search for and view the urgent case without disturbing your pre-existing dictation.

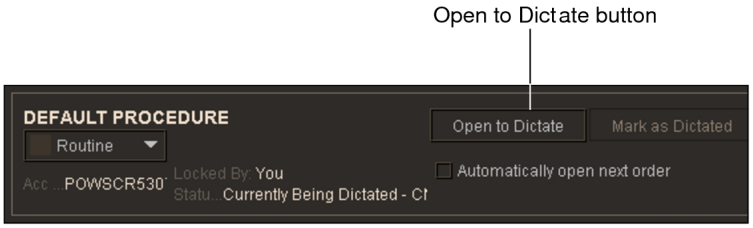
To open an order for dictation with a third-party system:

1. Choose the third-party dictation system. See “Choosing a Dictation System" (page 150).
2. Open the order that you require.

   If you are using COMRAD and you open the order from the worklist or the Search tool and there are no other orders opened for dictation, then the order is automatically synchronized with COMRAD and a microphone icon appears in the Patient Record tab. All subsequent orders that you open can only be manually synchronized if you either mark the current order as dictated or discard it.

   If you are using any of the other third-party dictation systems (unidirectional RadWhere, IDS, Dolbey, WinScribe, MedInformatix, and rMan) and you open the order from the worklist and there are no other orders opened for dictation, then the order is automatically synchronized with the third-party dictation software and a microphone icon appears in the Patient Record tab. All subsequent orders that you open from the worklist have to be manually synchronized with the dictation system.

   If you open the order from the Search tool, or if another order is open for dictation, click Open to Dictate or press **CTRL+D** in the Patient Record tab to manually synchronize the order with the third-party dictation software.



3. Dictate the report. See “Dictating Reports by using Third-Party Systems" (page 580).

Opening Orders by using a Barcode Scanner

You can open an order in InteleViewer by scanning the accession number on a printed document such as a paper requisition. You can print out the barcodes associated with an order from your facility’s RIS.

You must configure a barcode scanner to work with InteleViewer before you can scan accession numbers. For more information, contact your PACS administrator.

Before using the barcode scanner, you must also be sure that InteleViewer is “active” by clicking anywhere inside the application.

To open an order by using a barcode scanner:

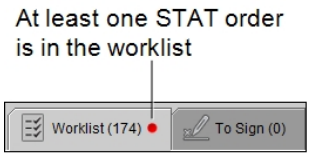
- Scan a barcode associated with an order.

  The Patient Record tab and any images associated with the order open.

Opening the Next Order

When you complete a dictation, InteleViewer has features to help you choose and open the next order.

You can quickly see if STAT orders are waiting for dictation without needing to return to the worklist. A red icon appears in the Worklist tab when there is at least one STAT report.



The red icon stays on the Worklist tab until you have dictated the last STAT report on your list. This is especially helpful if you also use the Automatically Open Next Order option.

When enabled, the Automatically Open Next Order option opens the next order for you when you complete a dictation. It chooses the next order based on how you sort the worklist and the position of the current, completed order in the worklist:

- If the current order was first in the Ready tab of the worklist, then InteleViewer opens the new, first order in the worklist. In other words, if you start with the first order, then InteleViewer always opens the first order.
- If the current order is not first, then InteleViewer opens the next order. For example, if you sort the worklist by Study Date and you complete the report for the fourth order, then InteleViewer opens the fifth most recent order.

To always open the order with the highest priority:

1. In the Ready tab of the worklist, sort orders from highest to lowest priority. See “Sorting the Worklist" (page 293).
2. Open the first order in the worklist.
3. In the Patient Record tab, enable Automatically Open Next Order.

   When you complete your dictation, InteleViewer opens the new, first order in the worklist. Because you sorted the worklist by priority, this order will have the highest priority.

Returning Orders to Technologists

Before reading an order, you can return it to the technologist. For example, if you notice that the images are not clear or perhaps the order is incomplete, you can inform the technologist and return the order.

InteleViewer saves the following when you return the order to the technologist:

- order priority
- added notes
- added impressions
- added critical results
- added quality reviews
- key images that are added and were sent to your PACS
- saved presentation states

You must click Add after creating notes, impressions, and quality reviews to ensure they are saved. If you do not save them, they are discarded when you return the order to the technologist.

When returning orders to the technologist:

- InteleViewer discards the dictation.
- For saved drafts, you must open them and send the order back through the Patient Record tab.
- When you return an order that is linked to other orders, all linked orders return to the technologist.

When you send an order back to the technologist, it is considered Not Ready. It appears in the Not Ready worklist if its date falls within the configured display range for this

worklist. If you want to add a note to that order, you can still search for it by accession number in the Ready worklist.

⚠ If an order you return is part of an alias group, it might automatically reappear in the Ready worklist. This occurs if your PACS is configured to automatically set all orders of an alias group as completed when only one of the orders is complete.

To send a report back to a technologist:

- Do one of the following:
  - From the order in the Patient Record tab, click Return to Technologist.
  - From the Ready worklist, right-click the desired order and select Return to Technologist.

  The report moves from the Ready worklist to the Not Ready worklist.

See Also

About the Worklist 275
Using the Alias Studies Panel 447
Linking Orders 326

Putting Aside an Order in the Patient Record Tab

When you view reports in the Patient Record Tab (PRT), InteleViewer uses a specific workflow to switch focus between windows. After you close a PRT, InteleViewer then focuses on the next open PRT. In the absence of an open PRT, InteleViewer will place focus on the worklist.

If you want to stop working on an order in the PRT, but do not want to close the order and lose all of the measurements that you have made on the images, you can put the order aside. For example, you are working on a routine order and a STAT order appears on your worklist. You want to take care of the STAT order before finishing your routine order but you do not want to close the routine order. In this case, you can put the routine order aside.

If you have several PRTs open, and you close an order, InteleViewer focuses on the next open PRT and ignores the order you have put aside.

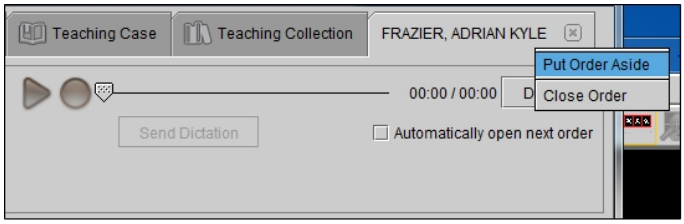
If you have the Automatically Open Next Order option enabled for PRTs, and you put a PRT aside, InteleViewer ignores that PRT and displays the next open order, or to the next order in the worklist.

When you close InteleViewer, all PRTs close as well and you will be prompted to save or discard your changes.

If your InteleViewer session is locked, the PRTs that are open remain open, and the put aside state is preserved.

To set aside an order in the PRT:

1. Right-click the tab for the PRT.



2. Select Put Order Aside.

   The name on the tab is grayed out.

3. To retrieve the order, right-click the tab and select Get Order Back.

See Also

Parking Dictations 579

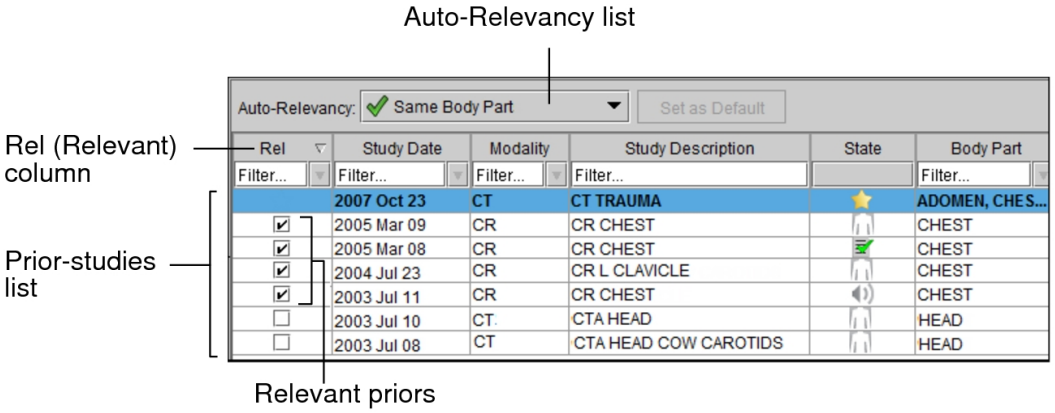
Viewing Relevant Prior Studies

InteleViewer identifies prior studies that are relevant to the current study, making it easier for you to locate and compare studies.

In order for InteleViewer to select the relevant prior studies for the current study, your PACS administrator must configure Study Classifier to assign relevant priors. InteleViewer marks relevant priors with a check mark in the Rel column in the Patient Record tab. By default, InteleViewer automatically sets all studies as relevant if they have at least one body part in common with the current study. For example, if the current study you are reading deals with the pelvis, all prior studies dealing with this same body part are marked as relevant in the Patient Record tab.

If the Study Classifier module is not configured on your IntelePACS, then all prior studies for the currently open study are automatically set as relevant.

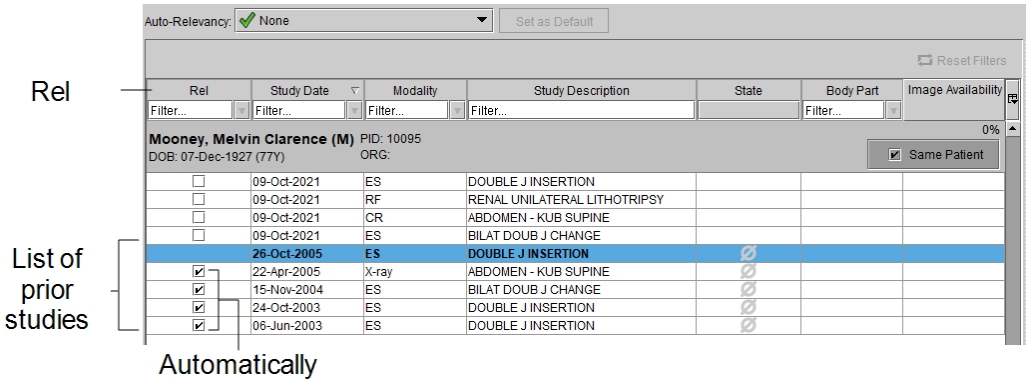
In a Patient Record tab, you can mark a prior study as relevant or nonrelevant in the prior-studies list. You can also override the default setting and update the relevancy of the prior-studies list with the Auto-Relevancy option that appears in the tab. This is useful for diagnostic workflows in which the required set of prior studies may change as the case is being read. You can also use the auto-relevancy options to improve the efficiency of automatically launching the most appropriate sequence protocol for studies.



In addition, you can change the default setting in the Patient Record tab. InteleViewer uses this default setting for any new Patient Record tabs. When you exit InteleViewer your default study relevancy setting is remembered and will roam.

Your PACS administrator can also create a profile template that by default automatically sets all prior studies to a specific relevancy option for your IntelePACS. For more information, contact your PACS administrator.

For studies without HL7 orders, InteleViewer automatically sets all studies as relevant if the user preference setting " Relevancy of Studies without HL7 Orders" is selected. See "Relevancy of Studies without HL7 Orders" (page 90).



You can search for patient priors on an external archive that is not indexed by your IntelePACS, and retrieve the study images for viewing in InteleViewer. See “Searching and Retrieving Prior Studies from an External Archive" (page 271).

To set the study relevancy:

1. Select a study.

   The Patient Record tab appears with relevant priors clearly indicated.

   InteleViewer marks all studies as relevant if they have at least one body part in common with the currently open study. For studies without HL7 orders, InteleViewer marks them as relevant if the user preference “Relevancy of Studies without HL7 Orders” is selected.

2. Do one of the following:

   - To mark a study as nonrelevant, disable the relevant checkbox in the Rel column.
   - To mark a study as relevant, enable the relevant checkbox in the Rel column.
   - To mark all studies as nonrelevant, choose None in the Auto-Relevancy list.
   - To mark all studies as relevant, choose All in the Auto-Relevancy list.
   - To mark all studies as relevant if they have at least one body part in common with the current study, choose Same Body Part.
   - To mark all studies as relevant if they have at least one body part and one normalized modality in common with the current study, choose Same Body Part and Modality.
   - To mark all studies as relevant if they have at least one normalized modality in common with the current study, choose Same Modality.
   - To mark all studies as relevant if they have at least one normalized procedure code in common with the current study, choose Same Procedure Code.

   You can click the Column menu in the Patient History panel and select the Normalized Modality and Normalized Code headings to see the normalized modality and normalized procedure code attributes defined in Study Classifier by your PACS administrator.

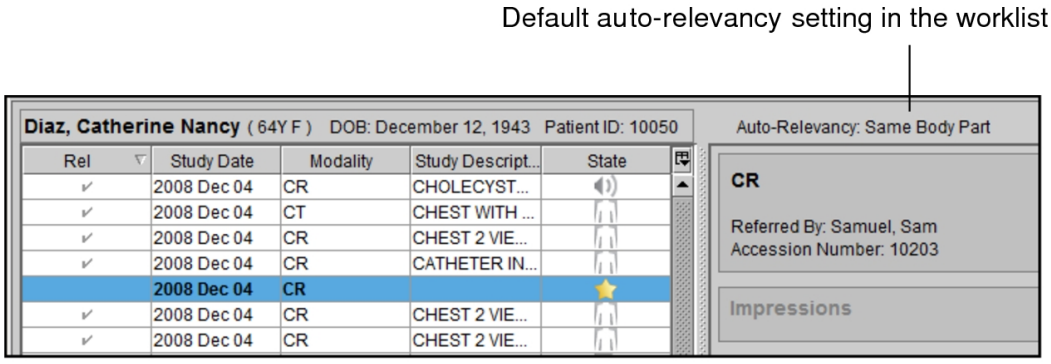
   If the Thumbnail view is displayed and the Studies list shows relevant studies, the Study blocks appear or disappear from the Studies list. Studies also appear or disappear from the Patient menu.

If the current sequence protocol did not previously match any priors, InteleViewer attempts to match the new relevant study to the current sequence protocol. Otherwise, InteleViewer adds the new relevant study to the Comparison list. So that the sequence protocol considers the new relevant study, you need to manually reapply the sequence protocol by either reloading the main study using the Load Study button in the Thumbnail strip or reloading from the Patient Record tab or the Search tool.

To set the default study relevancy:

- Click the Auto-Relevancy list and choose an option, and then click Set as Default.

  A green check mark appears to indicate the new default study relevancy setting. The default setting also appears in the worklist. Setting the default study relevancy affects only new Patient Record tabs, not tabs that are already open.



About Matching Patients for Prior Studies

A patient in IntelePACS may have more than one Medical Record Number (MRN) or patient ID. To mitigate the risk of patient priors not appearing in InteleViewer for a particular patient, IntelePACS uses a probability-based calculation to search external servers that are connected to IntelePACS for patients who are a potential match to the current patient.

Patients that are found to be potential matches to the current patient are referred to as *candidates* and appear in the Patient Record tab in InteleViewer.

What constitutes a candidate?

IntelePACS uses a combination of confidence-level values and a threshold value to find and show potential candidate patients.

The confidence-level values (matching algorithm) and threshold value are configured separately on your IntelePACS by Intelerad personnel. Contact your PACS administrator if you want to change the matching algorithm or threshold value.

Element	Description
Confidence-Level Values	Values that are assigned to various patient information attributes, such as last name and date of birth. The values are set by way of a candidate-matching algorithm wherein the patient-attribute values are defined. Each value in the algorithm is a percentage (0-99) that denotes the weight or importance that is given to that attribute in the event of a match.
Threshold Value	Defines the minimum confidence value (percentage) that a candidate patient must reach in order to be considered a possible match. Only candidates that meet the threshold appear in InteleViewer as a potential patient match. For example, if the threshold value that is configured on your IntelePACS is 50%, a patient appears as a candidate patient in InteleViewer if the matching patient attributes add up to 50% or higher. If the matching patient attributes add up to less than 50%, the patient is considered to be a non-match and will not appear in InteleViewer.

Candidate-Matching Algorithms

To accommodate regional and workflow differences, IntelePACS offers a variety of candidate-matching algorithms. All candidate-matching algorithms match against the following patient attributes, however the values (weight) given to the attributes differ for each algorithm:

- First name
- Last name
- Date of birth
- Gender

In addition to the above attributes, some candidate-matching algorithms also match against a regional Medical Record Number (MRN), such as RAMQ, ULI, and NHS.

Each algorithm has an initial-match attribute that sets the baseline for candidates. If a match is not found for the initial-match attribute, then no candidates will appear in InteleViewer. If the initial-match attribute yields results, the list of potential candidates is reduced further based on the remaining attributes.

The confidence-level values for the different attributes are predefined within a given candidate-matching algorithm. However, IntelePACS also offers a customizable candidate-matching algorithm for maximum flexibility.

Intelerad personnel can configure your IntelePACS to use one of the following candidate-matching algorithms:

Algorithm	Description
Last Name	Initial match based on patient last name.
Date of Birth	Initial match based on patient date of birth.
RAMQ or Last Name	Initial match based on patient RAMQ number or last name.
ULI or Last Name	Initial match based on patient ULI number or last name.
NHS or Last Name	Initial match based on patient NHS number or last name.
Generic (MRN or Last Name or Date of Birth)	An algorithm that allows for custom confidence-level values per attribute. The Initial match is based on a custom patient MRN (patient ID) number, last name, or date of birth. This algorithm is the only one that allows for a separate confidence-level value for a patient's middle name. All other matching algorithms use the value for the first name as the value for patient middle names.

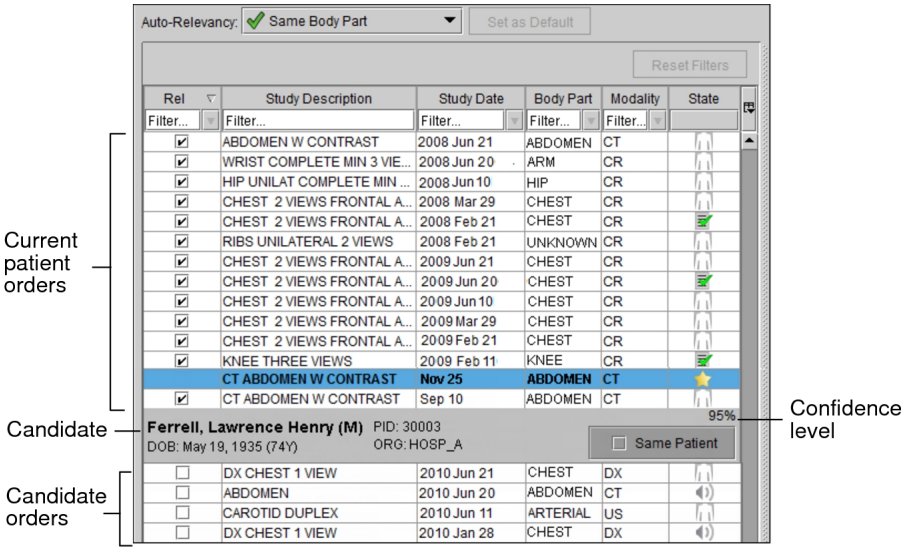
Matching Candidates by Last Name

When using the last-name-matching method, InteleViewer calculates a candidate's confidence level on the basis of the following patient criteria:

Criteria	Weight (%)
Last name (Necessary match)	20
First name	25
Date of birth	30
Gender	20
Total possible weight	95

InteleViewer does not consider a patient a candidate if the last name in InteleViewer does not exactly match the current patient's last name; therefore, the minimum

confidence level of a candidate will always be at least 20% (the weight given to the last name). As well, because candidate orders come from a different PACS than the current patient's order, InteleViewer does not consider a match to be 100%. The maximum confidence level of a candidate, therefore, can never exceed 95% (the weight of all the criteria added together). A match of last name and gender, for example, yields a confidence level of 40%. A match of last name, gender, and date of birth, yields a confidence level of 70%.



As long as you have at least one candidate order marked as relevant (enabled in the Rel column), InteleViewer displays the images (including thumbnail images) for any *orphan studies* associated with the candidate patient. An orphan study is a study that has images but does not have a matching order.

Matching Candidates by Date of Birth

When using the date-of-birth-matching method, InteleViewer calculates a candidate's confidence level on the basis of the following patient criteria:

Criteria	Weight (%)
Date of birth (Necessary match) The date-of-birth format must be a four-digit year, two-digit month, and two-digit day.	50
Last name	20
First name	20

Criteria	Weight (%)
Gender	5
Total possible weight	95%

InteleViewer does not consider a patient a candidate if the date of birth in InteleViewer does not exactly match the current patient's date of birth; therefore, the minimum confidence level of a candidate will always be at least 50% (the weight given to the date of birth). The maximum confidence level of a candidate will never exceed 95% (the weight of all the criteria added together). A match of date of birth and last name, for example, yields a confidence level of 70%.

Matching Candidates by RAMQ Number or Last Name

When using the RAMQ number or last-name method, InteleViewer calculates a candidate's confidence level on the basis of the following patient criteria:

Criteria	Weight (%)
RAMQ number (Necessary match) The RAMQ number format must be four characters followed by eight digits.	90
Last name	35
Date of birth	35
First name	25
Gender	5
Total possible weight	99

InteleViewer will not consider a patient a candidate if the RAMQ number or last name does not exactly match the current patient's RAMQ number or last name; therefore, the minimum confidence level of a candidate will always be at least 35% (the weight given to the last name). The maximum confidence level of a candidate will never exceed 99% (the weight of all the criteria added together). A match of RAMQ number and gender, for example, yields a confidence level of 95%. A match of last name and date of birth yields a confidence level of 70%.

Viewing Priors of Patient Candidates

You can view studies for a patient you think is a match to your current patient. You can also mark a candidate patient as relevant to apply the current Auto-Relevancy option to all the matching candidate orders.

When the Automated Candidate Patient Selection user preference is enabled, InteleViewer automatically sets candidate patients that meet the minimum confidence level threshold as being the same patient as the current patient. Orders from matching candidate patients that match the current Auto-Relevancy setting in the Patient Record tab automatically appear as relevant in the Studies list.

To view priors of a patient candidate:

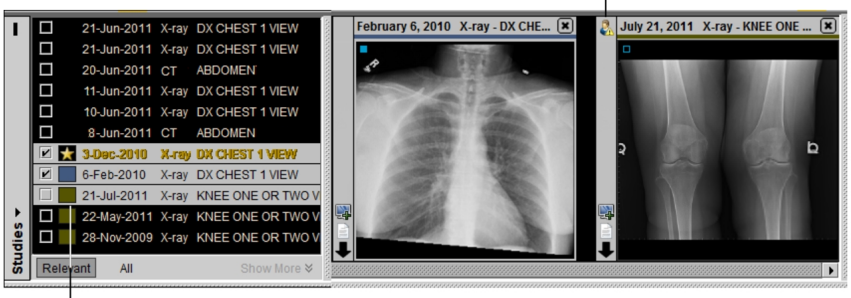
1. In the Patient Record tab, enable the relevant checkbox next to the candidate order.

   If you retrieved prior studies from an external archive and the studies do not appear in the candidate order list, click Refresh Worklist .

   The study appears and is marked as relevant in the Relevant tab and All tab of the Studies list.

2. Select the study in the Studies list. See “Selecting and Pinning Studies" (page 444).

   When you select the study, its associated thumbnails are displayed in the Thumbnail strip. The candidate patient study appears with an icon in the study panel so that you can distinguish the study from the other studies in the Thumbnail strip. When the Show Tooltips preference is active, you can move your mouse over the icon to display the patient information.



3. Open the study in the viewports. See “Accessing Studies in the Thumbnail Strip" (page 452).

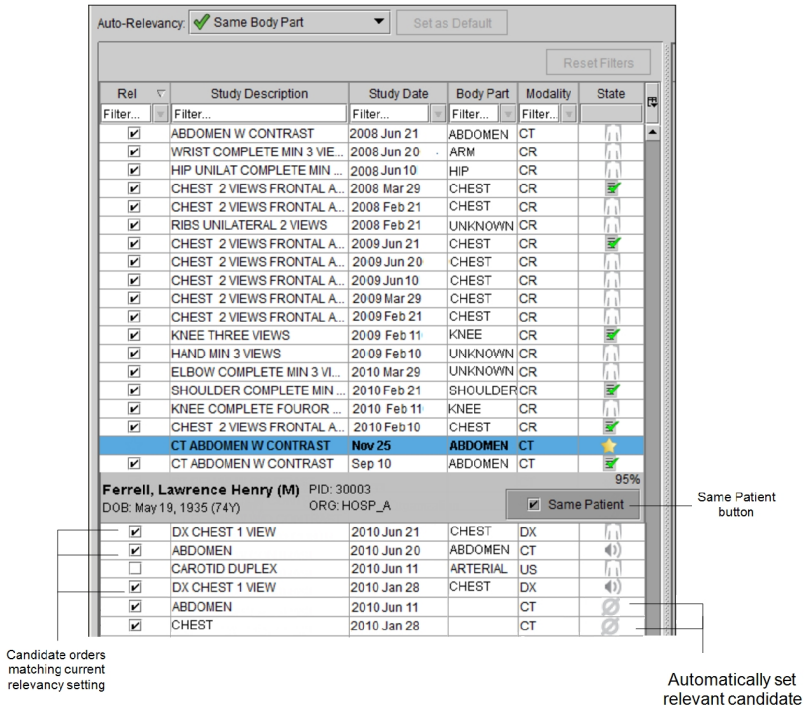
To mark a candidate patient as relevant:

- In the Patient Record tab, click the Same Patient button.

  If you retrieved prior studies from an external archive and the candidate patient does not appear in the candidate order list, click Refresh Worklist .

  A check mark appears next to the Same Patient button and the current relevancy setting is applied to all matching candidate orders.

  All the candidate studies without HL7 orders are automatically marked as relevant if the user preference setting " Relevancy of Studies without HL7 Orders" is selected.



  The matching candidate orders are marked as relevant in the Relevant tab of the Studies list. The All tab displays all the candidate orders. For example, if a candidate has four orders, where two of the orders are relevant, then the All tab displays the four candidate orders and the Relevant tab displays the two relevant candidate orders.

See Also

User Interface Preferences 85

Viewing Recently Dictated Orders

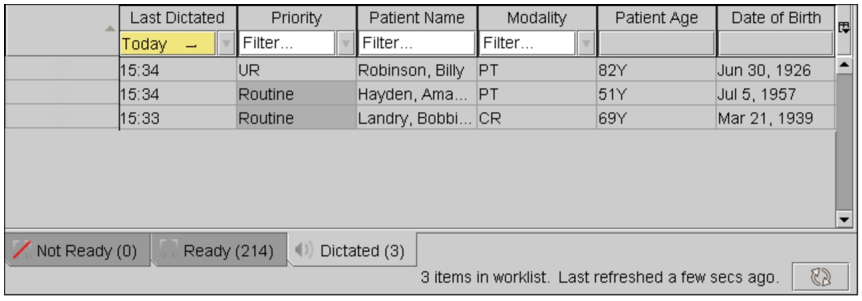
The Dictated tab contains a list of the orders that you recently dictated by using the Dictation Module or a third-party dictation tool supported by the Reporting Worklist Module. You can find a specific patient order when necessary or view all orders you have completed within the specified time frame. You can view orders and their images, add addenda to reports, and increase or decrease priority.

By default, InteleViewer lists dictated orders from the last 48 hours. If you require a larger time frame, contact your PACS administrator.

To view a recent history of dictated orders:

1. From the worklist, click the Dictated tab.

   A list of your dictated orders appears.



2. Sort the list to view specific orders.
3. Click an order to view it.

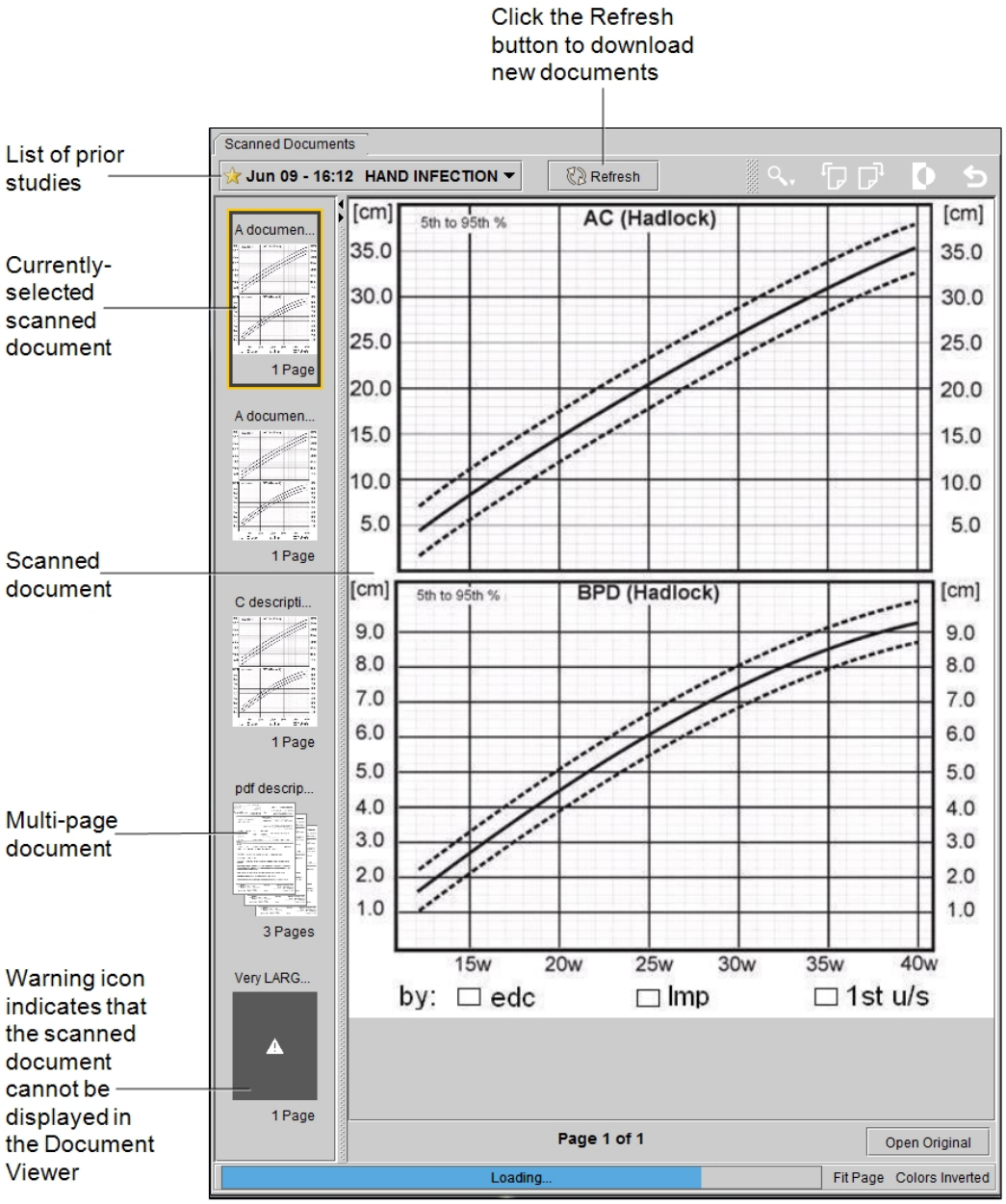
Viewing Scanned Documents

In the Document Viewer, you can view scanned documents that are associated with an order, such as requisitions and consent forms stored in IntelePACS, InteleRIS, Pro Medicus, Fuji Synapse, Streets Heaver's Compucare, and Comrad Medical Systems's COMRAD RIS and Aura RIS. You can also view the scanned documents for all priors associated with the current order.

To use this feature, ask your PACS administrator to enable the View Scanned Documents privilege in your user account.

You can set the Document Viewer to display only documents of specific types, such as HISTORY SHEET and SCRIPT. If you would like to limit the type of documents that appear in the Document Viewer, have your PACS administrator contact Intelerad Technical Support to filter out the unwanted document types.

The Document Viewer window does not appear when InteleViewer is in De-identification mode.



In the Document Viewer, you can view Adobe Portable Document Format (PDF) files and scanned documents saved as the following image files:

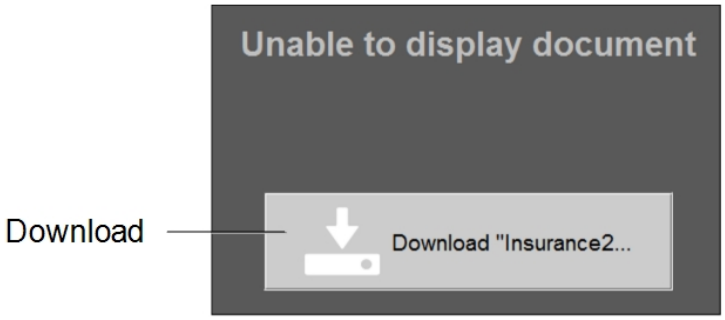
- PNG
- JPEG
- BMP

- GIF
- TIFF (including multipage TIFF)
- JPEG 2000

Your IntelePACS may be configured to also show DICOM scanned documents in the Document Viewer. Otherwise, you can view a DICOM scanned document as a regular series image in the viewports.

The Document Viewer displays *document thumbnails*, which are miniature previews of the pages in the scanned documents. Click a thumbnail to open the first page of that scanned document. If the selected order or accession number contains a Requisition document, that document's thumbnail appears first in the Document Thumbnail pane.

For unsupported document types, an empty document thumbnail appears with a warning icon.



The label at the top of the thumbnail indicates the type of the document (such as Requisition, Insurance, or HIPAA form), shortened title, or its number in the series of documents for the order (such as “Document#2”). You can also hover your mouse cursor over a document to display the full title.

The label at the bottom of the thumbnail indicates the number of pages. A question mark (?) indicates that the page count information is unknown. The word “loading” appears when the document is not yet fully loaded.

If the scanned documents associated with the selected order or accession number are stored on different InteleRIS, Pro Medicus, or Fuji Synapse instances and InteleViewer encounters a problem trying to connect to one of the instances, the status bar displays a warning icon and an error message indicating that there is a connection error and that some of the documents may be missing.

You can use the following tools to manipulate scanned documents:

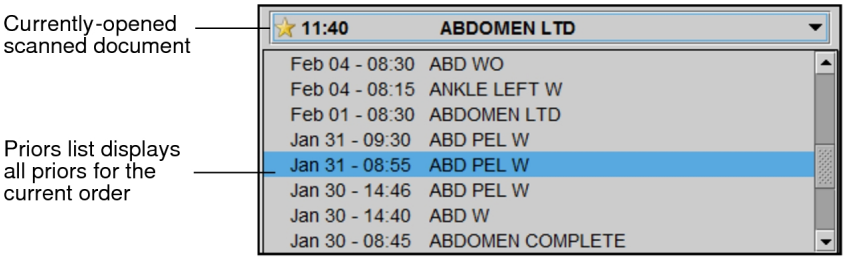
Click:	To:
	Choose the magnification of the documents: Fit Page (default), Fit Width, Fit Height, Actual Size, 50%, 150%, or 200%.
	Rotate the current page left or right in 90-degree increments.
	Inverts the text and background colors for the document.
	Revert the documents to their original magnification, orientation, and color settings.

To view scanned documents:

1. From the worklist or the Search tool, open the order that contains the scanned documents that you want to view.

   If you have your Document Viewer preferences set to open the Document Viewer automatically, the Document Viewer appears when you open the order.

2. If necessary, click Show Scanned Documents in the Patient Record tab.
3. To view the scanned document for a prior study, in the Document Viewer, select the prior study in the list.



4. To view scanned documents associated with an aliased study or a linked study that is not the leading order, select the study from the Document Viewer's prior studies.
5. To view the scanned document, click a document thumbnail.
6. To download the original document and open it in the application in which it was originally created, click the Download link for unsupported document types .
7. To navigate between pages in a multi-page document, use the navigation arrows underneath the scanned document.

   If the Zoom mode is set to Fit Page, you can use the mouse wheel to scroll between documents or between pages in a multi-page document.

8. To manipulate the scanned document, use the tools in the Document Viewer .

9. To close the Document Viewer window, click the “x” button in the top right corner of the window. To reopen the Document Viewer, click Show Scanned Documents in the Patient Record tab.

See Also

Document Viewer Preferences 102

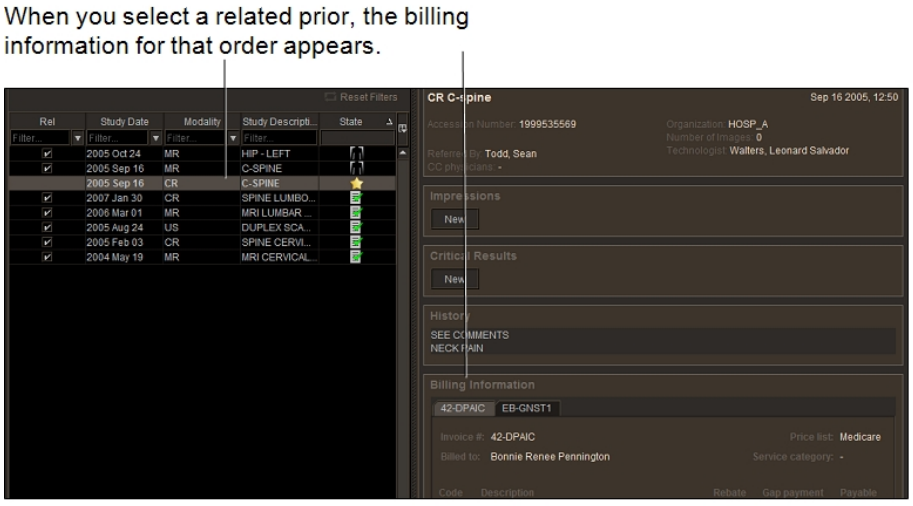
Viewing Billing Information

To ensure that billing information is accurate, you can view the invoices for an opened order in the Billing Information panel of the Patient Record tab. The billing information appears as read-only. When a field has a hyphen instead of an amount, this indicates that the information is not available from the RIS. The totals, if available, are also provided by the RIS. You can also view the billing information for selected prior orders.

If you notice that billing information in an invoice is incorrect, incomplete, or missing, you can send a comment to the billing administrator to have the information corrected.

To view the billing information and to send comments to the billing administrator, your IntelePACS must be integrated with the source of the billing information. For more information, contact your Client Success manager.

To view billing information, ask your PACS administrator to enable the View Patient Billing Information privilege in your user account.



To view billing information for an order:

1. From the worklist, open an order.
2. Click the Patient Record tab for that order.
3. Locate the Billing Information section.

   If there is more than one invoice for an order, each invoice is displayed in a separate tab.

4. To view the billing information for related priors, select an order from the priors list.
5. To send a comment to the billing administrator, type your comment in the Comments field, and then click Send.

Linking Orders

You can link orders with a third-party dictation system one of two ways. You either perform all the order linking from InteleViewer by using the Order Linking Selection dialog from the Worklist tab or you disable order linking in InteleViewer and perform all the order linking from the third-party dictation system.

You can link several orders from the same patient and read them as a batch to create a single report by using the PowerScribe, Fluency for Imaging, or Multi-Method Reporting dictation system. For example, a breast ultrasound and a mammogram are performed on the same patient within the same time frame, resulting in the creation of two separate orders on the RIS.

In the Multi-Method Reporting dictation system, you can link both the current orders and any of the patient's priors, and then dictate them together to create a single report. You can then send the report to the patient's referring physician, resulting in a more efficient dictation workflow.

Another situation where you would want to link several orders from the same patient is because of billing practices. For example, you have a CT scan of the chest, abdomen, and pelvis where the images are under one study, but for billing you need to create three separate orders. You can link the three orders, and dictate them together to create a single report.

To link orders, they must meet the following criteria:

- Be completed orders with the same patient ID. An order that was in the "In Progress" state in IntelePACS will be promoted to the "Completed" state if another

order with that same patient ID is in the Completed state. Therefore, both orders will appear as orders that you can link together.

- Not be locked.
- Not be reserved by another user.
- Not be part of an existing batch read.
- Have the same visit number if your IntelePACS is configured to restrict order linking to orders with the same visit number as the leading order.

If several orders meet these requirements, then the Order Linking Selection dialog appears with a list of the orders that can be linked.

If you use the double reading workflow, and you select an order from the Order Linking Selection dialog, all the linked orders become double reading orders if one of those orders was scheduled for double reading. If the linked double reading orders have different second readers, the radiologist assigned to the lead order is assigned to all of the linked orders.

If a linked study, which is not the leading order, is associated with a scanned document, you must select the study from the Document Viewer's prior studies list to view the document.

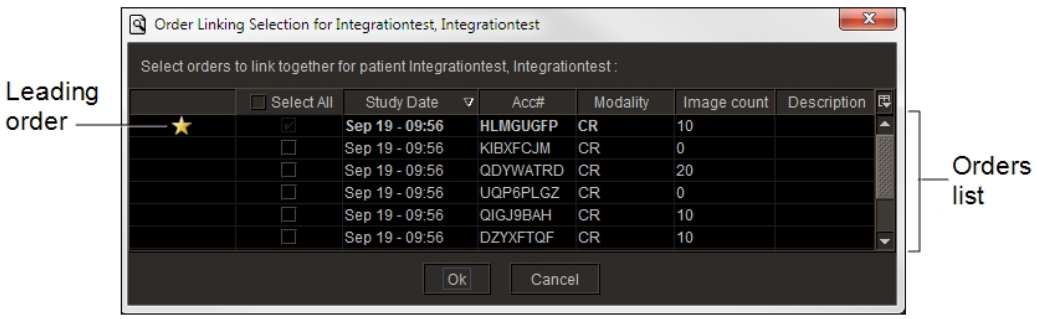
To link orders:

1. On the Worklist tab, click the Ready tab, and then open the order that you require.

   A message may appear indicating that order linking is being initiated and that InteleViewer is searching for order linking candidates. When this operation is completed, the Order Linking Selection dialog appears.

   The order that you just opened appears with a yellow star icon ★ in the list. This order is referred to as the leading order.

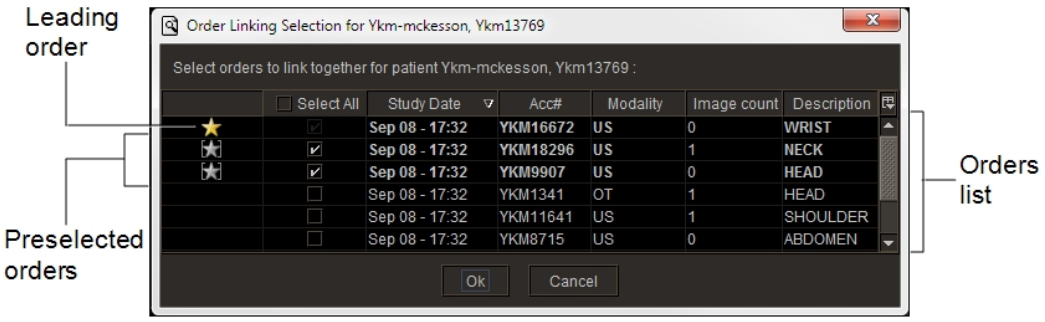
Order Linking Selection dialog



Some orders that originate from a third-party PACS, such as a McKesson PACS, may appear with preselected orders in the Order Linking Selection dialog. This occurs when, for example, a single order includes images of multiple body regions for the same patient, but there are additional orders associated with aliased studies that refer back to the leading order that contains the images. In such cases, multiple star icons appear in the list. A yellow star icon represents the leading order, and a gray star icon represents the preselected orders.

Once you have selected orders for linking in InteleViewer and saved a draft report, you cannot change the linking or add or remove orders from it. The only way to change the linking is to discard the current report from InteleViewer. Once the report is discarded, you can reopen the leading order and make your desired changes.

Order Linking Selection dialog (with preselected orders)



2. To choose what to display in the orders list, click the filter menu button and then select one or more options from the menu that appears.

   By default, the orders list displays the study date, modality, study description, image count, and accession number.

   The orders list preferences roam with the general profile.

3. For preselected orders, do one of the following:

   - To read the orders as a batch to create a single report, keep the checkbox next to the orders selected.
   - To dictate a subset of the orders, clear the checkbox next to the order(s) that you do not want to read.

   You can link preselected orders with other IntelePACS orders.

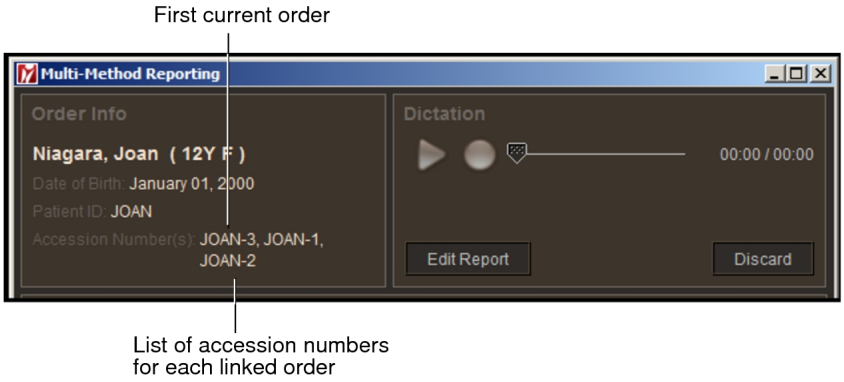
4. To link orders, do one of the following:

- To link an order, select the checkbox next to the order.
- To link all orders, enable Select All.

5. Click OK.

If you are using Multi-Method Reporting, the Multi-Method Reporting window appears, displaying the accession numbers of the linked orders. A template is automatically selected for the leading order based on template matching rules. If InteleViewer cannot match an appropriate report template to the leading order, then it matches the default template to the order.

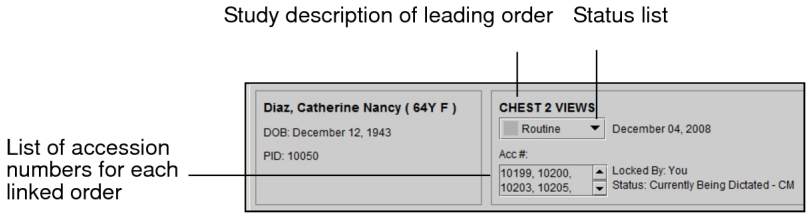
Linked Orders (in the Multi-Method Reporting window)



Once the communication is established, a Patient Record tab appears for all the linked orders, the images for the leading order are displayed in the viewports, and all the linked orders are locked for your use and cannot be dictated by other radiologists.

Detailed patient information, impressions, and history for the leading order appear in the Current Order panel. The Accession Numbers list displays the accession numbers of the linked orders with the leading order appearing at the beginning of the list.

Linked Orders (in the Patient Record tab)



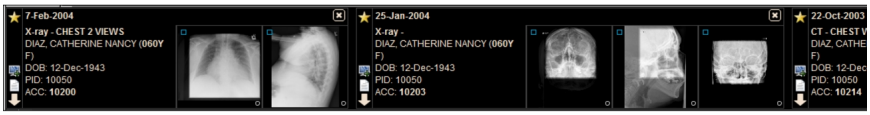
The Patient Record tab displays the priority level of the linked order with the highest priority. If you change the priority level from the Status list, InteleViewer changes the priority level for all the linked orders.

In the Patient History panel, each linked order is displayed separately and a yellow star icon appears in the State column.

If the Thumbnail strip is displayed, the thumbnail images for each linked order are separated with a star icon.

If you use aliased studies in your workflow, and you are not currently reading the aliased study, the thumbnail for the aliased study appears with a gray star icon. For more information, see “Using the Alias Studies Panel" (page 447).

Three linked orders in the Thumbnail strip



6. To lay out the images of a linked order, in the Thumbnail strip, click the Load Study button for the linked order.

   The corresponding images are displayed in the viewports.

   If your IntelePACS is configured with advanced layout management, any matching layout or sequence protocols are also applied to the leading order. Otherwise, the default modality preferences are applied to the order.

7. To navigate between linked orders in the group, in the Thumbnail strip, do one of the following:

Press:	To view:
PAGE DOWN	The next linked order in the same viewport.
PAGE UP	The previous linked order in the same viewport.
LEFT ARROW	The previous linked order in all viewports. If a sequence protocol is available, press the **LEFT ARROW** key to move to the previous reading step in the sequence protocol.

Press:	To view:
RIGHT ARROW	The next linked order in all viewports. If a sequence protocol is available, press the **RIGHT ARROW** key to move to the next reading step in the sequence protocol.

8. Do one of the following:

   - Dictate and sign the report.
   - Dictate with Multi-Method Reporting. See “Dictating a Report" (page 665).

   Once your dictation is complete, each linked order appears in a separate row in the Dictated tab.

See Also

Editing Template Matching Rules 694
Using the Alias Studies Panel 447

Copying and Pasting Worklist Data

When you select an order in the Worklist tab or in the Patient History panel, information can be copied to the Windows system clipboard and then pasted into any other application. Only the information from columns that are being displayed is copied; information in any hidden columns is not.

To copy and paste worklist data:

1. In the worklist, select one or more orders and then press **CTRL+C**.

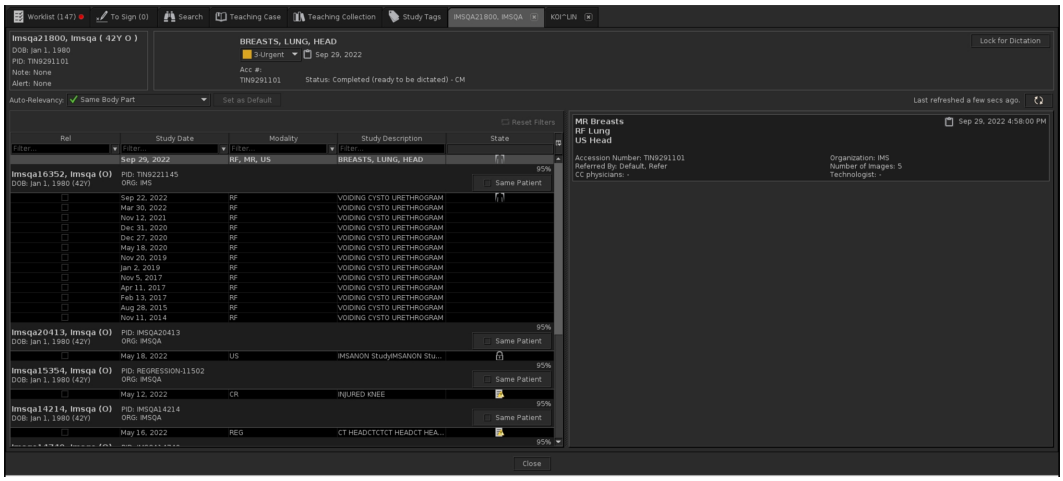
   Information from the selected order is copied to the system clipboard.

2. Choose the application in which you want to paste the information.
3. Press **CTRL+V**.

   The data from the selected order is pasted as a tab-delimited row.

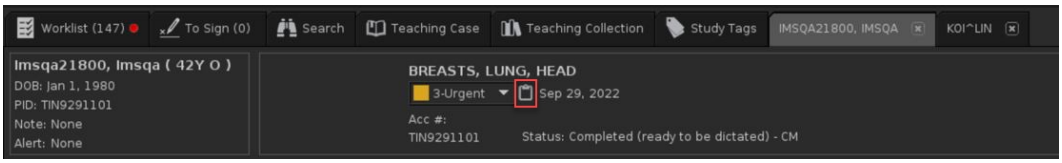
Copying and Pasting Order Information

When you open an HL7 order in the Patient Record tab, patient order information can be copied to the windows system clipboard and then pasted into any other application.

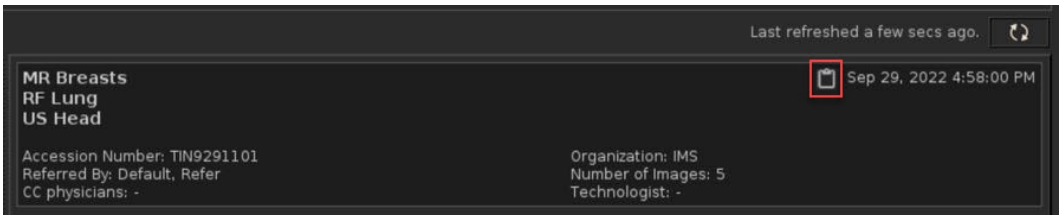


To copy and paste order information:

1. In the worklist, select one or more orders.
2. Do one of the following:
    a. Click on the “Copy to clipboard” icon displayed on the Patient Record tab page on the top panel, if you want to copy order information of single order.

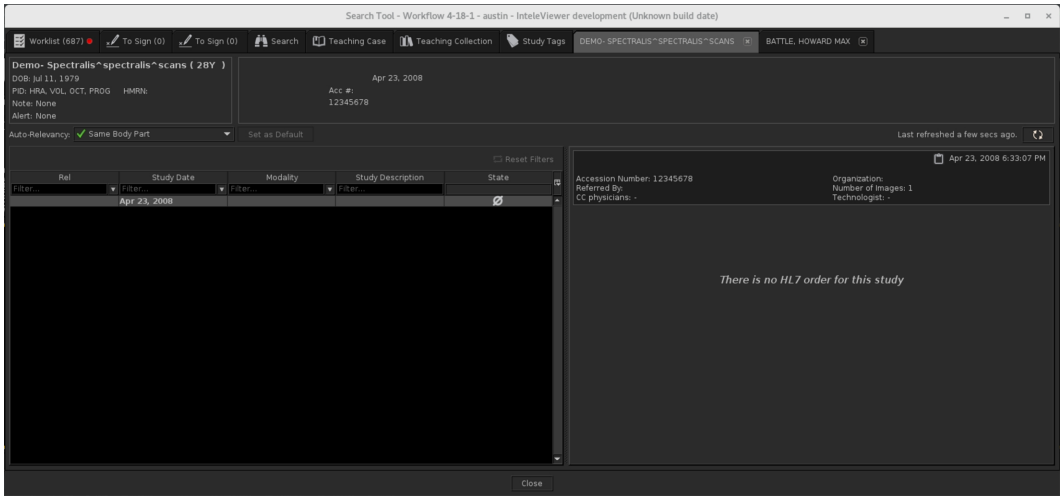


    b. Click on the “Copy to clipboard” icon displayed on the Patient Record tab page on the right top (below the refresh), if you want to copy order information of linked orders.

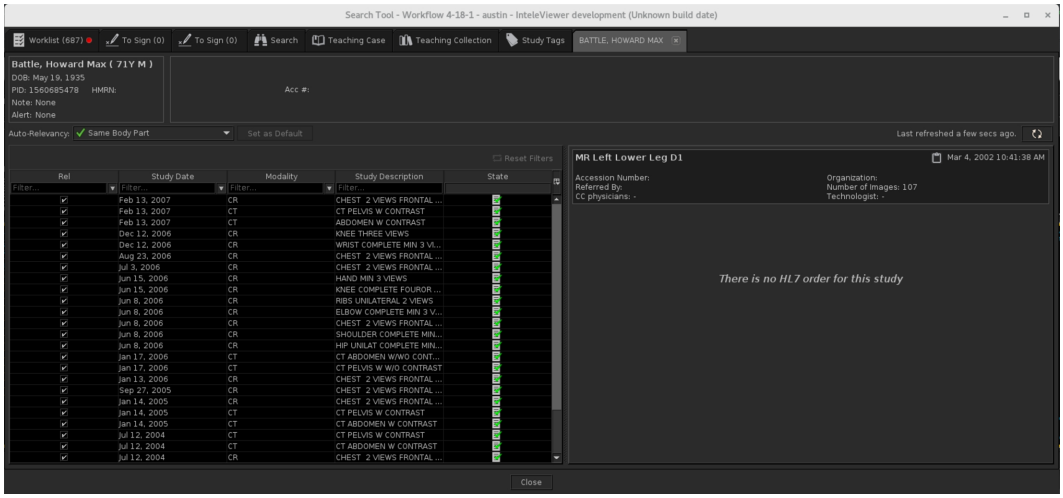


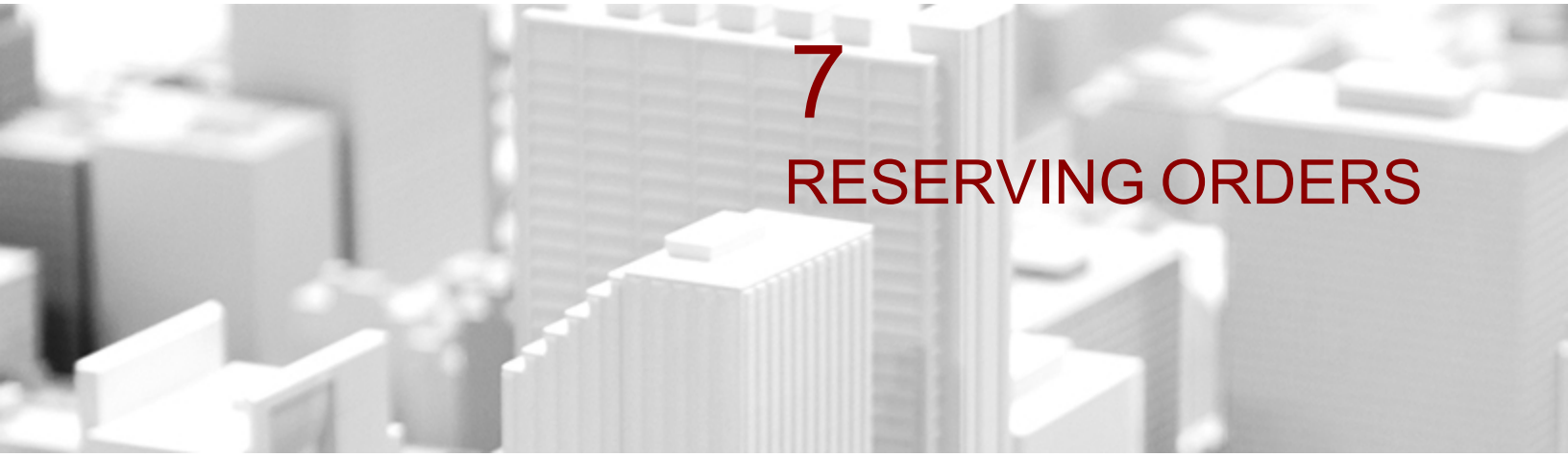
The “Copy to clipboard” icon has a tooltip: Copy to clipboard: Acc#, Study Description(s), and Date.

3. Information from the selected order/linked orders is copied to the system clipboard. Only the information listed below can be copied and pasted:
    a. Accession Number
    b. Study Description
    c. Study Date
4. Choose the application in which you want to paste the information.
5. Press **Ctrl+V**.
6. The information is pasted into the selected application.
7. The pasted information has the following format:
    - [Acc #]
    - [Study Description(s)] [Study Date]
8. If a patient study does not have an HL7 order, the “Copy to clipboard” icons are still available for studies that have either an Accession Number or a Study Description.
    - Study with Accession Number and no Study Description:



- Study with Description and no Accession Number:





7
RESERVING ORDERS

This chapter contains all the information you need for reserving orders for yourself or for another radiologist.

In this chapter:

About Reserving Orders 337

Reserving Orders 337

Reserving Orders for Other Radiologists 338

Unreserving Orders 339

About Reserving Orders

You can reserve orders for yourself or for another radiologist. There is no limit to the total number of orders that you can reserve. Other users can still view reserved orders in their worklist. Your workflow may have worklist managers; users who have special privileges that allow them to manage reservations for others. Worklist manager privileges are usually assigned to head radiologists or PACS administrators.

To reserve an order for yourself, ask your PACS adminstrator to enable the Reserve Items in Dictation Worklists privilege in your user account. To reserve an order for other radiologists, your user account must be assigned the Manage Reporting Worklists privilege.

By default you can reserve an order for 6 months, until you either dictate it or unreserve it. This time period is configurable and may vary for your workflow. After this time period elapses, your reservation is removed and the order is available for other users to dictate. By default, orders that are reserved and locked by other users appear in your worklist; however, you can filter the worklist by enabling or disabling the Show Locked Orders check box.

⚠ The orders that you reserve for yourself may be unreserved by a worklist manager at any time.

As soon as you reserve an order for yourself, the images are automatically retrieved to your workstation via prefetching. You can view the progress by observing the data in the Image Count column if your site is configured to query local image counts. The first number indicates the number of images on your local workstation. The second number indicates the number of images on the IntelePACS.

Reserving Orders

You can reserve orders though the worklist.

To reserve orders:

1. In the worklist, search for the orders that you require. See “Filtering the Worklist" (page 276).
2. Select an order and press **CTRL+R** or right-click it and choose Reserve.
3. To select multiple orders, **CTRL**-click each one. To select a range, click the first and then **SHIFT**-click the last one in the range.

A hollow star icon appears, your user name appears in the Owner column, and “dictate-reserved’ appears in the Lock State column to indicate the selected orders are reserved. They remain reserved for you until you dictate them, choose to unreserve them, or the default reservation duration elapses.

The images for the reserved orders are automatically prefetched to your workstation, if required.

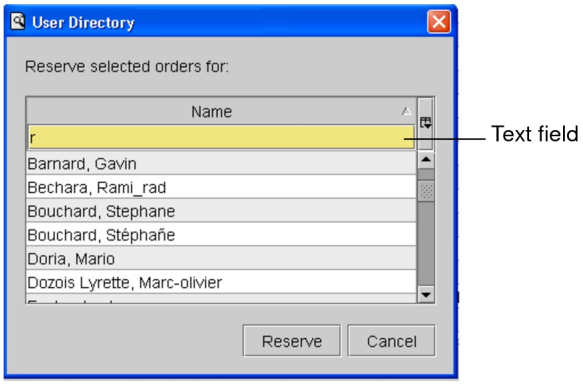
You can view the upload progress in the Image Count column. The Image Count column is updated with the local image count every few minutes, but you can refresh information for individual entries by clicking on the order of interest in the worklist.

Reserving Orders for Other Radiologists

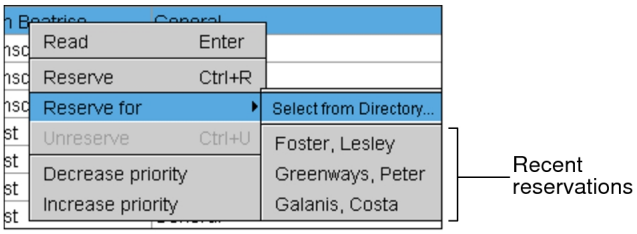
You can reserve orders for other radiologists from the worklist.

When reserving order(s) for other radiologists, you are given the option of selecting from the most recent reservations or from the User Directory.

The User Directory dialog contains a list of all users who have the necessary dictating privileges and assigned user credentials for the orders that you selected. If you are reserving several orders at once, and each of them require different credentials, only radiologists that have all the credentials for all of the orders are displayed in the User Directory.



InteleViewer records the last five radiologists for whom you made a reservation and displays them in the menu for reserving orders.



The names of the last five radiologists with a reservation roam with the general profile.

To reserve orders for another radiologist:

1. In the worklist, right-click an order and then do one of the following:
   - Select Reserve For and choose Select from Directory.
   - Select Reserve For and then select one of the recent reservations.
2. To search for a radiologist in the list, do one of the following:
   - Type letters in the text field. You can search by first and by last name and user name (if the User Name filter is selected).
   - Use the up or down arrow keys on your keyboard to move through the list.
3. When you find the name of the radiologist, do one of the following:
   - Click Reserve.
   - Press **ENTER**.
   - Double-click the name of the radiologist.

   The order is now reserved for the radiologist you selected. Depending on your user privileges, you might see indications that the order is reserved for the radiologist you selected. If this is the case, a Lock icon appears, the name of the radiologist appears in the Owner column, and “dictate-reserved” appears in the Lock State column to indicate the selected order is reserved.

   The user name you selected now appears in a new menu item which enables you to reserve additional orders for the same user quickly. Once you’ve chosen a new user, the name of the new user replaces the previous name in the menu item.

Unreserving Orders

You can unreserve orders through the worklist.

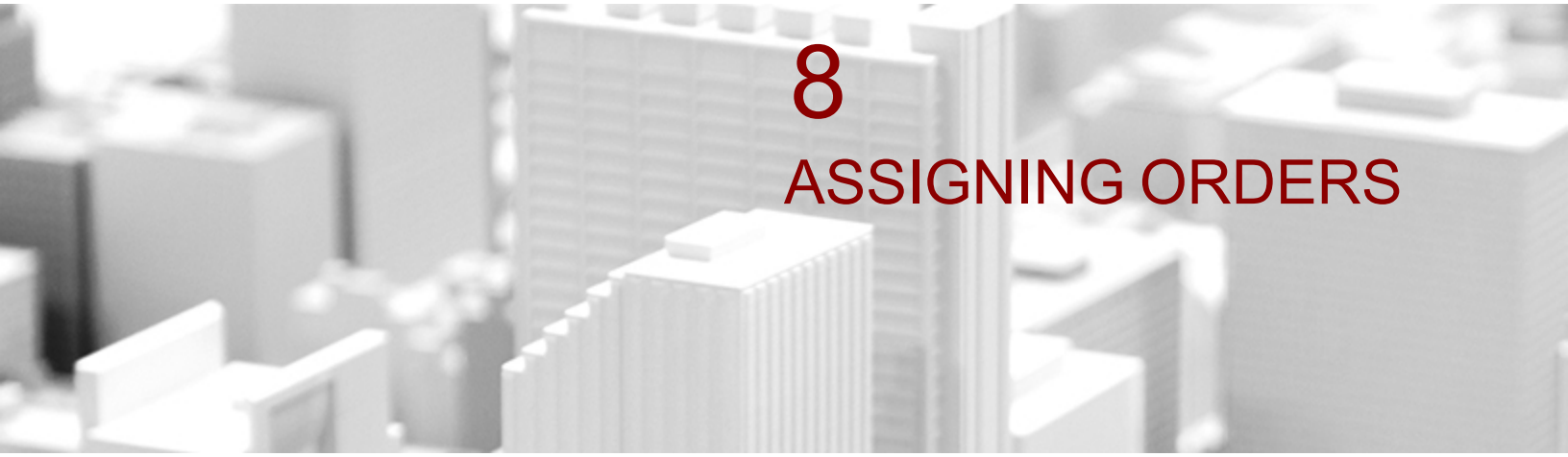
To unreserve orders:

1. In the worklist, find the reserved orders. These are indicated by a Lock icon .

   You can unreserve only your own orders, not those of other users, unless you are a worklist manager.

2. Select an order and press **CTRL+U** or right-click it and choose Unreserve.
3. To select multiple orders, **CTRL**-click each one. To select a range, click the first and then **SHIFT**-click the last one in the range.

   The reservation is removed from the selected orders, and the Lock icon is removed. The orders are now available for any user with the proper privileges and credentials to dictate.



8 ASSIGNING ORDERS

InteleViewer uses an intelligent and customizable Assignment Engine that works in the background to identify and assign orders to the best-suited reading radiologists.

In this chapter:

About Assigning Orders 343

Understanding the Reading Slot Assignment Workflow 344

Understanding Workload Assignments 346

About Reading Slots 348

Assigning Orders Q&A 355

About Assigning Orders

In a reading slot assignment workflow, radiologists are assigned a reading slot that they occupy for every work shift. Depending on the reading slot being occupied, radiologists can read orders from different specialties. For example, a radiologist occupying a mammography reading slot can read mammography orders.

The reading slot assignment workflow uses the Intelerad Assignment Engine (IAE) to automatically assign an order to the best-suited reading radiologist occupying a reading slot that corresponds to the order's specialty. The assigned order appears in the radiologist's worklist in InteleViewer.

In order for the IAE to assign the order to the best-suited reading radiologist, your PACS administrator must configure Study Classifier to define the RIS feeds, normalize the data, assign attributes, set up the reading groups, and set up the reading slots that will be occupied by radiologists during all work shifts. For more information, contact your PACS administrator.

A radiologist would typically follow this process to read orders in a reading slot assignment workflow:

- It is 8 AM on February 12, the start of Dr. Janet West's work shift who is an echocardiography specialist at Total Lynham Radiology.
- Dr. West logs in to InteleViewer and selects her assigned reading slot, Echo1, in the Reading Slot Selection window.
- InteleViewer starts and Dr. West's worklist is populated with echocardiogram orders assigned to her by the IAE.
- Dr. West selects and starts to read orders until 4:30 PM, the end of her work shift.
- Dr. West logs out of InteleViewer.
- The IAE stops assigning orders to Dr. West.

See Also

Understanding Workload Assignments 346
Understanding the Reading Slot Assignment Workflow 344

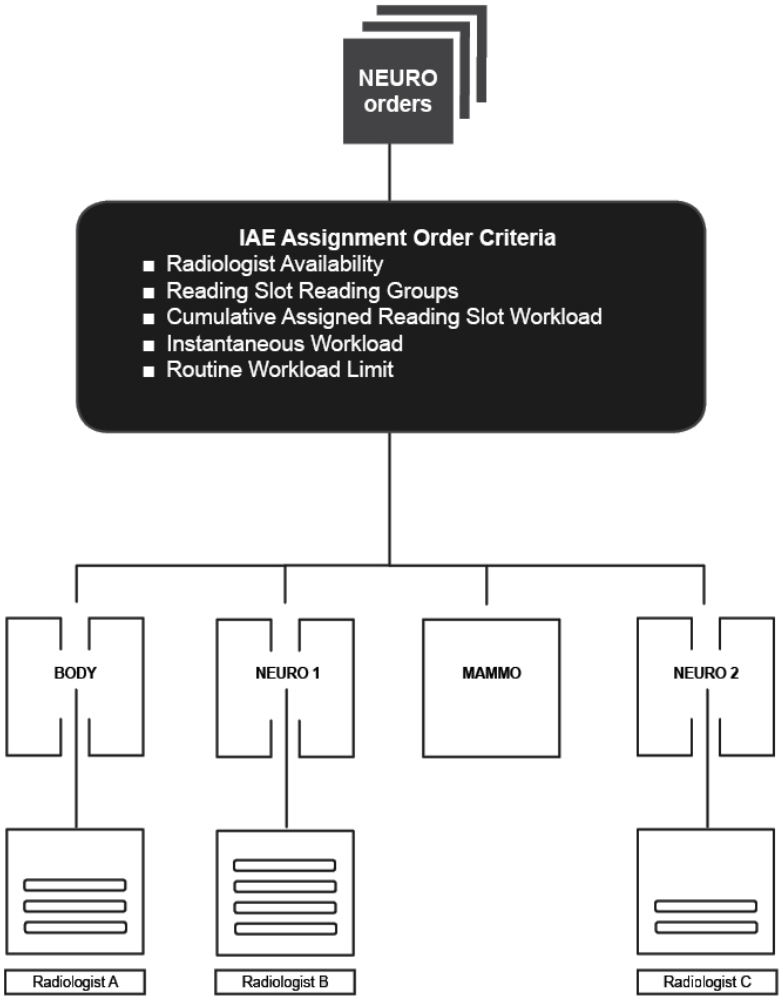
Understanding the Reading Slot Assignment Workflow

When your site is configured to use the reading slot assignment workflow, you first need to understand the big picture. Before delving into the details of how the IAE determines the best-suited radiologist to read an order, you need to grasp the general concepts:

- What does the high-level workflow look like?
- Which steps are involved?
- What do these steps do?

For a breakdown of a typical reading slot assignment workflow, see the *Reading Slot Assignment Workflow Cheat Sheet* in the Intelerad Service Portal.

The driving force behind the workflow is the IAE, an intelligent and customizable module that works in the background to determine the best-suited radiologist to assign to read an order.



InteleViewer

When determining the best-suited radiologist, the IAE uses the following criteria to determine order assignments:

Radiologist Availability—Those radiologists that are logged in to InteleViewer with an active session, and occupying a reading slot for a valid time period.

Reading Slot Reading Groups—The reading group properties of the selected reading slot as configured by the PACS administrator. The IAE assigns orders to radiologists that have selected reading slots with matching reading group associations.

Cumulative Assigned Reading Slot Workload—The total quantity of work automatically assigned by the IAE and manually assigned by a technologist to a radiologist occupying the corresponding reading slot over the course of a work-shift

period. Dictated orders have no impact on the cumulative assigned reading slot workload.

Instantaneous Workload—The total quantity of STAT order work that is currently assigned to a radiologist. The IAE assigns a STAT order to the radiologist with the lowest instantaneous workload level.

In the case of routine orders, the IAE will use the instantaneous workload to balance routine order assignments among eligible radiologists if the cumulative assigned reading slot workload levels associated with those eligible radiologists are not sufficient to identify a best-suited radiologist.

Routine Workload Limit—The workload limit threshold of the number of routine orders that can be assigned to a radiologist. By default, the routine workload limit is 5 RVUs. To change the routine workload limit, contact the Intelerad Technical SupportCenter.

The IAE combines all the above criteria to determine the final radiologist assignment. In doing so, some criteria will take precedence over others. For example, the IAE considers the cumulative assigned reading slot workload before the instantaneous workload when computing the assignment of routine orders.

A technologist can override the assignment of an order by the IAE via the Technologist Portal. For example, Tom Rodin, a technologist at Total Lynham Radiology, knows that prostate orders can only be read by Dr. Grant. When Tom performs a prostate exam and checks the quality of the images, he manually assigns the order to Dr. Grant. The prostate order appears in Dr. Grant's worklist, where he can start to read the order.

The IAE handles technologist order assignments as permanent assignments and cannot reassign a manually assigned order. A technologist can undo an automatic order assignment, in which case, the order will be eligible for assignment by the IAE.

See Also

Understanding Workload Assignments 346

Understanding Workload Assignments

In a reading slot assignment workflow, the IAE uses workload metrics to ensure that the assignment of orders is equally and fairly balanced among available radiologists.

In order for the IAE to balance the order assignment workload effectively, radiologists must be logged in to InteleViewer and occupying their reading slots for the majority of their work shifts.

These examples illustrate a few situations that show how the IAE ensures that the assigned workload is equally and fairly balanced among available radiologists.

- Dr. Bowlan, who is occupying the Body1 reading slot, logs out of InteleViewer for a long period of time and then logs back in and selects the Body1 reading slot. Since his workload is behind that of other radiologists, the IAE assigns orders progressively to Dr. Bowlan to balance the workload.
- Dr. Simpson, who is occupying the Mammo2 reading slot, which has a workload value of 8.4 RVUs, logs out of InteleViewer. The IAE saves Dr. Simpson's workload information. After two hours, Dr. Simpson logs back in to InteleViewer and selects the Mammo2 reading slot. The IAE will account for Dr. Simpson's assigned workload deficit for all subsequent routine mammography order assignments until the deficit is resolved.
- Dr. Gordon's workload is ahead of all the other radiologists. He leaves for a meeting and after one hour returns from the meeting. He is still ahead of all the other radiologists. The IAE continues to assign orders to the other radiologists to balance the workload.

To ensure that the workload is divided equally and fairly, the IAE uses the cumulative assigned reading slot workload, the instantaneous workload, and the routine workload limit. All of the workloads are measured in Relative Value Units (RVUs) by default. To change the workload unit, contact the Intelerad Technical SupportCenter.

These examples illustrate a few situations of how assigned workload levels are accumulated and maintained by reading slots:

- The IAE assigns a brain MRI order to Dr. Walters who is occupying the Neuro1 reading slot. The Neuro1 reading slot will accumulate the workload associated with the brain MRI order. If a technologist reassigns the brain MRI order to Dr. Boland, who is occupying the Neuro2 reading slot, then the cumulative workload for the brain MRI order will be transferred to the Neuro2 reading slot.
- Dr. Jones who is occupying the Mammo3 reading slot logs out of InteleViewer. Dr. Williams logs in to InteleViewer and selects the Mammo3 reading slot. Dr. Williams will be recognized as having the cumulative workload level associated with the Mammo3 reading slot for assignment purposes. If Dr. Jones is not logged in to InteleViewer and has not selected an available reading slot, then any orders

manually assigned to Dr. Jones by a technologist will not be accounted for with respect to cumulative workload levels.

The IAE assigns a routine order to the radiologist whose cumulative workload level would yield the most improvement to the overall cumulative assigned reading slot workload balance across all eligible radiologists.

If several reading slots have partially overlapping reading group associations, the IAE uses this criteria to balance the cumulative assigned reading slot workload levels across all eligible radiologists.

Within an equivalent group of reading slots, the IAE balances the total work assigned to each occupied reading slot by distributing routine orders based on cumulative assigned reading slot workload levels.

If a radiologist dictates an order that is assigned to another radiologist or reserves an order for another radiologist, the cumulative assigned reading slot workload will not be transferred to him or her.

Orders manually assigned by a technologist are counted toward the cumulative assigned reading slot workload levels if the assigned radiologist is occupying a reading slot for the current work shift when the order is manually assigned.

See Also

Understanding the Reading Slot Assignment Workflow 344

About Reading Slots

Reading slots associate radiologists with reading groups. A reading slot is comprised of the following attributes: a name, zero or more reading groups, and workload availability. The IAE uses this information to automatically assign orders to the best-suited reading radiologist occupying a reading slot that corresponds to the order's reading group.

For example, if a routine CT Head order arrives, the IAE will search for the order's procedure code and match it to the appropriate reading group as configured by the PACS administrator. In this case, the IAE matches the CT Head order to the Neuro reading group. The IAE then searches for the reading slots associated with the Neuro reading group, and assigns the order to the first available radiologist, occupying a Neuro reading slot and whose workload allows room for him or her to read the order.

The workload availability of a reading slot indicates the percentage of the workload that the reading slot is capable of receiving during a given work shift. This is useful if some radiologists have other arrangements and are not responsible for reading as many orders from the IntelePACS. For example, a radiologist who spends 60% of her work shift reading orders for a hospital with an IntelePACS and 40% of her work shift performing administrative tasks, would need to occupy a reading slot where the workload availability is set to 60%. For more information, contact your PACS administrator.

When a reading slot is associated with several reading groups, a radiologist may be assigned to read orders from different specialties. For example, a radiologist occupying a reading slot that is associated with the Echo and Neuro reading groups may be assigned to read echo and neuro orders.

When a reading slot is not associated with a reading group, a radiologist may read orders that are not assigned to any radiologist. In this case, the IAE will not assign any orders to a radiologist occupying such a reading slot. This can be useful if, for example, a radiologist works the night shift and reads only STAT orders that are not assigned to any radiologist. Another example is a supervisor or an off-duty radiologist that wants to log in to InteleViewer and monitor the worklist and selectively help to read orders.

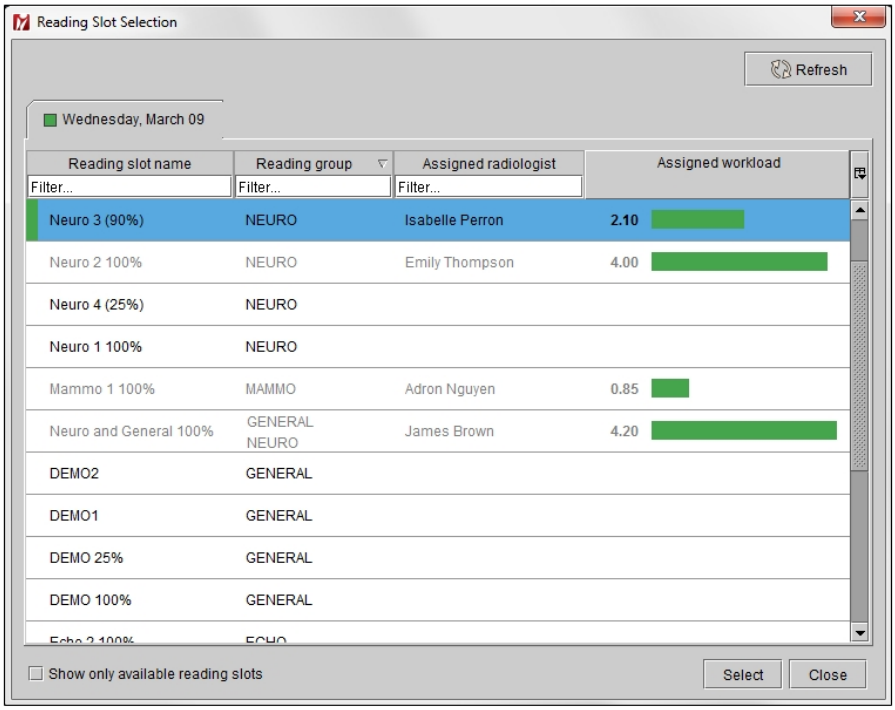
See Also

Viewing Workload Assignments for Reading Slots 355
Changing Reading Slots 354
Selecting Reading Slots 353
Customizing the Column Layout 352
Understanding the Reading Slot Selection Window 349

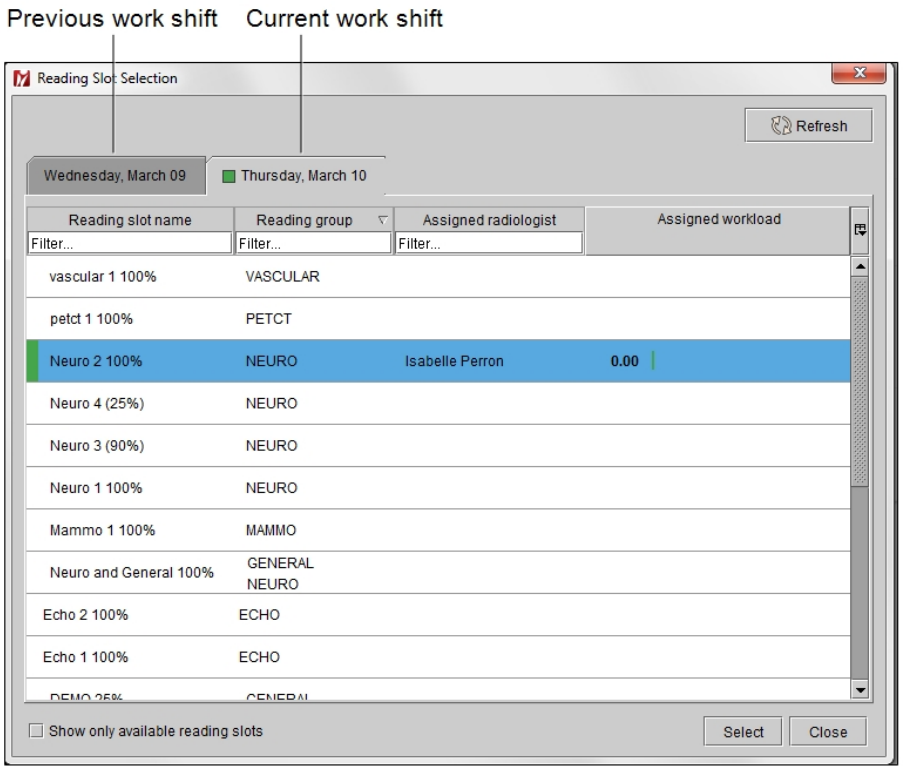
Understanding the Reading Slot Selection Window

The Reading Slot Selection window displays a list of all reading slot allocations for a 24-hour work shift schedule.

The start of a work shift is configurable and may vary for your workflow. For example, if the work shift starts at 12 AM and ends at 12 AM, then a radiologist starting his or her work shift at 8:30 AM and another radiologist starting his or her work shift at 8:30 PM will both see one tab in the Reading Slot Selection window that shows the date of the current work shift, along with the reading slot allocations for that date.



If the work shift starts at 8 PM and ends at 8 PM the next day, then a radiologist starting his or her work shift at 8:30 AM on March 9 will see one tab in the Reading Slot Selection window that shows the date of the current work shift, along with the reading slot allocations for that date. However, a radiologist starting his or her work shift at 8:30 PM will see, until 11:59 PM, two tabs in the Reading Slot Selection window where the first tab shows the date of the previous work shift, March 9, and the second tab shows the date of the current work shift, March 10. At 12 AM, the radiologist will see one tab in the Reading Slot Selection window that shows the date of the current work shift.



To change the start and end times of the IAE reading slot allocations, contact the Intelerad Technical SupportCenter.

In the Reading Slot Selection window, reading slots that are occupied by radiologists appear in gray and cannot be selected. A radiologist can occupy only one reading slot at any given time during the same work shift.

The Reading Slot Selection window also displays columns that provide radiologists with information about the reading slots. You can view the following columns and use the following filters in the window.

The filters are case-insensitive. For any given filter, you can enter a partial sequence to search for reading slots, reading groups, or assigned radiologists that begin with that sequence, or leave the filter blank to search for all reading slots, reading groups, or assigned radiologists.

Reading Slot Name—Displays the name of the reading slot. To filter by reading slot name, enter text in the field.

Reading Group—Displays one or more reading groups to which this reading slot is assigned. To filter by reading group, enter text in the field.

Assigned Radiologist—Displays the name of the reading radiologist who is currently occupying this reading slot. To filter by assigned radiologist, enter text in the field.

Assigned Workload—Displays the workload (in RVU units) automatically assigned by the IAE and manually assigned by the technologist to this reading slot.

See Also

Customizing the Column Layout 352

Customizing the Column Layout

You can resize, hide, display, sort, and customize the position of any of the columns in the Reading Slot Selection window. By default, the columns in the window are sorted by the reading slot name in ascending order.

The column settings in the Reading Slot Selection window roam with the general profile.

To show and hide columns:

1. Click the Column menu or right click anywhere in the column heading.

   All available columns appear, and a check mark next to a column name indicates that it is currently being displayed.

2. Select a heading to show or hide the column.

To resize columns:

1. Place your cursor over the column heading, near the divider between columns.

   The cursor changes to indicate you can resize it.

2. To resize the column, do one of the following:

Do this:	To:
Drag Left	Reduce the column width.
Drag Right	Increase the column width.
Double-click	Automatically adjust the column width to match the widest element.

3. To automatically adjust the width of columns to match the widest element, click the Column menu and choose Pack All Columns or Pack Selected Column.

To change column position:

1. Click the heading of the column whose position you want to change and drag it to the new position.
2. When you reach the required column position, release the mouse button.

   The column is moved to the selected location.

To display a horizontal scroll bar:

- Click the Column menu and choose Horizontal Scroll.

  The horizontal scroll bar appears at the bottom of the Reading Slot Selection window.

See Also

Understanding the Reading Slot Selection Window 349

Selecting Reading Slots

A chief radiologist typically uses a scheduling program to create a schedule that specifies the reading slot allocations for each radiologist for all work shifts. The radiologists then select their assigned reading slots accordingly in InteleViewer. When a radiologist selects his or her assigned reading slot for the current work shift, the IAE automatically starts to assign orders in the worklist.

To select a reading slot:

1. Log in to InteleViewer.

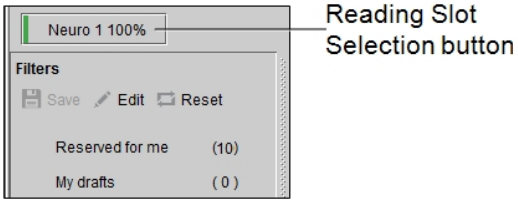
   The Reading Slot Selection window appears.

2. To display only the unoccupied reading slots, enable Show Only Available Reading Slots.
3. To see if the occupancy of reading slots has changed, click the Refresh button.
4. To select the reading slot assigned for your current work shift, do one of the following:

   - Double-click the required reading slot in the list.
   - Left-click the required reading slot in the list, and then click Select.

The InteleViewer worklist appears, and after 30 seconds displays a list of orders that have been assigned to this reading slot by the IAE.

The reading slot that you are currently occupying appears as a button with a green rectangular icon located above the filters in the worklist. You can click this button to display the Reading Slot Selection window.



5. Select an order to read.

See Also

Changing Reading Slots 354

Changing Reading Slots

You can change the reading slot that you are currently occupying. For example, a chief radiologist may request that you change your reading slot because of a mistake or a change in the allocation of reading slots.

To change a reading slot:

1. From the InteleViewer worklist, click the Reading Slot Selection button.
2. Select the new reading slot that you want to occupy, and then click Select.

   The InteleViewer worklist is refreshed, and displays a list of orders that have been assigned to this reading slot by the IAE.

   The name of the previously occupied reading slot changes to the new reading slot name on the Reading Slot Selection button.

See Also

Selecting Reading Slots 353

Viewing Workload Assignments for Reading Slots

You can validate that the workload is being shared equally and fairly between radiologists by viewing the reading slot's cumulative assigned workload value (in RVUs) in the Assigned Workload column in the Reading Slot Selection window.

The Assigned Workload column displays the automatic workload assignments by the IAE, and the manual workload assignments by a technologist, for each reading slot up to the present moment. The assigned workload for a reading slot displays a value of 0 RVUs when there are no workload assignments.

To view the workload assignment for a reading slot:

1. Log in to InteleViewer and select a reading slot. See “Selecting Reading Slots" (page 353).
2. In the worklist, click the Reading Slot Selection button.

   The Reading Slot Selection window appears. You can view all the reading slots and their associated radiologists, as well as the total workload assigned by the IAE to each reading slot.
3. Click Close to return to the worklist.

Assigning Orders Q&A

This section will help you to understand the behavior of the IAE when IntelePACS is configured to support the reading slot assignment workflow.

How fast does the IAE assign orders?

The IAE checks the list of IntelePACS orders that require dictation every 30 seconds. When new or unassigned orders appear, the IAE attempts to suggest a reading radiologist as soon as possible.

Why are some routine orders not assigned for extended periods of time?

If all available radiologists have more than the configured routine workload limit already on each of their worklists, the IAE stops assigning routine orders. In the case of STAT orders, the IAE continues to assign STAT orders if an available radiologist is occupying a suitable reading slot. The pending routine orders are held in a queue until radiologists reduce the length of their worklists by processing assigned orders.

An additional consideration is that the IAE will not process routine orders unless at least one image for the study has been received at the data center. That is, the orders will appear in the InteleViewer worklist and can be accessed by radiologists, but are not yet assigned by the IAE.

What happens when a radiologist logs out of InteleViewer?

When a radiologist logs out of InteleViewer, the IAE will reassign all of the radiologist's STAT orders to other suitable and available radiologists after a two-minute grace period. If there are no suitable and available radiologists, the IAE will wait to reassign the STAT orders until it is possible to do so.

In the case of routine orders, they remain assigned to the radiologist. To change the grace period, contact the Intelerad Technical SupportCenter.

Does the IAE use subspecialty to determine the assigned radiologist for an order?

Subspecialty is represented by the reading group concept, and the IAE prefers to assign each order to a radiologist that has selected a reading slot with matching reading group associations. Order’s whose procedures have mandatory weighting will only be assigned radiologists with matching reading group associations. While orders that have balanced weighting will prefer, but not require, assignment to radiologists with matching reading group associations. For more information, contact your PACS administrator.

When your site is configured to use the reading slot assignment workflow, the IAE ignores the InteleBrowser configured specialties for each radiologist under the User Management section.

How is the reading group determined for an order?

The reading group of an order is determined by the Study Classifier mapping for its procedure codes. Your PACS administrator must configure Study Classifier to map procedure codes to reading groups.

Do reserved orders impact the IAE assignments?

The IAE ignores the reservation of orders in the InteleViewer worklist. The IAE assigns and reassigns a reserved order with no consideration for the reservation.

Will an order remain assigned to a radiologist that has started to report an order?

If the radiologist keeps the order open in InteleViewer, the IAE may reassign it to another radiologist. However, as long as the radiologist holds the order open, no other radiologist will be able to open the order for dictation. A possible workaround would be for the original radiologist to reserve the STAT order before closing it, although this would not prevent subsequent reassignment.

Routine orders are not reassigned by the IAE to another radiologist under any conditions.

Does the IAE respond to radiologist inactivity?

InteleViewer automatically logs out a radiologist after a certain time period of inactivity while logged in, and the IAE then reassigns any STAT orders to available radiologists. The amount of time that elapses before InteleViewer logs out a radiologist corresponds to the radiologist's session time-out value as configured by the PACS administrator. By default, the session time-out is set to 15 minutes.

Does the IAE continue to assign orders to a radiologist that has logged out of InteleViewer before the end of his or her work shift?

If a radiologist logs out of InteleViewer before the end of his or her work shift, the IAE stops assigning orders to the radiologist. Any routine orders and manually assigned orders will stay in the radiologist's worklist until the next time that the radiologist logs in to InteleViewer. Any automatically assigned STAT orders will be reassigned to another radiologist that is logged in to InteleViewer and occupying a valid reading slot.

What happens when a radiologist leaves without logging out of InteleViewer or locking the workstation?

If a radiologist has to leave without logging out of InteleViewer or locking his or her workstation, any unread routine orders and manually assigned STAT orders are still assigned to him or her. Any automatically assigned STAT orders may be reassigned to another available radiologist because of rebalancing. After 30 minutes, the InteleViewer session times out and the IAE stops assigning orders to the radiologist, and reassigns any automatically assigned STAT orders that remain on that radiologist's worklist.

What happens if a radiologist leaves his or her work shift for a long time and returns in the night to complete his or her workload?

If a radiologist has to leave early because of an emergency, the worklist will still have unread orders. When the radiologist logs out of InteleViewer, the IAE stops assigning orders to the radiologist. Any routine orders and manually assigned orders will stay in the radiologist's worklist. Any automatically assigned STAT orders will be reassigned to other radiologists that are logged in to InteleViewer and occupying valid reading slots. Later in the evening when the radiologist logs back in to InteleViewer, he or she can select the same reading slot occupied earlier in the day and continue to finish reading his or her previously assigned orders.

What happens if a radiologist walks away without locking the session?

If a radiologist walks away from his or her workstation without locking the InteleViewer session, the IAE continues to assign orders to him or her until the session timeout occurs. If the radiologist returns before the timeout period, he or she can continue to read his or her assigned orders in the worklist.

If a session timeout occurs, the IAE stops assigning orders to the radiologist. When the radiologist returns to his or her workstation and logs in to InteleViewerand selects his or her previous reading slot, the IAE starts to assign new orders to the radiologist.

What happens if a radiologist walks away and locks the session?

If a radiologist locks his or her InteleViewer session and walks away, the IAE stops assigning orders to him or her.When the radiologist returns and unlocks his or her session and logs in to InteleViewer and selects the previous reading slot, the IAE starts assigning new orders to the radiologist. If the radiologist was behind in his or her work, the IAE will assign more orders to the radiologist so as to catch up with the other comparable radiologists.

What happens when a radiologist receives a STAT order?

If a radiologist is logged in to InteleViewer and is automatically assigned a STAT order while the radiologist is away from his or her workstation, the IAE may reassign the STAT order to another available radiologist that may or may not have a matching specialty because of rebalancing or an expired InteleViewer session.

If a radiologist is logged in to InteleViewer and has an active status and is automatically assigned a STAT order, and another radiologist logs in to InteleViewer and has no STAT

order assignments, the IAE may reassign the STAT order to the other radiologist if the first radiologist has many STAT order assignments.

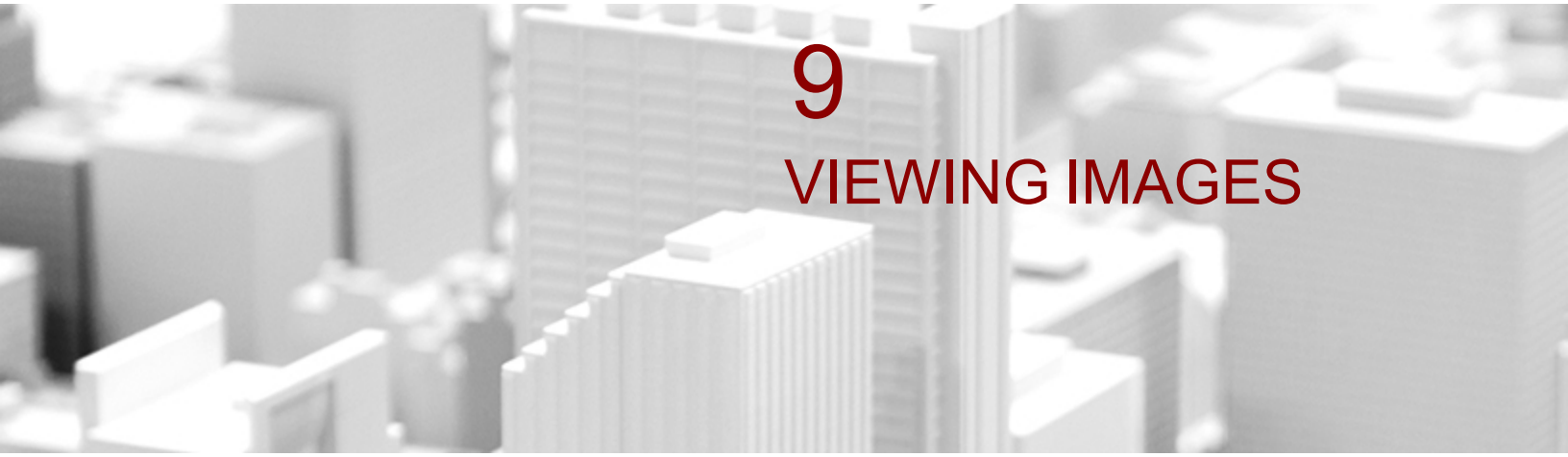
The STAT order appears in the new radiologist's worklist and he or she can start to read the STAT order.

What should a radiologist do if he or she cannot read an assigned an order?

If a radiologist cannot read an assigned order in his or her worklist, he or she can contact a radiologist that is qualified to read the order. From the worklist, the first radiologist reserves the order for the second radiologist. The order still appears in the first radiologist's worklist, but the second radiologist will see the order in his or her Reserved for Me worklist. The second radiologist can see that the order came from the first radiologist because the name of the first radiologist appears in the Assigned To column of his or her worklist.

How does the IAE handle grouped order assignments?

The IAE groups orders for the same patient with the same modality, and assigns all the orders in the group to the same suitable and available radiologist. The IAE uses the first visible order in the group to determine the best-suited radiologist for the group. If a technologist manually reassigns one of the orders in the group, then the IAE will no longer consider that order as a member of the group.



9 VIEWING IMAGES

Whether a study is online, on a remote DICOM server, or archived to tape, you can view the images in InteleViewer.

In this chapter:

About Viewing Images 361

About Opening Studies and Series 361

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Viewing Methods 381

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Locking Viewports 414

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Reviewing the Quality of Images 463

Closing Studies and Series 465

Displaying Shutters 465
About the Advanced Visualization Toolbar 466
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About Viewing Images

Once you have found the studies you require, open them to view the images. InteleViewer uses JPEG 2000 compression and an advanced streaming protocol to speed the delivery of high-quality images to your workstation by progressively refining image detail as it is displayed.

You can open studies located on the IntelePACS and other remote DICOM servers, or on your local workstation. A variety of tools, such as thumbnail images, configurable viewport layouts, and advanced layout management allow you to optimally organize your viewing area.

You can set image compression ratios to optimize delivery speed or view *lossless* images at full image quality. Lossless compression is a method of compressing and storing a digital image so that the original full-quality image can be reconstructed without any loss of image data.

About Opening Studies and Series

In a typical radiological workflow, the studies that a physician views are preselected by worklist software or by a person who assigns studies. You can open a specific study, series, or multiple studies and series to view them, manipulate the images for review, and view reports. All studies with the same accession number (in other words, belonging to the same order) appear in the thumbnails. If your workflow uses grouped procedures or linked orders, the procedures may appear split if they belong to different studies depending on how your system is configured. Your study may also include orphan studies—studies that have images (including thumbnails) but no matching orders.

You can configure the sort order in which grouped procedure studies are displayed in the Studies list and the Thumbnail strip. For information about setting the sort order, see “Order the grouped procedure studies " (page 110).

You can view images available on the IntelePACS (*online*) or archived to tape or an external PACS (*offline*). In the case of offline images, you can retrieve and view them

once they are online. You can also view images regardless of whether they are available on your workstation (*local*), a DICOM server (*remote*), or exported by using the standard DICOMDIR. Unsupported file types appear as blank images in InteleViewer.

To open remote studies, the DICOM Query feature must be enabled. You do not need the DICOM Query feature to open studies from the IntelePACS.

To open new images without disturbing your pre-existing work, you can open them in a new window. When images are opened, InteleViewer automatically searches for all relevant studies for the selected patient, and lists them in the Patient menu.

If you have access to key images, teaching cases, and teaching collections, you open these as you would any other study.

To use these features, ask your PACS administrator to enable the appropriate privileges in your user account.

See Also

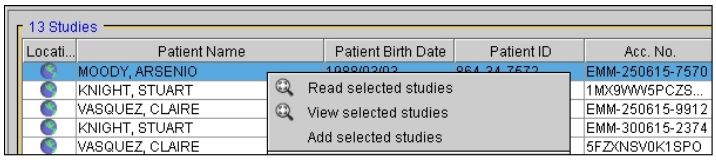
Accessing all Patient Studies 378

Opening Online and Offline Studies

Any study in the IntelePACS can be viewed, regardless of whether it is online or offline.

Online images are available on the IntelePACS, and can be viewed immediately. However, if a study has been archived to tape, it is *offline* and must be retrieved from tape before you can view it.

You can open a study in view-only mode or in read mode. In view-only mode, you cannot dictate a report, or a report addendum. In read mode you can do both.



To open an online or offline study:

1. Search for the required study or series. See “About Searching for Studies" (page 249).
2. To select multiple studies or series, do one of the following:

- **CTRL**-click each required study or series.
- To select a range, click the first study or series and drag to the last one in the range.
- To select all studies and series, press **CTRL+A**.

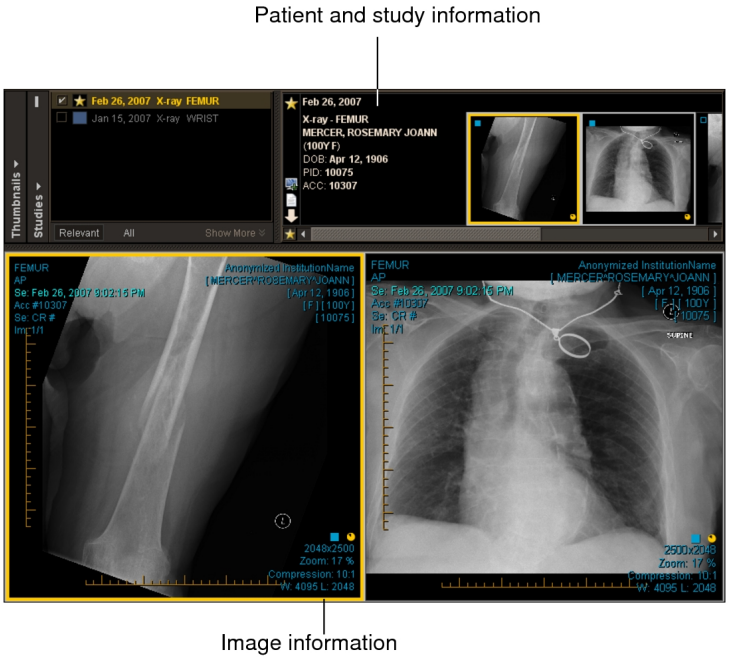
3. Do one of the following:

   - Double-click the required study or series in the corresponding list.
   - Right-click and choose View Selected Studies or View Selected Series for view-only mode.
   - Right-click and choose Read Selected Studies for read mode.

   If you want to view a series that was added to a study after it was already opened, you must perform step 3 to be able to view the new series.

   If the study is online, it opens in InteleViewer and the text overlay displays the related patient, study, and image information. If the study contains image overlays, these also appear.

Study Opened with Default Series Layout of 1 x 2



If the study or series is offline, the Retrieve Offline Images dialog appears.

You can set your user preferences to show or hide the Retrieve Offline Images dialog. For more information, see “User Interface Preferences" (page 85).

4. To open the offline study, click Yes to confirm.

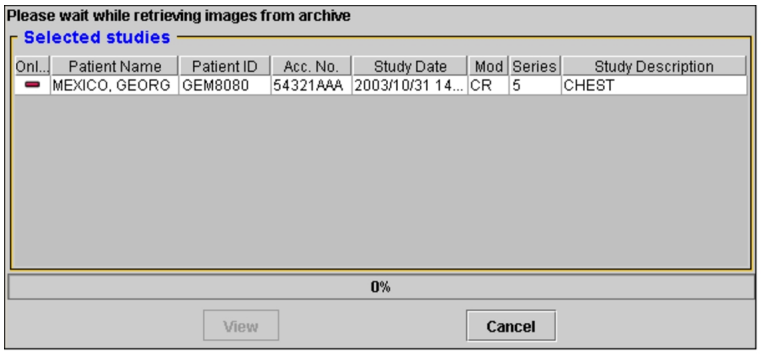
   If some of the images you selected were online, the View Available Images dialog appears.

5. To view the online images while the offline studies are retrieved, click Yes.

   The Retrieving Offline Data dialog opens and is minimized in the Windows taskbar so that you can continue working. It displays the information for the study being retrieved from the archive, as well as the percentage that has been completed. Once the study has been retrieved, the View button is activated.

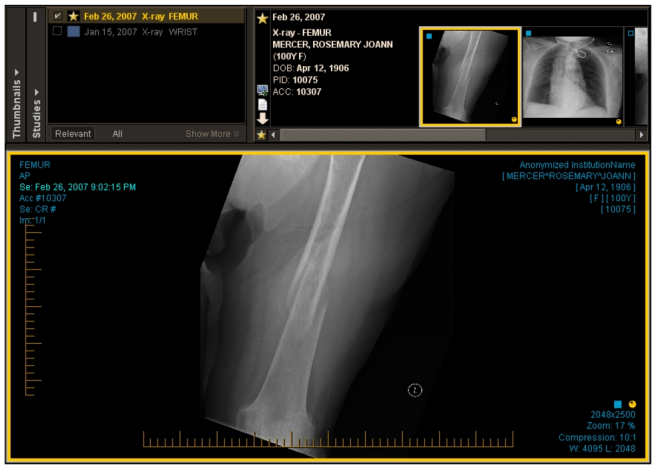
   If your images are being retrieved from a third-party PACS, the image-count text overlay in your viewport updates dynamically, indicating that the images already retrieved are available to be viewed.

   When you retrieve a study or series, its status appears in the Online column. Online studies are indicated by a check mark icon and offline studies are indicated by a dash icon .



6. To view the retrieved study, select it in the Retrieving Offline Data dialog and click View.

Series Opened with Default Image Layout of 1 x 1



The default layout of the studies and images is determined by your preference settings. However, you can change the viewport layout as you work. For more information, see “Changing the Viewport Layout" (page 408).

Opening Local and Remote Studies

Any DICOM study can be viewed, regardless of whether it is located on your workstation (*local*), the IntelePACS, or another DICOM server (*remote*).

To open remote studies, the DICOM Query feature must be active. You do not need the DICOM Query feature to open studies from the IntelePACS.

Local images are available on your workstation, and can be viewed immediately. If a study is located on the IntelePACS or another DICOM server, it is remote and does not need to be retrieved completely before you can view it.

To view images from a DICOM server other than the IntelePACS, at least one DICOM Query Server must be configured in the user preferences.

When you search for studies, the Location column indicates where the images are stored. Local studies are indicated by a workstation icon and remote studies are indicated by a network icon . Images that are located on both the server and the workstation are represented by this icon: .

If you open a study located on both your workstation and the IntelePACS or another DICOM server, InteleViewer first compares the information for both to determine if the local copy is current. If so, it opens the copy on your workstation in order to maximize performance speed. If the local copy is not current and you searched for the study on

both the IntelePACS and the DICOM server, it retrieves it from the IntelePACS or other DICOM server so that you are working with the latest version.

Additionally, you can choose to retrieve a remote study in the background, without opening it for viewing. This can be useful if, for example, it takes some time to obtain all the images. In this case, you can begin the process of receiving the images, and continue to work on other cases while the images are being acquired. You can view the progress of the retrieval in the Queue Manager.

If you do not have the DICOM Service configured on your system and if Long-Term Disk Caching is activated in your Local Storage Preferences, images are retrieved and cached to the Data Directory specified in your Local Storage Preferences. In this case, you will not see the progress of the retrieval in the Queue Manager.

You can open the study or series before all images are retrieved. If the study or series is located on a DICOM server, the study or series is initially opened with the images that are available, and the image count in the overlay information updates dynamically to reflect when new images are received. If the study or series is located on the IntelePACS, the study or series is initially opened with the images that are available, and the image count in the overlay information displays the total number of images. A message in the status bar indicates if new images become available. When you refresh the study or series, the image count in the overlay information will update.

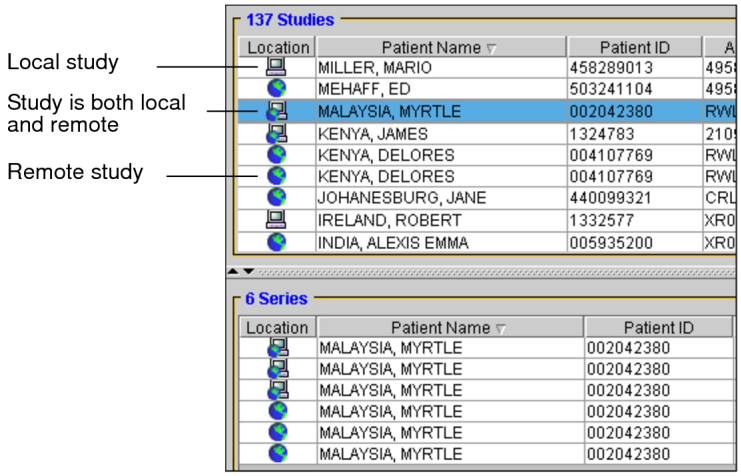
The period of time in which InteleViewer checks the PACS to determine if new images are available for a study or series is configurable. For more information, contact the Intelerad Technical SupportCenter.

To open a study and retrieve remote images:

1. Search for the required study or series. See “About Searching for Studies" (page 249).
2. Click the required study or series in the corresponding list.

   The Location column indicates where the study or series is located. The Data Sources you selected determine whether your search results contain studies that reside on the IntelePACS, your workstation, or other DICOM servers (if you have access to the DICOM Query feature).

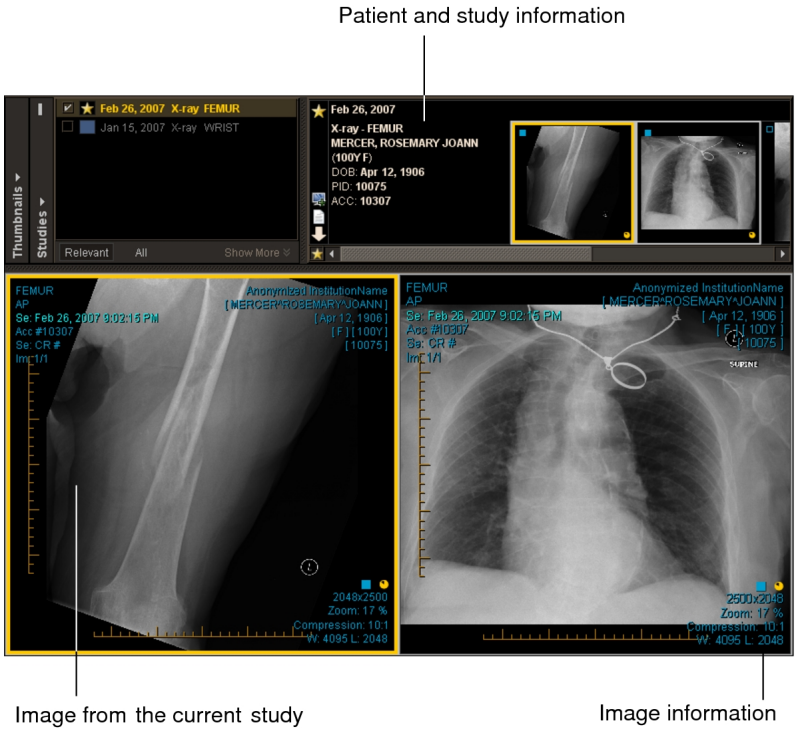
Search Results



3. To select multiple studies or series, do one of the following:
   - **CTRL**-click each required study or series.
   - To select a range, click the first study or series and drag to the last one in the range.
   - To select all studies or series, press **CTRL+A**.
4. Right-click and choose View Selected Studies or View Selected Series.

   The selected study opens in InteleViewer and the text overlay displays the related patient, study, and image information.

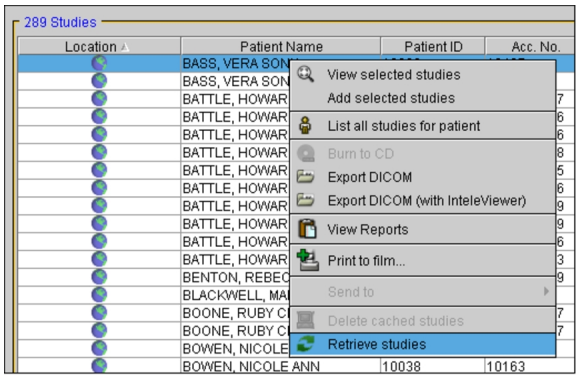
Study opened with default series layout of 2 x 2



The default layout of the studies and images is determined by your preference settings or by Advanced Layout Management, if a protocol has been matched. However, you can change the viewport layout as you work. For more information, see “Changing the Viewport Layout" (page 408).

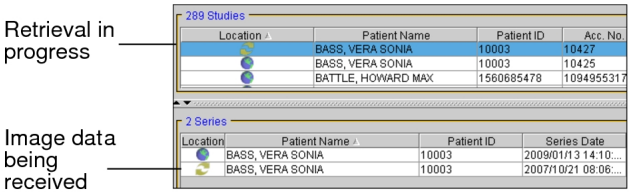
5. Search for the required study or series. See “About Searching for Studies" (page 249).
6. Select a remote study or series.
7. To select multiple studies or series, do one of the following:
   - **CTRL**-click each required study or series.
   - To select a range, click the first study or series and drag to the last one in the range.
   - To select all studies or series, press **CTRL+A**.
8. Right-click, and choose Retrieve Studies or Retrieve Series.

⚠ You cannot cancel the retrieval of a study or a series to your local workstation.



A yellow icon appears in the Location column to indicate that it is waiting to retrieve images. As the images are copied to your workstation, the icon becomes green to let you know that all image data has been retrieved.

You can also view the progress of the retrieval in the Queue Manager.



See Also

DICOM Preferences 98
Local Storage Preferences 113

Storing Images on your Workstation

When you open an order to dictate it, the corresponding images are streamed to your workstation from the IntelePACS. The Image Count column displays the progression of images being streamed or retrieved to your workstation, if your IntelePACS is configured to query local image counts.

If your IntelePACS is not configured to query local image counts, the total number of images potentially available to you are displayed in this column.

The prefetching functionality allows the images to be retrieved to your workstation when you reserve the corresponding order. However, if the order was reserved by a worklist manager, the images will not be retrieved to your workstation.

For each order, the total number of images available on the IntelePACS appears in the Image Count column in the worklist, along with the number that are available on the local disk.

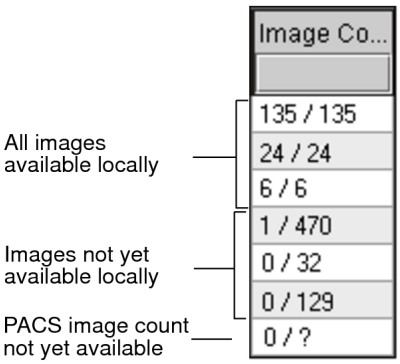
The following format is used:

```
<number on local disk> / <number on INTELEPACS>
```

A question mark (?) indicates that the image information is currently unknown. As the image count becomes available, the corresponding number appears. You can also choose to update the image count information manually.

If you are working in a film-based environment, an image count of 0/0 typically appears.

Image Count Indicators



If you choose to open an order whose images are not yet available on the local disk, the images will begin streaming in from the IntelePACS.

See Also

Updating the Worklist 292

Deleting Images from your Local Cache

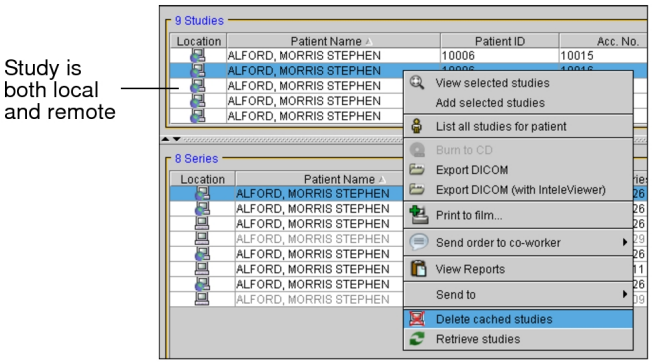
You can delete studies and series from your local workstation. This is useful in a situation where a study is sent to your workstation in error or when a study has been sent to you for review and you no longer need it stored locally.

Also, there may be instances where a study becomes corrupted in the process of retrieving it to your workstation. Simply attempting to retrieve it again does not replace the image data so it must be deleted on your local workstation before retrieving it again.

⚠ If you delete images that exist only on your workstation and not on any of the data sources you have chosen to search, you will not be able to view these images again.

To delete images from your workstation:

1. Search for the required study or series. See “About Searching for Studies" (page 249).
2. Select a study or series that exists locally, or both locally and remotely.
3. To select multiple studies or series, do one of the following:
   - **CTRL**-click each required study or series.
   - To select a range, click the first study or series and drag to the last one in the range.
   - To select all studies or series, press **CTRL+A**.
4. Right-click and choose Delete Cached Studies or Delete Cached Series.



   If the images you chose to delete exist only on your local workstation, you will receive a message asking you to confirm deletion of these images.

   ⚠ If you delete images that exist only on your workstation and not on any of the data sources you have chosen to search, you will not be able to view these images again.

5. Click Yes to delete the images.

   The images are deleted from your local workstation.

   If the study or series originally existed only on your workstation, it no longer appears in your search results.If the study previously existed both locally and remotely, it is now indicated by a network icon in the Location column to signify that it only exists remotely.

Importing Studies from a CD

You can import DICOM data (images, structured reports, and presentation states) that has been burned onto a CD to your local workstation. This allows you to access the imported study or series from your workstation.

To import a study from a CD:

1. From the InteleViewer main menu, choose File | Import.

   The Open dialog appears.

2. Locate the drive that contains your CD.
3. Select a study and then click Open.

   If the DICOM Service is installed and running, the queue manager appears and displays the job in progress.

   Once the import is complete, the study is saved on your workstation. See “Viewing Jobs in the Queue Manager" (page 763).

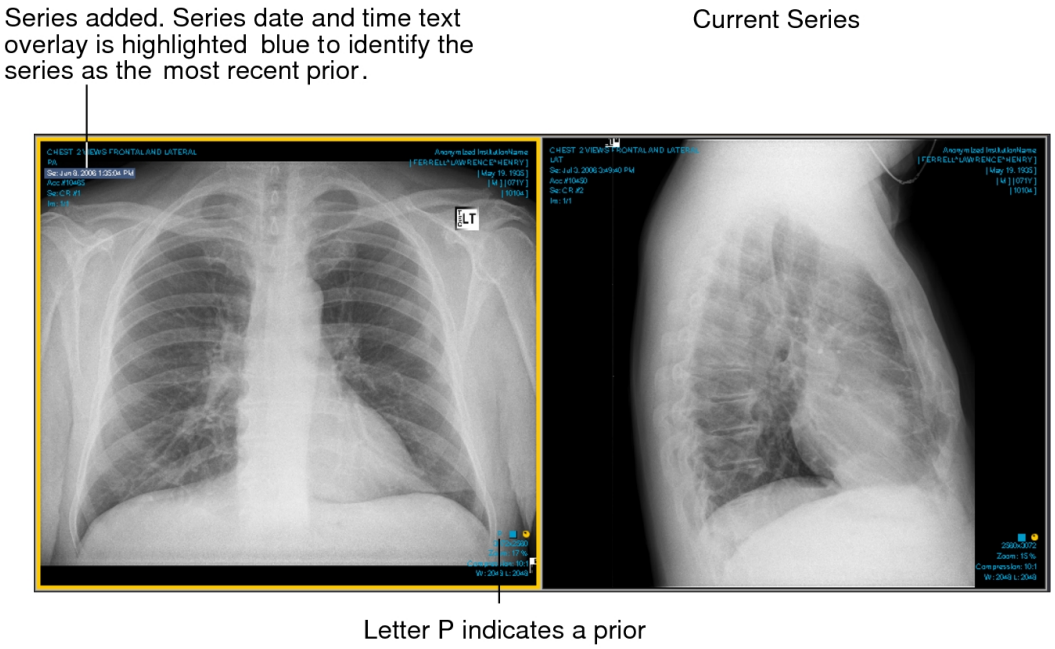
Adding Studies or Series to the Current Window

In a typical radiological workflow, the studies that a physician views are preselected by worklist software or by a person who assigns studies.You can also add studies and series to those that are already opened in the viewports to, for example, compare two studies.

When you open a new study or series for comparison, the differences in study or series date and time or patient name are highlighted in the text overlay so that you can distinguish them. If the accession number in the new study or series differs from the original, the study/series date and time or study/series date and study/series time text overlays are highlighted by using the multiple-prior color coding scheme. If the patient ID in the new study or series differs from the original, a gray filled rectangle appears behind the study/series date and time or study/series date and study/series time and patient name text overlays.

For example, if you open a series in a prior study for the same patient and the series date and time text overlay is highlighted blue, this identifies the series as the most recent prior making it easier to differentiate. If you then add a series from another patient, a gray filled rectangle appears behind the name and the series date and time text overlays on the new series, as this information does not match that of the original. In addition to the text overlay highlight color, the letter P appears at the bottom of a prior.

In the case of a prior MR study, the acquisition date and time text overlays can also appear highlighted.



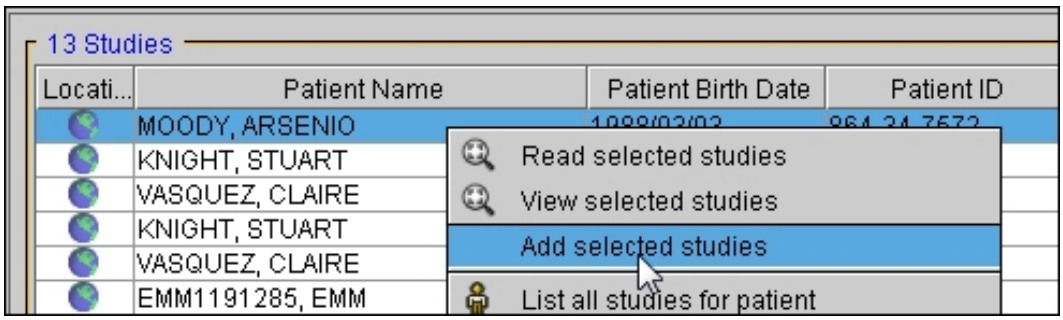
If your workflow uses grouped procedures, one accession number can relate to one or more studies. Studies that contain the same accession number are considered part of the same order, and are therefore not highlighted.

If your workflow uses linked orders, InteleViewer considers all the linked orders as the current order. As a result, their associated series date and time are not highlighted.

To add a study or series to the current window:

1. If you have multiple application windows open, select the one in which you want to open the additional images.
2. Search for the required study or series. See “About Searching for Studies" (page 249).
3. Do one of the following:
   - To select multiple studies or series, **CTRL**-click each one, then right-click and choose Add Selected Studies or Add Selected Series.
   - To select a range of studies or series, click the first and drag to the last one in the range, then right-click and choose Add Selected Studies or Add Selected Series.

- To select a specific study or series, right-click it and choose Add Selected Studies or Add Selected Series.



The study or series is added to the Patient menu. For information on opening them in the viewports, see “Accessing all Patient Studies" (page 378).

If you open images for another patient while keeping the current patient’s images open, the Report option **V** will be disabled for the second patient. You will however, still be able to view reports for the current patient.

See Also

Using the Study Color Coding Scheme 63

Opening Studies in a New Window

You can open additional InteleViewer application windows automatically to view and work with selected studies or series. All of the InteleViewer features are available in the new windows, no matter how many you choose to open.

You can open a study in view-only mode or in read mode. In view-only mode, you cannot dictate a report, or a report addendum. In read mode you can do both.

To open a study in a new window:

1. Search for the required study or series. See “About Searching for Studies" (page 249).
2. Click the study or series to select it.

   To open multiple studies or series, **CTRL**-click each one. To select a range, click the first and drag to the last one in the range.

3. Do one of the following:

- Right-click the selected study and choose View Selected Studies for view-only mode.
- Right-click the selected study and choose Read Selected Studies for read mode.
- Right-click the selected series and choose View Selected Series.

A new InteleViewer window opens, displaying the selected images.

Each open InteleViewer window displays corresponding patient information in the Patient list.

Opening DICOM Files from Disk

You can view DICOM files, including those created by a third-party vendor, that are located on local or network disks or removable USB keys. To open the files, the files must use the standard DICOMDIR index file with the corresponding sub-folders for each patient, study, and series. A DICOMDIR is a DICOM standard index file that describes how the associated studies are stored. Individual DICOM (.dcm) files cannot be opened.

⚠ Opening DICOM files does not save them to the IntelePACS. They are only opened for viewing.

To open a DICOM file from disk:

1. Choose File | Open File or press **CTRL+O**.

   The Open File dialog appears.

2. In the Files of Type list, make sure DICOMDIR Files is selected.
3. Navigate to the location of the DICOMDIR file, select it, and then click Open.

   A new Search tool opens and displays the contents of the DICOMDIR. You can open the required DICOM data as you would normally.

   The DICOM data is not saved to the IntelePACS, only opened for viewing. If you delete the data from your local or network disk, the data is not retrievable from InteleViewer.

Viewing DICOM Data on a CD or DVD

To view DICOM data that is on a CD or DVD, you can use the InteleViewer application that is on the CD or DVD. This stand-alone application includes many of the same modules and features as the full version of InteleViewer. If the DICOM data includes

reports, you can access the reports from the stand-alone version of InteleViewer as well. The reports open in your operating system's default PDF viewer.

Before burning the CD or DVD, it is important to ensure that one of the following upgrade tracks for InteleViewer is installed: 4-14-1-P249 or higher, or 4-15-1-P84 or higher. Failure to do so could prevent the stand-alone version of InteleViewer from opening. See “Upgrading InteleViewer" (page 60).

To view DICOM data on a CD or DVD:

1. Close all InteleViewer sessions.

   If you view a CD or DVD while InteleViewer is running, the Search tool differs slightly from that displayed below.

2. Insert your CD or DVD into the optical drive.

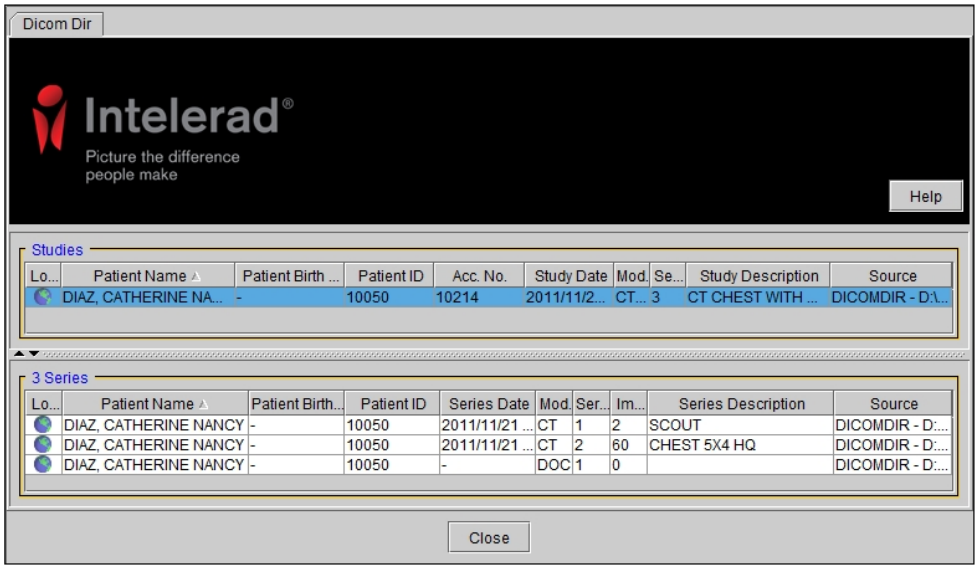
   If the AutoPlay dialog appears, click Run `StartInteleViewerCD.exe`.

   If the AutoPlay dialog does not appear, open Windows Explorer, navigate to the drive that contains the disc, open the Viewer folder, and then double-click:

   ```
   StartInteleViewerCD.exe
   ```

3. To view a study, double-click the study in the Search tool.

   If the study includes a report, the report opens automatically in your operating system's default PDF viewer.



4. To view a report, click the study in the Search tool, and then double-click the Report PDF file, which is listed with a DOC modality type, from the Series list.

   The report opens in your operating system's default PDF viewer.

See Also

Burning DICOM Data to a CD or DVD 747

Viewing Exported DICOM Data

To view DICOM data that was exported to a local or network location or USB removable key, you can use the full version of InteleViewer or the stand-alone version of InteleViewer that was exported with the DICOM data. If the DICOM data includes reports, you can access the reports from InteleViewer as well. The reports open in your operating system's default PDF viewer.

Before exporting DICOM data, ensure that one of the following upgrade tracks for InteleViewer is installed: 4-14-1-P249 or higher, or 4-15-1-P84 or higher. Failure to do so could prevent the stand-alone version of InteleViewer from opening. See “Exporting DICOM Data" (page 751) and “Upgrading InteleViewer" (page 60).

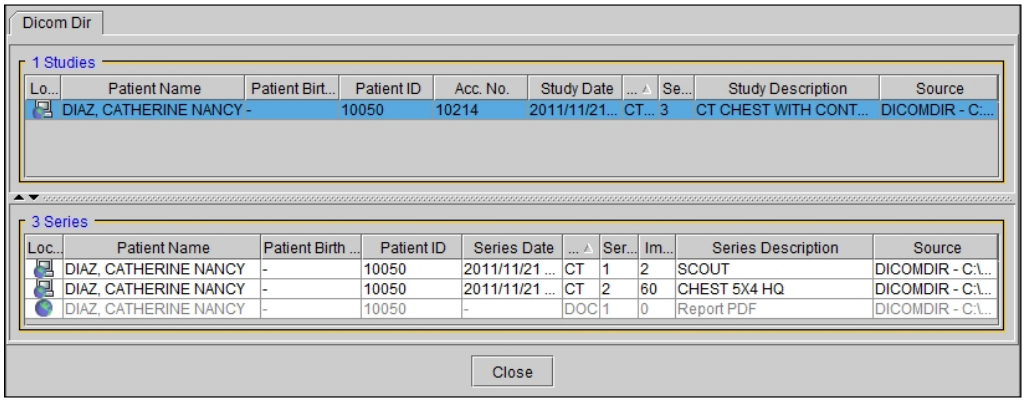
To view exported DICOM data with InteleViewer:

1. Do one of the following:

   - If the files were not saved with a stand-alone copy of InteleViewer, start InteleViewer, then open the files. See “Opening DICOM Files from Disk" (page 375). You can also view the DICOM data with any third-party DICOM viewer.
   - If a stand-alone version of InteleViewer was exported along with the DICOM data, open Windows Explorer, navigate to the folder where the DICOM data is saved, open the Viewer folder, and then double-click: `StartInteleViewerCD.exe`.

2. To view a study, double-click the study in the Search tool.

   If the study includes a report, the report opens automatically in your operating system's default PDF viewer.



3. To view a report, click the study in the Search tool, and then double-click the Report PDF file, which is listed with a DOC modality type, from the Series list.

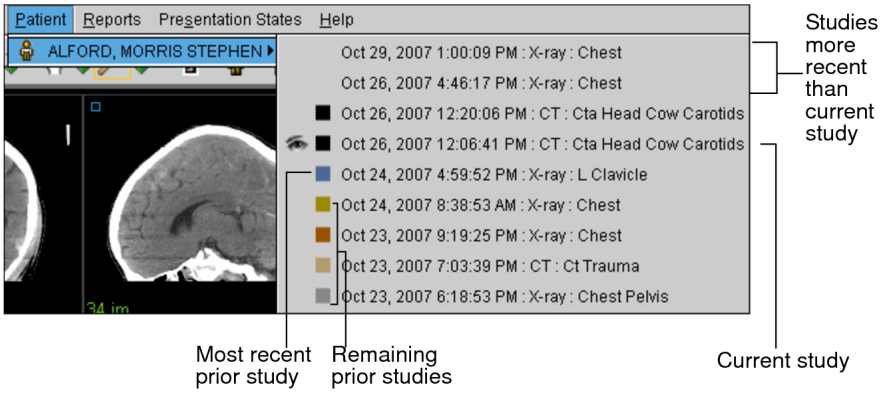
   The report opens in your operating system's default PDF viewer.

Accessing all Patient Studies

When you open a study from the worklist, InteleViewer automatically finds all relevant studies for the selected patient and lists them in the Patient menu. Use this list to quickly access other images for the patient.

The prior studies listed in the Patient menu use a color coding scheme that makes it easier to differentiate between them. The current study is represented by a black square and the most recent prior study is represented by a blue square. The remaining prior studies are represented by a repeating sequence of five colors. Studies whose dates are more recent than the date of the current study are represented without a square.

If a prior study's images are offline, an Offline icon appears within the colored square.



If the DICOM Query feature is enabled for your IntelePACS, the studies listed in the Patient menu are determined by the data sources originally selected in the Search tool.

When you open an order from the worklist that contains no images, (for example, when working in a film-based environment), any prior studies that exist for the selected patient do not appear in the Patient menu.

You can also search for all studies for a selected patient by using the Search tool.

To access all patient studies:

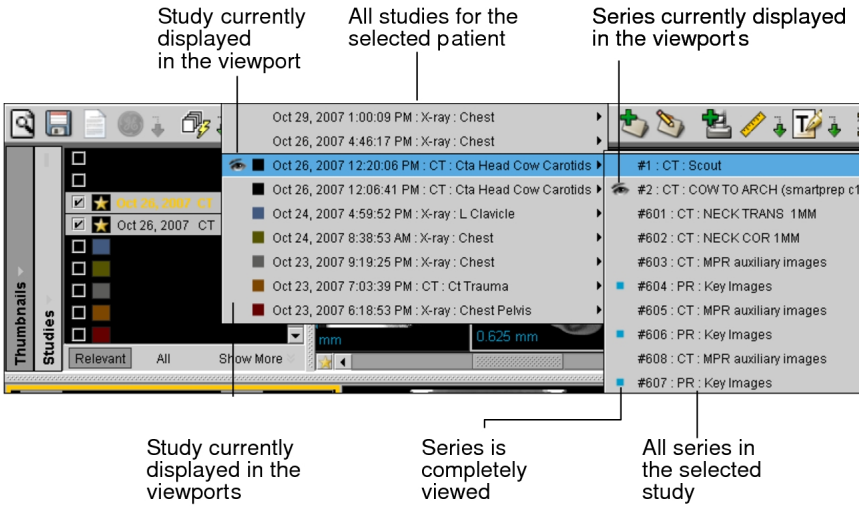
1. Do one of the following:
   - Open the required study or series. See “About Opening Studies and Series" (page 361).
   - Add studies or series. See “Adding Studies or Series to the Current Window" (page 372).

   You can also open and add multiple studies.
2. Select Patient from the main menu, or right-click in the Thumbnail strip.

   You can also view the Patient menu by right-clicking in the viewport provided that the Show Radial Menu option is disabled in your user preferences.

   If the DICOM Query feature is enabled on your IntelePACS, the studies listed in the Patient menu are determined by the data sources originally selected in the Search tool.

   The Displayed icon indicates the study or series currently displayed in the viewports. The blue Displayed icon indicates the study or series are completely viewed and currently shown in the viewports.



A small blue square indicates that the study or series has been completely viewed. For information, see, “Reviewing the Quality of Images" (page 463).

3. To open any series in the list, click it.

   The series is opened in the active viewport.

   Any difference in accession numbers between series causes the study date on the added series to be highlighted. Any difference in patient IDs causes the patient name on the added series to be highlighted.

   If you use grouped procedures in your workflow, one accession number can relate to one or more studies. Studies that contain the same accession number are considered part of the same order, and are therefore not highlighted.

   If you use linked orders in your workflow, all the linked orders have the same patient ID and are considered as the current order. As a result, the patient names in the added series are not highlighted.

See Also

Using the Study Color Coding Scheme 63
Searching for all Studies for a Patient 270
Viewing Image Availability Status 406

Viewing Methods

Once you have opened the required studies, navigate to the series that you want to view. InteleViewer provides several different methods you can use to view images, both color and grayscale.

You can *stack* images to view them sequentially, use *linked stacking* to stack multiple series simultaneously, use the Cine tool to playback images as though they were a movie clip, or use the Cine Real-Time Player to playback series containing multi-frame images in real-time. Also use the Image Scroller tool to quickly jump to approximate points in the series and view visual feedback as to your location in the series.

When you open images from DX, CR, and MG modalities, as well as multi-echo MR, InteleViewer displays them in a natural grouping, referred to as a *dataset*.

Additionally, when you open a DX, CR, or MG series, InteleViewer detects whether multiple images exist with different series descriptions. If this is the case, the text overlay displays the different series description for each image.

See Also

Viewing Multiple Datasets 381

Viewing Color Images

When you open a series, InteleViewer detects whether color images exist as part of the series. If color images exist for the series, the color series icon appears at the bottom of the window.

Viewing Multiple Datasets

DX, CR, and MG modalities are *single-image-set modalities*, whose series are divided into datasets containing one single image each.

Datasets are also created for series that contain multi-frame images such as multi-echo MR. Each sequence is separated into a dataset containing multiple images.

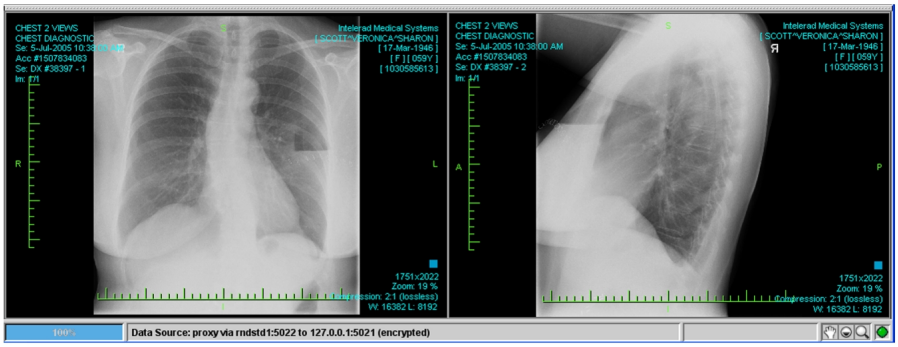
Series images are displayed in datasets in the viewport or thumbnail strip. In the text overlay, datasets are indicated by a dash (-) followed by the dataset number. For example, a DX series may contain ten images. These are divided into datasets so they can be displayed separately. Each dataset appears as a separate series in the viewports and separate thumbnails also appear for each.

Each dataset behaves in the same way as a series.

DX Series with Two Images Displayed as Separate Datasets

Dataset 1, indicated by "- 1" in the series number

Dataset 2, indicated by "- 2" in the series number



Navigating Through a Study

Though the viewport layout determines how many series are displayed on screen, you can navigate sequentially through each series or select which one you want to view. To navigate through another study, you must first select it in the Patient menu.

If you are displaying the Thumbnail view while paging through datasets, each “page” of series thumbnails is highlighted as you display them.

To view series:

1. Open one or more studies. See “About Opening Studies and Series" (page 361).
2. Select a viewport.
3. Do one of the following:

Use:	To do this:
PAGE DOWN	View the next series/dataset in the study.

Use:	To do this:
PAGE UP	View the previous series/dataset in the study.
LEFT ARROW	View the previous page of series/datasets in the study.
RIGHT ARROW	View the next page of series/datasets in the study.
Mouse Wheel	For CR, DX, and MG studies, navigate to the next or previous series/dataset. For US, XA, and RF studies, navigate to the next or previous series/dataset when over a single-image viewport. Select the Always Use the Mouse Wheel to Navigate modality preference to navigate through series when over a single- or multi-image viewport. You can configure the mouse wheel to update all viewports with the next page of series, or navigate through series in the current viewport only, by pressing the middle mouse button, and selecting Series in All Viewports or Series in Current Viewport Only. If an active sequence protocol is associated with the modality, the Navigate Through menu also includes options for navigating through Steps and Priors. See “Navigating Through Reading Steps and Comparable Priors" (page 242).

See Also

Changing the Viewport Layout 408
Configuring Mouse-Wheel Stacking and Navigation 139
Navigating Through Reading Steps and Comparable Priors 242
Using the Thumbnail View 441
Selecting a Series 386
Configuring Mouse Wheel Navigation 383

Configuring Mouse Wheel Navigation

Though the viewport layout determines how many series are displayed on screen, you can navigate sequentially through each series or select which one you want to view. To navigate through another study, you must first select it in the Patient menu.

For CR, DX, MG, US, XA, and RF studies, you can use the mouse wheel to navigate through series of single-image datasets. The mouse wheel can either update all viewports with the next page of series, or navigate through series in the current viewport only.

You can also use the mouse wheel to navigate through series during cine playback. For US, XA, and RF studies, select the Always Use the Mouse Wheel to Navigate modality preference to navigate through series when over a single- or multi-image viewport. If an active sequence protocol is associated with the modality, the Navigate Through menu also includes options for navigating through Steps and Priors.

To configure mouse-wheel navigation:

1. With the series open in a viewport, click your mouse wheel.

   A navigation dialog appears.

2. Select one of the following:

Select:	To:
Series in All Viewports	Update all viewports with the next page of series.
Series in Current Viewport	Navigate through series in the current viewport only.
Do not Navigate	Disable the Mouse wheel Navigation functionality.

3. If your IntelePACSis configured with "Advanced Layout Management" privilege, the Navigate Through menu also includes options for navigating through Steps and Priors.

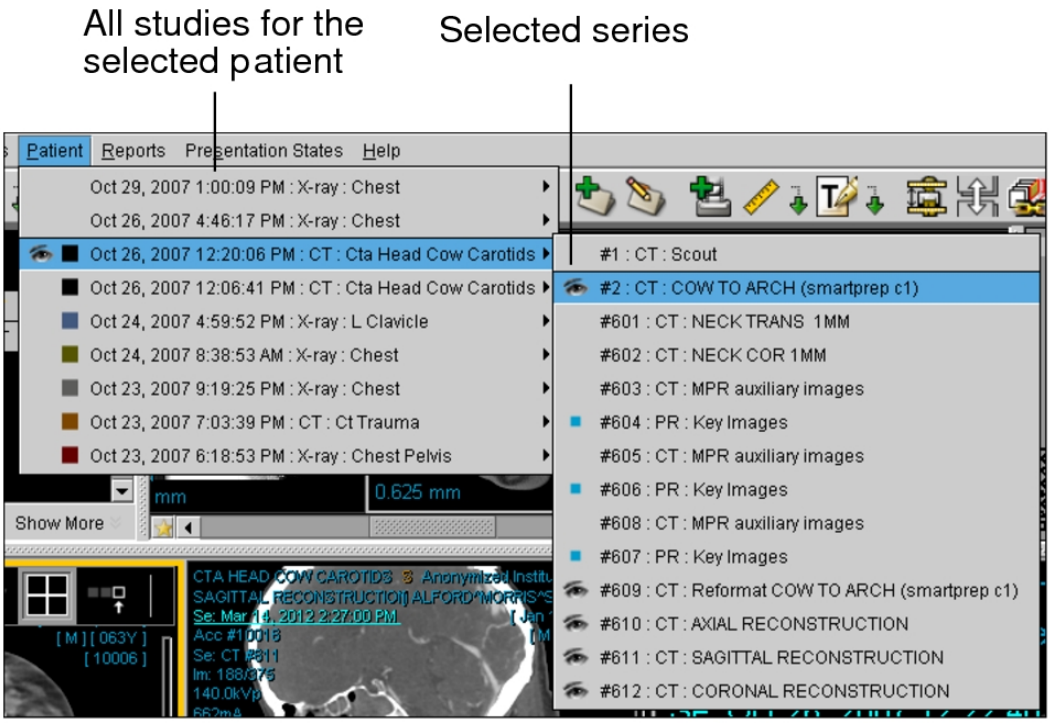
To select a series:

1. Open one or more studies. See “About Opening Studies and Series" (page 361).
2. Select the viewport in which you want to view the study.

3. Choose Patient, or right-click in the viewport.

   The menu contains a list of the patients whose studies you opened. When you open a study, InteleViewer automatically finds all studies for the selected patient and lists them in this menu.

4. Navigate to the required series in the menu and select it.



Any difference in accession numbers between series causes the study date on the added series to be highlighted. Any difference in patient IDs causes the patient name on the added series to be highlighted.

If your workflow uses grouped procedures, one accession number can relate to one or more studies. Studies that contain the same accession number are considered part of the same order, and therefore will not be highlighted.

If you use linked orders in your workflow, all the linked orders have the same patient ID and are considered as the current order. As a result, the patient names in the selected series are not highlighted.

See Also

Navigating Through a Study....382

Selecting a Series

Though the viewport layout determines how many series are displayed on screen, you can navigate sequentially through each series or select which one you want to view. To navigate through another study, you must first select it in the Patient menu.

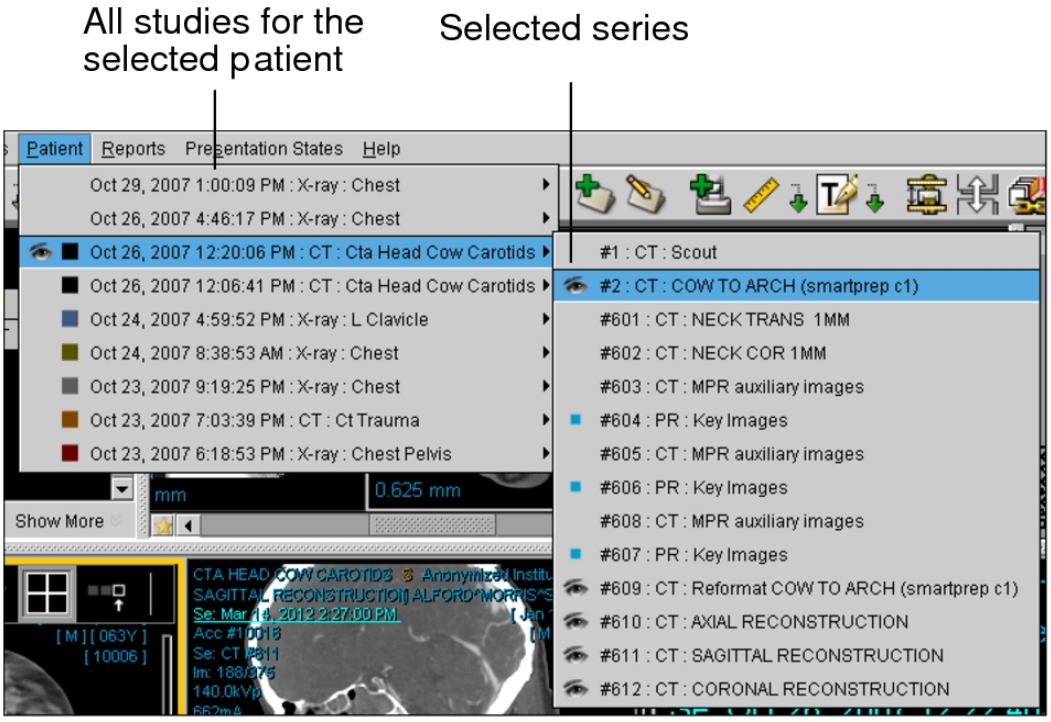
If you are displaying the Thumbnail view while paging through datasets, each “page” of series thumbnails is highlighted as you display them.

To select a series:

1. Open one or more studies. See “About Opening Studies and Series" (page 361).
2. Select the viewport in which you want to view the study.
3. Choose Patient, or right-click in the viewport.

   The menu contains a list of the patients whose studies you opened. When you open a study, InteleViewer automatically finds all studies for the selected patient and lists them in this menu.

4. Navigate to the required series in the menu and select it.



Any difference in accession numbers between series causes the study date on the added series to be highlighted. Any difference in patient IDs causes the patient name on the added series to be highlighted.

If your workflow uses grouped procedures, one accession number can relate to one or more studies. Studies that contain the same accession number are considered part of the same order, and therefore will not be highlighted.

If you use linked orders in your workflow, all the linked orders have the same patient ID and are considered as the current order. As a result, the patient names in the selected series are not highlighted.

See Also

Navigating Through a Study 382

Stacking Images

You can use the Stack tool to stack through a series that contains multiple images, viewing each image in sequence. You can stack through images by using the mouse, the mouse wheel or by using shortcut keys. Depending on your mouse speed, you can skip past images.

To choose the Stack tool:

- See “Choosing the Stack Tool" (page 388).

To stack images by using the mouse:

- See “Stacking Images Using the Mouse" (page 388).

To stack images by using keyboard shortcuts:

- See “Stacking Images Using Keyboard Shortcuts" (page 390).

To stack images by using the Toggle Stacking tool:

- See “Stacking Images with Toggle Stacking" (page 392).

To sort images in the stack:

- See “Sorting Images in the Stack" (page 390).

To stack tomosynthesis images:

- See “Stacking Tomosynthesis Images" (page 393).

See Also

Reviewing the Quality of Images 463
Configuring Mouse-Wheel Stacking and Navigation 139
Synchronizing Stacking 394
Using Super Series Stacking to View Images 398

Choosing the Stack Tool

There are several ways that you can choose the stack tool.

To choose the Stack tool:

- Do one of the following:
  - In the toolbar, click Stack .
  - Right-click in the viewport, and then click the Stack tool in the radial menu.
  - In the main menu, click Tools and then Stack.
  - Press and hold the **S** key.

  The icon updates to reflect the selected tool.

Stacking Images Using the Mouse

You can stack images using your mouse.

To stack images using the mouse:

1. Select the required series.

   You can also stack key image series and teaching cases when viewing them, but you cannot stack in the Key Image Composer and Teaching Case Editor unless you added an entire series to the teaching case.

2. Click the Stack tool.

   Selecting the Stack tool is not required when using the mouse wheel to stack images. The cursor corresponds to the Stack tool you have selected, and the Stack

icon in the toolbar appears with a yellow outline indicating that it is the currently-selected tool.

3. In the required viewport, do one of the following:

Do this:	To:
Drag Mouse	Drag down to view the images in sequential order, or drag up to view the images in reverse order. If you drag the mouse from the top of the viewport to the bottom of the viewport, the entire set of images is stacked.
Rotate Mouse Wheel	Rotate the mouse wheel down to view the images in sequential order, or rotate up to view the images in reverse order. If you are using a hyperscroll mouse, it is possible that some images are skipped. If you are using an image layout that displays multiple images, the mouse wheel pages through the images. For US, XA, and RF studies, the Use the Mouse Wheel to Stack Through Images in a Multi-Image Viewport modality preference must be enabled.

If you are displaying the text overlay information, the image number increases and decreases as you stack to indicate the current image.

4. For example, if you select Sort by Image Number, enabling Reverse Sort displays the images in descending rather than ascending order.

See Also

Stacking Images with Toggle Stacking 392

Stacking Images Using Keyboard Shortcuts

You can stack images using keyboard shortcuts.

To stack images by using keyboard shortcuts:

1. Select the required viewport.
2. Do the following:

Press this key:	To:
DOWN ARROW	View the images in sequential order
UP ARROW	View the images in reverse order
HOME	View the first image in the series
END	View the last image in the series

3. To stack the images quickly, press and hold the **UP ARROW** or **DOWN ARROW** keys.

   Images are not skipped when you use the **UP ARROW** or **DOWN ARROW** keys. If you are using an image layout that displays multiple images, using the **UP ARROW** and **DOWN ARROW** keys pages through the images.

Sorting Images in the Stack

You can sort the images in the stack by image number, image position, temporal position, or image time.

To sort the images in the stack:

1. From the Stack tool menu in the toolbar, choose one of the following sort types.

Choose this:	To sort by:
Sort by Image Number (Default)	The number that identifies the image in the series. The Image Number sort uses the Instance Number tag (0020, 0013). If a series has two images with the same Instance Number tag, InteleViewer uses the Acquisition Number tag (0020, 0012) to sort the series.
Sort by Image Position	The x, y, and z coordinates of the upper left-hand corner of the image. The direction of the axes is defined by the patient's orientation. The Image Position sort uses the Image Position Patient tag (0020, 0032).
Sort by Temporal Position	The temporal resolution, which relates to the duration of the acquisition time of a single frame of a dynamic process, for example, cine imaging. When sorting two-dimensional datasets by temporal position, InteleViewer first sorts the images by time and then by instance number. The Temporal Position sort uses the Temporal Position Identifier tag (0020, 0100).
Sort by Image Time	The date and time that the images were created. The Image Time sort uses both the Content Date (0008, 0023) and Content Time (0008, 0033).

2. To sort in reverse order, choose Reverse Sort from the Stack tool menu.

   The Reverse Sort option applies to the current sort type only. If you change the sort type, you must reapply the Reverse Sort option.

   For example, if you select Sort by Image Number, enabling Reverse Sort displays the images in descending order rather than in ascending order.

Reverse Sort also reverses the image numbers that are displayed in the text overlay. For example, in a series with 25 images, image 1 becomes image 25, image 2 becomes image 24, and so on. This can cause confusion when you refer to specific image numbers in correspondences with radiologists that are applying a different sorting order. Instead of referencing an image by image number, you can use the image Instance Number tag, which if valid, is unique for each image and does not change based on the sorting order. To view the image Instance Number, you can add the Instance Number tag to the text overlay by using the modality user preferences Text Overlay tab.

Stacking Images with Toggle Stacking

To reduce hand fatigue when stacking through images, you can use Toggle Stacking mode to move the mouse up and down to stack through images without holding the mouse button down.

You can assign Toggle Stacking activation/deactivation to any mouse button, except the left and right buttons, which are reserved for interacting with the user interface and the contextual/radial menu respectively.

By default, the middle mouse button activates Toggle Stacking.

The Toggle Stacking tool remains active when you use the left mouse button to move between viewports.

By default, middle mouse button can activate both Toggle Stacking, a click-only tool, and Window Leveling, a drag-and-click tool. If you are having trouble using the middle mouse button to activate Toggle Stacking, remove the Middle-Click & Drag preference from the Window Level tool in the Mouse Shortcuts in the User Configuration preferences.

To enable and disable Toggle Stacking mode:

- Click the mouse button or keyboard shortcut that you have defined for Toggle Stacking.

  When enabled, the Toggle Stacking cursor appears and you can stack through images by moving the mouse up and down without holding the mouse button down.

See Also

About Configuring Mouse Shortcuts 795
Assigning Mouse-Button Shortcuts 799

Unassigning Mouse Shortcuts 804
Stacking Images Using the Mouse 388

Stacking Tomosynthesis Images

You can use the Stack tool to view three-dimensional slices of tomosynthesis images, viewing each image in sequence. You can stack through images by using the mouse, the mouse wheel, or by using shortcut keys.

You can stack tomosynthesis images for modalities that support it, such as MG tomosynthesis or X-Ray tomosynthesis (including support for split datasets). For more information, contact your PACS administrator.

You can use the following controls in the scroll bar for tomosynthesis stacking:

- Slice positioning: The ordering of slices in the dataset. The order of images is determined by CC Slice Position and MLO Slice Position in the Tomosynthesis preferences. For example, in a CC series, F at the top of the scroll bar and H at the bottom represent foot to head slice positioning.
- Thumb: Indicates which image is currently displayed. This information is also available from the Im text overlay.
- Scroll bar: Blue sections indicate slices you have already viewed.
- Play and pause: Controls the automatic stacking of tomosynthesis images. The the rate at which the images are stacked is specified by Default Stacking Speed in the Tomosynthesis preferences. InteleViewer temporarily pauses stacking to wait for tomosynthesis images to load from the PACS, which might affect the stacking speed. When all images have been loaded, the stacking speed will resume to the default stacking speed.

To view tomosynthesis images:

1. Open one or more tomosynthesis studies. See “About Opening Studies and Series" (page 361).
2. Select a viewport that contains a tomosynthesis series.
3. Do one of the following:

Use:	To do this:
UP ARROW	View the previous image in the dataset. The previous image is determined by the slice positioning

Use:	To do this:
	preference.
DOWN ARROW	View the next image in the dataset. The next image is determined by the slice positioning preference.
Mouse Wheel	Stack through images in the dataset.
Play button or **CTRL+S**.	Stack through each image in the dataset automatically. Stacking alternates between directions. Click the Pause button or press **CTRL+S** to stop.

See Also

Setting Mammography and Tomosynthesis Preferences 145
Displaying the Text Overlay and Image Overlay 71
Breast Tomosynthesis Images with Incorrect Slice Position 428
Viewing Multiple Datasets 381

Synchronizing Stacking

You can synchronize the stacking of multiple series that were imaged on parallel planes by using Linked Stacking. Two linked stacking tools are available: Manual Linked Stacking and Auto Linked Stacking, and the Auto Linked Stacking tool is selected by default.

Use the Auto Linked Stacking tool to cause all series on parallel planes, which share a unique coordinate system, to synchronize to the same real-world position and remain linked during stacking. This applies to the entire viewing area; therefore, any stacking performed in any plane links all other similar planes, until you choose a different mode or disable the Auto Linked Stacking mode. With the Auto Linked Stacking tool, the reference position is the center of the selected image.

Use the Manual Linked Stacking tool to cause all series on parallel planes to link to the same real-world position and remain linked during stacking. For example, if the images in the selected series are 4mm apart, all linked series stack by 4mm in the same direction. If there is no image at that location, a blank screen appears. Since the Manual Linked Stacking tool ignores the coordinate system of a study, you can stack within a study (such as a PET/CT that does not properly unite series with a single unique coordinate system), as well as across studies (such as priors).

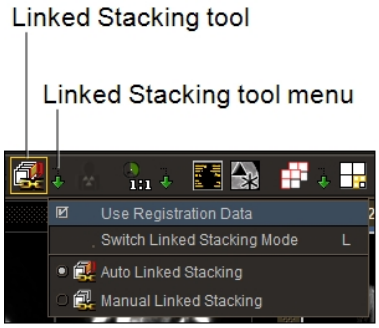
Linked stacking works in conjunction with the Stack tool, and images are synchronized when you use the Cine and Image Scroller tools. To automatically synchronize images when you use any of these tools, simply leave this feature active while you work.

You cannot use the Linked Stacking tools to synchronize the stacking of multiple cine series that were imaged on parallel planes.

Before you begin, choose the *current linked stacking tool*. This tool is used by default, until you choose a different one or disable the tool.

To choose the current linked stacking tool:

1. Do one of the following:
   - Click the Linked Stacking Tool menu in the toolbar.
   - Right-click in the viewport, and click the Stack tool in the radial menu.



2. Select the required tool.

Choose:	To use:
	The Auto Linked Stacking tool
	The Manual Linked Stacking tool

   The icon updates to reflect the selected tool.

   You can also press **L** to cycle through the linked stacking tools.

3. To disable the tool, click the selected tool again in the radial menu or the toolbar.

To synchronize stacking:

1. Open all of the series that you want to stack.

   You can also stack key image series and teaching cases when viewing them, but you cannot stack in the Key Image Composer and Teaching Case Editor.

2. Choose the stack tool. See “Stacking Images" (page 387).
3. Stack each series so that the corresponding images are displayed.

   If you are using a multi-image layout, make the first image in each series correspond.

4. Select the series (or plane) with which you want the others to synchronize.
5. Click the Auto Linked Stacking tool .

   The cursor corresponds to the linked stacking tool you have selected, and the Auto Linked Stacking icon in the toolbar appears with a yellow outline indicating that it is the currently-selected tool.

6. Stack images using the mouse or keyboard shortcuts. See “Stacking Images" (page 387).

   When you stack by dragging your mouse cursor, the Auto Linked Stacking icon disappears, for optimal viewing of the images.

   If you are displaying the text overlay information, the image number increases and decreases as you stack to indicate the current image of each series.

Synchronizing Stacking Using DICOM Registration Data

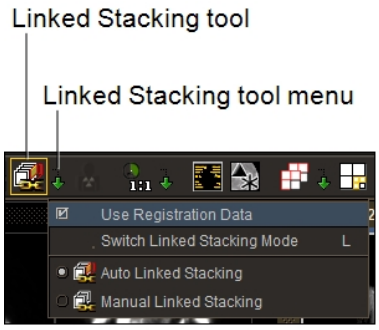
If the Registration Data feature is configured on your IntelePACS, you can use the Auto Linked Stacking tool to synchronize the stacking of current and prior series on parallel planes that have coordinate systems that are linked via DICOM registration data. The current and prior series are synchronized to the same real-world position and remain linked during stacking.

You can also stack key image series and teaching cases when viewing them, but you cannot stack in the Key Image Composer and Teaching Case Editor.

To synchronize stacking using DICOM registration data:

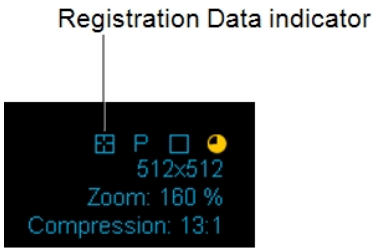
1. Open all of the series that you want to stack.
2. Choose the stack tool. See “Stacking Images" (page 387).

3. Set the viewport layout as required. See “Changing the Viewport Layout" (page 408).
4. Add the current and prior series to the viewports as required.
5. Click the Linked Stacking Tool menu in the toolbar.



6. Enable the Use Registration Data option.

   The Registration Data indicator appears in the viewports for the series that do not belong to the same study as the series in the currently selected viewport.



   This option is linked to the Use Registration Data option in the User Interface Preferences. For example, if you enable the option in the Linked Stacking Tool menu, the option is also enabled in the User Interface Preferences.

7. Click the Linked Stacking Tool menu in the toolbar.
8. Click the Auto Linked Stacking tool .

   The cursor corresponds to the linked stacking tool you have selected, and the Auto Linked Stacking icon in the toolbar appears with a yellow outline indicating that it is the currently selected tool.

9. Stack images using the mouse or keyboard shortcuts. See “Stacking Images" (page 387).

When you stack by dragging your mouse cursor, the Auto Linked Stacking icon disappears for optimal viewing of the images.

If you are displaying the text overlay information, the image number increases and decreases as you stack to indicate the current image of each series.

Using Super Series Stacking to View Images

For uninterrupted stacking of images in a study, use the Super Series Stacking tool. The Super Series Stacking tool stacks all series images in chronological order based on acquisition date and time. Super Series Stacking includes scanned documents and key images . For example, if a study contains five series, each with six images, you can use the Super Series Stacking feature to view all 30 images in sequence.

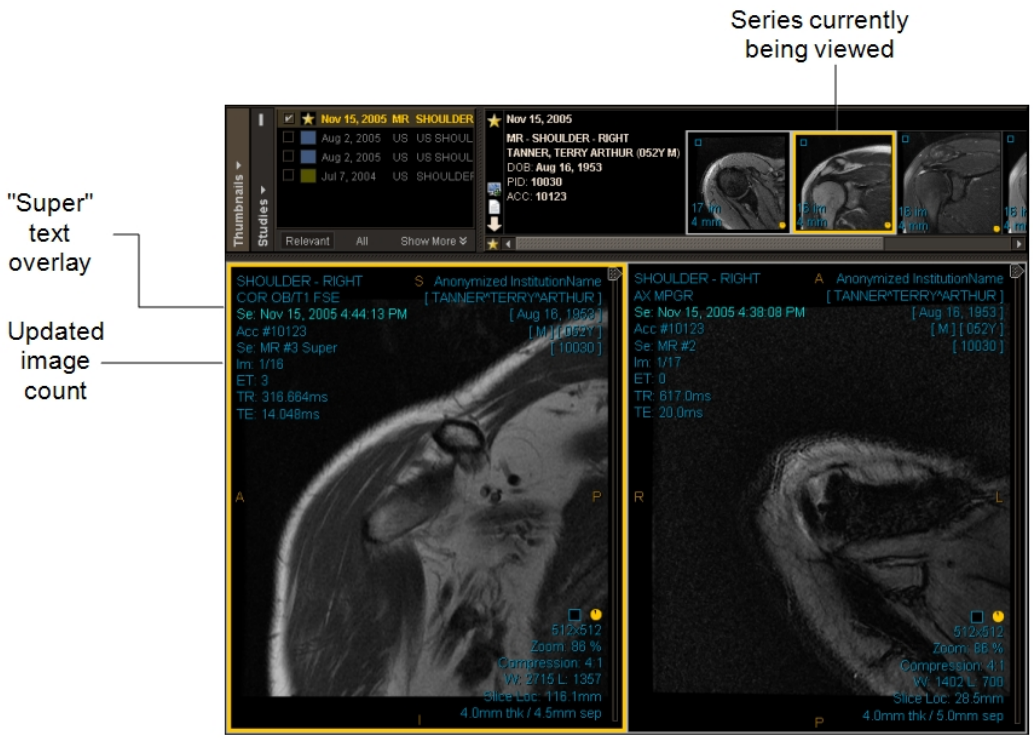
When you change the series layout, the Super Series Stacking feature is deactivated; however, although double-clicking the viewport to zoom in or out changes the viewport layout, the Super Series Stacking feature is not deactivated. Additionally, dragging and dropping a new series into the viewport resets the viewport and deactivates the Super Series Stacking feature.

To view a super series:

1. Search for the required study. See “About Searching for Studies" (page 249).
2. Do one of the following:

   - In the toolbar, click the Toggle Super Series Stacking tool .
   - Press and hold **SHIFT + S**.

   “Super” is added to the Modality, Series, and Dataset text overlay to identify the super series.



3. Stack images using the mouse or keyboard shortcuts. See “Stacking Images" (page 387).

   A yellow border appears around the thumbnail to indicate which series you are viewing in the currently selected viewport. The image count is updated as you stack through all images. Once you reach the last image in a series, you automatically jump to the first image of the next series, and so on, until you reach the last image in the last series.

Scrolling through Images

You can move back and forth through a series to find the images you require by using the Image Scroller tool. The Image Scroller tool is composed of a scrollbar. Various colors and lines are displayed within the scrollbar to communicate information about the images.

An intersecting blue horizontal line indicates a key image, a teaching case, or an image that contains image manipulations. For example, if you add a measurement to an image, a blue line intersects the scrollbar at the point where the image appears within the series. If you create a teaching case or a key image, the same blue intersecting line also appears.

Gray sections within the scrollbar indicate images that have been downloaded but that you have not yet viewed. Blue sections within the scrollbar indicate images that you have already viewed.

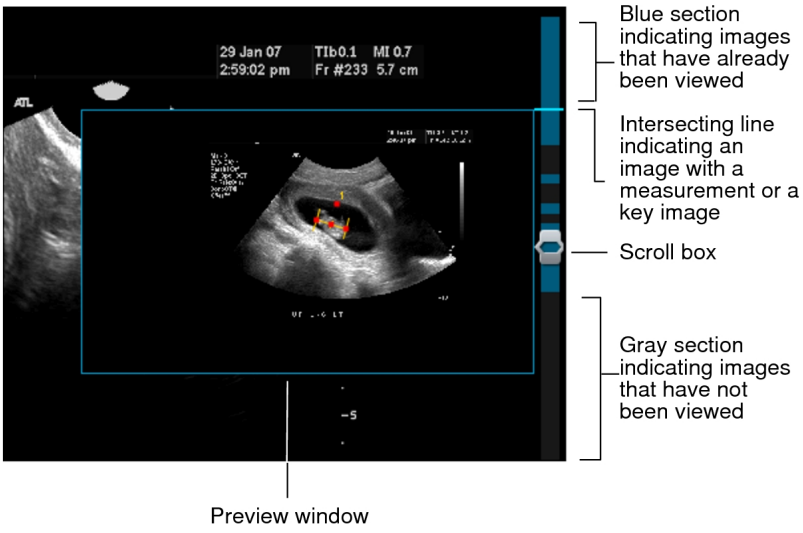


Image manipulations, such as linear measurements, or key images and teaching cases are displayed in a preview window when you hover your mouse cursor over an intersecting line in the scrollbar.

When you exit InteleViewer your image scroller setting is remembered. For example, if the image scroller is active when you exit, it is active the next time you start InteleViewer.

You can also scroll through key image series and teaching cases when viewing them, but you cannot stack in the Key Image Composer and Teaching Case Editor.

To use the image scroller:

1. From the main menu, choose Tools | Image Scroller.

   A vertical scrollbar appears on the right side of viewports.

2. Click and drag the scroll box to move back and forth through the images in the series.
3. To hide the image scroller, choose Tools | Image Scroller.

Using the Cine Real-Time Player

The Cine Real-Time Player allows you to play back cine series in real-time. Cine series are datasets that contain multi-frame images that have the DICOM frame rate encoded in the DICOM header. Cine series are indicated by a cine icon in the thumbnail image.

You would typically use the Cine Real-Time Player with a “temporal” series, in which each slice corresponds to a different moment in time, yet shows the same location in space. Examples of this type of series would be an echocardiogram captured by using ultrasound or an angiogram captured by using x-ray. A related feature, the Cine tool, allows you to stack through images in a “spatial” series by playing them as if they were a movie clip.

When you open a cine series that you want to play back, the Cine Real-Time Player is automatically displayed. By default, the cine series playback starts at the frame rate specified in the DICOM header. You can adjust this frame rate to either increase or decrease the playback speed.

Each cine series layout has its own set of player controls. You can use these controls to play multiple cine series simultaneously by locking playback of one cine series and switching to another one without stopping playback of the first cine series.

You can configure your ultrasound modality preference settings to automatically play back all temporal cine ultrasound clips, or only the first clip. You can also restrict the cine playback to the selected viewport only.

The Cine Real Time Player plays series even when all the images in the series have not yet streamed to InteleViewer. In this case, the missing images will appear as blank images. The Cine Real Time Player replaces the blank images with the actual images in the series as InteleViewer receives them from the PACS.

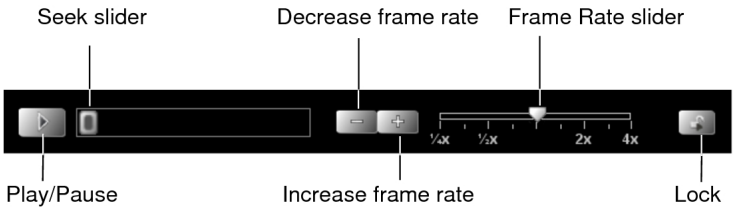
When using a sequence layout protocol, InteleViewer maintains the play or pause state of the cine player when switching among viewports of current cine series or switching among viewports for prior cine series. For example, if you are playing a current cine series then select another viewport with a current cine series, the second cine series starts playing automatically. This automatic playing or pausing does not apply when switching between current and prior cine series.

You cannot use the Cine Real-Time Player when viewing key image series and teaching cases or in the Key Image Composer and Teaching Case Editor.

To use the Cine Real-Time Player:

1. Select the cine series that you want to play back.

   The Cine Real-Time Player controls appear at the bottom of the viewport.

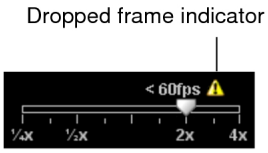


2. Choose any of the following controls:

Control	Icon	Description
Play		Continually plays the cine series from the beginning or from where you paused it. The Play button becomes the Pause button when activated. When the cine is playing, InteleViewer disables the streaming of images. Once the cine is turned off, the streaming of images is reactivated.
Pause		Pauses playback of the cine series. The Pause button becomes the Play button when activated. Click Play to resume where the clip left off.
Seek Slider		Provides an indicator of how much of the cine series has been played. As the cine series plays, this slider moves to the right, unless you pause the playback, at which time the Seek Slider stops moving. You can drag this slider to any position from the beginning to the end of the cine series to choose an exact starting point for the playback.
Decrease Frame Rate		Decreases the relative frame rate at which the cine series is to be played. The default value of 1.0 indicates the normal frame rate defined in the DICOM header. For example, if the normal frame rate value is 30 fps, then a relative frame rate of 1/2x plays the cine series at 15 fps.
Increase Frame Rate		Increases the relative frame rate at which the cine series is to be played. The default value of 1.0 indicates the normal frame rate defined in the DICOM header. For example, if the normal frame rate value is 30 fps, then a relative frame rate of 2x plays the cine series at 60 fps.

Control	Icon	Description
Frame Rate Slider		Adjusts the rendering frame rate of the cine series. Drag the slider to the required frame rate. The actual frame rate is displayed here. For scanners that cannot provide the exact frame rate, InteleViewer provides an average frame rate. When the cine series first starts to play, the player uses the frame rate (1x) defined in the DICOM header.
Lock		Locks playback of one cine series and allows you to switch to a new cine series without stopping playback of the first cine series.

Sometimes when you adjust the rendering frame rate of the cine series, the Cine Real-Time Player may drop frames during playback to achieve the requested frame rate. This can happen with slow computers. In this case, a dropped frame indicator appears above the Frame Rate Slider. If you need to play back every frame in the cine series, then select a slower speed.



3. To navigate through series during cine playback, rotate the mouse wheel over the playing clip, or use the **PAGE UP**, **PAGE DOWN**, **LEFT ARROW**, and **RIGHT ARROW** keys.

   For example, for a temporal cine ultrasound study, if the Autoplay Cine Clips All preference is enabled, then rotating the mouse wheel up will play all clips in the next viewport/layout.

   When navigating through series using a mouse wheel, you can choose to update all viewports with the next page of series, or navigate through series in the current viewport only. To do so, middle-click a viewport and choose Series In All Viewports or Series in Current Viewport. If an active sequence protocol is associated with the modality, the Navigate Through menu also includes options for navigating through Steps and Priors.

See Also

Using the Cine Tool 404
Setting Modality Preferences 129
Navigating Through Reading Steps and Comparable Priors 242

Using the Cine Tool

The Cine tool allows you to stack through images by playing them as if they were a movie clip. Instead of stacking through a series of images manually, you can use this tool.

You would typically use the Cine tool with a “spatial” series, in which each slice corresponds to a different location in space—a CT or MR series containing more than one image, for example.

Each series layout has its own set of player controls that allow you to cine one series and then click another to begin cine in that series. You can also lock one series in the cine mode and make the other series play cine.

You can also use the player controls to adjust the playback speed of several series independently, and repeat playback automatically by using various modes. Any changes you make to the playback speed are remembered the next time you begin to cine.

The maximum playback speed for each series is limited to one that still fully renders each image in the viewport at the specified image quality.

A related feature, the Cine Real-Time Player, allows you to play back a “temporal” series in real-time.

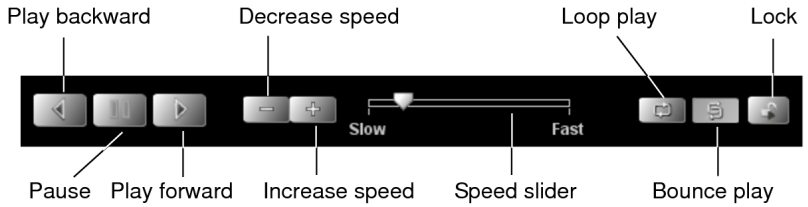
To use the Cine tool:

1. Select the series that you want to play back. If you are using linked stacking, select the series with which you want the others to synchronize.

   You can use the Cine tool when viewing key image series and teaching cases, but you cannot use it in the Key Image Composer and Teaching Case Editor.

2. From the main menu, choose Tools | Cine (**CTRL+I**) or click the Cine tool .

   The playback controls appear at the bottom of the viewport.



3. Choose any of the following controls:

Control	Icon	Description
Play Forward		Plays the series forward from the beginning or from where you paused it. When the cine is playing, InteleViewer disables the streaming of images. Once the cine is turned off, the streaming of images is reactivated.
Play Backward		Plays the series backward from the end or from where you paused it.
Pause		Pauses playback of the series. Click Play Forward or Play Backward to resume playback of the series.
Speed Slider		Provides an indicator of how fast the series is being played. Drag this slider to any position to choose the playback speed.
Decrease Speed		Decreases the playback speed incrementally.
Increase Speed		Increases the playback speed incrementally.
Loop Play		Continually stacks through the images, either from the beginning of the series (if playing forward) or the end of the series (if playing backward). For example, if the series contains ten images and the playback direction is forward, then Loop mode stacks through images 1 to 10, then 1 to 10 again, and so on.
Bounce Play		Continually stacks through the images forward, then backward. For example, if the series contains ten images and the playback direction is forward, then Bounce mode stacks through images 1 to 10, then 10 to

Control	Icon	Description
		1, and then 1 to 10, and so on.
Lock		Locks playback of one series and allows you to switch to a new series without stopping playback of the first series.

4. To navigate through series during cine playback, rotate the mouse wheel over the playing clip, or use the **PAGE UP**, **PAGE DOWN**, **LEFT ARROW**, and **RIGHT ARROW** keys.

   When navigating through series using a mouse wheel, you can choose to update all viewports with the next page of series, or navigate through series in the current viewport only. To do so, middle-click a viewport and choose Series In All Viewports or Series in Current Viewport. If an active sequence protocol is associated with the modality, the Navigate Through menu also includes options for navigating through Steps and Priors.

5. Choose Tools | Cine (**CTRL+I**) or click the Cine tool to disable it.

See Also

Reviewing the Quality of Images 463
Using the Cine Real-Time Player 400

Viewing Image Availability Status

You can view the availability status of images for relevant priors in the Patient Record tab, Patient menu, and Studies list. The availability status icons in the priors list let you quickly see if a study's images are online and ready to be viewed, or if they are offline and must be retrieved prior to viewing.

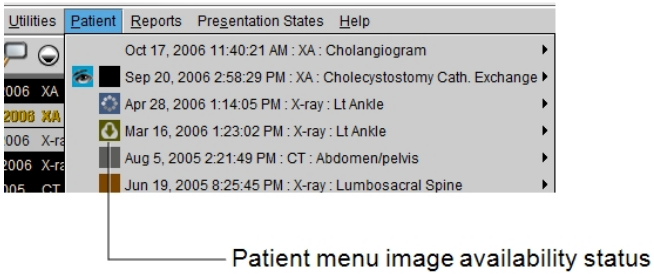
Status	Icon	Description
Online	(no icon)	All images are online and available to view.
Offline		The images for at least one study for this order are offline. You must retrieve the images before they can be viewed.
No Images (Patient Record		There are no images associated with this order.

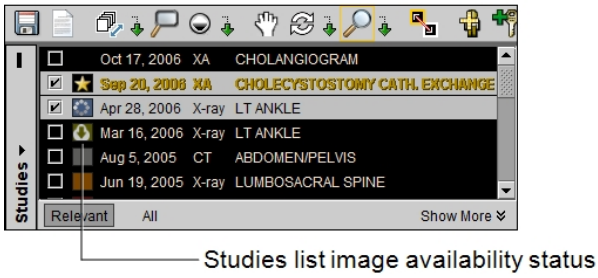
Status	Icon	Description
tab only)		
Retrieving Images		There are images associated with this order that are in the process of being retrieved.
Unknown		Images may not exist or the image location is unknown.
Error		An error occurred while an image was being retrieved.

In the Patient menu and Studies list, the image status icons appear within the colored squares for the prior studies.

Image availability status icons are supported in the Studies list vertical orientation only.

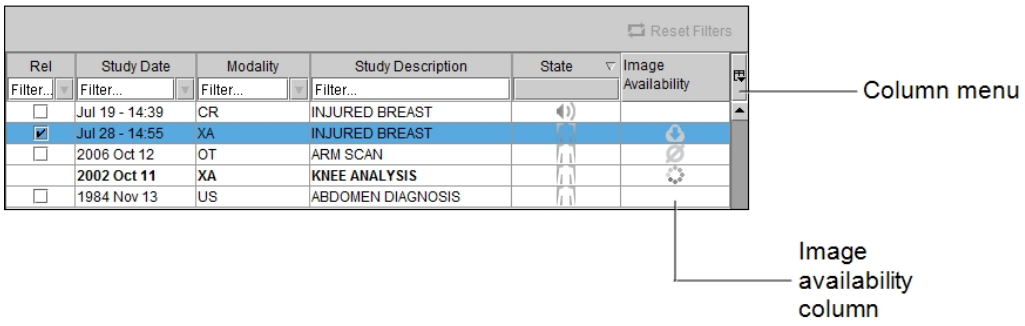
To retrieve offline images, click the corresponding study in the Studies list or a series for the study in the Patient menu.





The Patient Record tab displays the image status icons in the Image Availability column of the Patient History panel. To show the Image Availability column, select the Image Availability option in the Column menu of the Patient History panel.

To retrieve offline images, double-click the corresponding study in the list.



Changing the Viewport Layout

The viewport layout controls the way multiple series, and the images within each series, are displayed on the screen. When you open images, the initial viewport layout is determined by your user preference settings or layout protocols. However, you can change the layout as you work.

Changing the viewport layout modifies the view for either your current monitor alone, or for all monitors on your workstation, depending on the option you have selected in your user preferences.

If you reopen the series, or open a different series, the default layout is applied and will again be determined by your user preference settings or protocols (if your IntelePACS is configured with advanced layout management).

You can change the viewport layout for the current monitor or across all monitors by using one of the following methods:

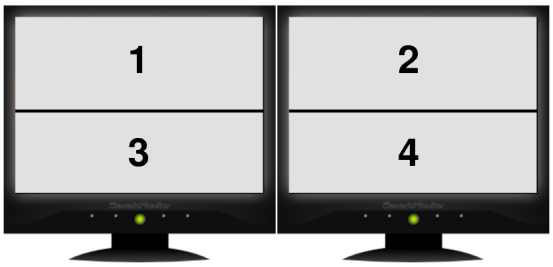
Keyboard shortcuts—Control how the image and series layout will appear on the current monitor.

Selected Monitor Series Layout dialog—Controls how the series layout will appear on the current monitor. This method is useful if you want to set a different number of viewports and layouts on individual monitors.

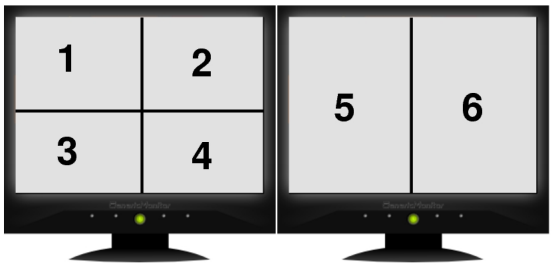
Layout dialog—Controls how the image and series layout will appear across all screens.

Here are several examples of a dual-monitor configuration using the above methods.

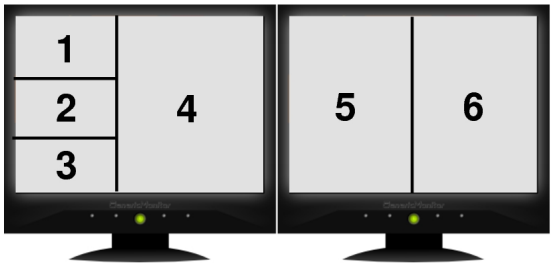
Series Layout is Set to a 2 x 2 Symmetrical Grid Across Both Monitors Using the Layout Dialog or Keyboard Shortcut 4



Series Layout is Set to a 2x 2 Symmetrical Grid on the Current Monitor Using the Selected Monitor Series Layout Dialog or Keyboard Shortcut 4



Series Layout is Set to a 3 + 1 Asymmetrical Grid Using the Selected Monitor Series Layout Dialog



When you use the keyboard shortcuts, InteleViewer takes the aspect ratio of the application window on the current monitor into account and adjusts the series and image layout to best fit the viewing area. For example, if you use the keyboard shortcut for a four-series layout (**4**), the series will be displayed either 1 x 4, 2 x 2, or 4 x 1, depending on the shape and size of the InteleViewer window.

You can also use the mouse to quickly switch from whatever your current layout is to a single-viewport layout, as described below.

To quickly set a 1-viewport layout:

1. Double-click a series or image viewport.

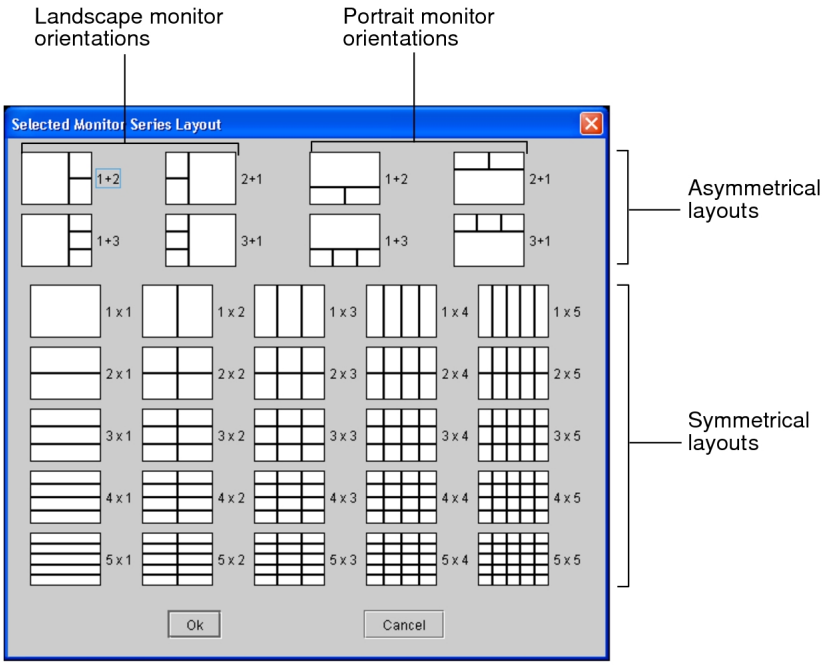
   The series/image is displayed in a 1 x 1 layout in the monitor.

2. To revert to the previous layout, double-click the series/image again.

   If you replace the series in the 1-viewport layout with another series, InteleViewer will either restore the original series or show the current series when returning to the multi-viewport layout, depending on your user interface preferences. For more information, refer to the “When Returning To a Multi-Viewport Layout From a 1-Viewport Layout Opened By Double-Clicking” option in “User Interface Preferences" (page 85). If you stack images in the 1-viewport layout, the currently displayed image is shown when returning to the multi-viewport layout.

To change the series layout:

1. Keep your monitor configuration in mind when choosing a layout. For example, if you are using a dual-monitor system, choose a layout with an even number of columns to split images evenly across the two screens.
2. To change the series layout across all monitors, click the Series Layout tool in the toolbar or the Global Monitor Layout tool in the radial menu.
3. Click Series Layout.
4. Click the required layout icon. The icons indicate the way in which multiple series will appear on screen, organized in rows and columns.
5. Click OK.
6. To change the series layout on the current monitor, right-click a viewport and then click the Current Monitory Layout tool in the radial menu.



7. Click the required layout icon. In a multiple-monitor configuration, the Selected Monitor Series Layout dialog controls how the series will appear only on the current monitor.

   For the asymmetrical series layouts, keep in mind that there are four layout icons for a portrait monitor orientation, and four layout icons for a landscape monitor orientation. For example, a 3 + 1 layout on a monitor in landscape orientation will display a total of four series, where three series will be on the left of the window and one series on the right.

8. Click OK.
9. To change the series layout by using keyboard shortcuts, press the corresponding key.

   The layout of rows and columns will be set automatically to suit the aspect ratio of the application window.

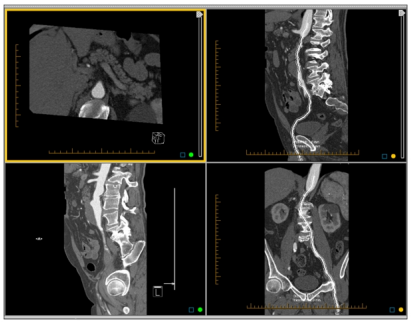
Key	# of Series	Possible Layouts
1	1	1 x 1
2	2	1 x 2, 2 x 1
3	3	1 x 3, 3 x 1

Key	# of Series	Possible Layouts
4	4	1 x 4, 2 x 2, 4 x 1
5	6	1 x 6, 2 x 3, 3 x 2, 6 x 1
6	9	1 x 9, 3 x 3, 9 x 1
7	12	1 x 12, 2 x 6, 3 x 4, 4 x 3, 6 x 2, 12 x 1
8	16	1 x 16, 2 x 8, 4 x 4, 8 x 2, 16 x 1
9	18	1 x 18, 2 x 9, 3 x 6, 6 x 3, 9 x 2, 18 x 1

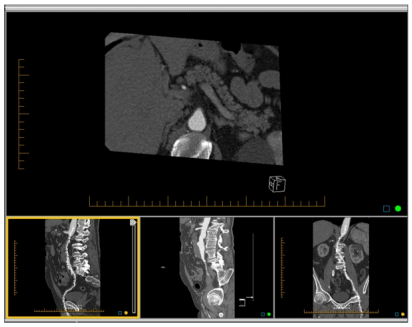
In a multiple-monitor configuration, the keyboard shortcuts control how the series will appear on all monitors—not just the currently selected monitor.

The viewports are updated to reflect the new layout.

Series Layout is Set to a 2 x 2 Grid



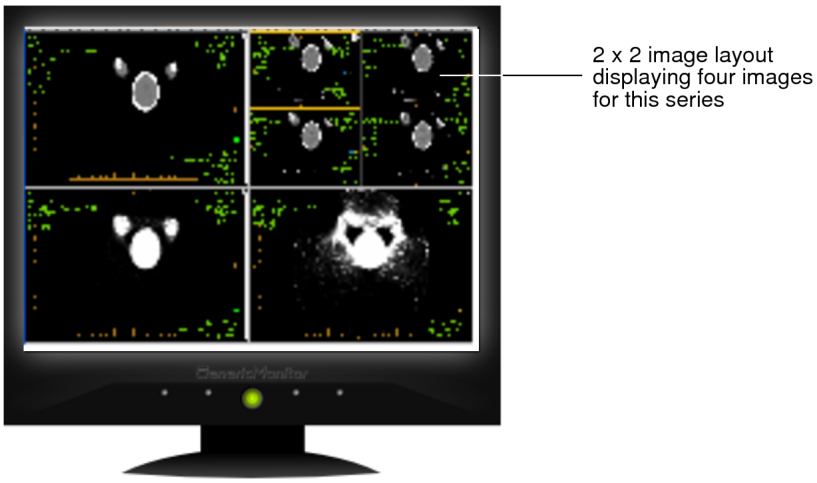
Series Layout is Set to a 1 + 3 Grid



To change the image layout:

1. Select the required viewport.

2 x 2 Series Layout Displaying Four Series



2. To change the image layout for a series in a viewport that is displayed across several monitors, click the Image Layout tool or the Global Monitor Layout tool .
3. Select Image Layout.
4. Click the required layout icon.

   The icons indicate the way in which multiple images in a series will appear on screen, organized in columns and rows. For example, a 2 x 3 layout will display a total of six images in the series viewport, organized in two rows and three columns.
5. Click OK.
6. To change the image layout for a series in a viewport that is displayed on the current monitor, use keyboard shortcuts and press the corresponding key.

   The layout of rows and columns will be set automatically to suit the aspect ratio of the application window.

Key	# of Images	Possible Layouts
CTRL+1	1	1 x 1
CTRL+2	2	1 x 2, 2 x 1
CTRL+3	3	1 x 3, 3 x 1

Key	# of Images	Possible Layouts
CTRL+4	4	1 x 4, 2 x 2, 4 x 1
CTRL+5	6	1 x 6, 2 x 3, 3 x 2, 6 x 1
CTRL+6	9	1 x 9, 3 x 3, 9 x 1
CTRL+7	12	1 x 12, 2 x 6, 3 x 4, 4 x 3, 6 x 2, 12 x 1
CTRL+8	16	1 x 16, 2 x 8, 4 x 4, 8 x 2, 16 x 1
CTRL+9	18	1 x 18, 2 x 9, 3 x 6, 6 x 3, 9 x 2, 18 x 1

When the selected viewport is displayed across several monitors, the shortcuts control how the images will appear on the current monitor, rather than across all screens, like the layout dialog.

The images in the selected series are displayed according to the new layout.

To create a custom series or image layout:

1. In the Layout dialog or the Selected Monitor Series Layout dialog, click Series Layout or Image layout.
2. Enter the number of rows and columns of your custom layout in the corresponding text fields.
3. Click OK.

   The new layout is applied to the viewports or the images.

See Also

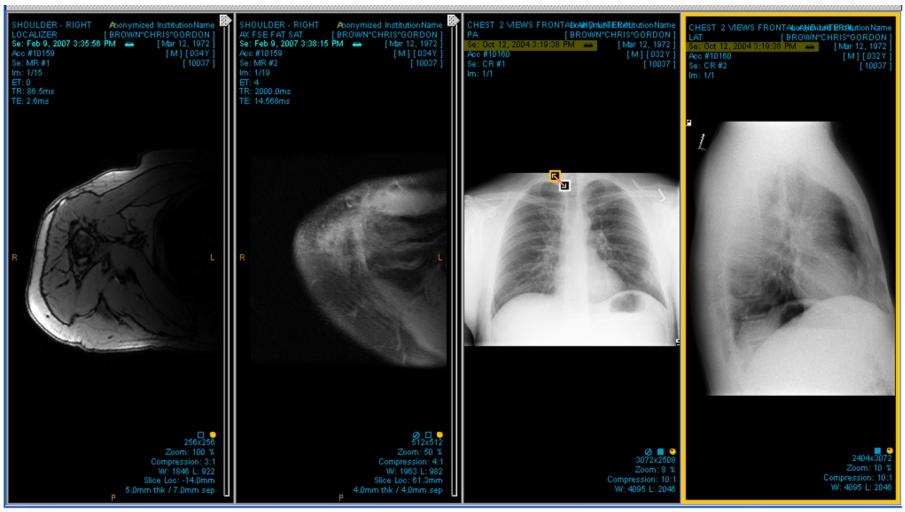
User Interface Preferences 85
Setting Modality Preferences 129
Configuring Layout Protocols 806
About Configuring Layout Protocols 807

Locking Viewports

Locking viewports enables you to associate viewports with a particular study. In doing so, you avoid dragging images from a different study into the wrong viewport, mismatching images from different studies and changing the chronology of studies.

In the example below, you could lock the left-most viewports to display only images from the current study and lock the right-most viewports to display only images from the prior study. If you then attempt to drag a prior image into the viewport reserved for current images, the operation fails. Locking viewports ensures that you are viewing images from the correct series.

Locks affect all viewports. By locking one viewport, you lock all viewports.

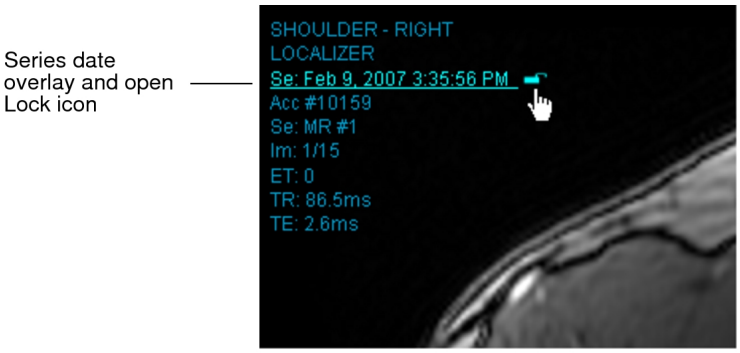


Images for current study associated with left-most viewports

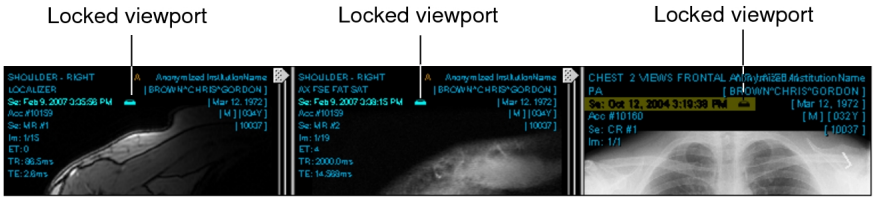
Images for prior study associated with right-most viewports

To lock viewports:

1. Determine the layout of your viewports by dragging thumbnails into the viewports.
2. Do one of the following:
    - Hover the mouse cursor over the study or series date overlay and click the (open) Lock icon that appears.
    - Press **CTRL + L**.



All viewports are locked at once. A closed lock appears next to the date text overlay in each viewport to indicate that the viewports are locked.



3. To override a lock on a viewport in order to drag a an image from a different series into this viewport, press and hold the **CTRL** key while dragging the thumbnail image into the viewport.

   The viewport still remains locked; however, the viewport is now associated with the series of the image you dragged into the viewport. Going forward, you can only drag images from that series into this viewport—unless you override or unlock the viewports.

4. To unlock all the viewports at the same time, click the Lock icon in any viewport or press **CTRL +L**.

   You can now drag any thumbnail image into any viewport.

Increasing Image Quality

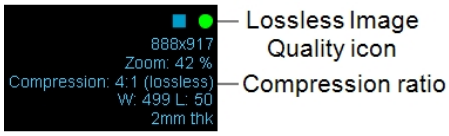
You can specify the quality at which images initially display by setting an image compression ratio per modality in the user preferences. The compression ratio you choose largely depends on your network connection. For example, a high compression ratio, such as 15:1, ensures that images load quicker on slower networks due to lower image quality. Lower compression ratios, such as 3:1, provide higher initial image quality but require faster networks for the images to load quickly.

When you first open a series, InteleViewer progressively refines the quality of the displayed image to the specified image compression ratio. InteleViewer uses the image compression ratio setting in the user preferences as the recommended compression when opening a series. Depending on your network connection, however, InteleViewer may open the series at a lower compression ratio in order to provide the best possible image quality.

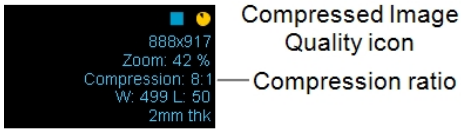
Once an image is loaded, if you require increased image quality you can manually increase the quality incrementally or go directly to full quality (*lossless compression*). When you increase image quality, you can do so for all images in the series or for a selected image only.

Lossless images have a slight compression ratio applied while still providing full image quality. The lossless compression ratio varies depending on the image contents. Typically, it is 3:1 or 2:1 but it can go as high as 20:1 for images containing very little information. If the image compression ratio set in the user preferences matches, or is lower than, the lossless compression ratio for an image, the image is loaded until *lossless compression* (full quality) is achieved. For example, if the image compression ratio is set to 2:1 in the user preferences, an image with a lossless compression ratio of 3:1 will open in full image quality.

The current compression ratio for the image is indicated in the text overlay. While the image is loading, the image quality icon appears gray to indicate that image data is still arriving, and the progress bar displays the percentage completed for the series. When an image is displayed full-quality, the image quality icon appears as a full green circle and the word “lossless” appears as the compression ratio.

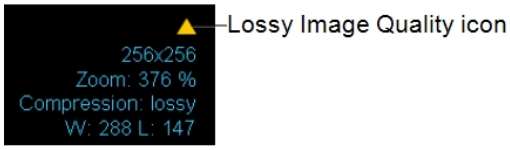


For compressed images, the text overlay displays the current compression ratio and the icon appears as an incomplete amber circle.



For lossy DICOM JPEG images, the image compression ratio is ignored since images are loaded at the maximum compression ratio. When an image is displayed, the icon becomes a full amber triangle and the word “lossy” appears as the compression ratio in

the text overlay. When opening or importing a truncated JPEG image, InteleViewer displays the image as lossy.

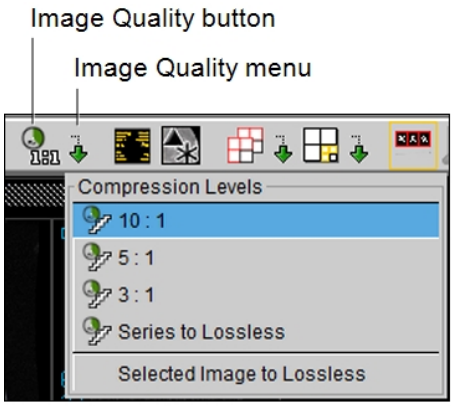


To increase the quality of a series:

1. Select the series.
2. To increase the series image quality incrementally, press **BACK QUOTE** (`) or choose Tools | Increase Series Quality.

   Each time you do so, the quality is increased to the next compression level.
3. To increase the series quality to a specific compression ratio, choose a compression level from the Image Quality menu in the toolbar.

   You may reach lossless compression if the option you chose corresponds to, or surpasses, the lossless compression ratio for that image. Once the entire series reaches lossless compression, the menu is disabled.

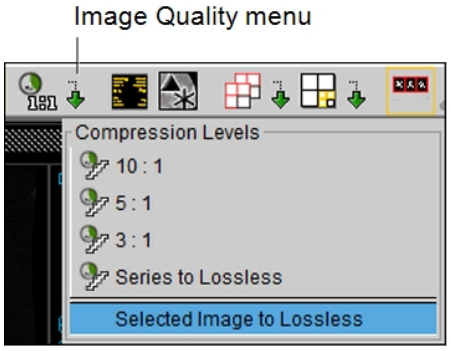


4. To increase the series to full quality, choose Series To Lossless from the Image Quality menu in the toolbar, press **CTRL+BACK QUOTE**, or click the Image Quality button .

   All images in the series are displayed in full quality.

To increase the quality of a selected image to lossless:

1. Select the image.
2. In the Image Quality menu, choose Selected Image to Lossless.



The selected image in the series is displayed in full quality. The other images in the series are unaffected.

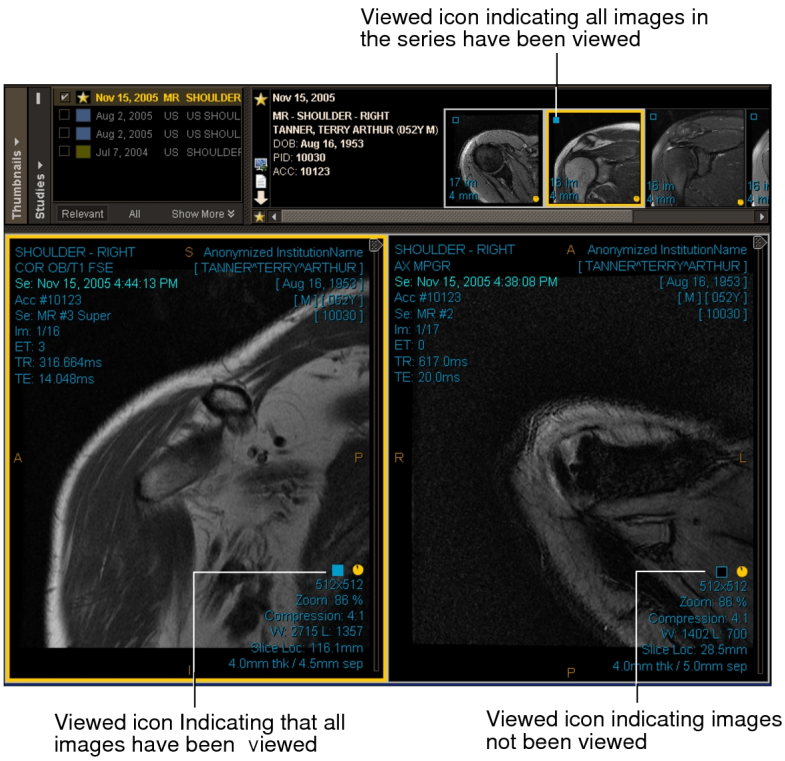
See Also

Setting Modality Preferences 129

Verifying that All Images have been Viewed

Notification icons in the viewports, thumbnails, and Patient menu indicate when a series has been completely viewed, and when an entire study has been completely viewed. The word “VIEWED” also appears in the study panel for that study.

For a series to be considered viewed, all images in the series must have been fully rendered in the viewport at the specified image quality. When all images in a series are fully rendered in the viewport, the Viewed icon (a square displayed in the viewport and the thumbnail image) changes from hollow to solid.



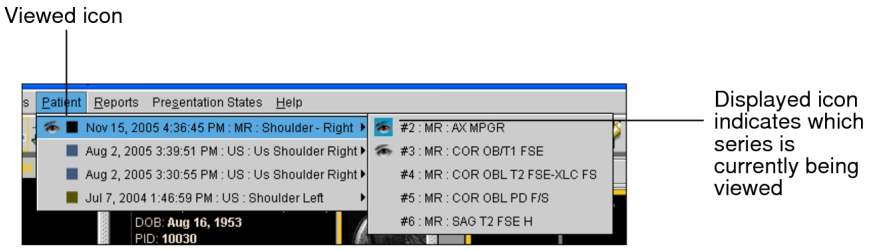
Viewing images in the Thumbnail strip does not update the status of the series.

In the case of single-image modalities, such as X-ray, the Viewed icon is updated immediately once the image is rendered in the viewport. In the case of related views in MR or CT series, where images are viewed by stacking (Auto Linked Stacking or Manual Stacking) or by using the 3D cursor, the Viewed icon is updated only once all images have been completely viewed.

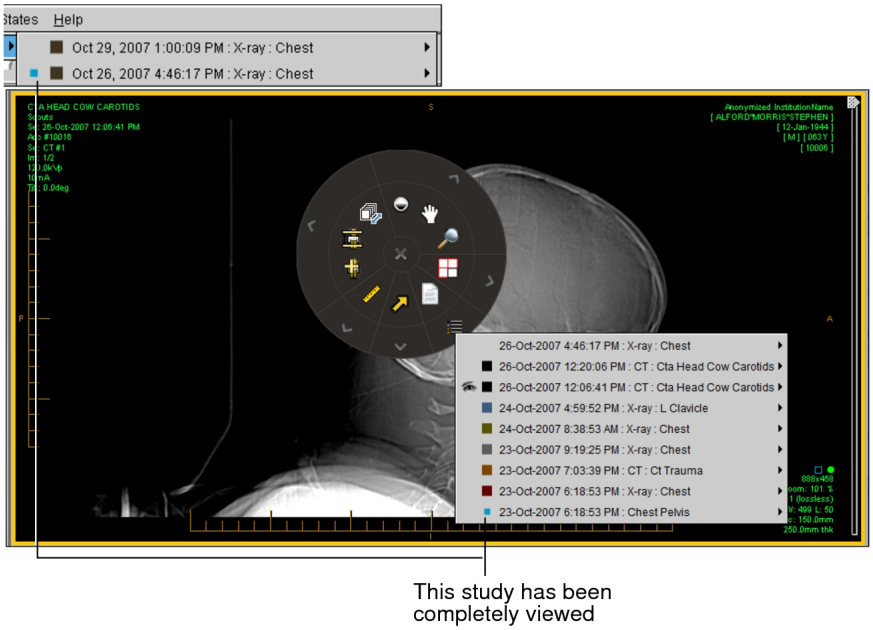
If you are using the Image Scroller or Stack tools, whether each image is fully rendered depends on your stacking speed and specified image quality. Only the Cine tool forces every image to render before displaying the next.

You can configure how InteleViewer marks images as “Viewed”. For example, you can configure InteleViewer to mark as viewed only images that appear in a specific monitor.

The Viewed icon also appears next to the series in the Patient menu. The Displayed icon indicates the studies or series currently being viewed. The blue Displayed icon indicates the studies or series that have been completely viewed.



A study is considered viewed when all of its series have been viewed. The Viewed icon appears next to studies in the Patient menu to indicate those that have been viewed. Key image series and teaching cases are always considered viewed.



See Also

User Interface Preferences 85

Starting Image Fusion

Image Fusion supports Nuclear Medicine, CT, PET, SPECT, and MR data, as well as the fusion of CT or MR with PET or SPECT data.

For Nuclear Medicine, Image Fusion allows you to read all NM images except myocardial perfusion SPECT.

For CT, PET, SPECT, and MR data, Image Fusion allows you to compare up to four studies simultaneously. Each study can contain three series: a CT or MR series, a PET or SPECT AC series, and a PET or SPECT NAC series.

Conditions for fusing PET/CT, SPECT/CT, or MR datasets are as follows:

- You must load at least one CT or MR dataset in the viewports.
- The datasets must contain at least two images.
- The datasets must load at the requested quality.
- The images must be in transverse orientation.
- The CT/PET or SPECT datasets must share a common frame of reference.

PET/CT datasets or hybrid PET/MR series that share a common frame of reference are automatically fused into a new study and loaded.

If the CT or MR and PET or SPECT series do not share the same frame of reference, both series launch separately, and Image Fusion displays a warning. You can then use the Fuse Studies option in the Tools menu to fuse them into a new study. If multiple series load, the most current MR or CT series is fused.

To start Image Fusion:

1. Open one or more of the following combination of studies:
    - PET
    - SPECT
    - CT and PET AC or NAC
    - CT, PET AC, and PET NAC
    - MR
    - MR and CT/PET AC or NAC
    - MR and CT/PET AC/PET NAC
    - CT and SPECT AC or NAC
    - CT, SPECT AC, and SPECT NAC
    - MR and CT/SPECT AC or NAC
    - MR and CT/SPECT AC/SPECT NAC
    - NM dynamic/multiphase dynamic
    - NM static

- NM whole body
- Secondary capture image

2. In InteleViewer, choose the appropriate multimodality sequence protocol to load the series in the viewports or drag the required series into the viewports.

   If the study includes a CT series loaded in the viewports, Image Fusion associates the CT studies with the PET studies with the largest number of transverse slices.

   If the study includes a PET or SPECT AC and PET or SPECT NAC series loaded in the viewports, Image Fusion launches them together.

3. Click Image Fusion .

   If you start Image Fusion before all the CT/PET or CT/SPECT or MR images stream, a warning appears. If this occurs, click Cancel Launch and start Image Fusion again.

See Also

Configuring Sequence Protocols 160

Viewing Mammography Images

You can read and manipulate mammography and breast tomosynthesis images with InteleViewer. Key features include the following:

- layout protocols that display multiple steps
- support for CAD marks
- fit to viewport for maximum viewing
- same size comparison
- true size zoom
- opposite chest wall text overlays
- support for images of large breasts
- quadrant views
- Image manipulations
- access to prior mammograms

Before viewing mammography studies, set the viewing preferences to customize the behavior and appearance of images. You can customize the position of the images for either ventral or dorsal viewing.

To use this feature, ask your PACS administrator to enable the Mammography Features privilege in your user account.

To view mammography images:

1. Define the active mammography sequence protocols. See “About Configuring Sequence Protocols" (page 161).
2. Open a mammography study.

   InteleViewer applies the most appropriate sequence protocol to the study.
3. To navigate through reading steps, do the following:

Press:	To move to:
HOME	The first reading step.
END	The last reading step.
RIGHT ARROW	The next reading step.
LEFT ARROW	The previous reading step.

   You can also use the mouse to navigate through reading steps. Middle-click a viewport and choose Steps from the Navigate Through menu, and then rotate the mouse wheel to move to the next or previous reading step in the study.

   For repeated views and smart steps, InteleViewer displays all repeated images before moving to the next reading step. As you press the arrow keys or move the mouse wheel, you display all repeated views for the given step.
4. To navigate through comparable priors, do the following:

Press:	To move to:
CLOSE BRACKET]	The next comparable prior.
OPEN BRACKET [	The previous comparable prior.

You can change the default keyboard shortcuts for navigating through comparable priors in the Layout section of the Keyboard Shortcuts tab in the User Configuration user preferences window. For more information, see “Assigning Keyboard Shortcuts" (page 785). For Mammography and X-ray studies, regardless of the keyboard shortcuts, you can also use the **UP ARROW** and **DOWN ARROW** keys to navigate to the next or previous comparable prior.

You can also use the mouse to navigate through comparable priors. Middle-click in a viewport and choose Priors from the Navigate Through menu, and then rotate the mouse wheel to move to the next or previous comparable prior.

When you navigate through prior studies in a sequence protocol, InteleViewer does not display a prior study that does not match at least one view in the current reading step.

5. To navigate through series, do the following:

Press:	To move to:
PAGE DOWN	The next series in the study.
PAGE UP	The previous series in the study.

You can also use the mouse to navigate through series. Middle-click a viewport and choose Series in All Viewports to update all viewports with the next page of series, or select Series in Current Viewport to navigate through series in the current viewport only. You can then use the mouse wheel to move to the next or previous series.

About Breast Tomosynthesis Images

You can view and manipulate the following tomosynthesis images with InteleViewer:

- two-dimensional slices in a dataset
- generated 2D views, also known as synthesized two-dimensional views

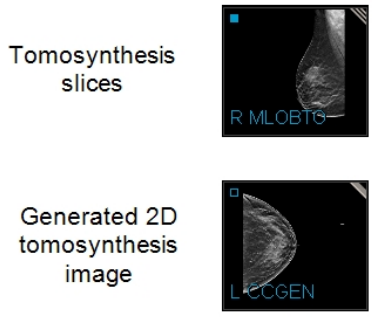
You can view these images in the same ways that you view mammography images.

To use this feature, ask your PACS administrator to enable the Mammography Features privilege in your user account.

A tomosynthesis dataset is distinguished from mammography images by including "BTO" (breast tomosynthesis object) in its thumbnail and projection overlay in a viewport. A generated two-dimensional tomosynthesis image includes "GEN." Also, a breast

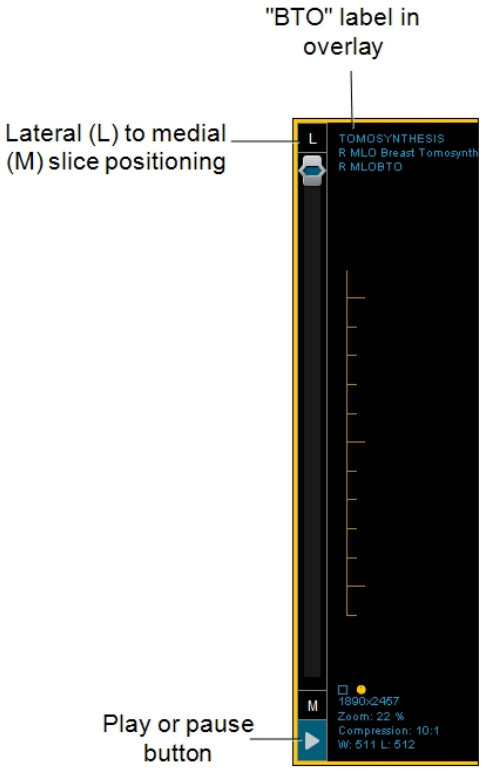
tomosynthesis dataset includes diagonal lines and a generated two-dimensional image has a diagonal gray bar in the top-right corner of a thumbnail.

Examples of indicators in tomosynthesis thumbnails



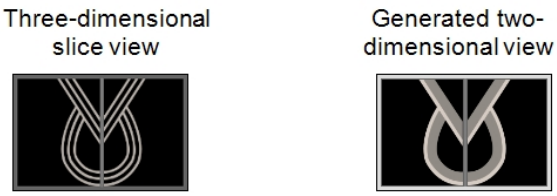
You can use the scrollbar beside a tomosynthesis dataset to scroll through image slices. You can specify your preferred scrolling order for CC and MLO positioning in the User Preferences.

Depending on the angle of the breast image in the viewport (horizontal or vertical, or rotated 90 degrees), this scrollbar may move from one margin of the viewport to the other so that it does not interfere with optimal viewing.

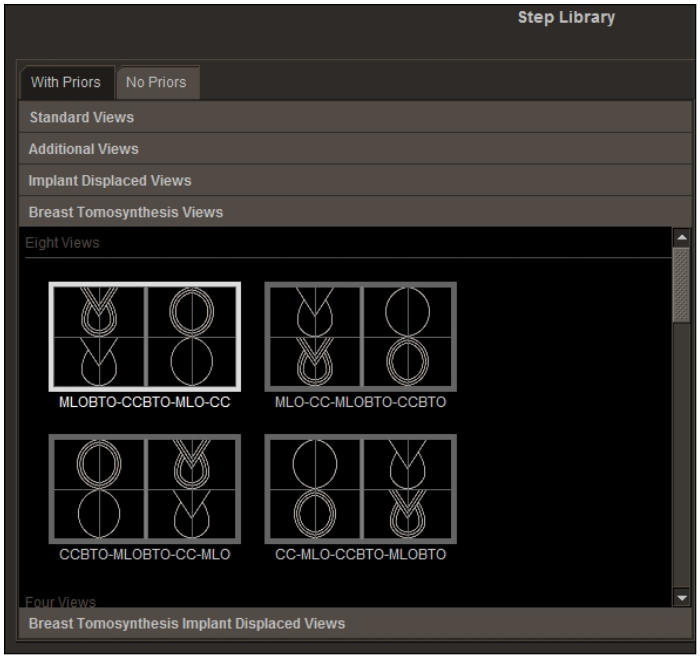


In the Protocol Preview pane, a reading step for a tomosynthesis slice is identified by a multi-lined graphic. A reading step for a generated two-dimensional view is identified with a thick, gray border.

Examples of tomosynthesis reading steps



The Step Library in the Sequence Protocol Manager includes reading steps for three-dimensional slices and for generated two-dimensional views.



See Also

Capturing Mammography or Tomosynthesis Reading Steps 429
Stacking Tomosynthesis Images 393

Breast Tomosynthesis Images with Incorrect Slice Position

When viewing breast tomosynthesis images in an MLO view, InteleViewer displays Lateral (L) to Medial (M) indicators in the scrollbar. InteleViewer computes the positioning of slices from the ImagePositionPatient (0020,0032) DICOM element in each image. If the coordinates in this element are inconsistent with an MLO view, InteleViewer displays a warning icon instead of the position indicators.

This incorrect data in the ImagePositionPatient element comes from the tomosynthesis scanner, not InteleViewer. To correct the positioning information, contact the vendor for your tomosynthesis scanner.

Cycling Through Mammography Images in a Study

You can cycle through images of the same view in mammography or breast tomosynthesis studies with the Cycle tool. You can also cycle through prior studies for those views. The Cycle tool displays the next and previous mammography or breast tomosynthesis image. Cycling through a combination of tomosynthesis and mammography images may help you better analyze areas of interest, and compare such areas in current and prior images.

For example, if you are viewing L CC mammography or breast tomosynthesis images in a study, the Cycle tool cycles through each images in this view, and then moves on to the next L CC view in that study. The Cycle tool then cycles through any prior studies for L CC mammography or breast tomosynthesis. It will not, for example, include images for a different view, such as L MLO, as it cycles through the study and priors.

To cycle through mammography images in a study:

1. Open a study containing both tomosynthesis and mammography images, or just mammography images.
2. To cycle through the images that follow, do one of the following:
   - Choose Tools | Next from the main menu.
   - Use the **CTRL+DOWN ARROW** shortcut.
   - Select the tool from the radial menu (if you previously added it).
3. To cycle through the images that preceded, do one of the following:

- Choose Tools | Previous from the main menu.
- Use the **CTRL+UP ARROW** shortcut.
- Select the tool from the radial menu (if you previously added it).

Each time you click the tool from either the menu or the radial menu, or each time you use the shortcut, you move to either the next or previous image, according to your tool selection.

Saving a Captured Reading Step

Once you have captured a reading step to the Step Library clipboard, you can save it to the existing sequence protocol, or to another sequence protocol, for future use.

To save a captured reading step to a sequence protocol:

1. From the Step Library of the desired sequence protocol, click the Clipboard (Temporary Storage) tab.

   The reading steps that you saved to the clipboard appear.

2. Drag the desired reading steps to the Protocol Preview pane.
3. Click OK.

   The reading steps are saved to the protocol.

Capturing Mammography or Tomosynthesis Reading Steps

You can capture a mammography or tomosynthesis layout to use as a reading step in a layout protocol. You can copy this layout to a clipboard on the Step Library, where it is temporarily stored as a reading step.

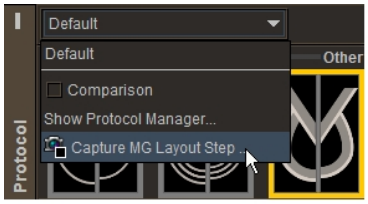
Capturing reading steps is especially useful for generated two-dimensional views, which are not available in the Step Library of the Sequence Protocol Manager.

Unused reading steps on the Step Library clipboard are discarded once you exit InteleViewer.

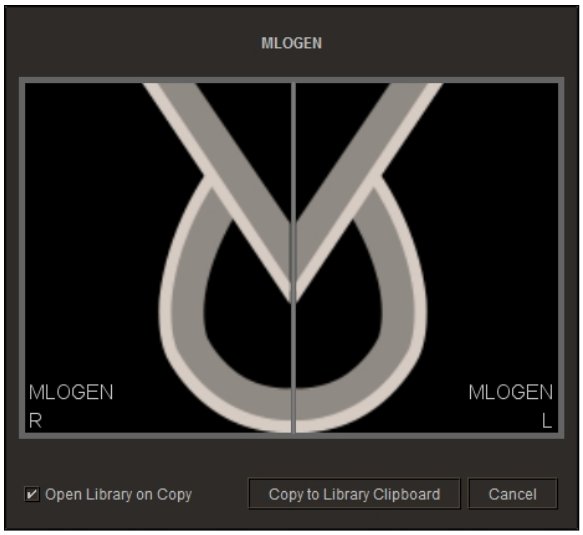
From the clipboard, you can move the reading step to a sequence protocol, where it will be saved. You can apply a captured reading step to your monitor from a sequence protocol where you may have saved it.

To capture a mammography or tomosynthesis reading step:

1. From the Protocol list on the Protocol Preview pane, choose Capture Layout Step.



   The Captured Step dialog appears.



2. To open the Step Library when you copy the reading step, enable the Open Library on Copy option.
3. Click Copy to Library Clipboard.

   The reading step is saved to the Step Library. If you enabled the Open Library on Copy option, the Step Library appears.

See Also

Managing Sequence Protocols 226

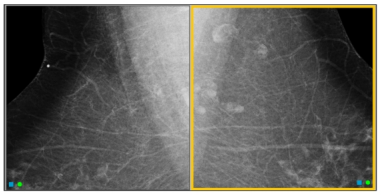
Viewing Magnified Sections

The Quadrant Magnification feature magnifies four views of a breast image (called *quadrants*) in counterclockwise and clockwise rotation starting from the chest wall.

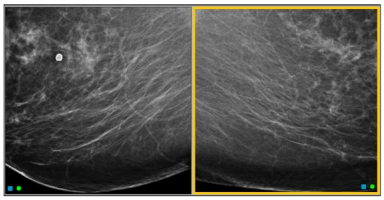
Occasionally, only two views are displayed: the top and bottom halves or the right and left halves. The viewport aspect ratio causes this deviation.

The order in which quadrants are displayed depends largely on the breast orientation. Quadrants overlap to ensure accurate viewing. The minimum image overlap is 10%.

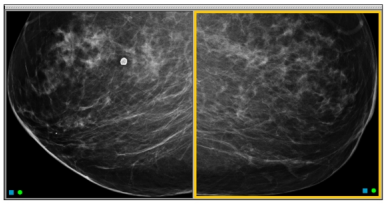
The images below represent the order in which quadrant images appear, based on a lateral-medial oblique (LMO) orientation.



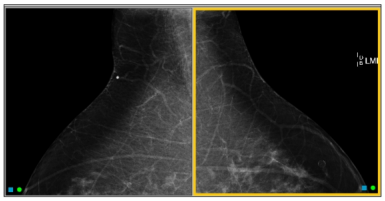
Top, internal quadrants of the breast



Bottom, internal quadrants of the breast



Bottom, external quadrants of the breast



Top, external quadrant s of the breast

The appearance of the quadrant symbol in a step indicates that all images in the step are sectioned and magnified automatically. As you move through the step, each section of the image is displayed consecutively in its own viewport.

Some steps do not contain the quadrant symbol, indicating that the images in these steps are not subject to automatic quadrant magnification. You can, however, use the Quadrant Magnification feature to magnify images manually. You can magnify all images simultaneously or magnify only the selected image.

When viewing images in quadrants, text overlays temporarily disappear.

To view quadrants automatically:

1. In the Protocol Preview pane, select a step containing the quadrant symbol.

   A yellow border appears around the step. The step remains selected until you have viewed all images included in the step.

2. Press the left and right arrows on your keyboard to view each quadrant.

To view quadrants manually:

1. In the Protocol Preview pane, select a step that does not contain the quadrant symbol.
2. To set your viewing preferences, click the Quadrant Magnification menu.

   Depending on the preferences you set here, you can magnify all images in the step or only the selected image.

3. Do one of the following to view each quadrant:

   - Press **Q**.
   - Right-click in the viewport, and then click the Quadrant Magnification tool in the radial menu.
   - Click Quadrant Magnification .

Viewing Comparable Prior Mammography Studies

InteleViewer retrieves comparable prior mammography studies to allow you to compare these to the current mammography study. If a reading step specifies a prior study, InteleViewer displays the most recent prior study (that matches at least one view). Use the Compare list to view other mammography studies if they are available.

By default InteleViewer displays comparable priors that occur 10 to 14 months before the current study.

InteleViewer only displays comparable mammograms that meet the following criteria:

- The modality is mammography (MG).
- The comparable mammogram can occur in the past or in the future but only in relation to the most recent mammogram.

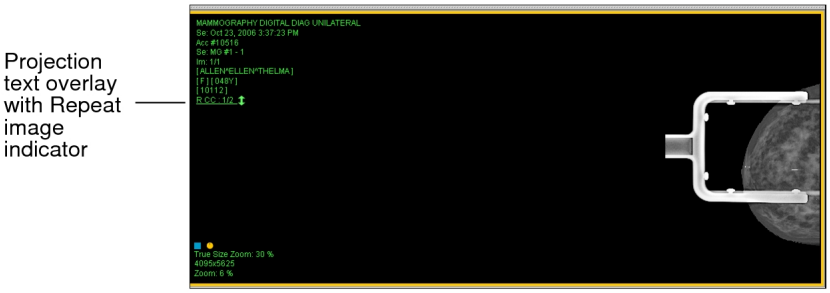
To make comparison easier, InteleViewer adjusts mammography images to the same size so that when you compare a prior image with a current image, you can track the progression of a suspected abnormality by comparing both images.

Viewing Repeat Mammography Images

Often a mammography study contains repetitions of the same image called *repeat images*. If repeat images exist for both the current mammography study and the comparable mammography study, as you move through the images, InteleViewer automatically displays repeat images for both the current and comparable studies up to the total number of repeat images in the current study.

For example, if the current mammography study contains two repeat images, but the comparable mammography study contains four repeat images, as you move through the study, InteleViewer displays a maximum of two repeat views automatically for both the current and the comparable study.

To view the remainder of the repeat images for the comparable study, click the Repeat Image indicator in the Projection text overlay.



To view repeat images in both current and comparable studies automatically:

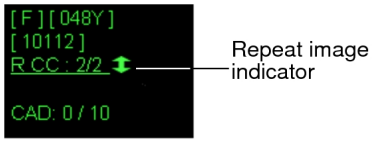
- Press the left or right arrow keys to move through repeat images.

  Although the repeat images appear automatically in the viewports, the same reading step remains selected.

To view repeat images for comparable priors:

1. Add the Projection overlay element to the MG modality in User Preferences. See “Setting Text Overlay Preferences" (page 144).
2. Click the Repeat Image indicator on the viewport to view repeat images.

The image number changes to reflect the image you are viewing.



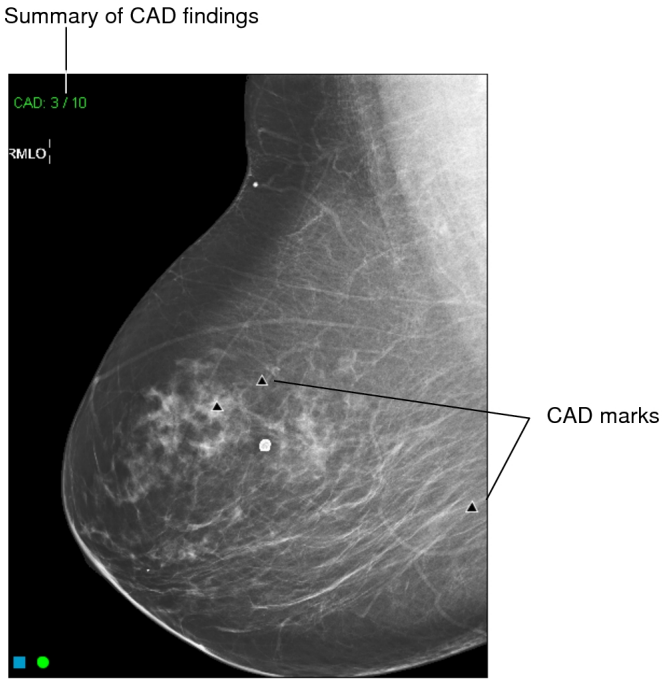
See Also

Displaying the Text Overlay 482

Displaying CAD Marks on Mammography Images

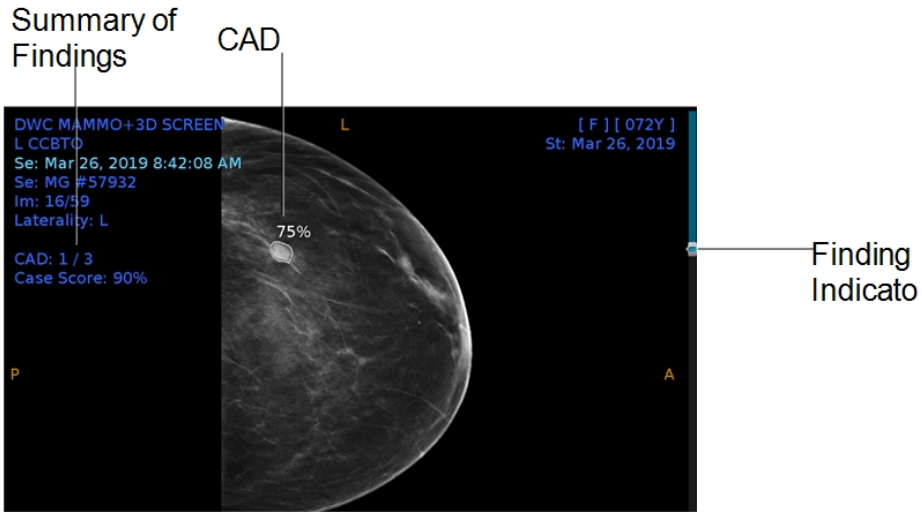
In mammography, computer-aided detection (CAD) automatically identifies breast abnormalities or regions of interest on images by using a series of markers.

When the CAD Marks feature is enabled, InteleViewer displays CAD marks and a *summary of findings*. The summary of findings is the ratio of findings in the current image to the findings in the entire study. In the example below, three out of the ten CAD marks for the study appear in this image. The summary of findings is displayed even if abnormalities are not detected. It always appears opposite the chest wall.



In the following example, which is from the iCAD ProFound AI,one out of the three CAD marks for the exam appears in this image. The Case Score indicates the ProFound AI's

confidence, represented as a percentage, that the overall findings identified are malignant. Each CAD mark is circled on the image, with that same percentage of confidence of malignancy, indicated on the mark for that specific finding. If there are multiple findings in the series, each finding will have a finding indicator mark on the scrolling panel on the right side of the image. Not all AI systems will have these exact CAD marks or indicators, so please refer to your AI-specific product documentation for specific details.



CAD marks appear automatically on images if indicated in the reading step and if abnormalities were detected. You can override the CAD instructions in the reading step and show or hide CAD marks manually.

To display CAD marks on mammography images:

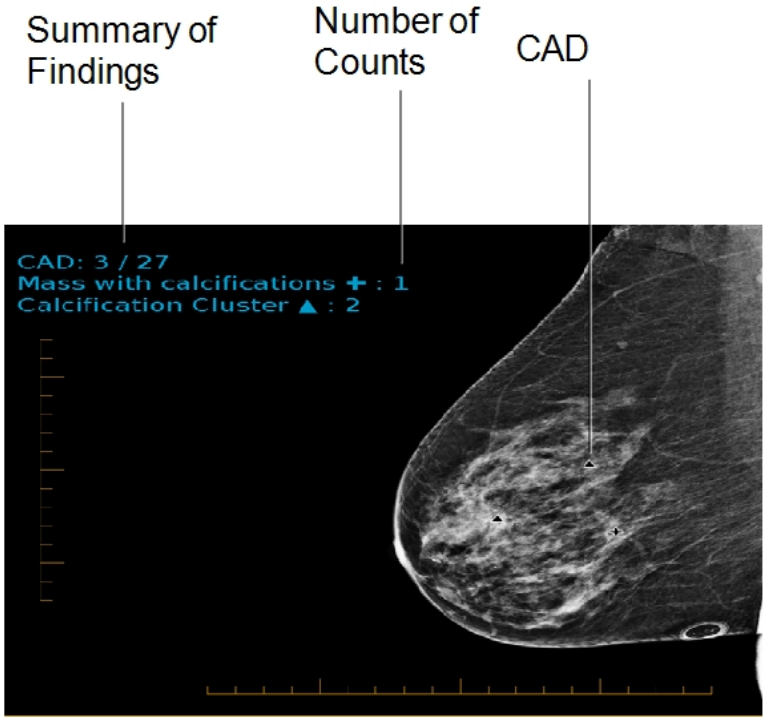
- Do one of the following:
  - On the numeric keypad, press the asterisk (*).
  - Choose View | CAD Marks.
  - Click the CAD Marks tool .
  - Right-click in the viewport, and then click the CAD Marks tool in the radial menu.

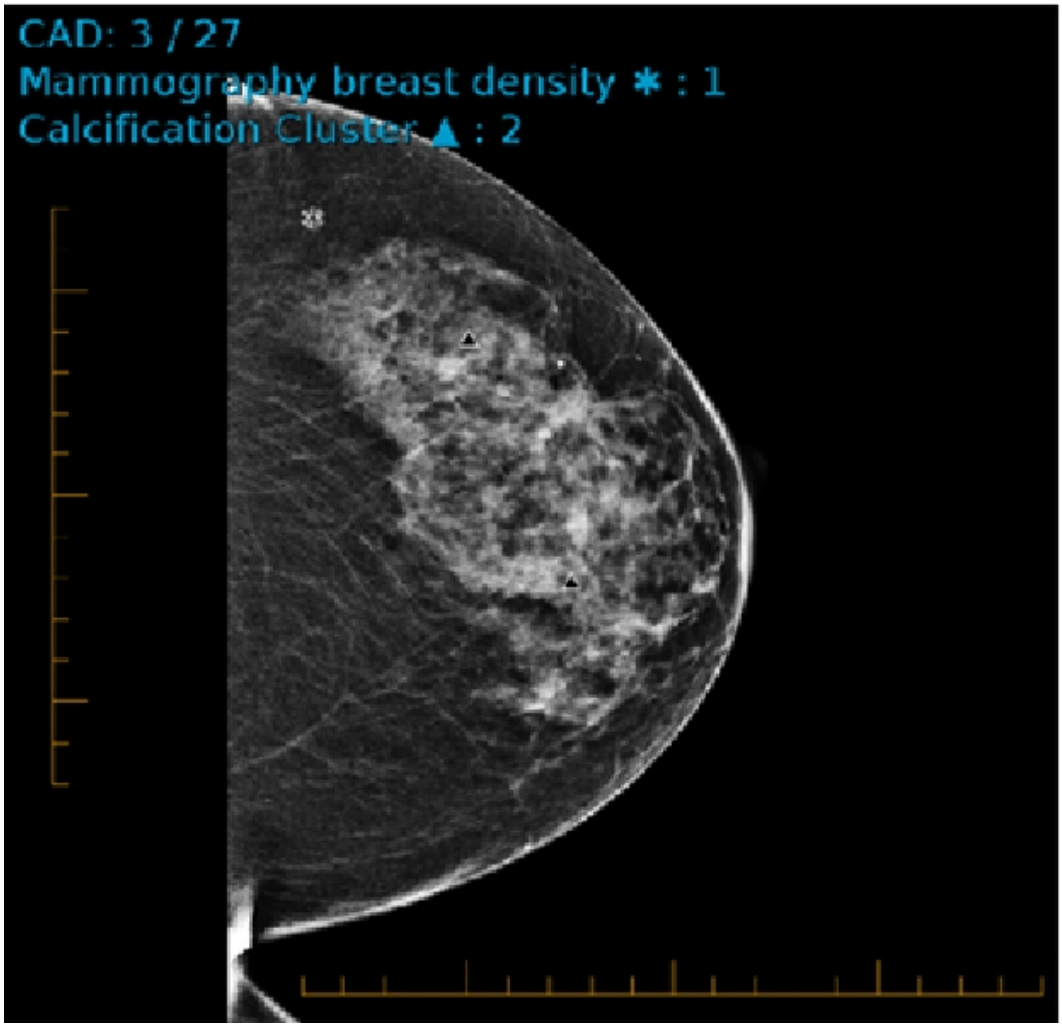
Displaying Genius AI CAD on 2D Images

In the following example, which is from the Genius AI CAD, three out of the twenty-seven CAD marks for the exam appear on this image. Depending on the count and type of CAD markings on the image, the number is displayed next to it's associated icon in the image overlays.

The following CAD markings are visible on the image:

- The compass (+) icon indicates the Mass with calcifications.
- The triangle (▲) icon indicates Calcification Cluster.
- The asterisk (*) icon indicates the Mammography breast density.





CAD marks appear automatically on images if indicated in the reading step when abnormalities are detected. You can override the CAD instructions in the reading step and show or hide CAD marks manually.

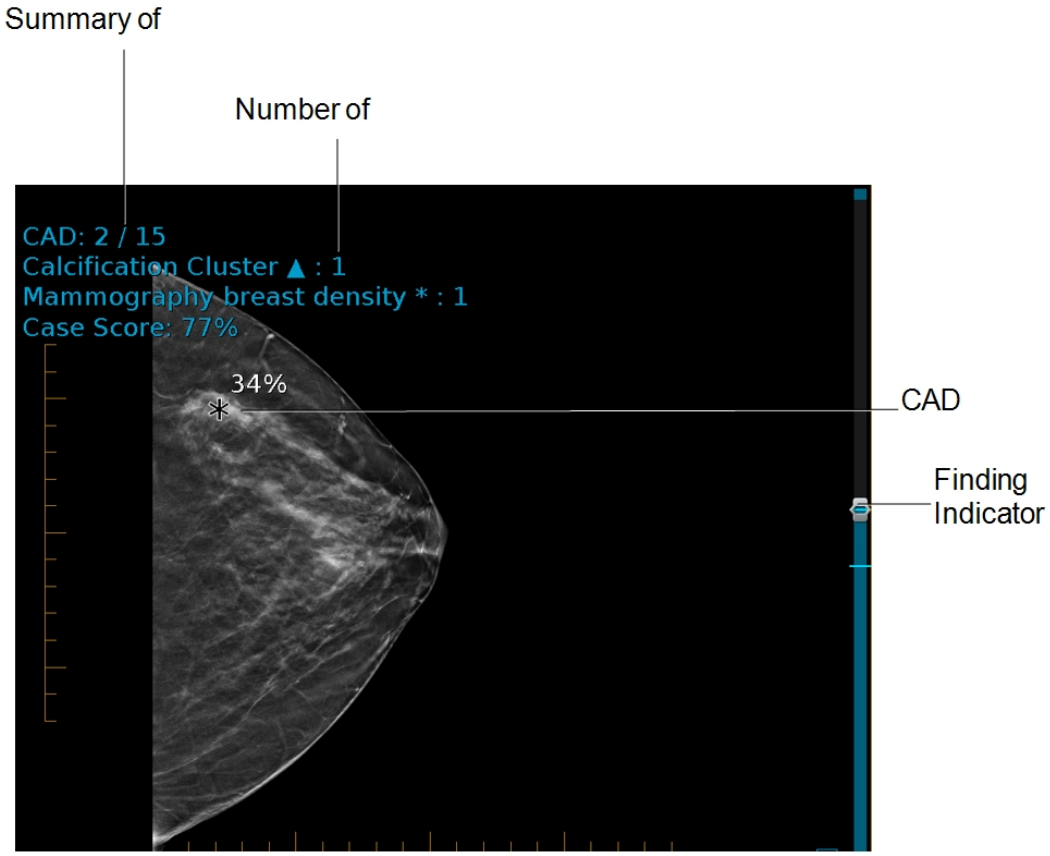
Displaying Genius AI CAD on 3D Images

In the following example, which is from the Genius AI CAD, two out of the ten CAD marks for the exam appear on this image. The Case Score indicates the Genius AI's confidence, represented as a percentage, that the overall findings identified are malignant. Depending on the count and type of CAD markings on the image, the number is displayed next to its associated icon in the image overlays.

The following CAD markings are visible on the image:

- The plus (+) icon indicates Mass with calcification.
- The triangle (▲) icon indicates Calcification Cluster.

- The asterisk (*) icon indicates breast density.
- The blue line ( ) on the scrollbar indicates the CAD Marks.



CAD marks appear on images, with the same percentage of confidence of malignancy, indicated on the mark for that specific finding. If there are multiple findings in the series, each finding will have a finding indicator mark in a blue line on the scrolling panel on the right side of the image. You can override the CAD instructions in the layout reading step and show or hide CAD marks manually.

Supported CAD Marks

To identify calcification clusters and densities in breast tissue on mammography images, InteleViewer supports the following CAD marks:

- Hologic R2 RightOn and R2 PeerView version 5 and higher
- iCAD SecondLook Digital versions 7.2 and 8.0
- iCAD ProFound AI

- Siemens syngo MammoCAD VD 10A
- Hologic Genius AI CAD

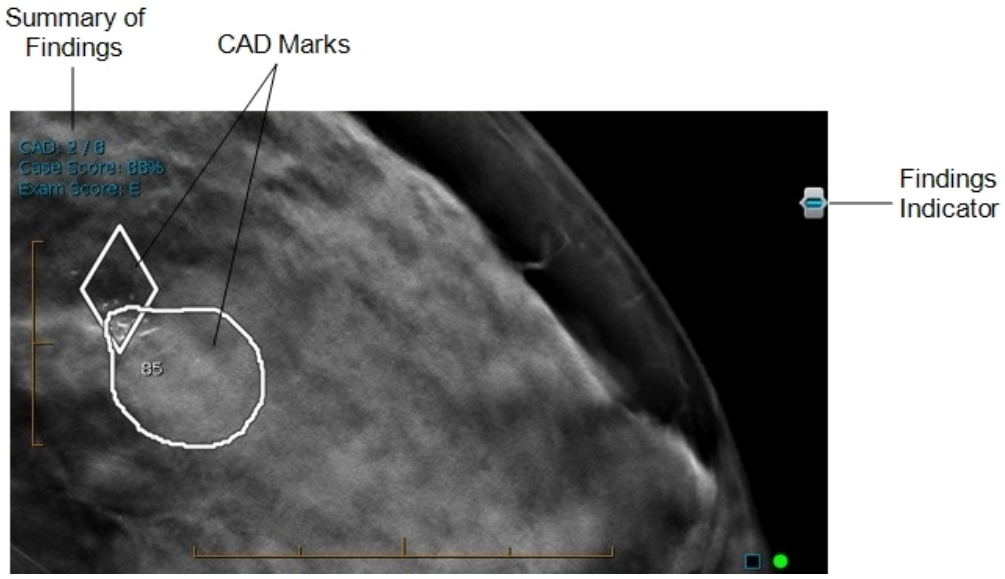
Depending on the CAD system you use, the CAD marks you see will vary. See your product documentation for more information.

Displaying the ScreenPoint Transpara CAD Marks

In the following example, which is from the ScreenPoint Transpara CAD, two out of the eight CAD marks for the exam appear on this image. The Case Score represents the highest of individual scores found in this study. The Exam Score indicating the severity is a three level Score 'E', 'I' or 'L' denoting Extreme, Intermediate and Low, respectively.

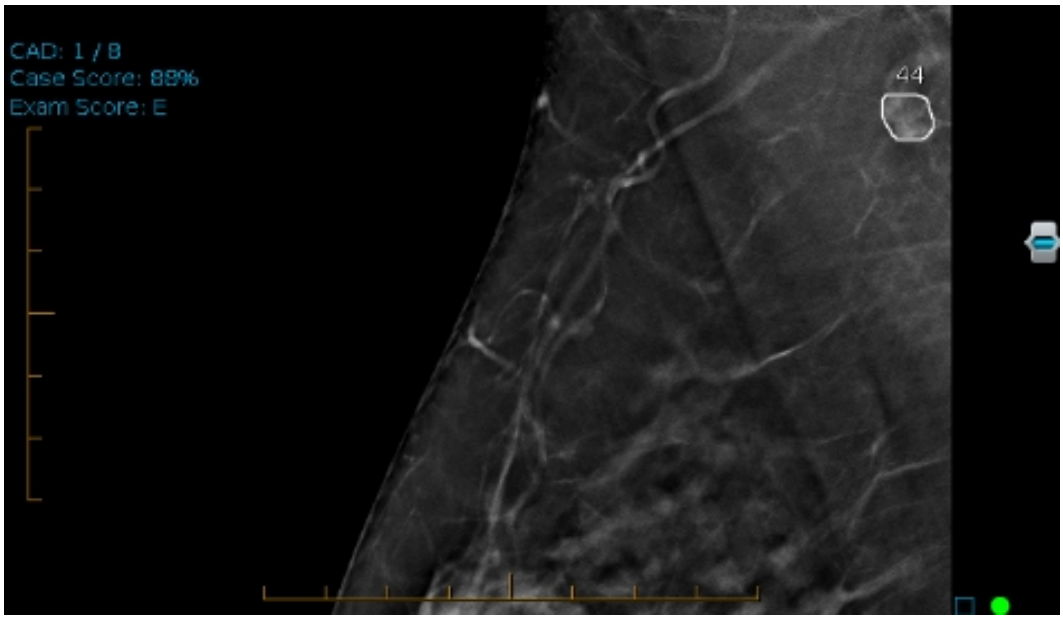
The following CAD markings are visible on the image:

- The diamond area indicates Calcification Cluster.
- The diamond with polygon area indicates Individual Calcification .
- The polygon/poly-line indicates Mammographic breast density.
- The blue line ( ) on the Findings Indicator scrollbar indicates the relative frame for findings on 3D datasets.

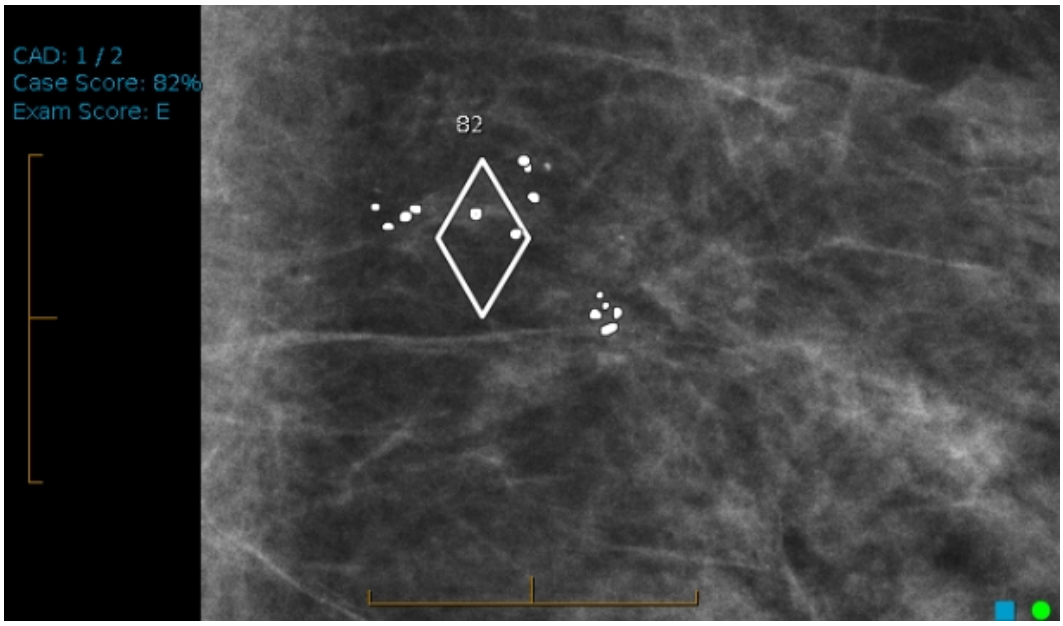


CAD marks appear on images, with the same percentage of confidence of malignancy, indicated on the mark for that specific finding. In case of 3D mammo images, the frame/slice containing the CAD marks is represented with a blue line on the scroll panel

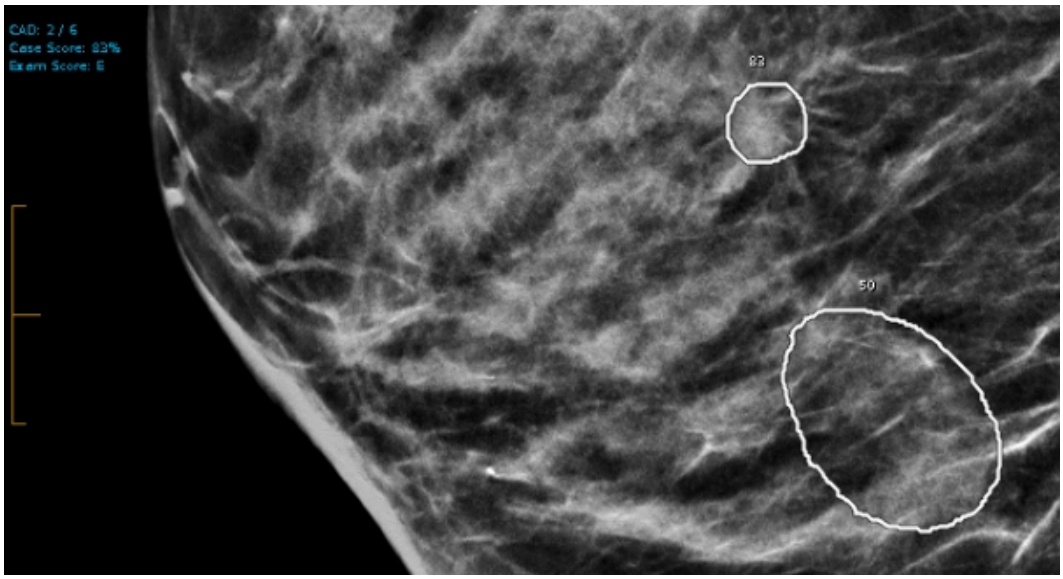
as indicated in the image below. You can override the CAD instructions in the layout reading step and show or hide CAD marks manually.



Calcification Cluster with Individual Calcifications: The diamond indicates a Calcification finding, and the smaller polygon areas in the image show the Individual Calcifications.



Mammographic Breast Density: The polygon/poly-line in the image indicates the Mammographic breast density.



Using the Thumbnail View

The *Thumbnail view* provides a quick method of selecting and viewing studies. When you open a study, the Thumbnail view shows the following main interface elements:

Studies list—A list of studies that appears either above (horizontal) or to the left (vertical) of the Thumbnail strip. You can use the Studies list to select and pin which studies to show in the Thumbnail strip. The Studies list allows you to switch between all studies and relevant studies. You can also hide the Studies list.

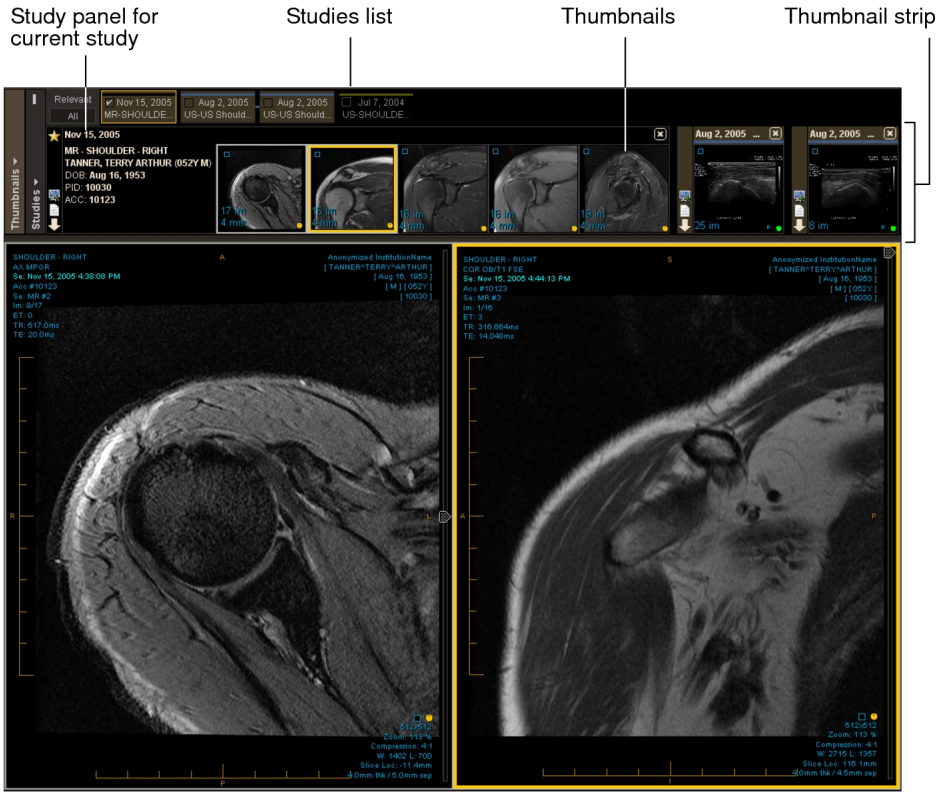
Alias Studies panel—A list of studies that you are currently reading or viewing with no images or images within another study. The panel appears to the left of the Thumbnail strip, and you can expand or collapse the panel.

To see the Alias Studies panel, your IntelePACS must be configured with the Alias Studies feature.

Thumbnail strip—A set of small images for all of the series of the selected studies in the Studies list. Use these thumbnails to visually select different series for display in the viewports.

Protocol Preview pane—The Protocol Preview pane allows you to change the sequence protocols for the study being viewed. The Protocol Preview pane contains the Protocol list, the Comparison list (if priors are available), the Reset button, and a series of reading steps for the current sequence protocol. The Protocol Preview pane appears to the right of the Studies list and Thumbnail strip.

You can show or hide the Thumbnail view by pressing **T**.



See Also

Using the Studies List 442
Using the Thumbnail Strip 449
About Configuring Layout Protocols 807
Using the Alias Studies Panel 447

Using the Studies List

You can use the *Studies list* to select which studies are shown in the Thumbnail strip. You can also use the Studies list to mark which studies are relevant (in the All tab) and to quickly navigate between selected studies in a long Thumbnail strip. You can hide, resize, and change the orientation of the Studies list. When you exit InteleViewer, the Studies list settings are remembered.

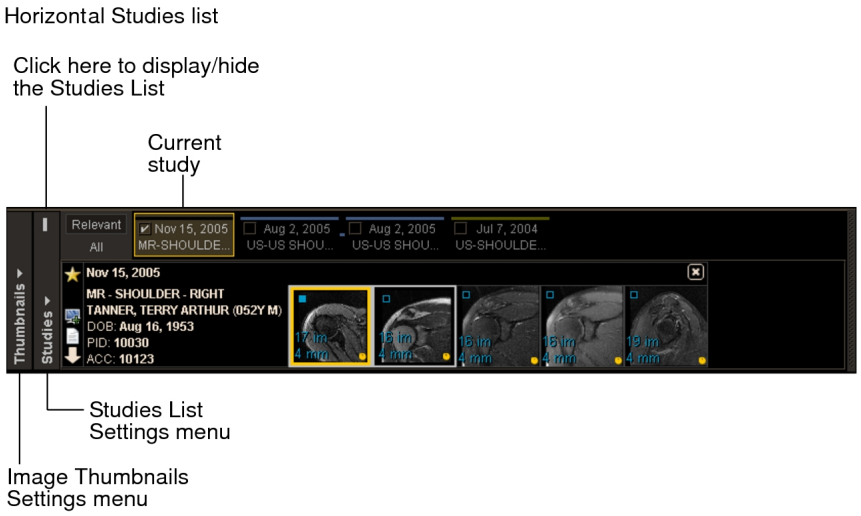
By default, the horizontal Studies list is shown. If your system is configured with multiple monitors, the horizontal Studies list spans across all monitors. The Studies list matches the different Thumbnail strip option in the Image Thumbnails Settings menu. If the Thumbnail strip is duplicated, the Studies list is also duplicated.

Each entry in the horizontal Studies list represents a study in the Thumbnail strip with a colored line along the top that matches the color coding scheme. If you use grouped procedures in your workflow, a colored link joins each study in the group, from the most recent to the oldest study in the group. If you use linked orders in your workflow, each current study associated with a linked order appears with a black line along the top and is joined by a black link, from the most recent to the oldest study.

By selecting an entry, the corresponding study is added to the Thumbnail strip and scrolled into view. You can select multiple study entries by using **SHIFT**-click, **CTRL**-click, and **CTRL+SHIFT**-click. You can also pin study entries in the Studies list so that they always appear in the Thumbnail strip.

The Studies list highlights the study being viewed in the selected viewport with either a yellow border (horizontal Studies list) or yellow text (vertical Studies list).

If you use grouped procedures or linked orders in your workflow, a study panel appears for each study or each current study in the group, and displays information about each series in the study or current study.

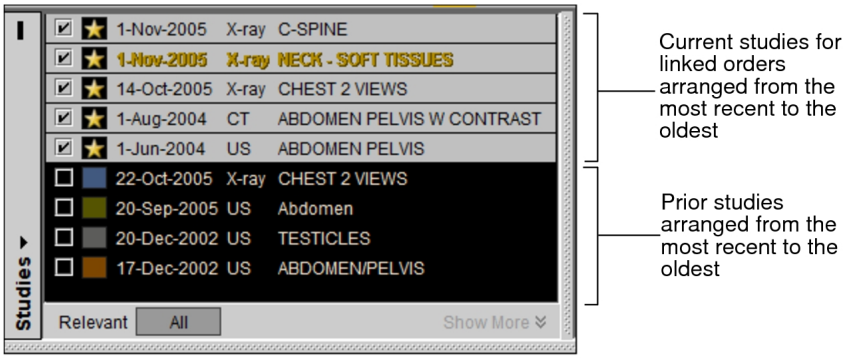


Each study entry in the horizontal Studies list shows the study date, modality, and study description, arranging the most recent study on the left to the oldest on the right. The vertical Studies list arranges the most recent study on the top to the oldest on the bottom. If studies do not have a study date, they are sorted to the bottom of the list. If two studies have the same date or do not have a date, then they are sorted by Study Instance UID. There may be more studies than can be displayed in the Studies list at one time. To show more studies, either use the scrollbar to navigate the list of studies or click Show More. To return the vertical Studies list to its original size, click Show Less or outside the Studies list.

If you use linked orders in your workflow, the current studies for the linked orders appear in the left-most side of the horizontal Studies list and at the top of the vertical Studies list from the most recent to the oldest, followed by the most recent prior study to the oldest prior study.

In the Studies list vertical orientation, an Offline icon appears within the colored square when a prior study's images are offline.

Vertical Studies list; Arrangement of current studies for linked orders and prior studies



When the Show Tooltips preference is enabled, moving the cursor over a study entry shows additional study information: modality, number of images, accession number, and dataset information.

See Also

Enabling Multiple Thumbnail Views 461
Selecting and Pinning Studies 444
User Interface Preferences 85
Viewing Image Availability Status 406

Selecting and Pinning Studies

Select one of more studies in the Studies list to show them in the Thumbnail strip. You can also pin a study in the Studies list to have the study always appear in the Thumbnail strip. Pinned studies remain selected when other study entries are selected or deselected in the Studies list. You can also unpin studies from the Thumbnail strip.

If you select or pin a study that is marked as nonrelevant, it is set to relevant in the Patient Record Tab. Once it is marked as relevant, you can only mark it as nonrelevant from the Patient Record Tab.

To select studies in the Studies list:

- In the Studies list, do one of the following.
  - Click a study entry to select or deselect it. All currently selected study entries are deselected. A selected study entry is indicated by a shaded background.
  - **CTRL**-click to select or deselect more than one study entry. If an entry is already selected, **CTRL**-click deselects the study entry and removes it from the Thumbnail strip.
  - **SHIFT**-click to select or deselect a range of study entries. If a study entry is already selected within the range, the entry is deselected. The range is between the previously selected entry and the next selected entry.
  - **CTRL+SHIFT**-click to select all study entries in a range of study entries. If a study entry is already selected within the range, the entry remains selected. The range is between the previously selected entry and the next selected entry.

  When you select a study entry, the study appears in the Thumbnail strip. When multiple study entries are selected, the studies are arranged on the Thumbnail strip by study date: the most recent on the left to the oldest on the right.

To pin a study in the Thumbnail strip:

- In the Studies list, enable the checkbox for the required study.

  The study is pinned in the Thumbnail strip.

To unpin a study in the Thumbnail strip:

- Do one of the following:
  - Disable the checkbox in the Studies list.
  - Click the Close button for the study in the Thumbnail strip.

  The study is unpinned and removed from the Thumbnail strip. In the Studies list, the corresponding study entry is deselected.

Marking Studies as Relevant

You can mark a study as relevant using the Studies list. The study is marked as relevant in the Patient Record Tab. The study is selected and shown in the Thumbnail strip.

You cannot mark a study as nonrelevant in the Thumbnail view. You must use the Patient Record Tab to do so.

When you mark a study as nonrelevant in the Patient Record tab, the study is deselected in the Studies list, removing it from the Thumbnail strip.

To mark a study as relevant:

1. In the Studies list, click All to show all studies associated with the patient.

   The Studies list allows you to view all studies (All) or only the studies marked as relevant (Relevant).

2. Click a study entry corresponding with a study that is not marked as relevant.

   The corresponding study is set as relevant in the Patient Record Tab, as indicated by a check mark.

See Also

Viewing Relevant Prior Studies 311

Switching Between Horizontal and Vertical Orientation

The Studies list provides two orientations: horizontal and vertical. You can switch between orientations to fit your workflow needs. For example, switching to vertical orientation allows for more space to view the Thumbnail strip.

To switch between horizontal or vertical orientation:

1. Click Studies List Settings.

   The Studies List Settings menu appears.

2. Do one of the following:

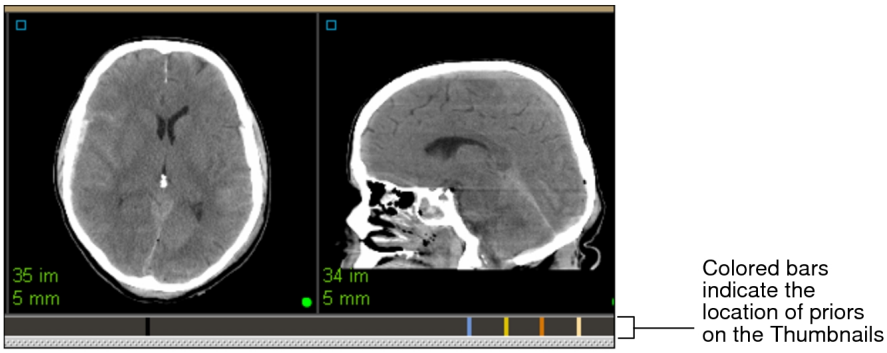
   - To switch the Studies list orientation to vertical, select Vertical Studies List.
   - To switch the Studies list orientation to horizontal, select Horizontal Studies List.

Hiding or Displaying the Studies List

You can hide the Studies list to allow for more space for the Thumbnail strip.

When the Studies list is hidden, the locations of studies on the Thumbnail strip are indicated by colored bars on the Thumbnail strip scrollbar. The colored bars match the

color scheme used for multiple priors. Clicking a bar shows the corresponding study in the Thumbnail strip.



To hide or display the Studies list:

- Do one of the following:

  - To hide the Studies list, click the button.
  - To display the Studies list, click the button.

  To show the hidden Studies list, click the empty bar above the Studies List Settings menu. The Studies list appears as a pop-up vertical list. Click the Close button or outside the vertical list to hide the Studies list.

See Also

Interpreting Color in the Studies List and Thumbnail strip....460
About Configuring Layout Protocols....807

Using the Alias Studies Panel

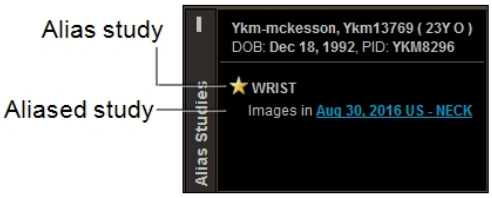
When the Alias Studies feature is configured on your IntelePACS, you can use the Alias Studies panel to view a list of studies that you are currently reading that contain no images or images within another study. If the study's images are contained within another study, InteleViewer opens the images and displays them in the thumbnail strip.

Your InteleViewer appearance preferences must be configured to use the Dark theme.

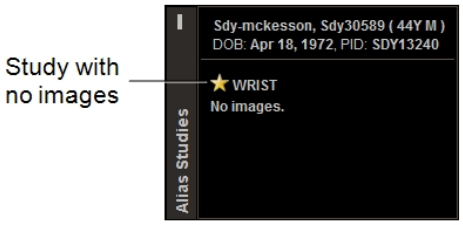
Studies that originate from a third-party PACS, such as a McKesson PACS, may constitute an aliased study group, which contains alias and aliased studies. An *alias study* is a study with images that are contained within another study. Whereas an *aliased*

study is a study that contains images for another study. For example, if study A contains no images and study B contains the images for both study A and study B, study A is the alias study and study B is the aliased study.

In the Alias Studies panel, the corresponding aliased study is referenced below each alias study.



If a study has no images, such as when viewing images on film, "No Images" appears below the study.



When you open a study that contains no images, the Alias Studies panel automatically appears in the Thumbnail view.

Understanding the Alias Studies Panel Icons

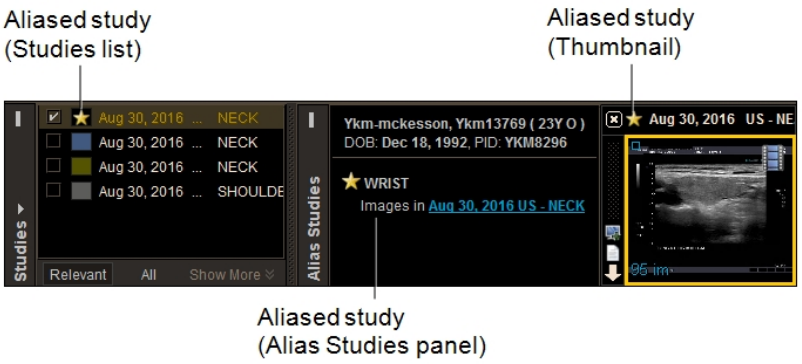
You can use the icons in the Alias Studies panel to see if you are currently reading an aliased study.

Study	Icon
Study with no images or alias study (reading).	
Aliased study (not reading).	
Aliased study (reading).	No icon

Aliased Study Icons in the Thumbnail and Studies List

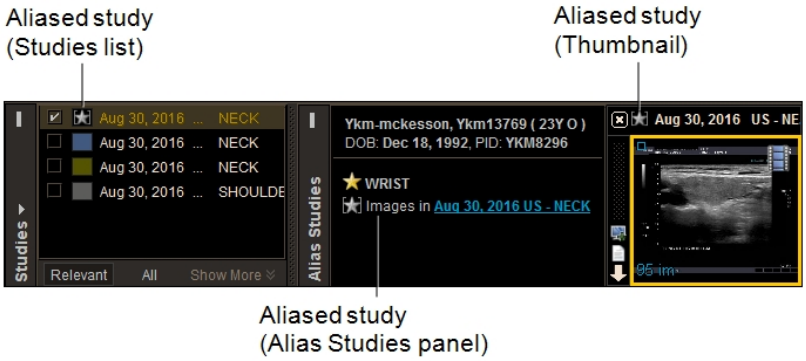
An icon for the aliased study also appears in the thumbnail and the Studies list. If you are reading the aliased study, the icon appears as a yellow star .

Reading an Aliased Study



If you are not reading the aliased study, the icon appears as a gray star .

Not Reading an Aliased Study



See Also

Linking Orders 326
Viewing Scanned Documents 321

Using the Thumbnail Strip

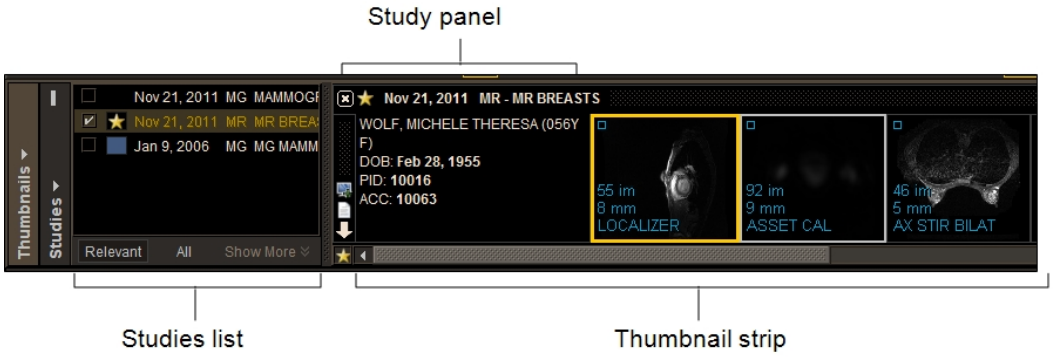
The *Thumbnail strip* displays the studies available for the current patient. The Thumbnail strip represents studies as thumbnail images. You can drag the thumbnail images into a viewport.

To use this feature, ask your PACS administrator to enable the Thumbnails privilege in your user account.

The Thumbnail strip contains two main elements, a study panel and the Thumbnail strip.

The study panel shows study information: study date, modality, study description, patient name, age at the time of the procedure, sex, date of birth, patient ID, accession number (for the current study), confidence level (for a candidate patient study), and organization code (for a study from a different patient). If you use grouped procedures or linked orders in your workflow, a study panel appears for each study or current study in the group.

The Thumbnail strip displays a set of small images (thumbnails) for each series, including grouped procedures and linked orders. Use these thumbnails to select series to display in the viewports. Each thumbnail image in the Thumbnail strip displays the number of images, slice thickness, and series description.



In the Thumbnail strip displays studies with a colored line along the top that matches the color-coding scheme used to identify prior studies.

The Thumbnail strip arranges the studies by study date, starting with the most recent on the left to the oldest on the right. Within each study, the series are displayed based on the series number which normally follows the acquisition order, with the series having the highest series number on the right. If two series have the same series number, the series with the lower series UID is on the left. If studies do not have a study date, they are sorted after the oldest study date. If two studies have the same date or do not have a date, then they are sorted by the Study Instance UID.

The Thumbnail strip shows a separate thumbnail for each dataset in the series. For example, if you open a study that contains a series that is subdivided into two datasets, you will see a total of two thumbnails displayed in the Thumbnail strip. Images from the OT, RF, and XA modalities can be configured to be grouped into one dataset per series, split into one dataset per image, or you can group the secondary captures (scanned

documents, for example) into their own dataset. Computed datasets, such as DSA or Ortho datasets, do not appear in the thumbnails.

Note how InteleViewer displays the thumbnail images for the following:

Grouped procedures—For grouped procedures, thumbnail images for all studies in the group appear from the most recent to the oldest in the Thumbnail strip, with series from the same study grouped together with the same color scheme.

Linked orders—For linked orders, thumbnail images for all current studies appear from the most recent to the oldest in the Thumbnail strip. The current study for each linked order appears with a black background and a yellow star icon in the study panel.

Aliased studies—The gray star icon indicates an aliased study that you are not currently reading .

Current studies—The star icon indicates a current study in the study panel. If there are more studies than can be displayed in the Thumbnail strip, use the scrollbar to view them, or use the Studies list to go directly to the thumbnails for a given study. You can also click the star icon to the left of the scrollbar to go directly to the current study.

Teaching cases and key image series—For teaching cases or key image series, images from the originating study appear in the Thumbnail strip. Key image series are indicated by a key icon . If you use grouped procedures or linked orders in your workflow, the thumbnail image of the key image series for each study in the group or each current study in the linked orders group appears on the left-most side of the Thumbnail strip.

All studies in the Thumbnail strip include the following buttons and icons:

Button/Icon	Description
	Opens the study in an extension window.
	Displays the report for the study.
	Opens the images contained in the study.
	Indicates current study.
	Indicates an aliased study that you are not reading.
	Indicates study for candidate patient.

See Also

Interpreting Color in the Studies List and Thumbnail strip 460
Viewing Multiple Datasets 381
Using the Alias Studies Panel 447

Accessing Studies in the Thumbnail Strip

When you select a study in the Studies list, it appears in the Thumbnail strip. You can then drag and drop a thumbnail to a specific viewport.

To access a study in the Thumbnail strip:

1. Open the required study. See “About Opening Studies and Series" (page 361).

   The current study and all its relevant prior and future studies appear in the Studies list. The Thumbnail strip shows the thumbnails and patient information for the current study.

   If a sequence protocol is matched, all priors selected by the protocol are also displayed in the Thumbnail strip. If the Show Different Thumbnail Strip on Each Monitor is enabled in the Images Thumbnails Settings menu, the left-most Thumbnail view shows the current study, while priors are shown in other Thumbnail views. This method of displaying studies allows you to quickly compare the current study against priors. See “Enabling Multiple Thumbnail Views" (page 461).

2. To navigate to a specific study, do one of the following:

   - To find the study you require, click and drag the scrollbar in the Thumbnail strip.
   - To go directly to the current study, click the star icon to the left of the scrollbar. If the current study is hidden from the Thumbnail strip, clicking the icon has no effect.
   - To show the corresponding study in the Thumbnail strip, click the study entry for the required study in the Studies list. For more information, see “Selecting and Pinning Studies" (page 444).
   - If Show Thumbnails For Selected Viewport is enabled in the Image Thumbnails Settings menu, select the viewport showing an image from the required study.

3. To view images in one or more viewports, do one of the following:

Do this:	Description:
Click and drag the thumbnail of the image you want to view from the Thumbnail strip to a viewport.	If the Show Target Viewport Window option is enabled in your user preferences, then the Target Viewport window appears for easy dragging and dropping of images from the Thumbnail strip to a specific viewport. See “Setting Application Preferences " (page 84).
Click Load Study to load the images contained in the study represented by the series of thumbnails.	If your workflow includes advanced layout management, any matching sequence protocols are also applied to studies. When opening studies that have matching sequence protocols, the current study and prior studies are pinned in the Studies list according to the matching protocol. Changing priors or sequence protocols in the Protocol Preview pane also changes the studies pinned in the Studies list and shown in the Thumbnail strip.

4. To open the study in an extension window, click Extension Window .
5. To view reports for the study, click View Reports .

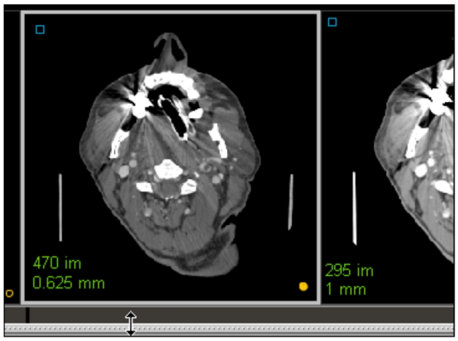
   If you add a study from another patient, the View Reports button is not available to view reports for that patient. See “Comparing Patients by using Multiple Thumbnail Views" (page 462).

Resizing the Thumbnail Strip

To easily find the series that you require, you can increase or decrease the size of the thumbnail images by resizing the Thumbnail strip.

To resize the Thumbnail strip:

1. Position the cursor over the separator bar at the bottom of the Thumbnail strip until a double-arrow appears.



2. Click and drag to resize the Thumbnail strip as follows:

    - Increase the size of the Thumbnail strip to enlarge thumbnail images.
    - Decrease the size of the Thumbnail strip to reduce the thumbnail images.

    The size of the Thumbnail strip will be remembered the next time you start the application. The default height of the Thumbnail strip is 160 pixels.

    The Thumbnail strip size is specific to a workstation, and therefore does not roam.

Stacking Thumbnail Images

To find the series that you require, you can stack through thumbnail images for thumbnails that represent a series of multiple images.

When you stack in the Thumbnail strip, your changes are not kept if you drag the series to a viewport. The first image displayed in the viewports (and Thumbnail strip) is set in your preferences.

You must have a three-button mouse configured on your workstation to access the Stacking tool in the Thumbnail strip.

To stack thumbnails:

1. Position the cursor over the required thumbnail.
2. To view the images in sequential order, do one of the following:

    - Click the right mouse button and drag downward.
    - Rotate the mouse wheel downward.
3. To view the images in reverse order, do one of the following:

- Click the right mouse button and drag upwards.
- Rotate the mouse wheel upward.

See Also

Setting Application Preferences 84

Dragging Thumbnail Images to Viewports

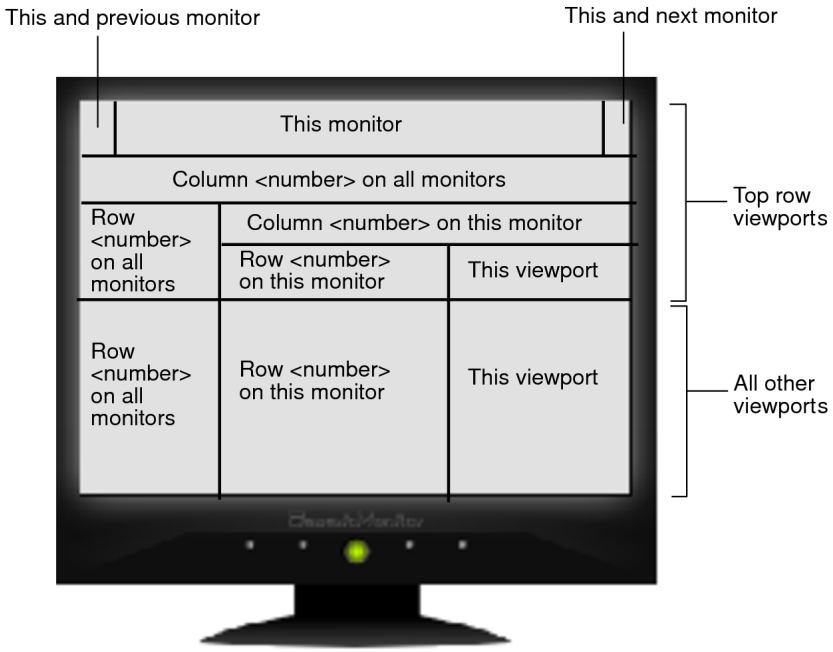
When you open multiple series, they initially appear in the viewports ordered by date and series number. Additionally, when a series contains multiple datasets, each dataset is displayed in separate viewports and separate thumbnails.

You can drag a series from the Thumbnail strip and drop it into a viewport. You can also drag a study from the Thumbnail strip and drop it into multiple viewports according to a predefined layout on a:

- monitor
- viewport
- row on one or all monitors
- column on one or all monitors

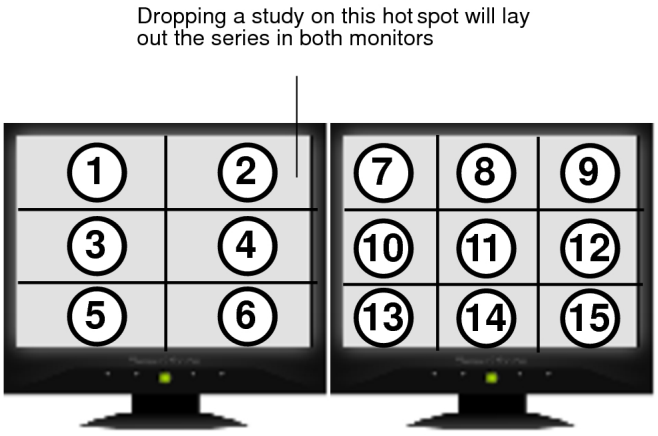
InteleViewer uses the following hotspot areas to lay out studies being dragged from the Thumbnail strip into multiple viewports.

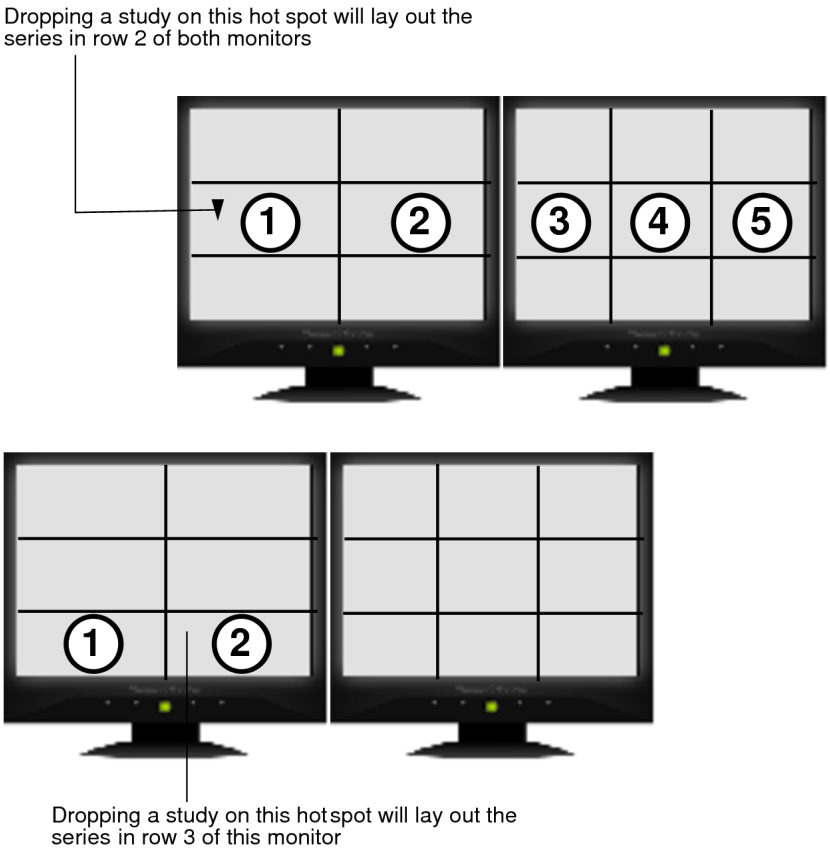
Hotspot Areas

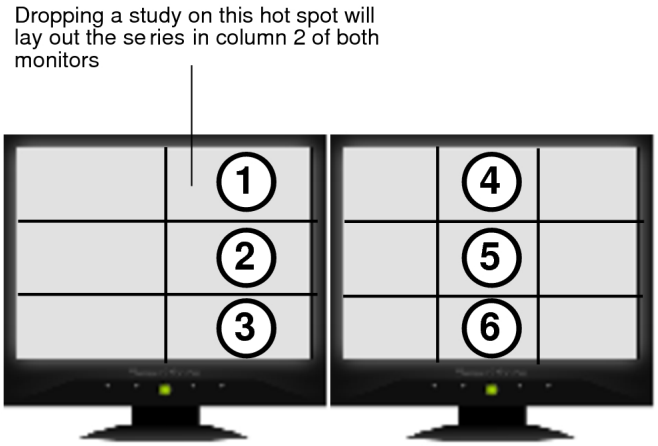


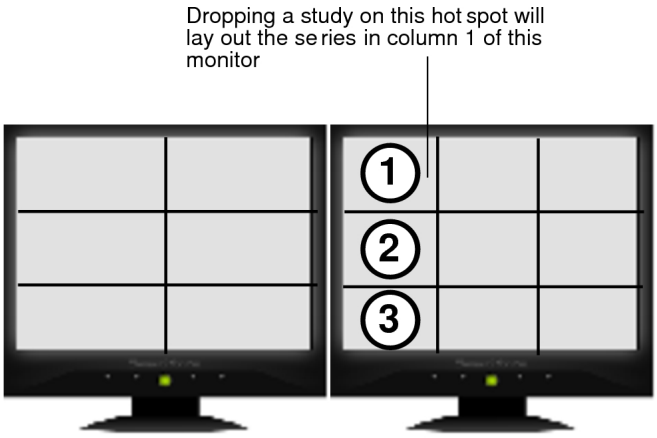
For asymmetrical series layouts, InteleViewer uses only the following hotspot areas: this and previous monitor, this and next monitor, this monitor, and this viewport.

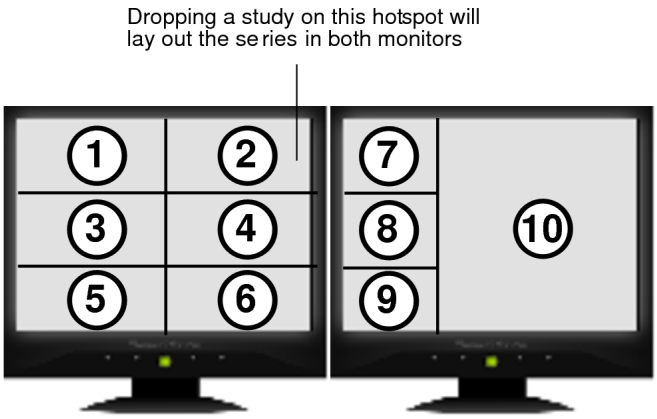
Here are several examples of using a dual-monitor setup to drag the same study from the Thumbnail strip and drop it into different hotspot areas in multiple viewports. As you drag the study, a numbered circle appears in the highlighted viewports to indicate the order in which the series will be dropped into the viewports according to the selected hotspot area.




Dropping a study on this hot spot will lay out the series in row 2 of both monitors
1
2
3
4
5
1
2
Dropping a study on this hotspot will lay out the series in row 3 of this monitor


Dropping a study on this hot spot will lay out the series in column 2 of both monitors
1
2
3
4
5
6



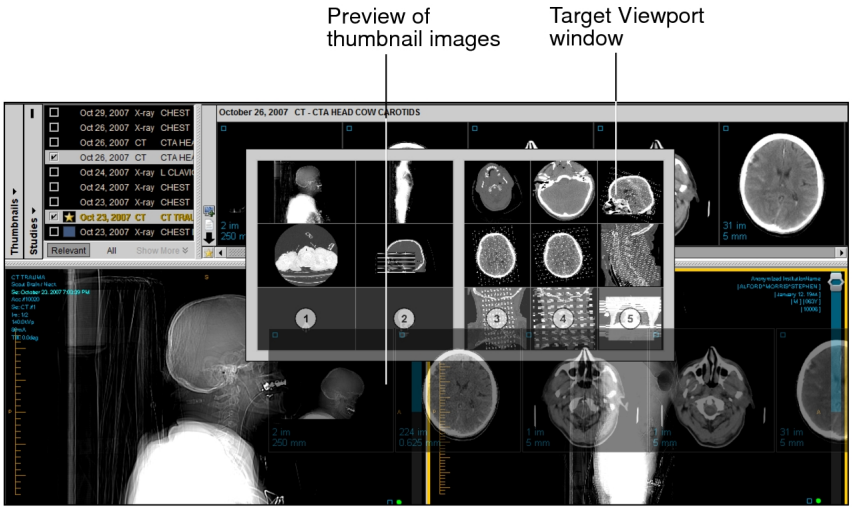


To drag thumbnail images to viewports:

1. Do one of the following:
    - To drag a series from the Thumbnail strip, click the thumbnail image and drag it into the new viewport.
    - To drag a study from the Thumbnail strip, hover your mouse cursor along the top or left side of the study panel to display a hand cursor, and then click and drag the thumbnail images onto a hotspot area in the new viewports.

Dragging the series or study from the Thumbnail strip displays a preview of the thumbnail images.

If the Show Target Viewport Window option is enabled in your user preferences, then the Target Viewport window appears for easy dragging and dropping of thumbnail images from the Thumbnail strip into one or more viewports. For more information, see “Setting Preferences" (page 76).



In the case of a study, as you drag the study onto a hotspot in the viewing area or Target Viewport window, the viewports are highlighted with a numbered circle to indicate the order in which the series will be dropped into the viewports.

If you are dropping a study into a single viewport, the Super Series Stacking feature is activated.

If you are dropping a study to a locked viewport that displays another study, an error message appears. Press and hold the **CTRL** key to override the viewport lock and drop the study. For more information, see “Locking Viewports" (page 414).

If a sequence protocol is applied to the study, once you drop the study into the viewports, you can no longer navigate through the reading steps and comparable priors. Instead, you can navigate through each series in the study. To navigate again through reading steps and comparable priors, click a reading step in the Protocol Preview pane.

2. Once your cursor is in the new viewport, release the mouse button.

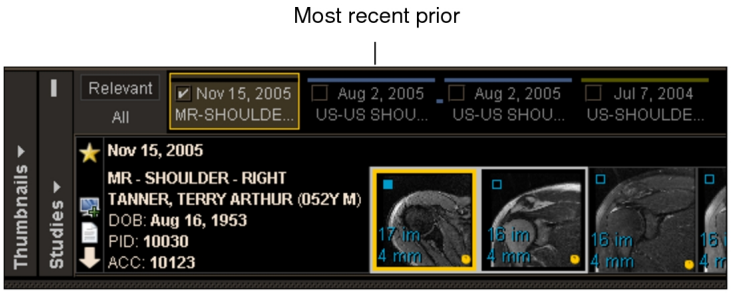
   The selected series or study is displayed in one or more viewports.

See Also

Viewing Multiple Datasets 381

Interpreting Color in the Studies List and Thumbnail strip

The Studies list and Thumbnail strip use a color-coding scheme to make it easier to differentiate between studies. In the Thumbnail strip, a thin-colored horizontal line appears along the top of each study and its thumbnails so that you can distinguish it from the other studies. In the Studies list, the study entry that corresponds to the study in the Thumbnail strip also uses the same-colored horizontal line. For example, a blue line identifies the study as the most recent prior.



See Also

Using the Study Color Coding Scheme 63

Displaying the Thumbnail View

You can display or hide the Thumbnail view if you need more screen space to display images.

To display the Thumbnail view:

1. Do one of the following:
   - From the main menu, choose View | Thumbnail View (**T**).
   - In the toolbar, click the Thumbnail tool .

   A check mark appears to indicate that it is active and the Thumbnail view appears. If you opened a study, thumbnail images for each series also appear. If your system is

configured with multiple monitors, by default, the Thumbnail view spans across monitors.

2. To hide the Thumbnail view, choose View | Thumbnail View again, or click the Thumbnail tool.

Enabling Multiple Thumbnail Views

You can have a different Thumbnail view on each monitor to use different Studies lists and Thumbnail strips.

Each Thumbnail view shares the same Image Thumbnails Settings menu, but has its own Studies list and Thumbnail strip. You can select different studies on each Thumbnail view. For example, you could have one monitor with a Thumbnail view dedicated to prior studies and a second monitor with a Thumbnail view that only shows the current study.

To enable multiple Thumbnail views:

1. Click Image Thumbnails Settings.

   The Image Thumbnails Settings menu appears.

2. To use a single Thumbnail view across all monitors, disable Show Different Thumbnail Strip On Each Monitor.
3. To have different Thumbnail views per monitor, enable Show Different Thumbnail Strip On Each Monitor.

   When using multiple Thumbnail views with a sequence protocol, by default, the current study is shown in the left-most Thumbnail view, the most recent prior study is shown in the second Thumbnail view, and other priors are shown in the Thumbnail view for other monitors. The Thumbnail view in the last monitor shows all remaining priors. If the selected study is the last prior or the selected study has no priors, the study is shown on all monitors.

   For example, if a sequence protocol references four priors on a three-monitor setup, the first Thumbnail view shows the current study, the second shows the most recent prior study, while the third and last Thumbnail view shows priors p+1, p+2, and p+3.

   When using multiple Thumbnail view, each Studies list uses the same orientation (horizontal or vertical) and shows all (All) or only relevant (Relevant) studies. For example, if you switch one Studies list from vertical to horizontal orientation, all Studies lists are changed to horizontal.

Showing Thumbnails while Selecting Viewports

You can have InteleViewer automatically show a study in the Thumbnail strip when the study is selected in a viewport. You can also prevent the Thumbnail strip from changing its view when a viewport is selected.

To show thumbnails for the selected viewport:

1. Click the Image Thumbnails Settings menu.
2. Enable Show Thumbnail For Selected Viewport.
3. Select a viewport.

   The corresponding study is scrolled into view in the Thumbnail strip. If the study is not in the Thumbnail strip, the study is selected in the Studies list and added to the Thumbnail strip.

To prevent scrolling the Thumbnail strip when selecting a viewport:

1. Click the Image Thumbnails Settings menu.
2. Disable Show Thumbnail For Selected Viewport.
3. Select a viewport.

   The Thumbnail strip does not change. The study remains deselected in the Studies list, and the study does not appear in the Thumbnail strip.

Comparing Patients by using Multiple Thumbnail Views

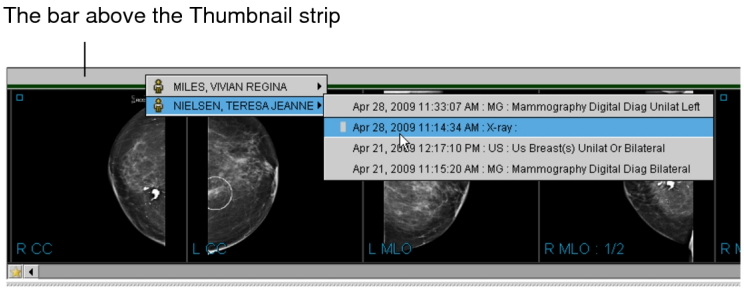
When using multiple Thumbnail views, it is possible to view different patients in each Thumbnail view. You can use this feature to compare studies from two different patients, or for studies from the same patient when one of the studies is imported with different demographics.

To compare patients using multiple Thumbnail views:

1. Open studies or series for the first patient that you want to compare in a new window. See “About Opening Studies and Series" (page 361).
2. In the same window, add studies or series for the second patient you want to compare. See “Adding Studies or Series to the Current Window" (page 372).
3. In the Thumbnail view, click Image Thumbnails Settings.

   The Image Thumbnails Settings menu appears.

4. Enable Show Different Thumbnail Strip On Each Monitor.
5. Resize the current window so that it spans across at least two monitors.
6. On the second monitor, in the Thumbnail view, right-click the bar above the Thumbnail strip and select a study for the second patient.



The Thumbnail strip shows thumbnail images for the selected study for the second patient. The list of studies associated with the second patient appears in the Studies list. If you drag a study to a viewport, the patient name and study date is highlighted. Beside the patient name, an exclamation icon indicates that the study is from a patient with a different Patient ID than the current order.

Reviewing the Quality of Images

Use the Image Quality Review feature to review and evaluate images produced by radiology technologists. The feedback you provide regarding the quality of images is useful for measuring and evaluating technologists' performance. There is no limit to the amount of reviews you can do for an order.

To use this feature, ask your PACS administrator to configure your user account. There may be additional PACS configuration requirements. For more information, contact your PACS administrator.

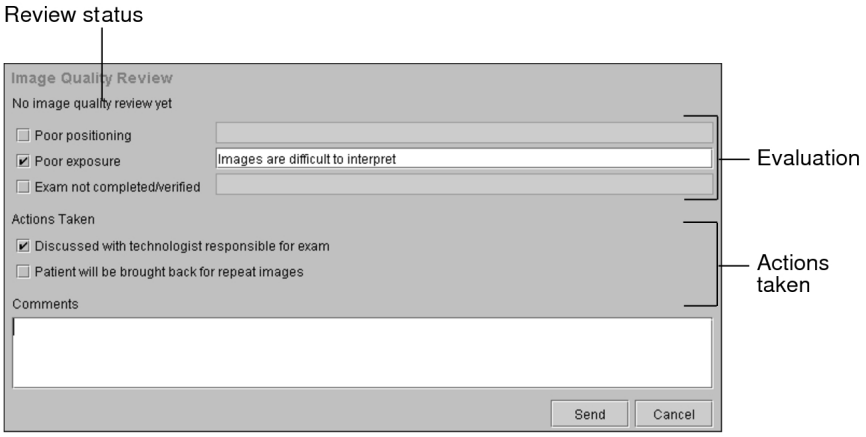
If you use grouped procedures in your workflow, when you review an image it will be associated with the entire order and, therefore, can be reviewed from any exam in the order.

If you use linked orders in your workflow, once you link the orders, you will not be able to review an image from any exam in the linked orders. You must review an image associated with each individual linked order.

To review the quality of an image:

1. Do one of the following:
   - From the Worklist tab, open a new order. See “Opening Orders" (page 301).
   - From the Search tab, search for and open a study. See “About Searching for Studies" (page 249).
2. In the Patient Record tab, under Image Quality Review, click New.

   A series of options appears.



3. Select the options that best represent your evaluation of the images.

   Your administrator configures the Image Quality Review options. The options that are available to you may not be the same as those depicted above.

4. To provide additional information on your selections, enter a comment next to your selections.
5. In Actions Taken, select the check box that best represents the actions you took as a result of the image review.
6. To add general comments regarding the your review, enter additional text in the Comments box.
7. Click Send.

   Once you send your review, you cannot modify it; however you can enter another review by repeating steps 1 to 7. There is no limit to the amount of times you can review images.

Closing Studies and Series

Once you have finished viewing images, close the study. If you open a study when another is already open in the window, the first is automatically closed.

To close studies and series:

- From the main menu, choose File | Close All Studies and Series.

  All opened images are closed and the viewports are empty.

  If you have unsaved key series or teaching case images, a dialog appears giving you the choice of either saving or discarding these images.

Displaying Shutters

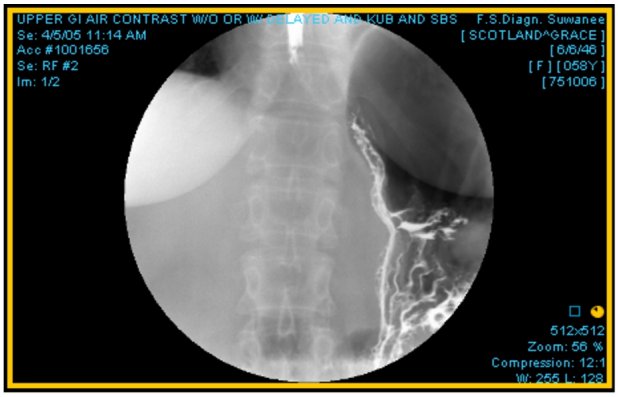
When viewing RF Fluoroscopy images, any field of view shutters available in the DICOM header are applied as a mask (usually black) on the images, reducing the amount of bright white pixels surrounding the image. You can choose to show or hide shutters, as required.

To display shutters:

1. Open the required RF Fluoroscopy study. See “About Opening Studies and Series" (page 361).

   Shutters are displayed on the image automatically.

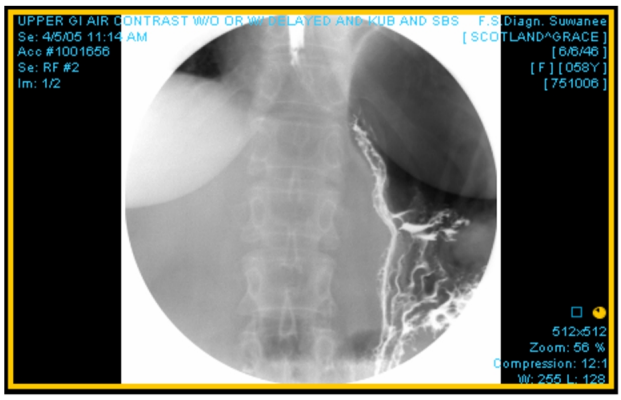
   RF Series with Shutters

   A check mark appears next to the Display Shutters option in the View menu to indicate that it is active.

2. To hide shutters, choose View | Display Shutters or press **CTRL+R**.

RF Series without Shutters



3. To view the shutters, choose View | Display Shutters or press **CTRL+R**.

About the Advanced Visualization Toolbar

The Advanced Visualization toolbar provides you with advanced imaging capabilities for general diagnostic purposes. InteleViewer's integration with High-Definition Volume Rendering technology by Fovia, Inc. allows you to manipulate large datasets of MR or CT images.

You can only perform Advanced Visualization reformatting or rendering with CT or MR series that have at least 10 parallel, equidistant, and equally sized images—each with a resolution greater than 2 x 2.

Use the various Advanced Visualization tools to do the following:

- view multi-planar reformats
- alter slice thickness
- switch to axial, sagittal, or coronal view
- manipulate slice plane location and angle by using an oblique tool
- view 3D rendering of images

You can create sequence protocols to apply configured layouts when reformatting images in Advanced Visualization. Additionally, the original dataset must not have more than 4096 images.

While using Advanced Visualization, the Stack tool allows you to stack through every image in a series with one drag of your mouse cursor from the top to bottom of the

viewport. (Typically, stacking through every image may require several drags of your mouse cursor.)

See Also

User Interface Preferences 85

Accessing the Advanced Visualization Toolbar

The Advanced Visualization toolbar is collapsed by default and appears as a triangle icon ◀ at the top right corner of your viewport. Click the triangle icon to expand the Advanced Visualization toolbar and trigger a reformat of the series. A thumbnail is also generated and added to the Thumbnail list.

When the Advanced Visualization toolbar is expanded, the image reformat tools are shown by default. To switch the toolbar to show 3D visualization tools, click the 3D menu button. To switch the toolbar back to image reformatting tools, click the expand reformat button.

See Also

Reformatting and Rendering Datasets 468
About Configuring Layout Protocols 807

Reformatting and Rendering Datasets

The dataset you work with in Advanced Visualization is a copy of the original dataset stored on your IntelePACS. When you first open an image by using Advanced Visualization, a progress bar appears, indicating that this data is being loaded. Once the data is loaded, you can then manipulate it to view Advanced Visualization reformats or 3D renderings.

Whether the dataset is rendered locally or remotely depends on the hardware capabilities of your workstation. If your workstation is powerful enough to render the dataset, then the status bar indicates that the dataset is rendered locally. If your workstation is not powerful enough, then the dataset is rendered on a remote server, the status bar indicates the name and location of the remote server.

- The reformatted series data and time text overlay displays the date and time the original series was created.

For series whose slice separation is not uniform, and whose image planes are not parallel, InteleViewer selects the largest block of images in the series with uniform slice separation and parallel image planes for Advanced Visualization reformatting. If the largest block of images also does not meet the criteria, then the series cannot be reformatted.

Your Advanced Visualization reformats or renderings cannot be saved to the IntelePACS and therefore are not available when you close and reload the original dataset. To save the Advanced Visualization dataset, however, you can save it as a presentation state.

- To automatically save your Advanced Visualization dataset, ask your PACS administrator to enable the Save Presentation State privilege in your user account.

See Also

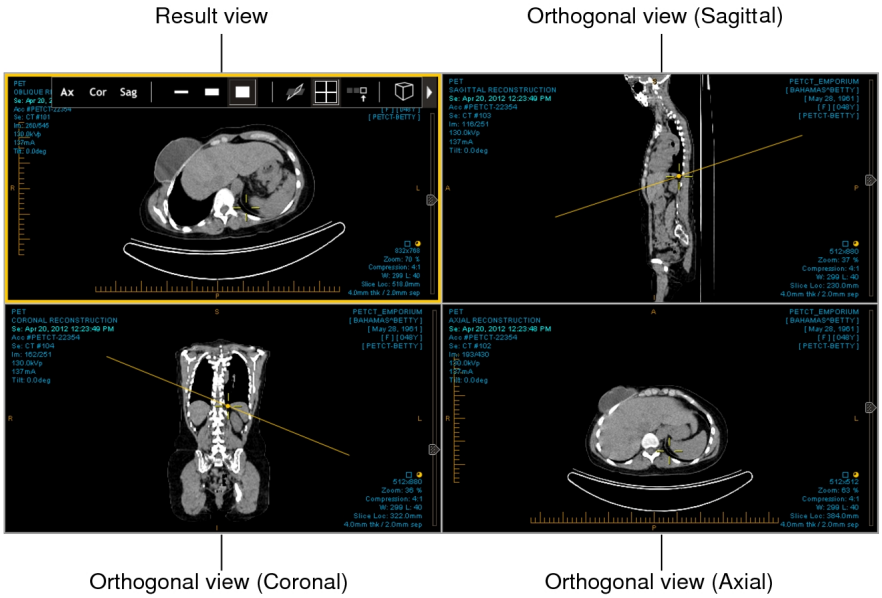
Working with Presentation States 742

Viewing Orthogonal Multi-Planar Reformats

Advanced Visualization allows you to view advanced multi-planar reformats (MPR) of selected image data. Generating an MPR reformat displays orthogonal sagittal, coronal, and axial views from the original image data. The result is either a 2 x 2 or 3 x 1 view set (that occupies the entire screen) with a Result view and three Orthogonal views.

The three orthogonal views are positioned in viewports around or to the left of the Result view, depending on whether you have selected a 2 x 2 or 3 x 1 view set. You access the Advanced Visualization toolbar in the Result view.

2 x 2 Orthogonal MPR View Set



The reference lines in the three Orthogonal views indicate the location of the image in the Result view.

In the Result view, you can reformat views of the series along any plane, not just those orthogonal to the original data. The slice plane location and angle can be manipulated visually, producing oblique and double-oblique views.

The MPR views function as a set, as though they were one viewport, rather than four individual viewports. When you move the MPR view set to another screen, for example, all four viewports move together. As well, dragging and dropping a thumbnail into an MPR viewport results in a new 2 x 2 or 3 x 1 MPR view set. That is, you cannot replace one Orthogonal view or the Result view without impacting the other MPR views.

If you have multiple monitors, you can view multiple MPR views at the same time. You may find this useful if, for example, you would like to view a prior in one MPR view and the current study in another, or an abdomen CT before contrast in one MPR view and another abdomen CT after contrast in another.

If, while in MPR mode, you drag another reformattable series from the Thumbnail strip into the viewport, that series automatically enters MPR mode, and replaces the current series. If you exit MPR mode at that point, however, you will be returned to the first series.

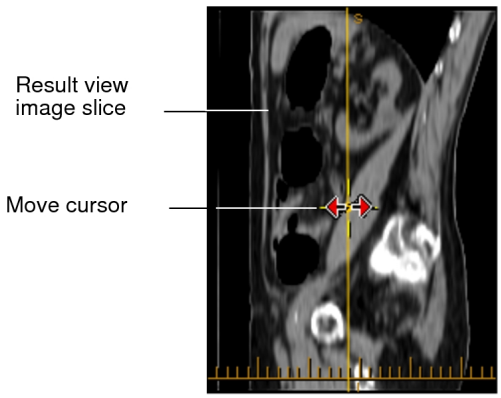
To view an orthogonal MPR reformat:

1. Open the MR or CT series that you would like to use to view MPR reformats.
2. Click the triangle icon to expand the Advanced Visualization toolbar.
3. Click the arrow beside the Switch to MPR mode button to select either the 2 x 2 or 3 x 1 viewport layout.

   Three Orthogonal views appear in the viewports, along with the Result view. The 3D cursor and the Oblique tool are activated automatically.
4. To locate a particular point in 3D space on the multi-planar images, use the 3D cursor.

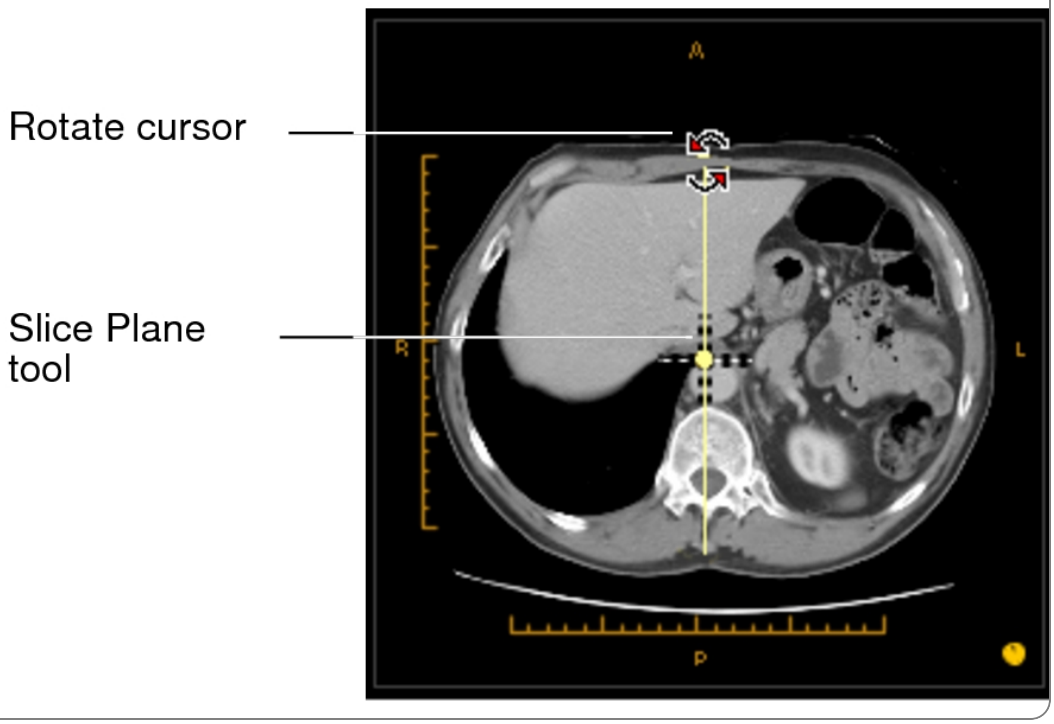
   In MPR mode, you move the 3D cursor by clicking and holding the right mouse button. The 3D cursor does not disappear when you release the mouse button. See “Using the 3D Cursor" (page 538).
5. To change the slice location, select an Orthogonal view and place your cursor over the 3D cursor.

   The Move cursor appears as a red double-arrow.



6. Click and drag the Slice Plane tool (yellow line) to the new position.

   The Result view updates to reflect your changes.
7. To change the slice orientation (create an oblique MPR), do one of the following:

Step	Description
Use the Oblique tool.	See “Using the Oblique Tool" (page 474).
Select an Orthogonal view and place the cursor over the Slice Plane tool.	The rotate cursor appears. Click and drag to change the slice orientation. The Result view updates to reflect your changes. 

8. To create a double-oblique MPR, repeat the previous step on a second Orthogonal view.
9. To change the slice thickness, see “Configuring Slice Thickness" (page 473).

   You cannot change the slice thickness of a 3D rendering.
10. To change the view of the image in the Result view (to axial, sagittal, or coronal), see “Changing Views" (page 472).
11. To see an expanded version of the Result view image or one of the Orthogonal view images, double-click the image. The image appears in a single viewport. Double-clicking again returns you to 2 x 2 or 3 x 1 layout.

    If you drag a non-reformattable series over the MPR view set—when it is either expanded or in 2 x 2 or 3 x 1 layout—you will exit MPR mode.

Viewing 3D Renderings

InteleViewer provides 3D visualization of images to facilitate clinical diagnosis and surgical planning. An orthopedic surgeon might find the 3D rendering to be helpful in examining a multifragmentary fracture of a leg prior to surgery, for example.

InteleViewer provides multiple pre-configured renderings for examining a dataset—such as Vessel Mono or Bone 3D Muscle—enabling you to emphasize various components of the images as needed.

3D Rendering

To view a 3D rendering:

1. Open the MR or CT series that you would like to render in 3D.
2. Click the triangle icon to expand the Advanced Visualization toolbar.
3. Click the 3D menu button to show 3D rendering tools.

   An error message appears if your dataset cannot be rendered in 3D.
4. Select the required rendering type from the menu.

   The image appears in the 3D rendering you selected.

Changing Views

The Advanced Visualization toolbar allows you to switch from axial, coronal, or sagittal view.

To change an image view:

1. Open an MR or CT series.
2. Click the triangle icon to expand the Advanced Visualization toolbar.
3. Select Display axial orientation, Display coronal orientation, or Display sagittal orientation.

The image appears in axial, coronal, or sagittal view.

Configuring Slice Thickness

You can change the thickness of slices displayed in your viewport by applying a preset slice thickness or a customized thickness.

You can select the slabbing algorithm of a customized slice. For example, you can apply maximum intensity projection (MIP) to a slice to highlight dense tissue like vessels, or apply minimum intensity projection (MinIP) to study lower density—perhaps air-filled—objects.

Configure slice thickness with any of the reconstructions you created by using the Reformat menu.

To configure slice thickness:

1. Open an MR or CT series.
2. Click the triangle icon to expand the Advanced Visualization toolbar.
3. Click the Reformat menu button to show image reformatting tools.
4. To apply a preset slick thickness, select one of the following:

Select:	For:
	Thin slabbing. Applies the “native” slice thickness; that is, the slice thickness at which the image was originally captured.
	Thick slabbing. If the native slice thickness is greater than 2.5 mm, this value is the native value. Otherwise, the value is set at 2.5 mm.

5. To customize slice thickness, select Custom Slabbing .

   The Customization menu appears.

6. To increase or decrease slice thickness in 0.1 mm increments, use the slide bar.

   The range of possible values is from 0 to 50.0 mm.

7. To alter intensity projection of your slice, select an option from the menu:

Select:	To:
Ave (Average intensity projection)	Display the average pixel value for the slab.
MIP (Maximum intensity projection)	Display the maximum pixel value for the slab. (Default value.)
MinIP (Minimum intensity projection)	Display the minimum pixel value for the slab.

See Also

User Interface Preferences 85

Using the Oblique Tool

The Oblique tool allows you to view a reformatted series from any arbitrary point. You can reformat the original dataset along any plane, not just those orthogonal to the original data. The slice plane location and angle can be manipulated visually in a viewport, creating oblique views, and the resulting view updates dynamically.

To use the Oblique tool:

1. Open an MR or CT series.
2. Click the triangle icon to expand the Advanced Visualization toolbar.
3. Click the Oblique tool .

A blue crosshair appears.

4. Click and hold the left mouse button and move the crosshair.

   The slice orientation of the image changes.

Capturing a Thumbnail Image

When you first open an image by using Advanced Visualization, InteleViewer creates a thumbnail of that image in the Thumbnail strip. A white plus icon in the upper right-hand corner indicates that the thumbnail is an Advanced Visualization reformat or 3D rendering.

To capture another instance of a reformatted or rendered image—if you would like two axial, sagittal, or coronal instances of an image, for example—you must use the Create thumbnail button to “bookmark” this instance. Or, for example, if you create an oblique angle with MIP, you could capture this reformat as a thumbnail, and then continue reformatting the image. To return to the oblique MIP view, simply drag and drop the thumbnail into the viewport.

When you capture a thumbnail, all images in the series are copied.

To save your thumbnail, you must save it as a presentation state.

To capture a thumbnail image:

1. Open an MR or CT series.
2. Click the triangle icon to expand the Advanced Visualization toolbar.
3. Make the required changes to your reformatted or 3D rendered image.
4. Click Create Thumbnail .

   The image is captured as a thumbnail and appears on the Thumbnail strip.

See Also

Working with Presentation States 742

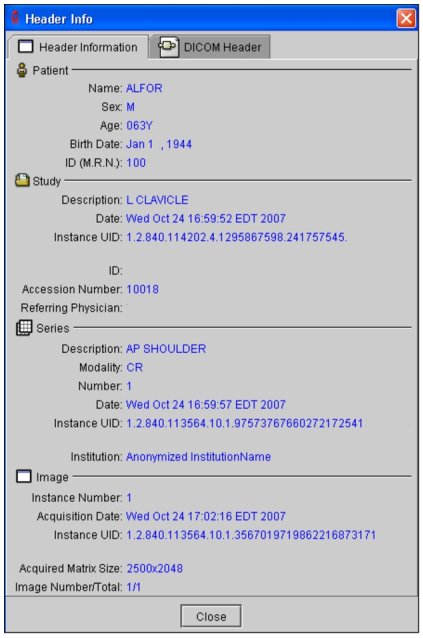
Viewing Header Information

You can view patient, series, and image information related to an image file or key image series. You can also view the full DICOM header information for image files, as well as copy the information to the Windows system clipboard so that you can paste it into another application.

To view header information:

1. Select the desired viewport by clicking it.
2. Choose Utilities | Header Info or press **H**.

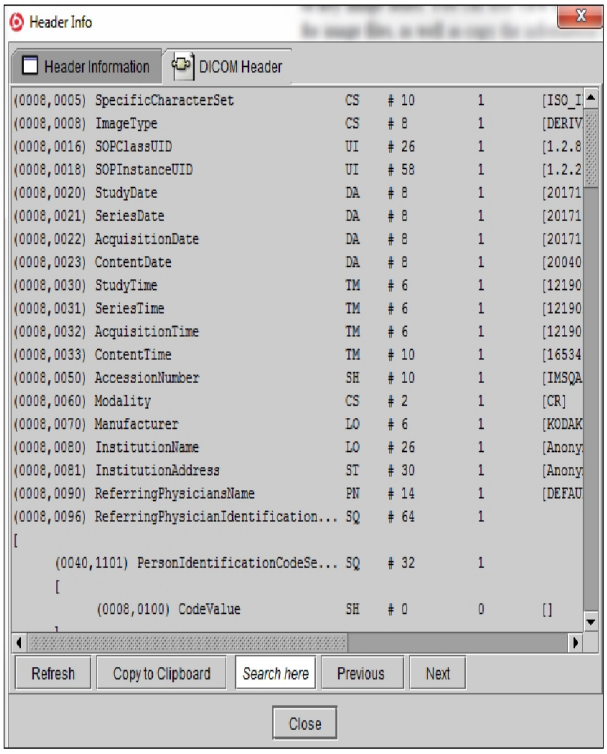
   The Header Info dialog appears and displays the patient, series, and image information. If you selected a key image series or teaching case, information appears for the key image series and the original series.



3. When you have finished, click Close.

To view the DICOM header:

1. Select the desired viewport by clicking it.
2. Choose Utilities | Header Info or press **H**.
3. Click the DICOM Header tab.



If necessary, you can click and drag the edge of the dialog to resize it.

4. To locate specific DICOM information, type text in the Search Here field.

   Any matching text is highlighted in the DICOM Header tab.

5. To locate the next match, press ENTER or click Next.
6. To go back to the last match, press SHIFT + ENTER or click Previous.
7. To copy the information, click Copy to Clipboard.

   All of the DICOM header information is copied to the Windows system clipboard.

8. To paste the information, open the application into which you want to copy the information (such as a text file or email) and press **CTRL+V**.
9. When you have finished, click Close.

10 MANIPULATING IMAGES

Use a full range of image manipulation tools to facilitate image viewing. A comprehensive toolset allows you to position, orient, and reorder images in the viewports, manipulate image contrast and brightness, and add annotations and measurements.

In this chapter:

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Linking Viewports to Manipulate Images 479

Keeping Viewports Linked When Changing Reading Steps 481

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About Manipulating Images

InteleViewer provides you with a comprehensive set of tools that you can use to move, reorder, and alter the view of images to obtain clear readings. Examine multiple studies simultaneously, and stack, rotate, zoom, and take measurements quickly by using the toolbar icons, mouse, or a set of keyboard shortcuts.

When using the toolbar icons, a yellow outline appears around the tool to indicate that it is the currently-selected tool. When you select an image, a yellow border appears around its viewport indicating that it is the current viewport.

Keyboard shortcuts for tools may be assigned default values. These values, however, can often be customized.

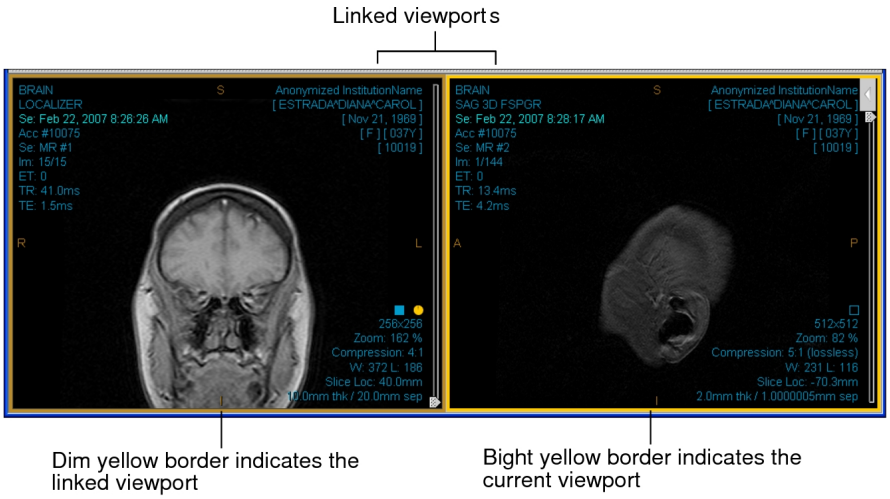
See Also

Customizing Keyboard Shortcuts 785

Linking Viewports to Manipulate Images

You can link viewports to perform image manipulations on multiple images simultaneously. For example, to pan and zoom a specific region of interest on all related views at the same time, you can link the viewports containing the images in question. The image manipulations you perform are then applied to the images in the selected viewports to the same degree. Depending on the modality, the image manipulations you can perform on linked viewports are: zoom, pan, stack, window level, and invert. For example, you can zoom, pan, and invert MG images, but zoom, pan and window level X-ray images.

Use modality preferences to set the image manipulations you can perform in linked viewports.



To link viewports:

1. Press and hold the **CTRL** key while clicking the viewports that you want to link.

   A dim yellow border appears around the linked viewports. The last viewport you select becomes the current viewport and is identified by a bright yellow border. The Auto/Manual Link button is disabled. The mouse cursor changes to reflect that the viewports are linked.

2. If necessary, click a viewport within the group of linked viewports to select a new current viewport.
3. Select one of the image manipulation tools that are enabled for linked viewports and then adjust the images as required.

   For more information about manipulating images, see “Orienting Images" (page 492) or “Adjusting the Window Levelling" (page 489).

   If you enabled the Auto Linked Stacking feature in your modality preferences, the Stacking feature will be enabled for all linked viewports. Only the related images however, will stack simultaneously. Those images that are not related will not stack.

4. To remove a viewport from the group, press and hold the **CTRL** key while clicking the viewport you want to remove from the group.

5. To ungroup the viewports, click outside the selected viewports.

   The dim yellow borders disappear around the linked viewports.

See Also

User Interface Preferences 85

Keeping Viewports Linked When Changing Reading Steps

You can keep multiple viewports linked while you change reading steps. As a result, you can navigate through multiple steps in a sequence protocol without having to re-select viewports each time you view a new step.

The viewports remain linked even if you zoom in and then zoom out of a viewport. If the layout between one step and the next is different, however, only one viewport remains selected when changing steps. In this case, only the current viewport remains selected.

To use this feature, you must have the Keep multi-viewport selection between reading steps option selected in your user preferences.

Multiple selected viewports behave like linked viewports when you manipulate images contained within them.

To keep viewports linked when changing reading steps:

1. Press and hold the **CTRL** key while clicking the viewports that you want to link.

   A dim yellow border appears around the selected viewports. The last viewport you select becomes the current viewport and is identified by a bright yellow border.

2. To deselect a viewport, press and hold the **CTRL** key while clicking the viewport.
3. To move to the next reading step, click the right-pointing arrow on your keyboard.

   You are moved to the next reading step, and the previously selected viewports remain selected.

Displaying the Text Overlay

You can superimpose text containing study information directly on the image, or hide it to better see the underlying image. This information is referred to as the *text overlay*.

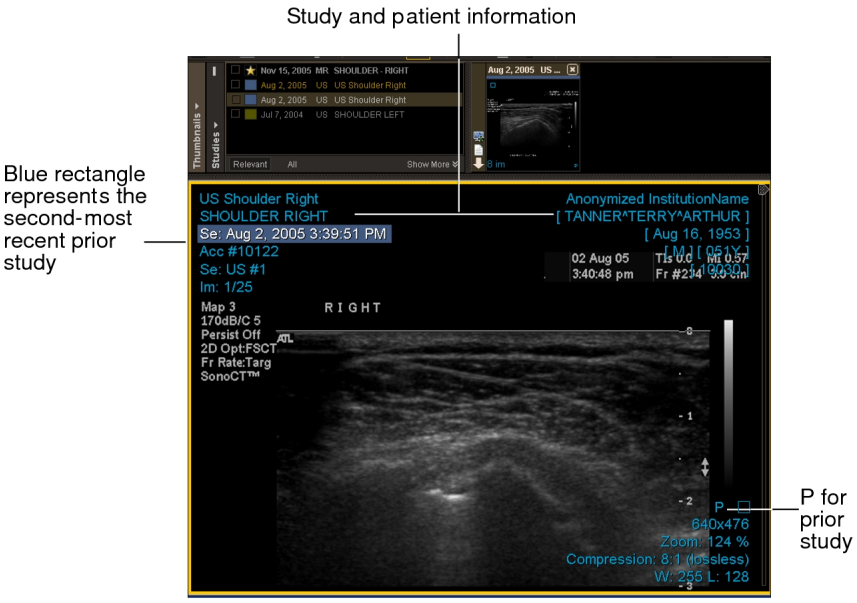
In the User Preferences dialog, you choose whether the text overlay is displayed automatically when you open a study, though you can display or hide it at any time. You can also customize the appearance of the text overlay; for example, you can add the performing physician's name to the overlay.

The text overlay contains study, patient, and image information. By default, the study information displays the study description, series description, projection, layout view, series date and time, accession number, modality, series number, dataset index, index number, number of images for CT images, the kilovoltage, X-ray tube current, gantry detector tilt; for MR images, echo train length, repetition time, echo time. The patient information includes the institution name, patient name, date of birth, gender, age, and patient ID. The image information includes size, zoom percentage, current compression ratio, window level for CT and MR images, slice location, slice thickness and spacing.

When displaying the text overlay information for a multiple prior study from the current patient, the series date and time text overlay appears with a colored filled rectangle that matches the color scheme used to differentiate between prior studies. In the case of studies from another patient, a gray filled rectangle appears behind the series date and time and patient name text overlays.

For lossy DICOM JPEG images, the image compression ratio is ignored since images are loaded at the maximum compression ratio. Instead, the word “lossy” appears as the compression ratio in the text overlay.

Text Overlay Information



When you add a study or series to your layout for comparison, the differences in date or patient name from the original study are highlighted in the overlay identification fields of the added series. In the image above, the series date is highlighted.

To display or hide the text overlay:

- Click the Text Overlay tool .

See Also

Appearance Preferences 91
Interpreting Color in the Studies List and Thumbnail strip 460

About Text Overlay Abbreviations

In the text overlay, some units of measurement and DICOM field names are abbreviated to fit in viewports. The following table provides a list of abbreviations used and the corresponding meaning.

Abbreviation:	Description:
# of Frames	Number of Frames

Abbreviation:	Description:
Acc#	Accession Number
Acq	Acquisition Information (date, time, and so on)
Acq Matrix	Acquisition Matrix
Alt Pat ID	Other Patient ID
Body Part	Body Part Examined
CAUD	Caudal
cm	centimeters
Compression	Compression Ratio: For lossy DICOM JPEG images, the word “lossy” appears in the compression ratio.
Contrast Agent	Contrast Bolus Agent
Counts	Counts Accumulated
counts/sec	Count Rate (per second)
CRAN	Cranial
deg	degrees
Dist Source-Detect	Distance Source To Detector
Dist Source-Patient	Distance Source To Patient
Duration	Actual Frame Duration (in milliseconds)
Echo #	Echo Number
ET	Echo Train Length
Exp	Exposure (in milliamperes per second)
Exp Time	Exposure Time (in milliseconds)
Flip	Flip Angle (in degrees)
Im	Image Number/Total Number of Images: Key image series and teaching cases also display this information for the originating series, in brackets.
Img Comments	Image Comments
kVp	kilovoltage
KVP	KVP
L	Level (image brightness)

Abbreviation:	Description:
LAO	Left Anterior Oblique
Laterality	Image Laterality
mA	Xray Tube Current (in milliamperes)
mA	milliamperes
mAs	milliamperes per second
mL	milliliters+-
mm	millimeters
mm thk / mm sep	Slick Thickness / Spacing Between Slices (in millimeters)
ms	milliseconds
Operator	Operators Name
Pat Pos	Patient Position
PPS Desc	Performed Procedure Step Description
Protocol	Protocol Name
Radio Phm	Radio Pharmaceutical
RAO	Right Anterior Oblique
Recon Diam	Reconstruction Diameter (in millimeters)
Ref Phys	Referring Physician’s Name
Se	Series Information (date, modality, number, and so on)
sec	seconds
Slice Loc	Slice Location (in millimeters)
sq. cm	square centimeters
St	Study Information (name, date, etc.)
TE	Echo Time (in milliseconds)
TI	Inversion Time (in milliseconds)
Tilt	Gantry Dectector Tilt (in degrees)
TR	Repetition Time (in milliseconds)
View Pos	View Position
Weight	Patient Weight
W	Width (image contrast)

Abbreviation:	Description:
Zoom	Zoom Factor (percentage)

Displaying the Image Overlay

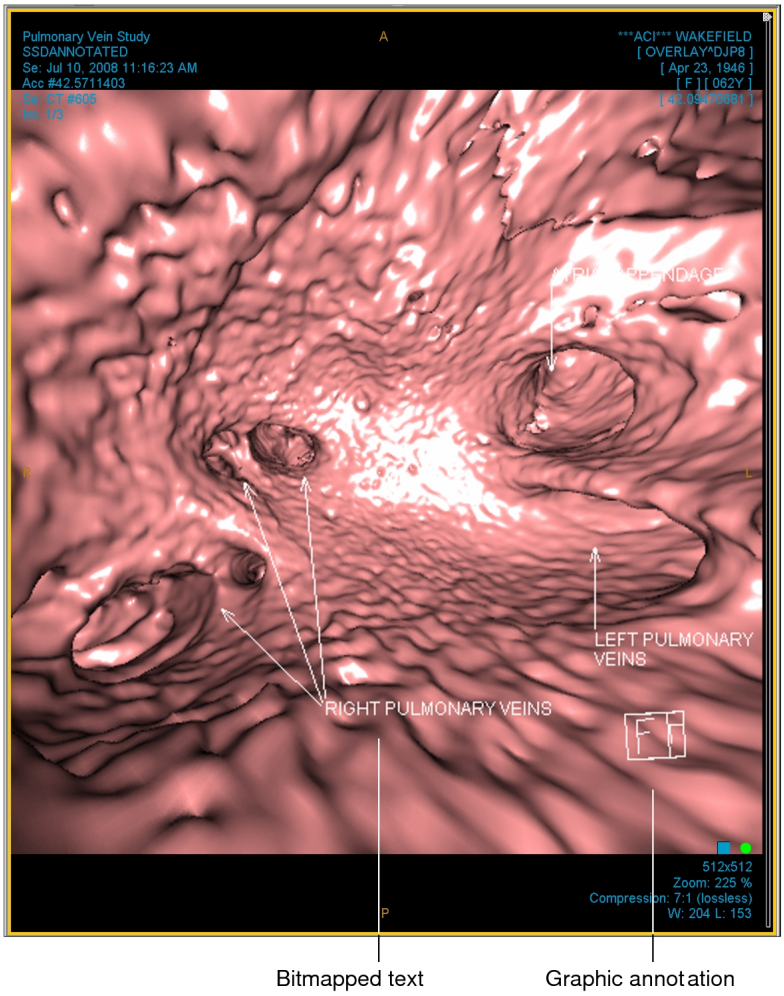
You can display DICOM Group 6000 overlays and embedded overlays on the image, or hide them to better see the underlying image. This information is referred to as the *image overlay*. The image overlay can contain reference marks, graphic annotations, bitmapped text, or Regions of Interest (ROI).

To display the image overlay:

1. Open the required study. See “About Opening Studies and Series" (page 361).

   Image overlay information is displayed in white on the image automatically.

Image With Image Overlay Information



A check mark appears next to the Image Overlay option in the View menu to indicate that it is active.

2. Do one of the following:

   - To hide the image overlay, choose View | Image Overlay.
   - To view the image overlay, choose View | Image Overlay.

See Also

Displaying the Text Overlay and Image Overlay 71

Reordering Series in the Viewports

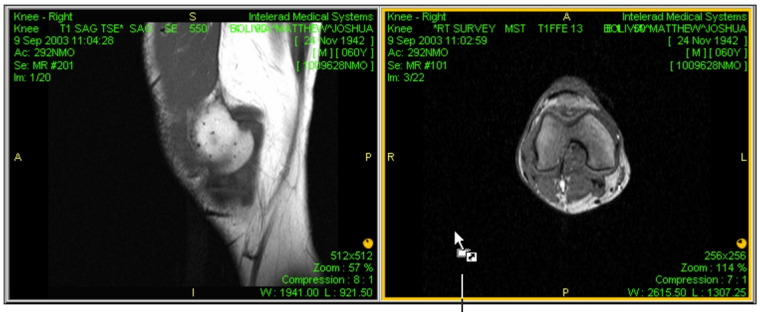
When you open an order with multiple series from the worklist, the series initially appear in the viewports in the same order in which they were scanned (unless layout protocols are being applied by using Advanced Layout Management). Use the Drag and Swap tool to exchange the positions of two series to position them in the way that best suits your workflow.

To use the Drag and Swap tool, you must select a series layout that contains multiple viewports.

To reorder series in the viewports:

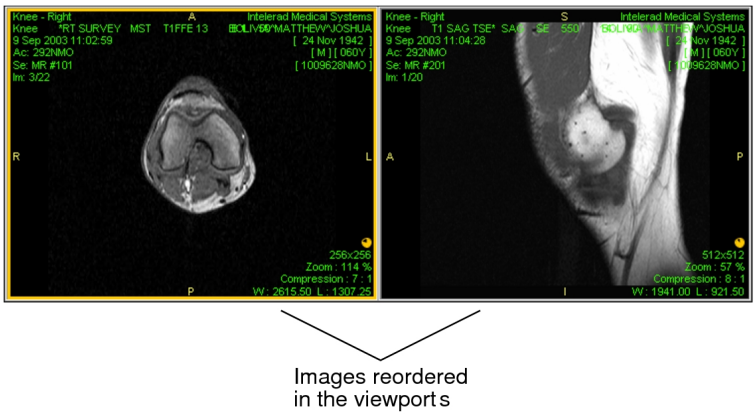
1. Click the Drag and Swap tool .
2. Click the series whose position you want to change and drag the series to the new viewport.

   You can drag horizontally, vertically, or diagonally.



3. Once your cursor is in the new viewport, release the mouse button.

The series swap viewport positions.



Adjusting the Window Levelling

Window levelling alters the contrast (*width*) and brightness (*level*) of the selected image. You can adjust the window levelling interactively or by choosing one of the predefined settings, referred to as *window level presets*.

There are three types of window level presets: *Manual presets* are those you define manually. *Automatic presets* are those the system defines automatically. *DICOM presets* are those DICOM defines.

Manual presets are custom window level settings which are associated with a particular function key on the keyboard. Before you can use these presets, you must first define them.

Automatic presets are obtained from the DICOM image source, and can be particularly useful when viewing MR images, which may not have predictable intensity values. There are three automatic presets: Low Contrast, Medium Contrast, and High Contrast. To define these presets, the image is analyzed when it is obtained by the IntelePACS and some of the image data from top and bottom of the range of values is removed to improve the contrast, as described in the following table.

Preset	Percentage removed from top of range	Percentage removed from bottom of range
Auto: Low Contrast	1%	1%
Auto: Medium Contrast	5%	5%

Preset	Percentage removed from top of range	Percentage removed from bottom of range
Auto: High Contrast	10%	10%

Mouse-controlled window leveling can be configured by Intelerad Technical Support. Please contact the Intelerad Technical Support for more information.

DICOM presets are obtained directly from DICOM.

To interactively adjust the window levelling:

1. Select the required images.

   If linked mode is set in your modality preferences, you can window level several images simultaneously. For more information see, “Linking Viewports to Manipulate Images" (page 479).

2. Click the Window Level tool .

   The cursor changes to indicate you are adjusting the window level.

3. Click and drag in the required viewport.

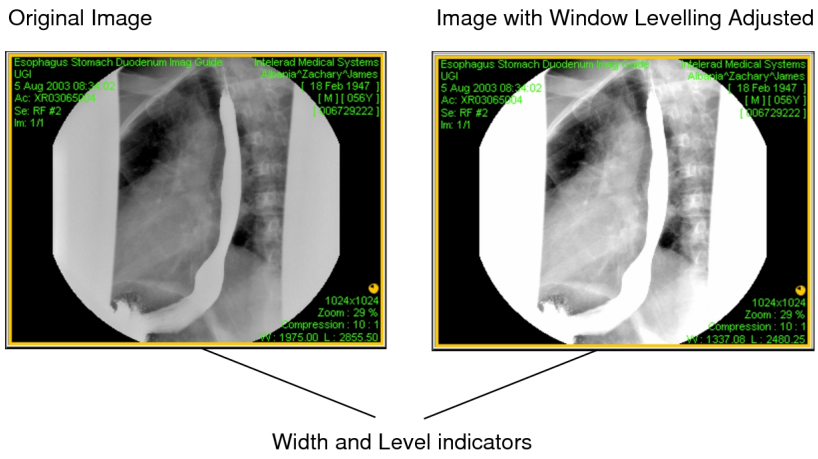
   The Window Level tool icon in the viewport disappears to allow you optimal viewing of the image.

Drag:	To:
Up	Decrease the level setting (brightness).
Down	Increase the level setting (brightness).
Left	Decrease the width setting (contrast).
Right	Increase the width setting (contrast).

   In the case of mammography images, air gap suppression is applied when you adjust the window level, so that the parts of the image not covered by breast tissue remain black.

   If you display the text overlay information, the width and level indicators increase

and decrease as you drag.



To use a window level preset:

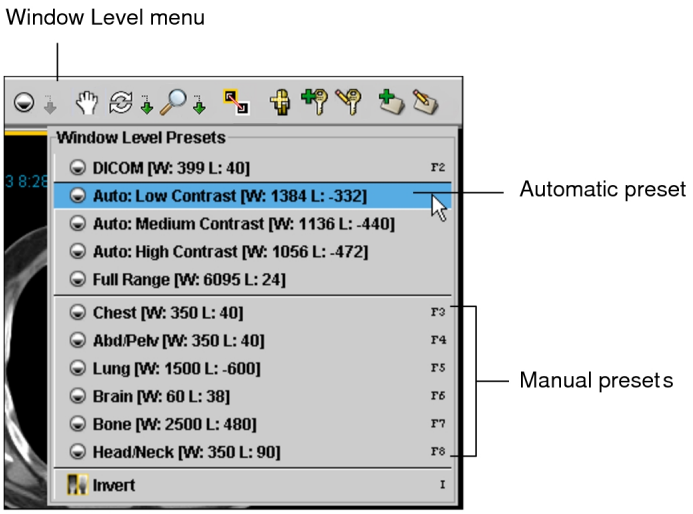
1. Select the required series.
2. Do one of the following:
   - Press the key that corresponds to the window level preset that you want to use. For example, press **F3**.

     This step assumes you have already defined window level presets. For information, see “Creating Window Level Presets” in “Setting Window Level Preferences" (page 140).
   - Choose a setting from the Window Level menu.

Choose:	To:
DICOM	Set the window level to correspond to the DICOM data contained in the image.
Auto: Low Contrast	Apply a low-contrast window level setting.
Auto: Medium Contrast	Apply a medium-contrast window level setting.
Auto: High Contrast	Apply a high-contrast window level setting.
Full Range	Use the full range of intensity values contained in the image.

You can also press **CTRL+F2** to cycle through the Auto settings or press **SHIFT+F2** to cycle through DICOM values.

The preset window level settings are applied to all images in the selected series.



See Also

Setting Window Level Preferences 140

Orienting Images

You can zoom, magnify, flip, pan, and rotate the images in a series to reorient them in the viewport.

Zooming Images

Zoom a specific area of an image to increase its magnification. Use the mouse to zoom manually, or choose a preset zoom percentage.

Depending on the current mouse configuration, you can access the Zoom tool when certain other tools are selected.

To zoom an image:

1. Select the required images.

   If linked mode is set in your modality preferences, you can zoom several images simultaneously. For more information see, “Linking Viewports to Manipulate Images" (page 479).

2. From the main menu, choose Tools | Zoom (**Z**) or click the Zoom tool .

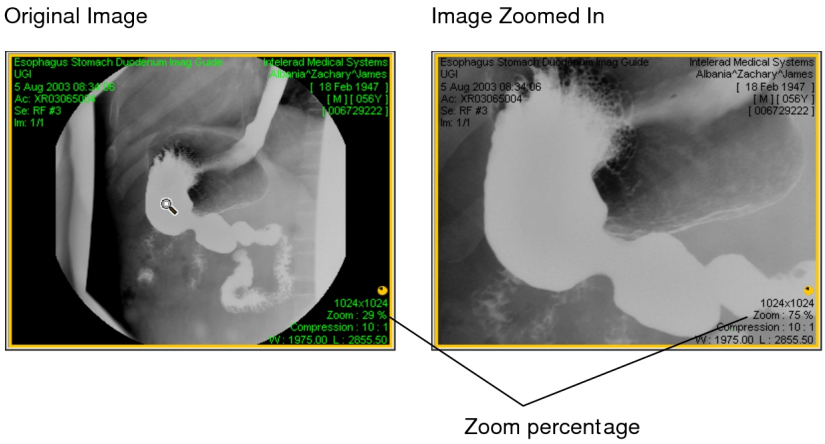
   The cursor changes to indicate you are zooming.

3. Position your cursor over the area you would like to zoom. Click and drag in the required viewport.

   The Zoom tool icon in the viewport disappears to allow you optimal viewing of the image The zoom is applied in the selected monitor only.

Drag:	To:
Up	Increase the area's magnification (zoom in).
Down	Decrease the area's magnification (zoom out).

   If you display the text overlay information, the zoom percentage increases and decreases as you drag.



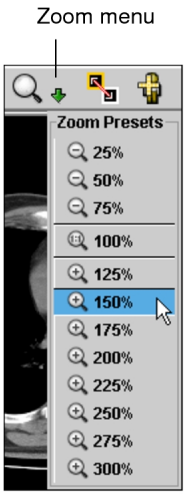
4. To revert the image to its original magnification setting, choose Tools | Reset (**CTRL+BACKSPACE**).

To select a preset zoom percentage:

1. Select the required image.

   Zoom settings are applied to all images in the series.

2. Choose a preset from the Zoom menu.



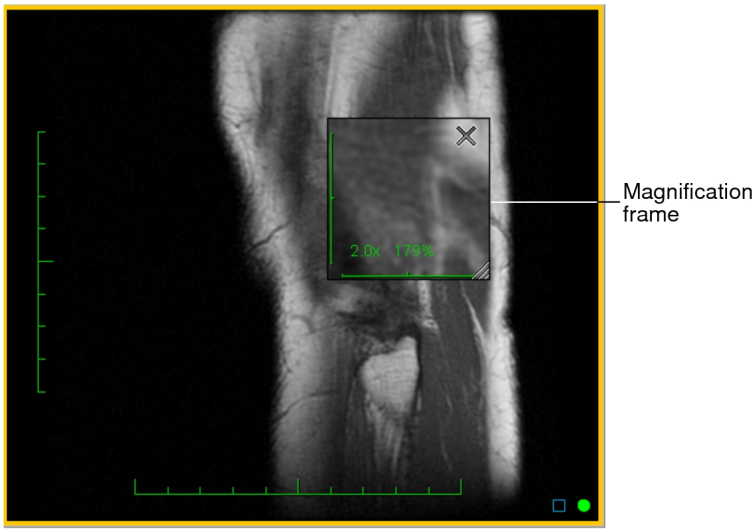
The zoom percentage increases or decreases to correspond to the selected option.

You can choose Tools | Reset (**CTRL+BACKSPACE**) to revert the image to its original magnification setting.

Magnifying Images

Use the Magnifying Glass tool to view regions of interest in detail. Move the magnifying glass over an image to magnify specific areas or lock the magnifying glass into position to view an area in greater detail.

You can adjust the magnification as required. Both the absolute (percentage) and relative zoom (decimal) factors appear in the magnification glass frame.



To magnify a region of interest:

1. From the main menu, choose Tools | Magnifying Glass (G) or click the Magnifying Glass tool .

   The cursor changes to a magnifying glass.

2. Click and drag the left mouse button across the image.

   The Magnifying Glass tool icon in the viewport disappears to allow you optimal viewing of the image.

3. To cancel the magnifying glass, release the left mouse button.
4. To lock the magnifying glass over a region, do one of the following:

   - While pressing the left mouse button, click the right mouse button.
   - Press **G**.

   The magnified frame locks in place. You can now move the cursor freely without altering the magnified frame.

   While the magnification frame is pinned, you can stack through the image slices by moving the cursor outside the magnification frame, or by clicking on the image. The cursor will change from the magnifying glass to a stacking icon.

5. To move the frame to a new location on the image, click the left mouse button and drag the frame.
6. Change the magnification as required.

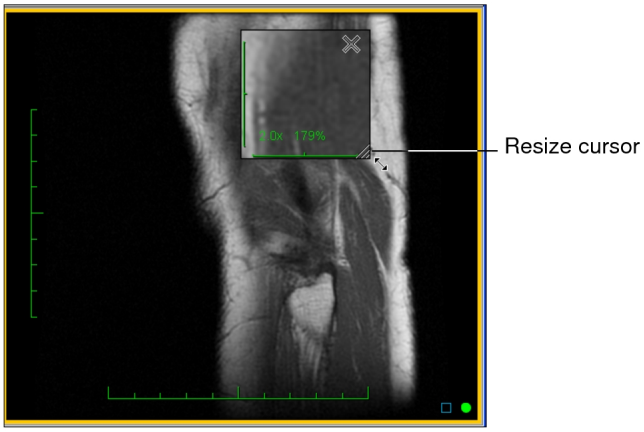
Scroll:	To:
Up	Increase the zoom.
Down	Decrease the zoom.

The zoom factor changes to reflect the new magnification.

7. Change the size of the magnification frame as required.

Drag the bottom corner:	To:
Right	Increase the size of the frame.
Left	Decrease the size of the frame.

InteleViewer retains the last size adjustment. The next time you use the Magnification Glass feature, the magnification frame reflects this adjustment by default.



8. To close the magnified region, click X in the top right corner.

Flipping Images

Flip an image to mirror it around the horizontal or vertical axes, so that it appears inverted or upside-down. InteleViewer applies flip settings to all images in the series.

To flip an image horizontally or vertically:

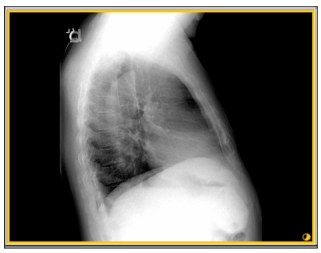
1. Select the required image.
2. Do any of the following:

- To flip an image horizontally, from the main menu, choose Tools | Flip Horizontally or press **CTRL + H**.
- To flip an image vertically, from the main menu, choose Tools | Flip Vertically or press **CTRL + V.**.
- From the Free Rotate Tool menu in the toolbar, select Flip Horizontally or Flip Vertically.

The image is flipped.

Original Image

Image Flipped Horizontally



3. To revert the image to its original orientation, choose Tools | Reset (**CTRL+BACKSPACE**).

Panning Images

When zooming or flipping an image, a region of interest may move out of the viewport. You can pan images to position them as required.

Pan settings are applied to all images in the series. If linked mode is set in your modality preferences, you can pan several images simultaneously in the linked viewports.

Depending on the current mouse configuration, you can access the Pan tool when certain other tools are selected.

To pan an image:

1. Select the required image.
2. From the main menu, choose Tools | Pan (**P**) or click the Pan tool .

   The cursor changes to indicate you are panning.
3. If you selected a mammography image, choose a pan setting from the Pan Tool menu .

- Choose Pan Selected to pan only the selected mammography image.
- Choose Pan All Related Images to pan all mammography images in the linked viewports.

4. Click the image and drag in the required direction.

   The Pan tool icon in the viewport disappears to provide optimal viewing of the image.

   You can choose Tools | Reset (**CTRL+BACKSPACE**) to revert the image to its original position.

See Also

Linking Viewports to Manipulate Images 479

Rotating Images

You can rotate images left or right in 90-degree increments, or freely rotate images at any angle. Freely rotating images can be useful when you are reading diagonally acquired CR images of a tibia or fibula and want the bone to go straight up and down in the viewport.

Rotation settings are applied to all images in the series.

Arbitrary rotation angles used in key images and presentation states will be rounded to the nearest 90-degree angle when viewed in earlier versions of InteleViewer or a third-party viewer.

To rotate an image in 90-degree increments:

1. Select the required image.
2. To rotate the image to the left or to the right, do one of the following:

   - From the main menu, choose Tools | Rotate Left 90 Degrees or Tools | Rotate Right 90 Degrees.
   - From the Free Rotate Tool menu in the toolbar, select Rotate Left 90 Degrees or Rotate Right 90 Degrees.

   The image changes orientation.

3. Repeat step 2 as many times as required to rotate the image in additional 90-degree increments.

4. To revert the image to its original orientation, choose Tools | Reset (**CTRL+BACKSPACE**).

To rotate an image freely:

1. Select the required image.
2. From the main menu, choose Tools | Free Rotate, or click the Free Rotate tool , and then click and drag your mouse to the left or to the right to freely rotate the image to the desired angle.

   The cursor changes to indicate that you are freely rotating.

   The image rotates around the middle point of the viewport.
3. To revert the image to its original orientation, choose Tools | Reset (**CTRL+BACKSPACE**).

Inverting Image Colors

Reverse the colors of an image to view it as white-on-black rather than black-on-white.

To invert image colors:

1. Select the required image.

   If a series contains multiple images, all images in the selected series are inverted. If linked mode is set in your modality preferences, you can invert several images simultaneously. For more information see, “Linking Viewports to Manipulate Images" (page 479).
2. If you selected a mammography image, choose the invert setting from the Invert menu .

   - Choose Invert Selected Image to invert only the selected mammography image.
   - Choose Invert All Images to invert all mammography images.
3. Click the Invert tool .

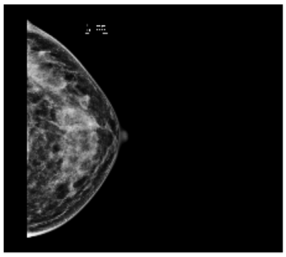
Original Image

Inverted Image

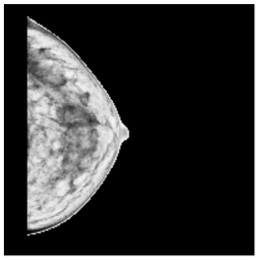
4. To reset the image color, click the Reset tool .

   In the case of mammography images, air gap suppression is applied to the inverted images, so that the parts of the image not covered by breast tissue remain black.

Original Image



Inverted Image



Resetting Images

You can quickly revert an image back to its original orientation, window level, and color. When you do so, any pan, zoom, rotation, flip, window levelling, or image color settings you applied are lost for all images in the series.

To reset an image:

1. Select the required image.

   ⚠ All images in the series will be reset.

2. Click the Reset tool .

   The image is reverted to its original settings.

Enhancing the Edges or Contrast in Images

You can apply a filter to an X-ray image to improve how the image is displayed in the viewport. Using a filter in conjunction with other tools may enable you to distinguish details in the image that would otherwise be difficult to see. When you apply one of the filters, an indication appears in the text overlay. You cannot save the effects of the applied filter when you create a key image series, save a presentation state, tag a study, create a sequence protocol, print an image, or export an image.

To apply an image enhancement filter:

1. Select the X-ray image.
2. In the toolbar, click the **Image Enhancement** menu .
3. Select the filter you want to apply:
   - **Sharpen**: to enhance the edges in the image.
   - **CLAHE**: to use Contrast Limited Adaptive Histogram Equalization (CLAHE) to improve the contrast in the image.

   The Image Enhancement tool is updated to reflect the selected filter. You can click the Image Enhancement tool to apply or remove the selected filter.
4. To select a different filter, choose it from the menu or press **F** (or your custom keyboard shortcut) to cycle through them.
5. To remove the filter from the image, click **Clear Image Enhancement** from the menu.

Reading Images by using DSA

Use the Digital Subtraction Angiography (DSA) tool to improve the contrast of x-ray angiography images for greater definition of vessel structures.

The DSA tool is available for the XA modality only.

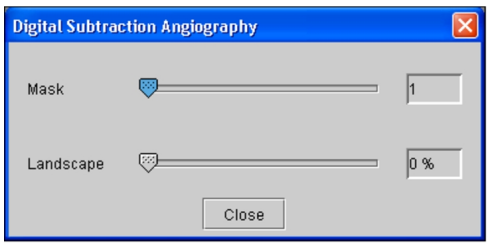
You cannot save X-ray angiographic subtracted images as key images.

To read the images in a series by using DSA:

1. Click the required X-ray angiography image or series.
2. Click the DSA tool

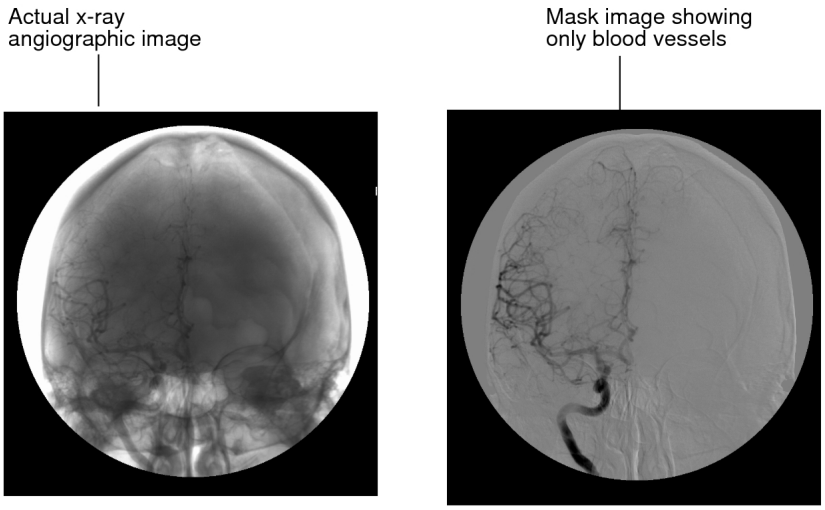
.

   The Digital Subtraction Angiography dialog appears.



3. Click and drag the Mask slider to select the image that is to be subtracted from all other images.

   The mask is usually the first image in a series; however, in certain cases, it may not be the first one.



4. Click and drag the Landscape slider to select the percentage of the original image that is added back.

- This can be useful if, for example, you want to determine what part of the body the vessel is in.

5. When you have finished, click Close.

Measuring Lines, Areas, Angles, and Volumes

You can measure straight lines, elliptical regions of interest, simple angles, cobb angles, and volumes. Create multiple measurements of the same type or different types on a selected image, up to a maximum of ten measurement result lines per image.

Measurements are either in an active or inactive state. When you create a measurement it remains active until you click outside the measurement. It then becomes inactive. You can activate an inactive measurement with a single mouse click.

When you move your mouse over a measurement, it appears lighter to indicate that the measurement can be changed or moved when selected.

In the case of multiple measurements on an image, you can add a new measurement or adjust an active measurement that is in close proximity to a previous measurement without altering the state of the inactive measurement. This is useful when measuring lesions that are in very close proximity to one another or when measuring the distance between two existing linear lines.

The accuracy and reproducibility of measurements in InteleViewer is dependent on the precision of the user's operation of the mouse. Keep in mind that working with magnified images when drawing measurements helps reduce the margins of error, and working with reduced-magnification images can lead to a greater margin of error.

This also applies to images that have not been calibrated by the scanner and that therefore rely on pixel spacing, as errors can be introduced in the calibration step as well as during the creation of the subsequent measurements.

When the True Size Zoom text overlay is set to 100%—and InteleViewer has the necessary data for computation—images are displayed in true anatomical size to allow for accurate measurements. The magnification factor (derived from DICOM information) used to calculate the anatomical size is also displayed in the text overlay. This applies to CR, RF, XA, DX, and MG images.

When adding a full series to a teaching case, you cannot add measurements to these series.

To save your measurements, you can create a key image series or save a presentation state. Measurements also appear when you print images or export JPEG images.

⚠ To save measurements, you must use one of the above methods; otherwise, your measurements will be lost when you close the series.

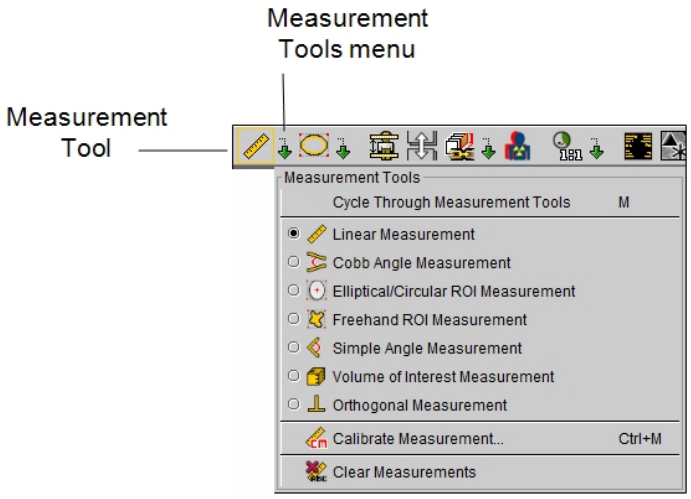
Degree of accuracy for the measurement tools

The measurement tools were evaluated for accuracy (trueness and precision) against an X-ray image of a calibration object of known dimensions and angles. The trueness and precision for the measurement tools are as follows:

Measurement Tool	Trueness	Precision
Linear	< 0.1 cm	< 0.1 cm
Elliptical/Circular ROI	< 0.1 cm^2	< 0.1 cm^2
Simple Angle	< 0.3°	< 0.3°
Cobb Angle	< 0.3°	< 0.3°

To select a measurement tool:

1. In the toolbar, click the Measurement Tools menu.



2. Select the required tool.

   The Measurement tool is updated to reflect the selected tool. This tool will be used when you click the Measurement tool or use the keyboard shortcut (**M**), until you choose a different one.

   The icon indicating the particular tool chosen disappears as soon as you move the cursor, and is replaced by a cross cursor.

3. To select a different Measurement tool, choose it from the menu or press **M** to cycle through them.

   The cursor indicates which measurement tool is active, and the tool appears with a yellow outline in the toolbar.

   You can choose a default measurement tool in the User Preferences | Measurements dialog. See “Measurement Preferences" (page 116).

See Also

True Size Zoom 506
Saving Data 740
Appearance Preferences 91
Measurement Calibration for Projection Radiographic Images 519

True Size Zoom

When InteleViewer has the necessary DICOM data to accurately compute and display the true physical size of the image, then the True Size Zoom text overlay displays “True Size Zoom:” followed by a percentage value. This value indicates the approximate size of the image on the monitor compared to the true size of the patient. A value of 100% means that images and measurements on the monitor are true physical size.

The True Size Zoom text-overlay value appears as “N/A” (rather than as a percentage) when you print a window or a selected image to paper.

If your monitor is not calibrated, the True Size Zoom text overlay displays “True Size Zoom: Monitor Not Calibrated.” If your monitor is calibrated but the necessary DICOM attributes to calibrate the image are not available and you have not applied a manual calibration, then “True Size Zoom: Image Not Calibrated” appears.

See Also

Printing to Paper 765
Calibrating Monitors for True Size 70

Measuring Straight Lines

Use linear measurements to measure straight lines. When measuring straight lines, you can use reference lines to measure areas in relation to other areas or measurements in relation to other measurements on the same image. Additionally reference lines are useful when you want to measure an area without drawing directly over it or when verifying that you measured the longest diameter of an area of interest.

Reference lines span the entire length and width of the viewport depending on the plane of the measurement. Reference lines appear by default when you measure lines however you can disable them in your reference line preferences.

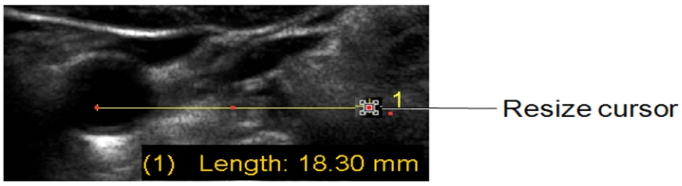
Measurements created prior to magnification factor and true size zoom enhancements may be less accurate than measurements created after these enhancements. This applies, specifically, to key images. (Key images prior to the enhancements do not contain the text overlay “True Size Zoom:” followed by a percentage value.)

To measure lines:

1. Click the Linear Measurement tool .
2. Left click and drag at the point where you want to start measuring. Release the mouse button at the end of your measurement.

   A numbered measurement line appears. The measurement label appears at the end point of the line. The corresponding length appears in the bottom corner of the viewport.

   You can alter the behavior of the measurement line by enabling various options in the User Preferences. For more information, see “Enabling the Dynamic Linear Measurement Tool" (page 508).

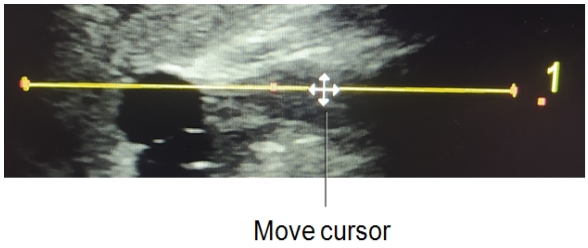


3. To change the angle or adjust the length of an active line, move the cursor to the end of the line.

   The Resize cursor appears.

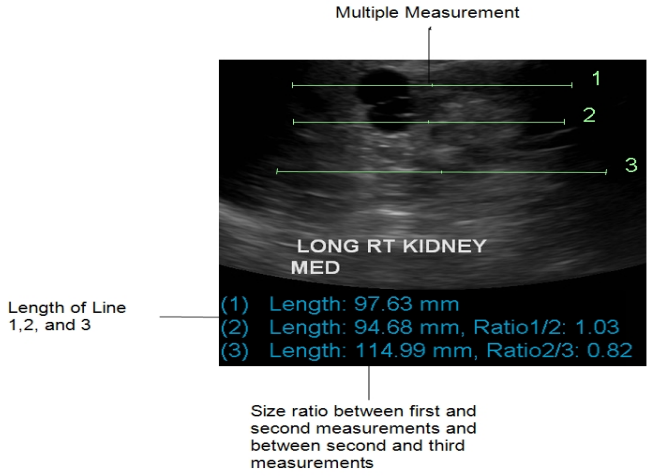
4. Click and hold the left mouse button while moving either end point. Release the mouse button when you are finished.
5. To relocate an active line, move the mouse cursor to the middle of the line.

   The Move cursor appears.



6. Click and hold the left mouse button and reposition the line. Release the mouse button when you are finished.

For each additional measurement you create, the ratio between measurements appears. The new measurement remains selected until you click in the viewport.



7. To add an annotation to the measurement, double-click it and enter text.
8. To move an active annotation, click and drag it to the desired location.

See Also

Measurement Preferences 116
True Size Zoom 506
Measurement Calibration for Projection Radiographic Images 519

Enabling the Dynamic Linear Measurement Tool

When you use the Linear Measurement tool, by default, measurement units appear when you have finished your measurement and release the mouse button. The measurement line remains in the viewport—it is “permanent”—and the measurement appears as text overlay in the bottom-left side of the viewport.

You can change these behaviors, however. For example, you can show measurement units dynamically—as the line is being drawn. Additionally, you can opt to make measurement lines temporary. In this case, a measurement line will not remain in the viewport after you have finished drawing it.

The dynamic Linear Measurement tool enables you to use your mouse, or a combination of your mouse and the Control key on your keyboard, to make a line permanent or temporary.

To enable the dynamic Linear Measurement tool:

1. In the main menu, select Utilities | User Preferences | Measurements.
2. To show measurements units as you draw a line, enable Show Dynamic Units on Linear Measurement.
3. To specify that the left-mouse button be used to draw permanent measurement lines, and **CTRL**-click to draw temporary measurement.
4. To specify that the left-mouse button be used to draw temporary measurement lines, and **CTRL**-click be used to draw permanent measurement lines, enable the applicable sub-option.

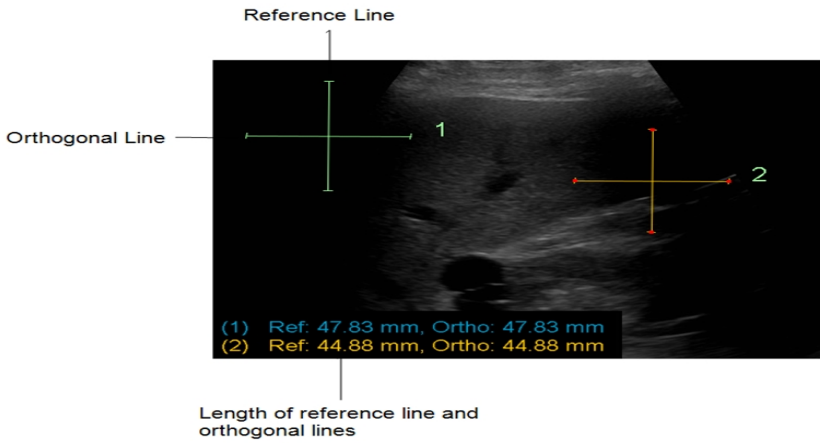
Measuring Orthogonal Lines

The orthogonal measurement tool allows you to measure the width and height of an irregular area, such as a lesion. Use the area's longest diameter as the reference length and the widest portion of its perpendicular diameter as the orthogonal length. Once you have created the measurement, you can move and resize the lines separately or rotate the two lines together as required.

To measure orthogonal lines:

1. Click the Orthogonal Measurement tool .
2. Click and drag at the starting point of the measurement.

   The orthogonal line is perpendicular to the reference line with both lines intersecting at their centers. The length of the reference line and the length of the orthogonal line appear in the bottom left corner of the viewport.



3. To change the angle or adjust the length of an active measurement, move the mouse cursor to the end of the line.

   The Resize cursor appears.

4. Click and drag to move either end point. Release the mouse button when you are finished.
5. To relocate an active measurement, move the mouse cursor to the middle of the orthogonal or reference line.

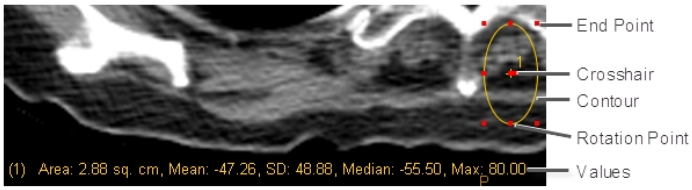
   The Move cursor appears.

6. Click the left mouse button and reposition the line. Release the mouse button when you are finished.
7. To add an annotation to a measurement, double-click the measurement and enter text.

Measuring Elliptical Areas

You can create an elliptical measurement to define and measure a region of interest on an image. The area, mean, standard deviation, median, and maximum values appear in the bottom left corner of the viewport:

- Area: represents the calculated area value in square centimeters.
- Mean: represents the calculated values of Hounsfield units for the area.
- SD (Standard Deviation): represents the variation from the average mean.
- Median: represents the middle value of all the pixel values (sorted from lowest to highest) for the area, or an average of the middle pair of numbers if there is an even number of pixel values, in Hounsfield units.
- Max: represents the maximum pixel intensity value in the area, in Hounsfield units.



Once you have created the measurement, you can rotate, move, and resize it as required.

To measure an elliptical area:

1. Click the Elliptical/Circular ROI measurement tool .
2. To measure an elliptical area, click at the starting point of your measurement and drag to adjust the size and shape of the ellipse.

   To measure a circular area, press the **SHIFT** key after starting your measurement and release it after completing your measurement.

To modify an elliptical area:

1. Click an ellipse to select it.
2. Do one of the following:

To:	Do this:
Resize an elliptical area	Move the mouse cursor to one of the four end points, and then click and hold the left-mouse button while moving the end point. To resize a circular area, click and hold down the **SHIFT** key while moving the end point.
Move an active measurement	Move the mouse cursor over the ellipse contour or the crosshair, and then click and drag the ellipse to the new location.
Rotate an active measurement	Move the mouse cursor over the rotation points at the top, bottom, left, or right sides of the ellipse, and then click and drag the left-mouse button and rotate the ellipse.

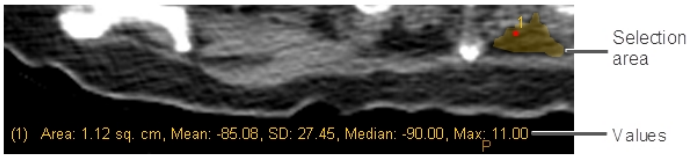
   The area, mean, standard deviation, median, and maximum values of the elliptical area are adjusted accordingly.

Measuring Freehand Areas

Use the Freehand Region of Interest (ROI) measurement tool to draw an outline around an area on an image. This tool measures area in square centimeters for a calibrated image or square pixels for an uncalibrated image. It also measures mean, standard deviation, median, and maximum for the selected area, and displays the values in the bottom left corner of the viewport.

- Area: represents the calculated area value in square centimeters.
- Mean: represents the calculated values of Hounsfield units for the area.
- SD (Standard Deviation): represents the variation from the average mean.

- Median: represents the middle value of all the pixel values (sorted from lowest to highest) for the area, or an average of the middle pair of numbers if there is an even number of pixel values, in Hounsfield units.
- Max: represents the maximum pixel intensity value in the area, in Hounsfield units.



To measure a freehand area:

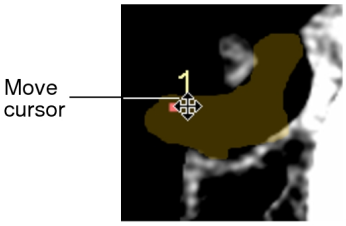
1. Click the Freehand ROI Measurement tool .
2. Click and hold the left mouse button while dragging an outline of the area you want to select. Release the mouse button when you are finished.

   Your selection closes between the start and end points. A numbered region appears, and the corresponding area, mean, standard deviation, median, and maximum appear in the bottom left corner of the viewport.

To change a freehand measurement:

1. Click the number associated with the freehand measurement to select it.

   The region is highlighted and the move cursor appears.



2. To add to or subtract from your selection, select Add or Subtract, respectively, at the top of the active viewport.

3. Click and drag an outline of the area you want to add or subtract. You can also click, start drawing, and click again to close the area.
4. To complete your selection, release the mouse button.

The measurement updates to reflect your changes.

5. To move the selection, move your mouse cursor to display the Move cursor. Drag the selection to a new location.

   The area, mean, standard deviation, and median values of the freehand area are adjusted accordingly.

Measuring Volumes

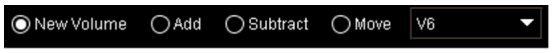
Use the Volume of Interest (VOI) measurement tool to draw regions of interest across multiple images in a series and calculate the total volume, in cubic centimeters, of the regions.

This tool functions similarly to the Region of Interest (ROI) tool to draw freehand selections of areas on an image. You can also select a region and delete it. Deleting a region does not delete the entire volume.

InteleViewer calculates volume by multiplying the area of the region of interest that you select on an image by the distance between the image and its neighboring image. The series must contain a minimum of two images in which their planes are parallel and have the same separation distance. Images separated by a gantry tilt or by irregular separation distances are not supported. Also, the series must contain calibration data from the scanner. InteleViewer measurement calibration does not activate this tool on images that do not contain scanner data.

To make a new volume measurement:

1. Click the Volume of Interest Measurement tool .
2. Select New Volume at the top of the active viewport.

3. Click and hold the left mouse button while dragging an outline of the area you want to select in the first image. Release the mouse button when you are finished.

   Your selection closes between the start and end points. A numbered region beginning with “V” appears on the image and in the list at the top of the viewport. Also at the top of the viewport, the Add option is selected automatically.

4. Navigate the stack to another image and repeat steps 2 to 3.

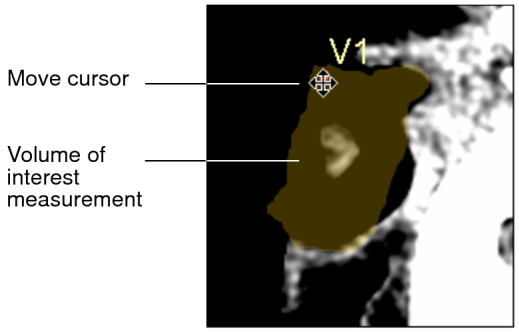
   You do not have to draw regions in consecutive images.

When you have selected areas in two or more images the corresponding volume measurement appears in the bottom left corner of the viewport.

To change the size of a volume of interest measurement:

1. Click the number associated with the volume of interest measurement to select it.

   The region is highlighted and the move cursor appears.



2. To add to or subtract from your selection, select Add or Subtract, respectively, at the top of the active viewport then click and drag an outline of the area you want to add or subtract.

   The volume measurement updates to reflect your changes.

3. Navigate the stack to the next image and repeat steps 1 and 2.

To move a volume of interest measurement:

1. Select Move at the top of the active viewport.
2. Do one of the following:

   - Move the mouse pointer to the measurement you want to manipulate, and click to select it.
   - From the menu, select the measurement you want to manipulate (for example, V2), and move the mouse pointer over the highlighted measurement.

   The region is highlighted and the move cursor appears.

   If you move the mouse pointer outside the highlighted measurement, it will return to a mouse cursor—and you can add to your selection.

3. Drag the selection to a new location.
4. To move the label of the measurement only, click the label so that the move cursor

appears, and then drag the label.

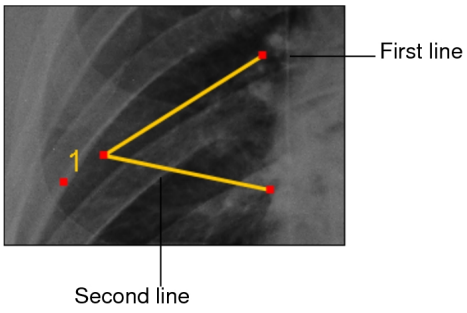
5. Navigate the stack to the next image and repeat steps 1 to 4.

Measuring Simple Angles

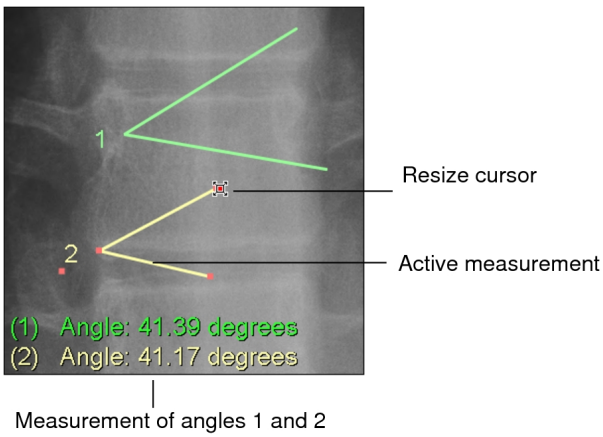
You can measure the angle between two drawn lines.

To measure simple angles:

1. Click the Simple Angle Measurement tool .
2. On the required image, click and hold the left mouse button while dragging to draw the first line. Release the mouse button to complete the first line.
3. Move to draw the second line. Click to complete the second line



A numbered angle appears, and the corresponding angle measurement appears in the bottom left corner of the viewport.



4. To change the size of the active measurement, move the mouse cursor to one of the end points.

   The Resize cursor appears.

5. Click and hold the left mouse button while moving the end point. Release the mouse button when you are finished.
6. To relocate the active measurement, move the mouse cursor over the measurement.

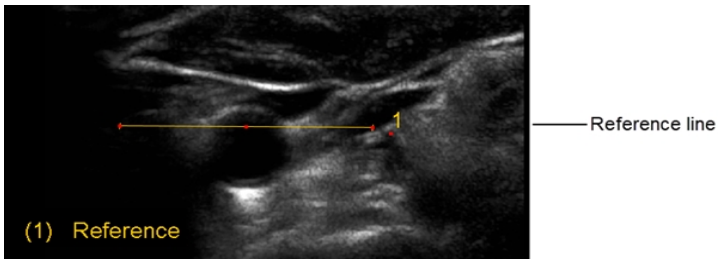
   The Move cursor appears.
7. Click and hold the left mouse button and relocate the measurement. Release the mouse button when you are finished.

Measuring Cobb Angles

Use Cobb angles to measure the angle between two lines, which can be separate or intersecting. Typically, Cobb angles are used to evaluate curvature of the spine.

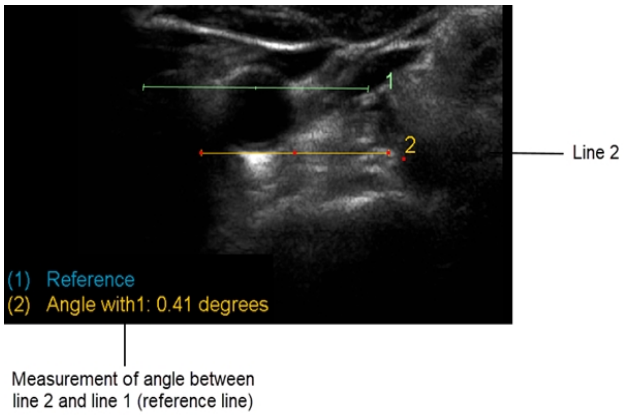
To measure Cobb angles:

1. Click the Cobb Angle Measurement tool .
2. On the required image, click and hold the left mouse button while dragging. Release the mouse button to complete the reference line.



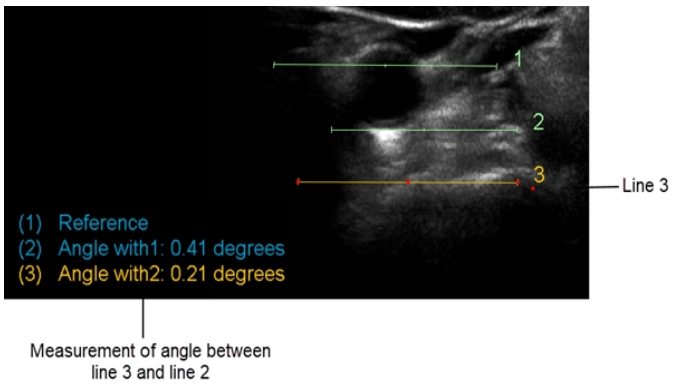
3. Click and hold the left mouse button while dragging to draw a second line.

   Line number two appears and the angle measurement between it and the reference line appears in the bottom left corner of the viewport.



4. Click and hold the left mouse button while dragging to draw a third line.

   Line number three appears and the angle measurement between it and line two appears in the bottom left corner of the viewport.



5. To change the size of the active measurement, move the mouse cursor to one of the end points.

   The Resize cursor appears.

6. Click and hold the left mouse button while moving the end point. Release the mouse button when you are finished.
7. To relocate the active measurement, move the mouse cursor over the measurement.

   The Move cursor appears.

8. Click and hold the left mouse button and relocate the measurement. Release the mouse button when you are finished.

The angle measurement updates to reflect your changes.

Deleting Measurements

You can delete a selected measurement, or delete all measurements on an image.

To delete a selected measurement:

1. Click the measurement that you want to delete to select it.
2. Press **DELETE**.

   If you delete a cobb angle measurement, the measurement following the deleted measurement adjusts to reference its new preceding line. If you delete a volume of interest measurement, it does not delete the entire volume. If you want to delete a volume of interest measurement that spans across multiple images in a series, you must do so individually.

To delete all measurements:

1. Select the image that contains the measurements that you want to delete.
2. Click the Clear Measurement tool .

   All measurement tools on the selected image are deleted.

Calibrating Images

Measurements on images that have been calibrated by the scanner are displayed in centimeters, square centimeters, or cubic centimeters. If they are uncalibrated, they appear in pixels or square pixels. For these uncalibrated images, use *measurement calibration* to obtain the correct values.

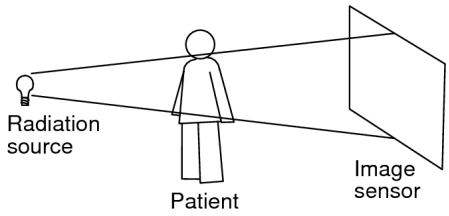
For images that have been calibrated by the scanner, the expected margins of error can vary from device to device. For information relating to your scanner, refer to your scanner vendor documentation.

For images from projection modalities, such as MG, CR, RF, XA, and DX, that contain sufficient DICOM data, InteleViewer computes the approximate true physical size of measurements, and displays measurements in anatomical units.

Measurement Calibration for Projection Radiographic Images

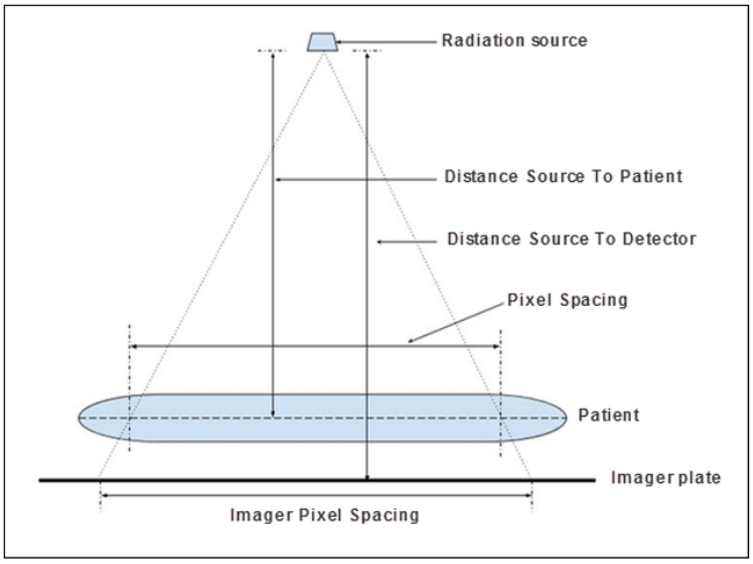
Projection radiographic images that are captured at the scanner are magnified because of the distances between the source of radiation, the patient, and the scanner's image sensor. The greater these distances, the greater the magnification factor. The diagram below illustrates this magnification effect.

Magnification in a projection modality



Measurements on a projection radiographic image must be calibrated for the magnification factor in order to display measurements based on the patient's true physical size. In InteleViewer, calibrated measurements are displayed in anatomical units as opposed to measurements based on the imager plate. InteleViewer computes calibrated measurements from a combination of the following three DICOM attributes:

- **Imager Pixel Spacing (IPS)**—The actual distance between pixel centers on the imager plate. The DICOM values are 0018 and 1164.
- **Pixel Spacing (PS)**—The physical distance in the patient between the centers of each pixel. The DICOM values are 0028 and 0030.
- **Estimated Radiographic Magnification Factor (ERMF)**—The calibration value to apply to the Imager Pixel Spacing value so that it is converted to anatomical units. The DICOM values are 0018 and 1114. ERMF is the ratio between the *Distance Source To Patient* and the *Distance Source To Detector*.



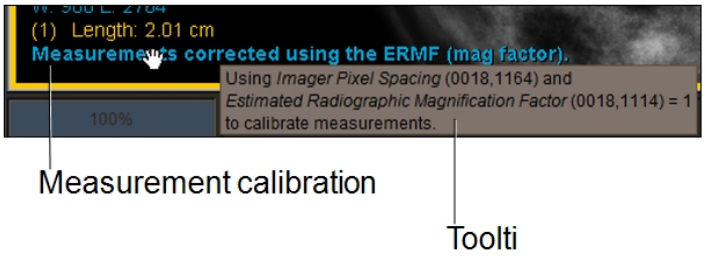
The IPS value is considered to be the most reliable value for calibrating measurements. When the projection radiographic image includes both the IPS and the PS DICOM attributes, where the IPS value is greater than the PS value, the IPS value is considered to be valid. When the IPS value is less than the PS value, the IPS value is considered to be invalid.

If the DICOM data includes a valid IPS value and an ERMF value, then InteleViewer uses these two values to automatically compute the approximate true physical size of measurements, and displays the measurements in anatomical units.

Depending on the available DICOM data, InteleViewer may use the PS value instead of the IPS value to calibrate measurements. For example, when the image includes a valid IPS value but the ERMF value is absent, InteleViewer uses the PS value to calibrate the measurements.

If there is insufficient DICOM data to compute the true physical size for the measurements, InteleViewer does not calibrate the measurements. For example, when an image does not contain IPS and PS values. For uncalibrated measurements, you can use the Calibrate Measurement tool to manually calibrate the measurements. In this case, InteleViewer uses your calibration to compute the patient's true physical size.

When you take a measurement, a message appears at the end of the list of measurements in the viewport to help you to determine the relevant accuracy of your measurements. You can hover your mouse cursor over the message to display a tooltip that describes the DICOM attributes that are used by InteleViewer to determine measurement calibration.



The following table lists the measurement calibration messages that appear in the viewport, and their corresponding DICOM attribute conditions.

Message	IPS	PS	ERMF
Measurements not calibrated.	Absent	Absent	Ignored
Measurements corrected at modality.	Valid	Present	Absent
Measurements not corrected. Measured size is at detector.	Valid	Absent	Absent
Measurements corrected using the ERMF (mag factor).	Valid	Ignored	Present
Measurements are uncertain.	Invalid or Absent	Present	Absent
Measurements are uncertain.	Absent	Present	Present
Measurements are uncertain.	Invalid	Present	Present
Measurements are user calibrated. This message appears when you use the Calibrate Measurement tool to manually calibrate the measurements.	n/a	n/a	n/a

InteleViewer displays measurements in cm, square cm, and cubic cm units of measure when the appropriate DICOM attributes in the image are available or you have applied a manual calibration. Otherwise, the units of measure are pixels, square pixels, and cubic pixels.

See Also

Calibrating and Recalibrating Measurements 522

Calibrating and Recalibrating Measurements

For uncalibrated images, define a pixel-to-centimeter ratio for a selected linear measurement. This ratio determines the length or area, in centimeters or centimeters squared, of all linear, orthogonal, elliptical, and freehand region of interest measurements on the image.

InteleViewer only calibrates 2D regions on images. For example, InteleViewer does not calibrate non-2D regions such as waveforms on an ultrasound image.

Because of possible variance between images, measurement calibration is applied to the selected image only. If you want to calibrate multiple images in a series, you must do so individually. Once you calibrate an image, you can recalibrate it if required.

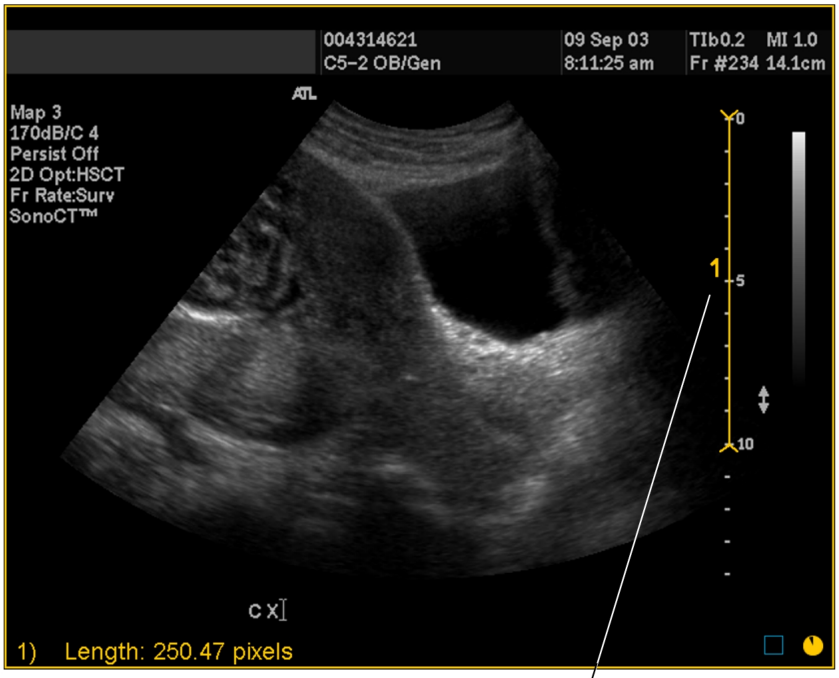
An image may already be calibrated if it contains DICOM calibration information from either the Pixel Spacing (0028, 0030) or Imager Pixel Spacing (0018, 1164) DICOM attributes. If you recalibrate such an image, you can revert to the DICOM information only by reopening the image.

Once you calibrate an image, rulers appear on the image to provide a visual indication of scale.

To calibrate measurements:

1. Select the image that you want to calibrate.
2. Draw the line whose length you will use to define the ratio of pixels-to-centimeters. You should draw this line on a scale or other element of the image whose length in centimeters is accurately known. To draw the line, click the Linear Measurement tool .
3. Click at the starting point of your measurement and drag. Release the mouse button at the end of your measurement.

   A numbered measurement line appears, and the corresponding length appears in the bottom left corner of the viewport. Notice that the length is displayed in pixels.

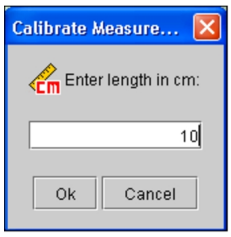


4. Click the Calibrate Measurement tool .

   The Calibrate Measurement dialog appears.

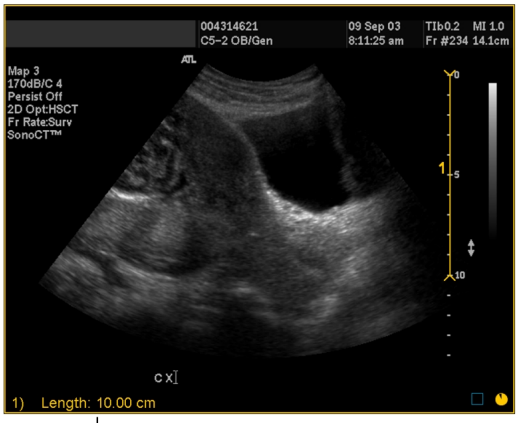
5. Enter the length of the measurement in centimeters.

   For example, in step 3 you can see that the drawn line corresponds to a length of 10 centimeters on the scale.



6. Click OK.

   The image is calibrated and the length of the measurement now appears in centimeters. All subsequent linear, orthogonal, elliptical, and freehand region of interest measurements that you create on the image are calibrated according to this ratio.



New measurement in centimeters

To recalibrate measurements:

1. Click the linear measurement to select it.

   The line is highlighted.

2. Do one of the following, as required:

   - To adjust the line length, click and drag either the start or end point.
   - To move the line, click and drag the line connecting the end points.

3. Click the Calibrate Measurement tool .

   The Calibrate Measurement dialog appears.

4. Enter the new length of the linear measurement in centimeters and then click OK.

   The line is recalibrated and the length and area of all linear, orthogonal, elliptical, and freehand region of interest measurement tools on the image update to reflect your changes.

See Also

Viewing Scale Rulers 535

Adding Annotations

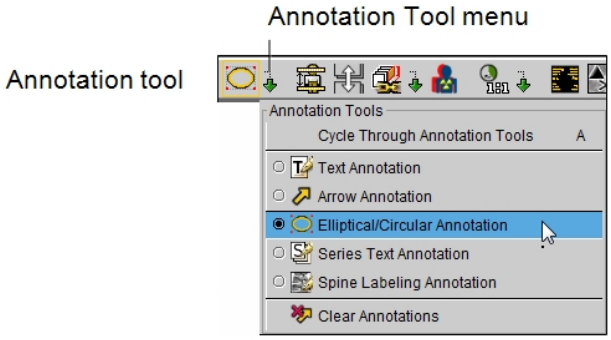
Create text annotations to add information to an image or series. Use arrow annotations as pointers to indicate particular areas of interest and use elliptical or circular annotations to draw areas of interest on images. Use spine labels to create markers on lumbar spine images. To save your annotations, you must create a key image series or save a presentation state. Annotations also appear when you print images or export JPEG images.

To save annotations, you must use one of the above methods; otherwise, your annotations will be lost when you close the series.

Before you begin adding annotations, you should choose the current annotation tool. This tool is used by default when you click the Annotation tool in the toolbar, or use the keyboard shortcut (**A**), until you choose a different one.

To choose the current annotation tool:

1. In the toolbar, click the Annotation Tool menu.



2. Select the required tool.

   The Annotation tool is updated to reflect the selected tool, and the selected Annotation icon in the toolbar appears with a yellow outline indicating that it is the currently-selected tool.

   The default Annotation tool preference is not specific to a workstation, and therefore will roam.

3. To select a different Annotation tool, choose it from the menu or press **A** to switch between tools.

See Also

Saving Data 740

Creating Text Annotations

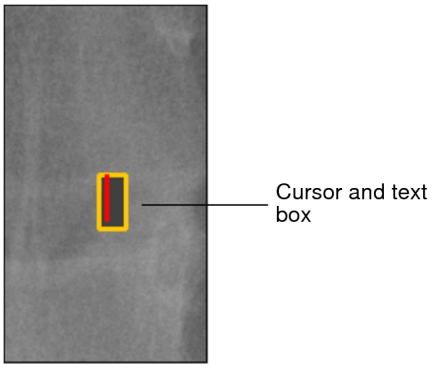
Create and edit text annotations to communicate information about the selected image. You can also add text annotations that appear on all images in a series.

To create text annotations:

1. Select the image or series that you want to annotate.
2. To add an annotation to the selected image, click the Text Annotation tool .
3. To add an annotation to all images in the series, click the Series Text Annotation tool .

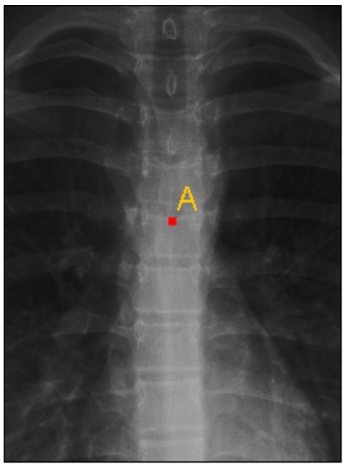
   The cursor indicates that the annotation tool is active, and the annotation icon in the toolbar appears with a yellow outline indicating that it is the currently-selected tool.
4. Click the image at the point where you would like to place the annotation.

   A cursor and text box appear.



5. Enter the required text.
6. When you have finished typing, press **Esc** or click the left mouse button anywhere in the application window.

   The annotation appears.



Series Text Annotation made on first image of series

New annotation

7. Repeat steps 3 to 5 for each annotation you want to make.

To edit text annotations:

1. Select a text annotation tool.

   You can edit both text or series annotations by using either tool.

2. Double-click the annotation that you want to edit.

   A text box appears and the annotation is editable.

3. Modify the text, as required.
4. When you have finished typing, press **Esc** or click the left mouse button anywhere in the application window.

To move text annotations:

1. Place your cursor over the annotation that you want to move.

   The move cursor appears.

2. Click the annotation and drag it to the new location in the viewport.
3. Release the mouse button when you have placed it where required.

Creating Arrow Annotations

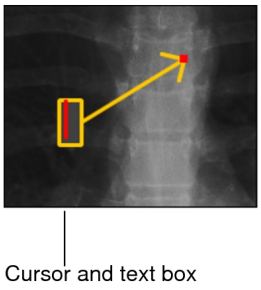
Create and edit arrow annotations and text labels to draw attention to portions of the image.

To create an arrow annotation:

1. Select the image that you want to annotate.
2. Click the Arrow Annotation tool .

   The cursor indicates that the arrow annotation tool is active.
3. Click at the starting point of your arrow (the tail) and drag. Release the mouse button at the end of the arrow.

   The arrow annotation appears on the image and a cursor and text box appears.



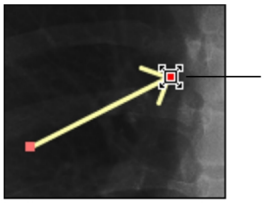
4. To add a label to the arrow, enter the required text.

   You are not required to add labels to arrow annotations.
5. Press **Esc** or click the left mouse button anywhere in the application window.

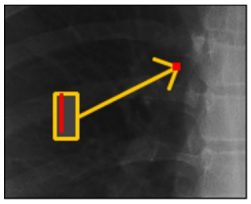
   The arrow annotation appears on the image. If you added a text label, it appears at the base of the arrow.
6. Repeat steps 3 to 5 for each annotation you want to make.

To modify an arrow annotation:

1. Click an arrow to select it.
2. To adjust the angle or resize the arrow, place the cursor over the head or tail. When the resize cursor appears, click and drag.



3. To modify the label text, double-click the text and when the cursor text box appears, edit as required.



4. To change the position of the label, place your cursor over the label that you want to move.

   The move cursor appears.

   The label is linked to the base of the arrow no matter where you place it in the viewport. If you move or reposition the arrow, the label will follow.

Creating Ellipse Annotations

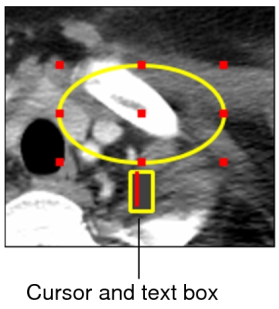
Create and edit ellipse annotations and text labels to draw attention to an area of interest in the image.

To create an ellipse annotation:

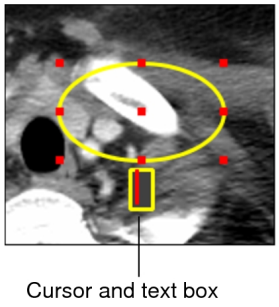
1. Select the image that you want to annotate, and then click the Elliptical/Circular Annotation tool .

   The cursor indicates that the elliptical/circular annotation tool is active.

2. To create an ellipse annotation, click at the starting point of your ellipse and drag to adjust the size and shape of the ellipse. Release the mouse button at the end of the ellipse.



3. To create a circle annotation, click at the starting point of your circle and then hold down the **SHIFT** key while dragging to adjust the size of the circle. Release the mouse button and then the **SHIFT** key at the end of the circle. The ellipse or circle annotation and a cursor and text box appear on the image.

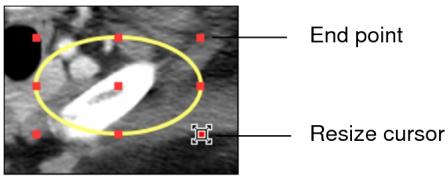


4. To add a label to the ellipse or circle, enter the required text.
5. Press **Esc** or click the left mouse button anywhere in the application window.

   The ellipse or circle annotation appears on the image. If you added a text label, it appears centered at the base of the ellipse or circle.

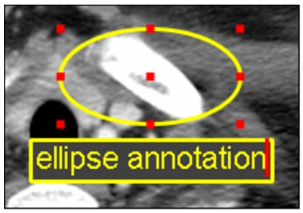
To modify an ellipse annotation:

1. Click an ellipse to select it.
2. To resize the ellipse, move the mouse cursor to one of the four end points, and then press the left-mouse button and drag the end point.

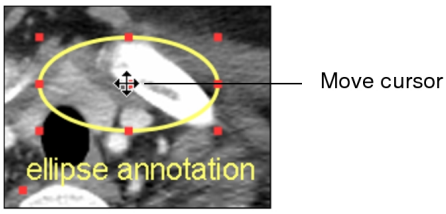


To resize a circle, move the mouse cursor to one of the four end points, and then click and hold down the **SHIFT** key while dragging the end point.

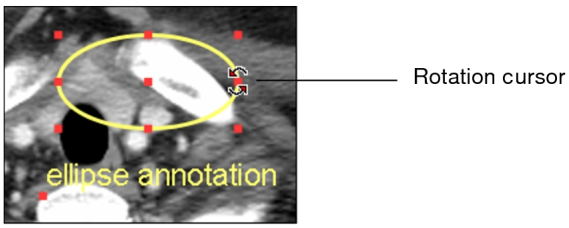
3. To modify the label text, double-click the text. When the cursor and text box appear, edit the text as required.:



4. To add a label text, double-click the annotation and enter text.
5. To move the annotation, place your cursor over the annotation that you want to move, and then click and drag the annotation to the new location in the viewport.



6. To change the position of the label, place your cursor over the label that you want to move, and then click and drag the label anywhere in the viewport.
7. To rotate the annotation, move the mouse cursor over the rotation points at the top, bottom, left, or right sides of the annotation, and then click and drag the left mouse button and rotate the annotation.



Spine Labeling

Use the Spine Labeling annotation tool to add labels to vertebrae on sagittal view MR and CT images, or X-ray images.

Spine labeling adds two annotations to the image: a marker at the cursor position, to identify the center of the vertebrae, and a label. For MR and CT, markers provide

important positioning information for cross referencing in other views. Labels are placed at predefined angles for each vertebra based on the curvature of a typical spine.

You can display both markers and labels or you can choose to only display labels.

For MR and CT images, if you choose to display both markers and labels, adding spine labels to one view causes labels to appear in the same location on all other images in the same study that share the same frame of reference. For example, a spine label added to the sagittal view also appears on the axial and coronal views. The markers are completely editable on the sagittal view. On the coronal view, however, you can only move the label but not the marker. On the axial view, the label is visible and can be moved, but the marker does not appear. Also, the label maintains its position and does not change if the image plane adjusts. If you choose to display only labels, labels you add do not appear on the images of intersecting planes.

Spine labels that you add to an X-ray image are applied to that image only.

To make the Spine Labeling tool the current annotation tool:

1. Select the X-ray image or MR/CT sagittal view image that you want to label. It is important to select an image that displays all of the area of the spine on which you want to place labels.

   For MR and CT, ideally you should choose an image slice that is as close to the center of the body as possible.

2. In the toolbar, click the Annotation Tool menu.
3. Select Spine Labeling Annotation.

To add spine labels:

1. Click the Spine Labeling Annotation tool .

   The tool options appear at the top of the active viewport and the cursor indicates that the Spine Labeling tool is active.

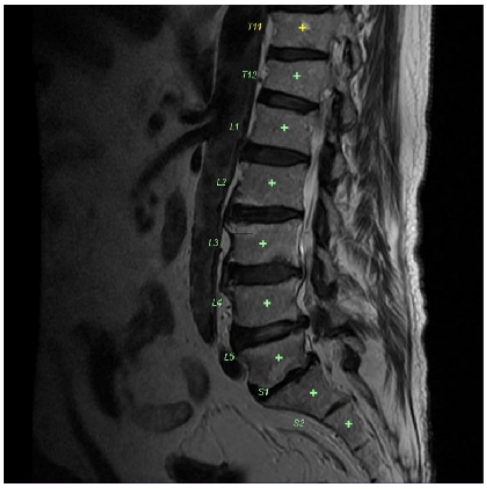
2. From the Markers menu, select one of the following:
   - Display Marker and Labels: Displays both the marker and the label. To make markers appear only when you hover the mouse over a vertebra or a label, enable Auto-Hide Marker.
   - Display Only Labels: Adds and displays labels only. For MR and CT images, vertebra labels are displayed on the sagittal view only.
3. In the Scheme menu, choose whether to create vertebrae or inter-vertebrae labels.

4. From the Order menu, choose the numbering order for the spine labels:

Order	Description
Automatic (available for MR and CT only)	InteleViewer detects the labeling order according to the first two labels that you apply. For example, if the first spine label that you add is T1, and you then add a label below the first label (T2), subsequent labels that you add will be labeled T3, T4, and so on. If the second label you add is above the first label (C8), subsequent labels that you add will be labeled C7, C6, and so on.
Ascending	Choose this option when adding labels from bottom to top on an image. Labels are numbered in ascending order based on spine anatomy. For example, if the first spine label that you add is T2, subsequent labels that you add will be labeled T1, C7, C6, and so on.
Descending	Choose this option when adding labels from top to bottom on an image. Labels are numbered in descending order based on spine anatomy. For example, if the first spine label that you add is T2, subsequent labels that you add will be labeled T3, T4, T5and so on.

5. Click the image at the middle of the vertebrae on which you would like to place the first spine label.

   The label appears several centimeters to the anterior in order not to obstruct the view of the spinal cord.



6. If the label that appears does not correspond to the vertebrae you have chosen, double click the label and then select the correct label from the menu that appears.

   The S1 label appears on the image immediately following the L5 label. If you are viewing spine images for a patient with a L6 vertebra and you want to identify the L6 vertebra on the image, double click the S1 label and then select L6. If you want to identify the L5-6 inter-vertebral space, double click the L5- S1 label and then select L5-6.

7. For each subsequent vertebra that you want to label, click the image at the corresponding position.

To edit a spine label:

1. Ensure that the Spine Labeling tool is selected.
2. Double click the label that you want to edit.
3. Select the correct label from the list.

To move a spine label only:

1. Ensure that the Spine Labeling tool is selected.
2. Click and drag the spine label that you want to move.

To move a spine marker and label at the same time:

1. Ensure that the Spine Labeling tool is selected.
2. Click and drag the spine marker that you want to move.

To delete a spine label and marker:

1. Ensure that the Spine Labeling tool is selected.
2. Click the spine label or marker.
3. Press **DELETE**.

See Also

Creating Text Annotations 526

Deleting Annotations and Spine Labels

Delete selected annotations and spine labels as required, or remove all annotations and spine labels from an image.

To delete annotations or spine labels:

1. Click the annotation or spine label to select it.

   The annotation or spine label is highlighted to indicate that it is selected. You can delete text, arrow, elliptical, and circular annotations.

2. Press **DELETE**.

To delete all annotations or spine labels:

1. Select the image.
2. Click the Clear Annotations tool .

   All annotations or spine labels are removed from the selected image.

   Annotations are removed from every image of the series, if you had previously made a series text annotation.

Viewing Scale Rulers

Use the scale rulers to obtain a quick real-world estimate of the size of a structure in the image without having to explicitly measure it or calibrate the image. The rulers are created by InteleViewer in proportion to the size of the viewport; they are not derived from the DICOM image.

Scale rulers appear on the left and bottom borders of the viewport. Each mark on the ruler represents a centimeter, with large lines every five centimeters. Their color is determined by the Image Orientation Text Color preference.

If you calibrate the image, the rulers appear automatically.

You can choose whether to show or hide the rulers, as needed. When you exit InteleViewer your scale ruler setting will be remembered. For example, if the scale rulers are active when you exit, they will be active the next time you start InteleViewer.

To view scale rulers:

1. From the main menu, choose View | Scale Rulers.

   A check mark appears next to the option to indicate that it is active. The scale rulers appear in the viewports.

2. To hide the rulers, from the main menu, choose View | Scale Rulers again.

See Also

Appearance Preferences 91
Calibrating and Recalibrating Measurements 522

Using 3D Tools

When working with images on intersecting planes, you can cross-reference the images by using reference lines or pinpoint a location with the 3D cursor.

You can also link the stacking of multiple series that were imaged on parallel planes.

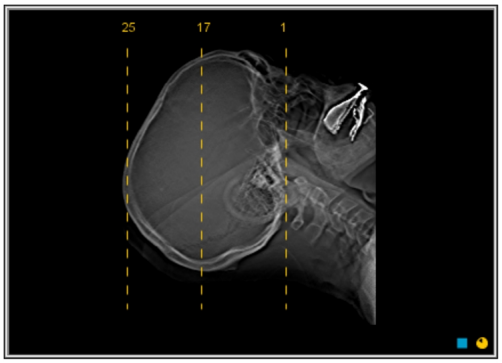
See Also

Synchronizing Stacking 394

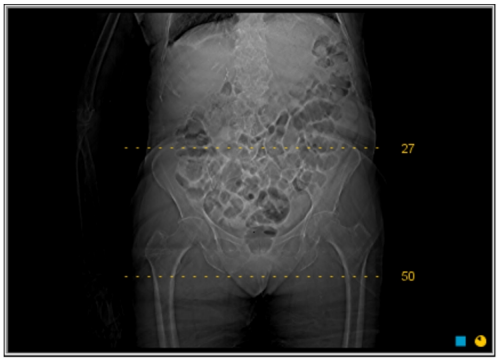
Using Reference Lines

Reference lines are typically used for CT and MR studies. Activate them to highlight the location of the current image slice on another image of an intersecting plane. As you stack through the images, the reference line updates automatically to highlight the current image.

Reference lines normally appear as long dashed lines. If the planes do not intersect, but are orthogonal (such as with a scout image in a projection CT), dotted reference lines appear to indicate a projection of where the two planes would intersect.



Reference Lines



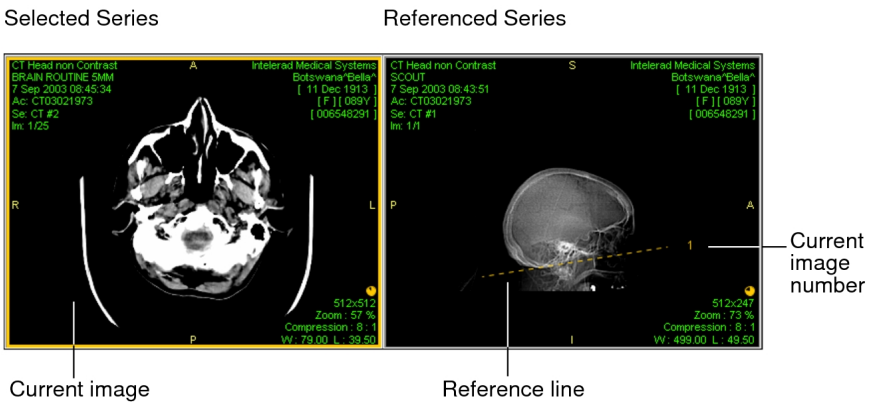
Projected Reference Lines

You can also customize the default display of reference lines for individual modalities.

To use reference lines:

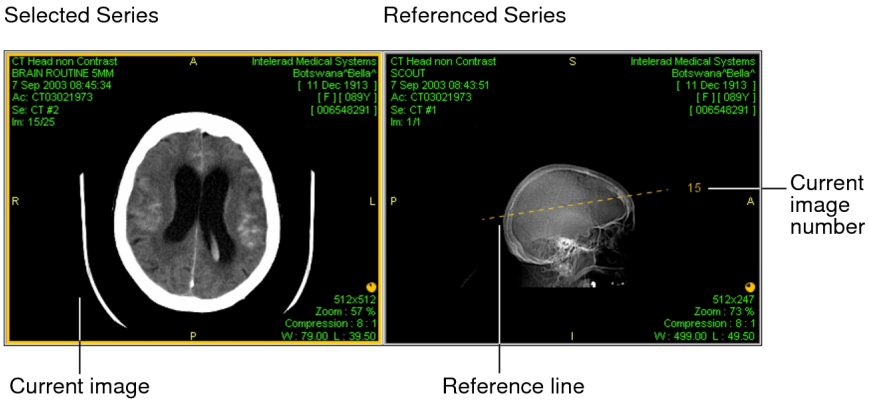
1. Open the required study and make sure you have chosen a viewport layout that displays multiple series. See “Changing the Viewport Layout" (page 408).
2. Select the series that you want to stack.
3. Click the Reference Line tool .

   The reference line appears on the referenced series, indicating where the current image in the selected series is positioned in relation to the referenced series. The current image number appears next to the reference line.



4. Stack the selected series as required.

   The location of the reference line and the image number update to reflect the current image.



5. To hide the reference line, click the Reference Line tool again.

See Also

Setting Modality User Interface Preferences 130

Using the 3D Cursor

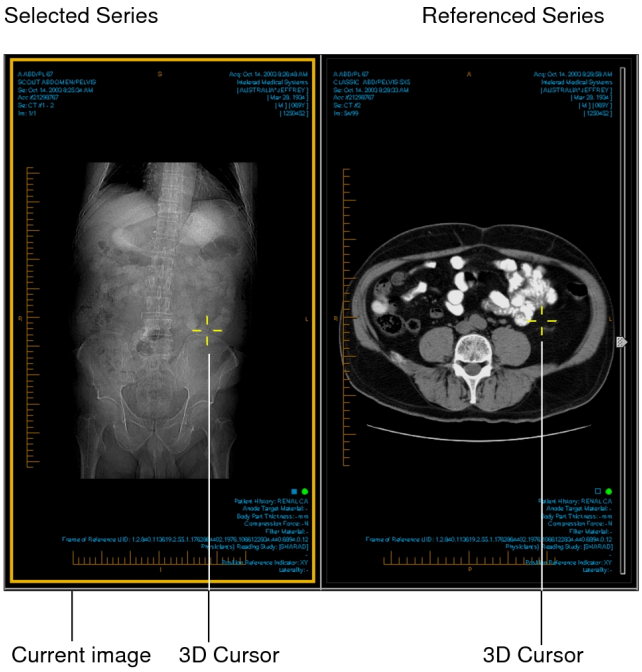
Use the 3D cursor to locate a point in 3D space on a set of multi-planar images. As you reposition the 3D cursor on one image, the cursor position on the other images updates automatically to highlight the current image and the changing cursor position.

The 3D cursor is typically used for CT and MR studies.

To use the 3D cursor:

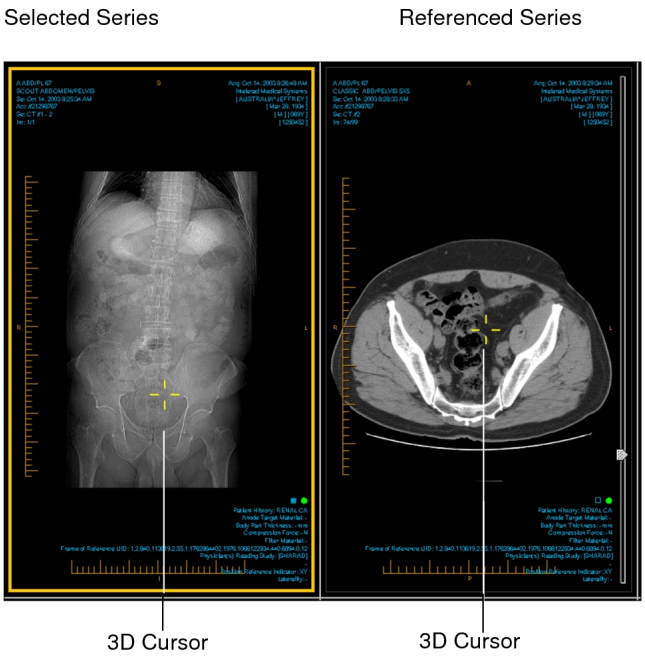
1. Open the required study and make sure you have chosen a viewport layout that displays multiple series. See “Changing the Viewport Layout" (page 408).
2. Click the 3D Cursor tool .
3. Click and hold your mouse in the series.

   The 3D cursor appears as yellow crosshairs on the selected series, and on all images acquired in the same frame of reference, indicating where the selected point is located.



4. Drag the 3D cursor to reposition it.

   The cursor updates on all other images.



5. To hide the 3D cursor, release the mouse button.

11 MANAGING DICTATIONS

InteleViewer includes a Dictated worklist and a Transcribed worklist that allow transcriptionists to transcribe dictations and view or edit transcribed reports.

In this chapter:

About the Dictated and the Transcribed Worklists 543

Opening Dictations 550

Listening to Dictations 552

Transcribing Dictated Reports 554

Reserving Dictations 560

Managing Quick Texts 563

About the Dictated and the Transcribed Worklists

As a transcriptionist, you can access the Dictated worklist to see dictations that are available for transcription, and dictations that are being transcribed by other transcriptionists.

The Dictated worklist may include *draft transcriptions* which are dictations that contain report text. A radiologist creates a draft transcription by using MMR to dictate the audio report and add text to the dictation before sending it to you.

- Your site must be configured to allow for draft transcriptions. For more information, contact the Intelerad Technical SupportCenter.

After you have transcribed a dictation, the transcribed report, also called a transcription, appears in the Transcribed worklist.

The Transcribed worklist displays your transcriptions that have been transcribed in the last 24 hours, and transcriptions that are waiting to be signed, or have been signed by a radiologist. To find older transcriptions that were transcribed by you and other transcriptionists, you must do a search by accession number in the Transcribed worklist.

You can edit the transcribed report before the radiologist signs it. Once the radiologist has signed the report, it can no longer be edited.

- The 24-hour time period can be configured by Intelerad Technical Support. For more information, contact the Intelerad Technical SupportCenter.

To view the Dictated and Transcribed worklists, you need the Transcribe Report privilege.

If your workflow uses grouped procedures, a single report can relate to multiple procedures within an order, as selected by the reporting radiologist.

To find the dictations and reports that you require, you can apply filters and sort the worklists. For example, you can filter by priority or modality and then you can sort the filtered results by Patient Name or Study Description.

When you select a dictation from the Dictated worklist or a transcription from the Transcribed worklist, it opens in a separate tab which contains the Transcription editor. For dictations, you can listen to the dictation, transcribe the dictation, and then send the preliminary report to the reporting radiologist for signature. For transcriptions, you can edit the report, and then send it to the reporting radiologist for signature.

If Resident Over-Reads is enabled, and a fellow or attending radiologist is assigned to review the dictation, the Reviewers column displays either an F for fellow and an A for attending. When you hover over the icons in the Reviewers column, the names of the assigned fellows or attending radiologists are displayed. The Reviewers column is only available in the Dictated worklist.

Both worklists are refreshed automatically every five minutes. You can refresh the list yourself by clicking the Refresh button or by pressing **F5**.

The five-minute refresh period can be configured by Intelerad Technical Support. For more information, contact the Intelerad Technical SupportCenter.

See Also

Searching for Transcribed Reports by Accession Number 549
About the Dictated and Transcribed Worklist Columns 544
Filtering the Dictated and Transcribed Worklists 546
Sorting the Dictated and Transcribed Worklist 547
Resident Over-Reads Workflows 610

About the Dictated and Transcribed Worklist Columns

The Dictated and Transcribed worklists display columns that provide information for transcriptionists.

You can filter and sort the both worklists based on these columns:

Acc #—Displays the dictations and transcribed reports that include this accession number in the associated order. The accession number is a unique order identification number. Depending on your IntelePACS configuration, another term, such as Requisition or Exam Number, may be used instead. For linked orders, a list of accession numbers associated with the dictation is displayed. In the Dictated worklist, you can filter your worklist based on accession number. In the Transcribed worklist, you can search for all transcribed reports containing that accession number. In the Transcribed worklist, when you search by accession number, it ignores all other filter criteria.

Addendum—Displays an addendum icon if the report includes an addendum.

Completed Date—Displays the date and time the scan was completed.

Dictated By—Displays the name of the person who dictated the order.

Dictated Date—Displays the time when the dictation was created.

Entering Organization—Displays the organization for the dictating radiologist. For linked orders, you can have multiple entering organizations.

Local State—Displays the interim state of the dictation. For example, Transferring. This is an internal filter used by the Intelerad Technical SupportCenter for troubleshooting purposes.

Lock Owner—Displays the name of the transcriptionist who is transcribing the dictation.

Lock State—Displays the lock status of the order: Transcribed or Dictated. This is an internal filter used by the Intelerad Technical SupportCenter for troubleshooting purposes.

Modality—Displays orders obtained from the selected modality or modalities. If you do not select at least one modality, orders from all modalities are displayed.

Observation Date—Displays the date and time the scan was started.

Order Credentials—Displays the credentials required to read the order. The column is hidden by default.

Organization—Displays the organization to which the order belongs. For linked orders, you can have multiple organizations.

Patient Age—Displays the age of the patient at the time that the orders were created.

Patient ID—Displays the ID for the patient. A patient ID is an institution-wide patient identifier, and can contain any alphanumeric character. Depending on your IntelePACS configuration, another term, such as M.R.N. or Patient Number, may be used instead.

Patient Name—Displays the full name of the patient.

Priority—Displays the priority level of the dictation. There are three priority levels, typically named “STAT, “URGENT” and “Routine”. Your IntelePACS can be configured to use other terms for the priority levels.

Referring Physician—Displays the name of the referring physician and the RIS ID, if applicable.

Requested Date—Displays the date and time the patient was scheduled to arrive.

Reviewers—Displays if a fellow or attending radiologist is assigned to review and sign a report. An F indicates that a fellow is assigned to review and sign the report. An A indicates that an attending is assigned to review and sign the report. When you hover over the icons in the Reviewers column, the names of the assigned fellow and attending

radiologists are displayed. The Reviewers column is only available in the Dictated worklist.

You must have the Resident Over-Reads feature enabled to view this column.

State—Displays a star icon if the report or dictation is open. Displays a lock icon if the report or dictation is opened by another transcriptionist. In the Transcribed worklist, the lock icon also indicates that the report has been signed by a radiologist.

In the Transcribed worklist, the lock icon does not display if the transcribed report is opened by a radiologist. If you open a transcribed report that is already opened by a radiologist, a warning message appears.

Study Description—Displays text contained in the Study Description field.

Transcription Date—Displays the date that the dictation was transcribed. This column appears only in the Transcribed worklist.

See Also

Resident Over-Reads Workflows 610
About the Dictated and the Transcribed Worklists 543

Filtering the Dictated and Transcribed Worklists

The Dictated worklists displays all of the dictations that are available for transcription. The Transcribed worklist displays your transcriptions that have been transcribed in the last 24 hours. You can filter both worklists to display only the dictations or transcriptions that match your criteria.

Use filters to refine the data that is displayed. For example, you can filter based on priority, organization, and modality. You can also save your filters to apply them when needed.

The filters you create are stored on the IntelePACS server. Every time you log in to a workstation on your network by using your IntelePACS account, your filters follow you.

You have access to global filters created by your PACS administrator. They are stored automatically in your All Saved Filters list in the Edit filters dialog. You can make them visible by adding them to the Current Filters list. Global filters are indicated by a shared icon . For more information, contact your PACS administrator.

Filters are case-insensitive for columns that use text filters, such as Patient Name or Study Description. For some text filters, you can enter a partial sequence to search for all orders containing that sequence anywhere in the text. Use a space between two or more criteria to filter for multiple criteria.

For columns that have a set value, such as Modality or Organization, you can click the Filter icon beside most columns to select more than one filtering value.

See Also

About the Dictated and Transcribed Worklist Columns 544
Searching for Transcribed Reports by Accession Number 549

Sorting the Dictated and Transcribed Worklist

You can sort dictations in the Dictated worklist and the transcriptions in the Transcribed worklist. For example, you can sort dictations or transcriptions by priority to view all STAT dictations or reports at the top of the list.

You can also sort both worklists by primary, secondary, and tertiary criteria. An arrow appears in the column heading to indicate the primary column and whether it is in ascending or descending order (secondary and tertiary sorting is applied, but no icon appears).

Each time you click a column, it moves to the first place in the sort order, and any previously-clicked columns move down one level. Clicking the same column more than once switches between ascending and descending order, but does not affect the sort order.

For example, to sort columns primarily by dictation priority and secondarily by the organization, first click the Organization column and then click the Priority column.

The sorting criteria and the sort order is saved automatically when you exit InteleViewer.

See Also

About the Dictated and Transcribed Worklist Columns 544
Searching for Transcribed Reports by Accession Number 549

Managing Dictated and Transcribed Worklist Filters

Save filters in order to apply them to your Dictated and Transcribed worklist. For example, you can create and save a complex filter to display STAT US cases. By saving commonly used filters, you can bypass setting the filter criteria each time.

You can only rename and delete your personal filters. To rename and delete global filters, you must have the proper user privileges. For more information, contact your PACS administrator.

To create a filter:

1. Filter the Dictated or Transcribed worklist by applying as many filters as required. For example, you can filter by modality and by state.
2. In the Filters section, click Save.

   The filter appears in the Filters list. The filter name is derived from the criteria that you defined.

To apply saved filters:

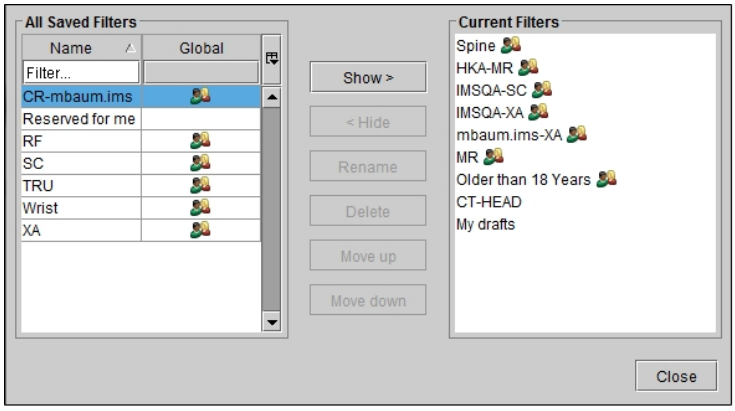
1. Click the filter in the Filters list to apply it.
2. Click the filter again to disable it.

   Disabling a filter clears it from the worklist. You can click it again to reapply it.

To manage your saved filters:

1. Under Filters, click Edit.

   The Edit Filters dialog appears.



2. To search for a filter in the All Saved Filters table, do one of the following:

- Click the Global column header. The global filters are displayed above the personal filters.
- Type the name of the filter in the Name column text box to display filters containing that name.
- Click the Name column header to sort filters in ascending or descending order.

3. To hide a filter, in the Current Filters list, select the filter you want to hide and click Hide.
4. To display a filter, in the All Saved Filters list, select the filter you want to display and click Show.
5. To remove a filter from the Filters list permanently, in All Saved Filters, select the filter you want to remove and then click Delete.
6. To rename a filter, select it in the All Saved Filters or Current Filters lists and click Rename. Enter a new name in the dialog that appears and click Rename. You can only rename your personal filters.
7. To reorder current filters, click a filter in the Current Filters list and then select Move Up or Move Down.

   You can reorder filters within their own category only. Global filters always appear above all other filters and are a separate category to personal and default filters.

8. Click Close to save your changes.

Searching for Transcribed Reports by Accession Number

In the Transcribed worklist, you can search for transcriptions and any associated addenda using an accession number.

When you search by accession number, that action takes precedence and ignores all other filtering or search criteria. For example, if you filter the list to show only reports done for the CT modality, and then you want to add a search for a certain accession number, InteleViewer displays only that study and ignores the previously filtered CT modality results.

Searching by accession number displays transcriptions that you wouldn't normally see in your Transcribed worklist. The results include all reports and associated addenda that match that accession number, regardless of when they were transcribed, or who transcribed them.

To search using an accession number:

1. In the Transcribed worklist, type the accession number in the Accession Number text box.

   You must type an exact accession number to get matches. The search is also case sensitive. For example, if you are searching for reports with accession number "ABC123", and you type "abc123", no results are displayed. If you type only "abc", the list does not automatically generate as you type, and no transcriptions are displayed.

2. Press **ENTER**.

   The worklist displays all transcriptions and any associated addenda with that accession number.

See Also

About the Dictated and the Transcribed Worklists 543

Opening Dictations

To transcribe a dictation, you must first open it. You can only open one dictation at a time, but there is no limit to the number of dictations that you can have open simultaneously.

When you open a dictation, it is locked for your use and cannot be transcribed by other users. The dictation remains locked as long as you have it open. Similarly, you cannot transcribe dictations that are locked by other users. If you close the dictation or exit InteleViewer (without transcribing the dictation), the lock is removed automatically so that another user can access the dictation.

Each dictation that you open appears in its own Transcription tab. Each Transcription tab includes patient information, audio controls, and the Transcription editor.

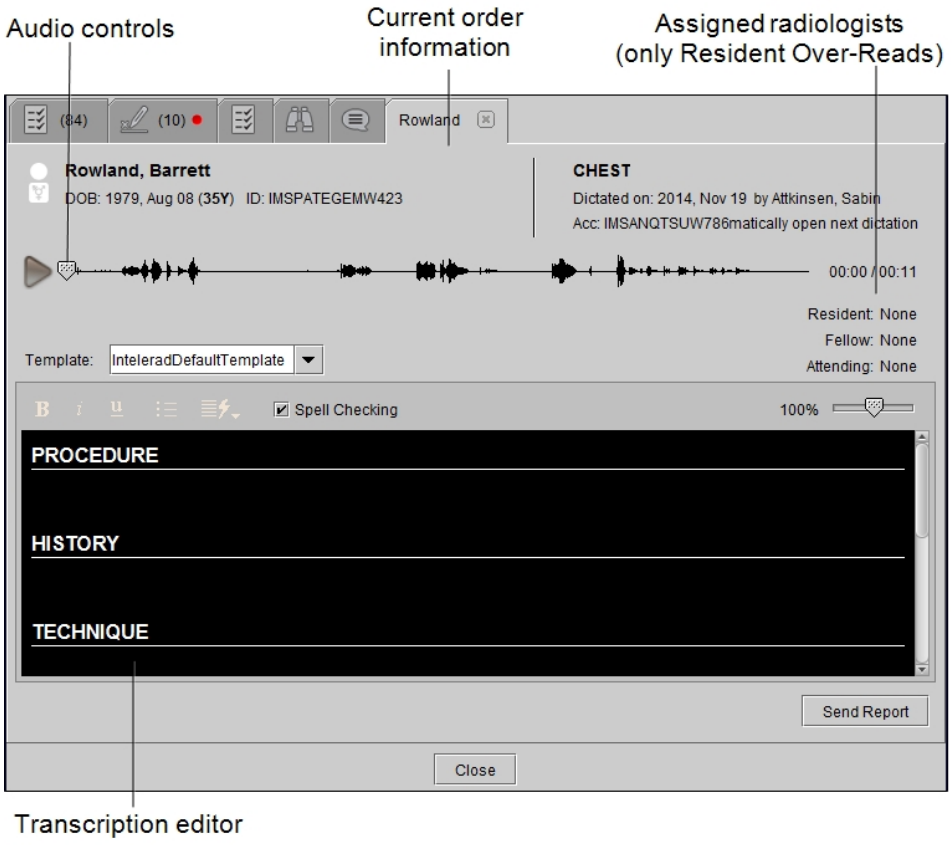
If you use Resident Over-Reads in your workflow, the transcription tab also displays the assigned resident, fellow, and attending radiologists.

If you use grouped procedures in your workflow, you will not be able to transcribe individual procedures in a group. InteleViewer uses a single dictation for all linked orders. You cannot transcribe linked orders individually; you can only transcribe all linked orders as a single dictation.

To open a dictation:

1. Find the dictation that you are transcribing. See “Filtering the Dictated and Transcribed Worklists" (page 546) and “Sorting the Dictated and Transcribed Worklist " (page 547).
2. Do one of the following:
   - Double-click the dictation.
   - Select the dictation and press **ENTER**.
   - Right-click on the dictation and select Transcribe.

   A Transcription tab appears. The dictation is now locked for your use. A Transcription tab appears for each dictation you open. When you open multiple dictations, the Transcription tab of the newest dictation is placed to the left of the Transcription tab of the previous dictation.
3. Repeat steps 1 and 2 for other dictations you want to transcribe.



See Also

Managing Dictations 542
Resident Over-Reads Workflows 610
About the Dictated and the Transcribed Worklists 543

Listening to Dictations

You can use a foot pedal or the audio controls in the Transcription editor to listen to a dictation.

Intelerad recommends that you use a foot pedal to control the playback of dictations.

Using a Foot Pedal to Listen to Dictations

You can use a foot pedal to transcribe dictations by controlling dictation playback with your foot while you keep your hands free to type.

You can configure the time, in milliseconds, that the audio will automatically rewind after you release the Play pedal. This buffer ensures that you will not miss audio when you stop, and then restart, transcribing. You can also configure the speed with which the audio advances when you use the Rewind and Forward pedals. For more information, contact your PACS administrator.

To use a foot pedal:

1. Plug the foot pedal into the USB port of your workstation.
2. Open the dictation that you require. See “Opening Dictations " (page 550).

3. Use the foot pedal to playback and review the audio recording.

Press the:	To:
Play pedal	Playback the recording.
Forward pedal	Fast forward the recording.
Rewind pedal	Rewind the recording.

Using the Audio Player to Listen to Dictations

Use the audio player to listen to dictations. You can pause the recording, or adjust the playback speed to reduce errors in your transcription.

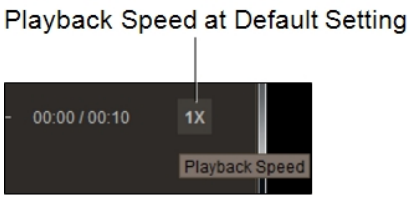
You can change the playback speed while the audio is playing.

To use the audio player to listen to dictations:

1. Open the dictation that you require. See “Opening Dictations " (page 550).
2. Click Play.

   The corresponding audio file plays and the progress bar updates to reflect the length of the recording.
3. Click the Playback Speed.

   The Playback Speed indicates the selected playback speed. The default playback speed is 1X.

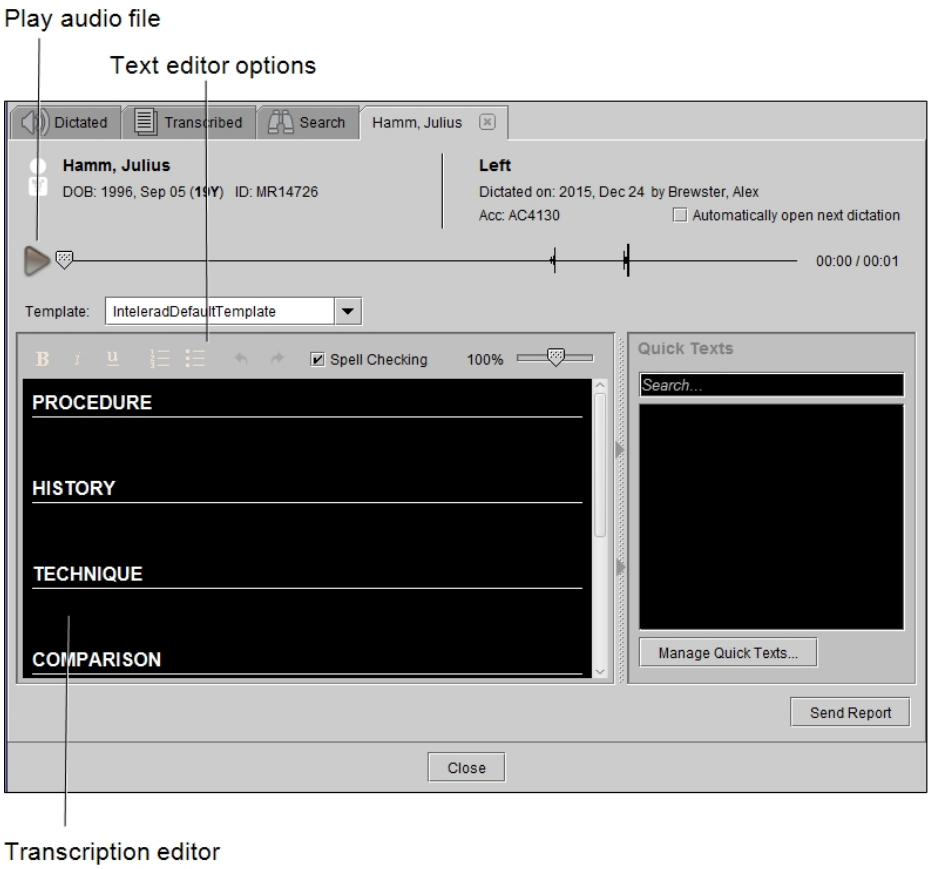


4. Do one of the following to select the playback speed in the dialog that appears:
    - Scroll your mouse wheel.
    - Press the **UP ARROW** and **DOWN ARROW** keys, the **LEFT ARROW** and **RIGHT ARROW** keys, or the **PAGE UP** and **PAGE DOWN** keys on your keyboard.
    - Click on the speed number or speed bar in the dialog.
5. Press **ESC** or click anywhere outside the dialog to exit the Playback Speed dialog.
6. To return to normal speed, click the Playback Speed label and select Normal or 1X.

    When you close a dictation, the playback speed settings return to the default 1X setting.

Transcribing Dictated Reports

When you select a dictation from the Dictated worklist, the patient record opens in a Transcription tab in which you can view patient and order information, listen to audio dictations, and transcribe reports. Use the text editor to transcribe, apply formatting, and insert or remove sections.



To transcribe a dictated report:

1. Click the Dictated tab to view the Dictated worklist.

   The Dictated worklist displays a list of dictations to transcribe.

2. To find the dictated report that you require, filter and sort the Dictated worklist.
3. To open the dictation that you require, double-click the row containing the dictation, or right-click and select Transcribe.

   When you open a dictation for transcription, the dictation is locked to prevent other transcriptionists from opening it.

4. To Play the dictation, use a foot pedal or the audio controls in the Transcription tab. See “Using a Foot Pedal to Listen to Dictations" (page 552) and “Using the Audio Player to Listen to Dictations" (page 553).
5. Select Automatically Open Next Dictation if you want the next dictation in your list to open automatically when you have finished transcribing this dictation.

6. To use a report template (if, for example, you received only audio for the transcription), select the desired template from the Template menu.
7. While playing the dictation, use the text editor to transcribe the audio dictation, insert quick texts, add sections, and to apply formatting. See “Editing Draft Transcriptions or Transcribed Reports" (page 556) and “Managing Quick Texts" (page 563).

   If the radiologist entered text during the dictation process, it will appear in the various sections of the text editor as well.
8. When you have finished the transcription, click Send Report.

   If you enabled Automatically Open Next Dictation, the next available dictation opens right away.

   The dictation is removed from the Dictated worklist and appears in both your Transcribed worklist and the radiologist's Signing worklist. You can still make changes to this report before it is signed.

See Also

Transcribing Addendum Reports 556
Editing Draft Transcriptions or Transcribed Reports 556
Inserting Quick Texts 560

Transcribing Addendum Reports

Addendum reports allow radiologists to add information to exams that already have an existing report. Addenda can be used, for example, to re-dictate a case or to add supplementary information to the report.

Report addenda appear as new dictations. You transcribe an addendum report in the same way that you would transcribe a dictation.

You cannot transcribe an addendum if there is no transcribed report. If there is no report available (preliminary or signed) for the orders associated with the addendum, you will be prompted to transcribe a report instead.

Editing Draft Transcriptions or Transcribed Reports

You can edit draft transcriptions and transcribed reports. Editing draft transcriptions and transcribed reports involves inserting quick text, changing formatting, inserting sections,

and so on.

The Dictated worklist includes draft transcriptions, which are dictations that contain report text. A radiologist who uses MMR can dictate the audio report and add text to the dictation before sending it to you.

Draft transcriptions that were dictated using Multi-Method Reporting might contain information from a technologist`s worksheet report. This information is displayed in green fields. You can edit and navigate the fields like any other fields in a draft transcription.

Your PACS must be configured to allow for draft transcriptions. For more information, contact the Intelerad Technical SupportCenter.

After you have transcribed and sent a dictation, the transcribed report appears in the Transcribed worklist. You can edit the transcribed report before the radiologist signs it.

Once the radiologist signs the report, it can no longer be edited.

To edit a draft transcription or a transcribed report:

1. Open the draft or transcribed report from the Dictated or Transcribed worklist respectively.:

   The audio file, templates, and automatic opening of the next dictation options are not be available when you edit a transcribed report.

2. To insert quick texts into the draft transcription or transcribed report, use either the Quick Texts Panel or type the shortcut defined for the quick text and press **F3**. See “Inserting Quick Texts" (page 560).
3. To use menu options and keyboard shortcuts to format and organize your text, do the following:

Click or press:	To:
	Bold the text.
	Italicize the text.
	Underline the text.
	Undo the last action. The Text Editor supports multiple levels of undo.
	Redo the last undo. The Text Editor supports multiple levels of redo.

Click or press:	To:
CTRL+B	Bold the text.
CTRL+I	Italicize the text.
CTRL+U	Underline the text.
CTRL+1	Create a new section. The paragraph in which the cursor is located becomes a new section. Pressing **CTRL+1** again removes the section and returns the text to a normal paragraph.
CTRL+	Move to the previous section.
CTRL+	Move to the next section.
CTRL+SHIFT+8	Create a bullet list. The paragraph in which the cursor is located becomes the first bullet in the bullet list. Pressing `Ctrl+Shift+8` again removes the bullet list and returns the text to a normal paragraph.
CTRL+SHIFT+7	Create a numbered list. The paragraph in which the cursor is located becomes the first step in the numbered list. Pressing `Ctrl+Shift+7` again removes the numbered list and returns the text to a normal paragraph.

4. Enable Spell Checking, if required.

   Misspelled words are underlined in red.

5. To see suggested corrections for a misspelled word, right-click the misspelled word and then select the correct word.

6. To use shortcut options to navigate through your draft transcription, do the following:

Press:	To:
LEFT ARROW	Move cursor one character to the left.
RIGHT ARROW	Move cursor one character to the right.
UP ARROW	Move cursor up one line.
DOWN ARROW	Move cursor down one line.

Press:	To:
SHIFT+LEFT ARROW	Select one character to the left of the cursor.
SHIFT+RIGHT ARROW	Select one character to the right of the cursor.
CTRL+LEFT ARROW	Move the cursor one word to the left.
CTRL+RIGHT ARROW	Move the cursor one word to the right.
HOME	Move the cursor to beginning of line.
SHIFT+HOME	Select text to the beginning of line.
END	Move the cursor to end of line.
SHIFT+END	Select text to the end of line.
CTRL+SHIFT+LEFT ARROW	Select one word to the left.
CTRL+SHIFT+RIGHT ARROW	Select one word to the right.
SHIFT + UP ARROW	Select one line up.
CTRL+SHIFT+UP ARROW	Select one paragraph up.
SHIFT + DOWN ARROW	Select one line down.
CTRL+SHIFT+DOWN ARROW	Select one paragraph down.
Double-click	Select a word.
Triple-click	Select the paragraph.
CTRL+Z	Reverse the last action you performed (undo).
CTRL+Y	Undoes the last Undo action (redo).
CTRL+C **CTRL+INSERT**	Copy selected text.
CTRL+X **DELETE+SHIFT**	Cut selected text.
CTRL+V **SHIFT+INSERT**	Paste selected text.
CTRL+ DELETE	Delete one word to the right.
CTRL+BACKSPACE	Delete one word to the left.
CTRL+F	Move to the next field.
CTRL+S	Send the report.

7. Click Send Report or **CTRL+S**.

The report is sent to the Transcribed worklist and to the radiologist's To Sign tab in the Signing worklist.

To disable the **CRTL+S** shortcut key, open a case in the Intelerad Service Portal to create a product feature request or contact Intelerad Technical Support. To create a product feature request, click Create Product Feature Request.

See Also

About the Dictated and the Transcribed Worklists 543
About Worksheet Report Templates 663

Inserting Quick Texts

Quick texts are reusable text that you can insert in draft transcriptions and transcibed reports.

To insert quick text:

1. Place the cursor where you would like to insert the quick text.
2. Do one of the following:
   - From the Quick Texts panel, select the quick text that you want to insert to automatically insert it into the draft transcription.
   - Type the shortcut name of the quick text to insert and then press **F3**. For example, if the quick text you want to insert has the shortcut “Nor” and it is associated with the quick text “No abnormalities found in the lungs.”, type the letters “Nor” and press **F3**.

See Also

Managing Quick Texts 563

Reserving Dictations

You can reserve dictations for yourself or for other users. There is no limit on the number of dictations that you can reserve. Other users can view reserved dictations in their worklist. These dictations are grayed out and unavailable to be opened or transcribed.

By default you can reserve a dictation for 6 months, until you either transcribe or unreserve it. After this time period elapses, your reservation is removed, and the dictation is available for another user to transcribe. This time period is configurable.

Reserving Dictations for Yourself

You can reserve dictations for your use only. Dictations that you reserve for yourself remain reserved until you transcribe the dictation or until the default reservation duration elapses.

To use this feature, ask your PACS administrator to enable the Reserve Items in Transcription Worklist privilege in your user account. For more information, contact your PACS administrator.

To reserve dictations for yourself:

1. Click the Dictated tab.

   The Dictated worklist displays a list of dictations.

2. To find the dictation you require, filter and sort the Dictated worklist.
3. Do one of the following:

   - Select one dictation.
   - Select multiple dictations, by **CTRL**-clicking each one.
   - Select a range, by clicking the first dictation, and then **SHIFT**-clicking the last in the range.

4. Right-click the dictation(s) and choose Reserve.

   An empty star icon ☆ appears beside the dictation, your user name appears in the Lock Owner column, and “reserved” appears in the Lock State column to indicate the selected dictations are reserved. The dictations remain reserved for you until you transcribe them, choose to unreserve them, or the default reservation duration elapses.

Reserving Dictations for Another User

You can reserve dictations for another user, in order to “assign” the user a particular dictation for transcription, for example.

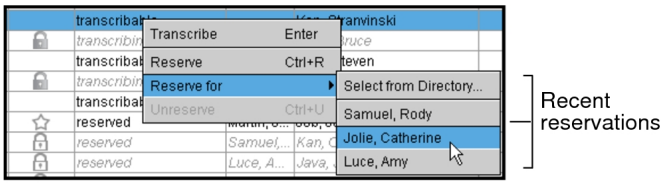
When selecting which user to reserve a dictation for, you can choose from a list containing the five users for whom you most recently reserved a dictation, or from a user

directory. A user appears on this user directory only if that user's primary role is assigned the Transcriptionist job function. For more information on primary roles and job functions, refer to the *IntelePACS Administrator Guide*.

To use this feature, ask your PACS administrator to enable the Manage Transcription Worklist privilege in your user account.

To reserve dictations for another user:

1. In the Dictated worklist, do one of the following:
   - Select one dictation.
   - Select multiple dictations, by **CTRL**-clicking each one.
   - Select a range, by clicking the first dictation, and then **SHIFT**-clicking the last in the range.
2. Right-click the dictation, and hover your mouse over Reserve for.
3. To reserve for one of the five people for whom you most recently reserved a dictation, select the name from the menu.



   The names of the last five transcriptionists with a reservation roam with the general profile.

4. To search for a transcriptionist from the user directory, do the following:
   - Click Select from Directory.
   - Type part or all of a name in the text field, or scroll through the list.
   - To search by user name, enable the User Name filter, and enter the user name in the User Name text field.
   - Select a name and click Reserve, or double-click a name.

   The dictation is reserved for the transcriptionist you selected. A Lock icon appears beside the dictation, the name of the transcriptionist appears in the Lock Owner column, and "reserved' appears in the Lock State column to indicate the selected dictations are reserved.

Unreserving Dictations

You can unreserve a dictation that has been reserved for you or for another user. When you unreserve a dictation, it is immediately available to be reserved once more.

To unreserve a dictation for yourself, ask your PACS administrator to enable the Reserve Items in Transcription Worklist privilege in your user account. To unreserve a dictation for another user, ask your PACS administrator to enable the Manage Transcription Worklist privilege.

To unreserve dictations:

1. In the Dictated worklist, do one of the following:
   - Select one dictation.
   - Select multiple dictations, by **CTRL**-clicking each one.
   - Select a range, by clicking the first dictation, and then **SHIFT**-clicking the last in the range.

   You can look for an icon beside a dictation to determine if it is reserved: either the Lock icon (if the dictation is reserved for someone else) or the Star icon (if the dictation is reserved for you).
2. Right-click the dictation(s), and select Unreserve.

   The reservation is removed from the selected dictation, the Lock icon is removed, and the status in the Lock State column is returned to “transcribable.”

Managing Quick Texts

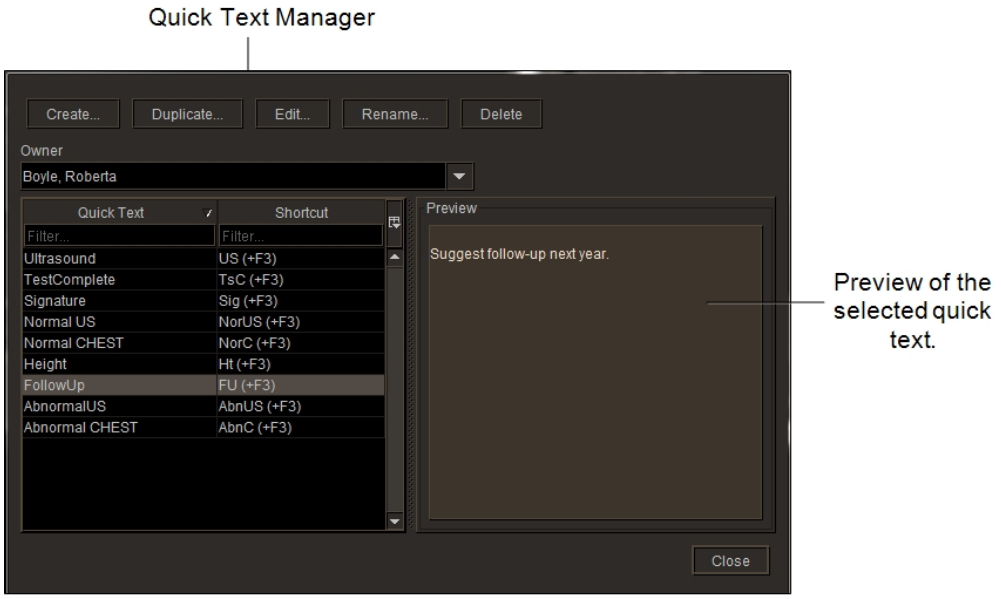
Quick texts are a standard reply to a common scenario that you can reuse in transcriptions. Creating quick texts saves you time when transcribing reports.

Transcriptionists use quick texts to generate reports for radiologists more rapidly. For example, perhaps you use the following standard text when transcribing on a normal heart imaging: “Compared to the previous examination, no significant change is noted.” By defining this standard text as a quick text, you can reuse it in any section of any report.

Use the Quick Text Manager to:

- Create quick texts.
- Create quick texts from existing quick texts.

- Associate quick texts with modalities and body parts.
- Add custom or order information fields in quick texts.
- Edit quick texts.
- Delete quick texts.



See Also

Inserting Quick Texts 560
Creating Quick Texts 679
Creating Quick Texts from Existing Quick Texts 682
Associating Quick Texts with Modalities and Body Parts 684
Editing Quick Texts 686
Deleting Quick Texts 687
Inserting Custom Value Fields in Quick Text 682
Inserting Order Information in Quick Texts 680

12 VIEWING REPORTS

Integration with your RIS or HIS makes accessing patient reports and creating impressions fast and seamless. Loading a study containing a structured report and opening the Structured Report Viewer will display documents compliant to the DICOM Structured Report (SR) standard (Basic Text SR, Enhanced SR, and Comprehensive SR).

In this chapter:

About Viewing Reports 567

Accessing the Report Viewer 567

Viewing Reports in the Report Viewer 569

Viewing Reports in the Patient Record Tab 571

Viewing Patient History 571

Searching for Audio Reports 572

About Viewing Reports

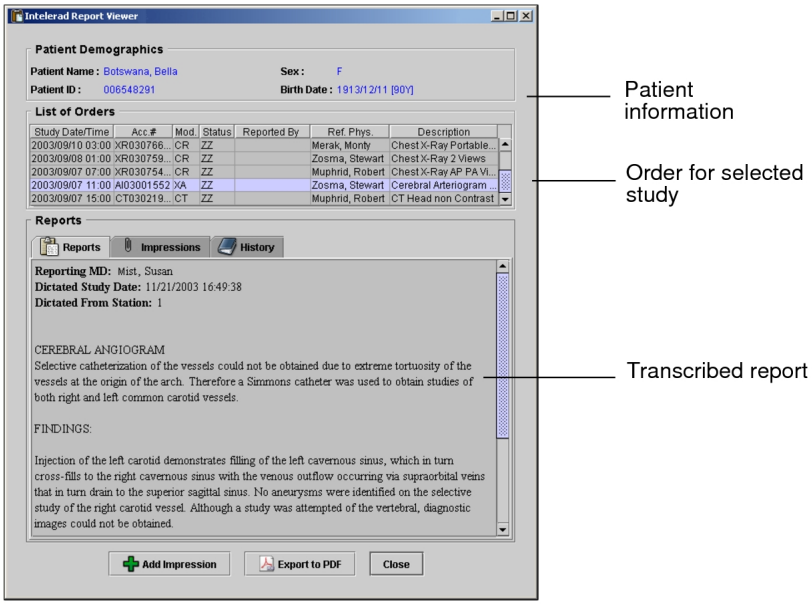
When your IntelePACS has been integrated with a Radiology Information System (RIS) or Hospital Information System (HIS) with reporting capabilities, you can view the patient history, emergency impressions, and transcribed reports associated with a study. Depending on your IntelePACS configuration and your privileges you can perform these actions by using either the Report Viewer or the Patient Record tab.

Depending on your IntelePACS configuration and your privileges, you may not be able to view dictated and transcribed reports in the Report Viewer or the Patient Record tab. For more information, contact your PACS administrator.

Accessing the Report Viewer

The Report Viewer provides access to dictated and transcribed reports, impressions, and study history. You can customize the way in which this information is displayed by changing the view.

Report Viewer



Unlike the Patient Record tab, you cannot dictate reports by using the Report Viewer.

The Report Viewer is only available to you if you have the necessary privileges. Contact your PACS administrator if you require more information on your IntelePACS configuration.

To open the Report Viewer:

1. Find the study you require. See “About Searching for Studies" (page 249).
2. Do one of the following:
   - To view the images, open the study. See “About Opening Studies and Series" (page 361). Then click the View Reports tool .
   - If you do not need to open the images, select the study or series in the Search tool, right-click, and choose View Reports. If you experience difficulty connecting to the Report Viewer server, click Cancel. For more information, see your PACS administrator.

   The report is synchronized to the current study. That is, if you right-click in a viewport that contains a series from the most recent prior, the report for the most recent prior is displayed in the Patient Record tab.

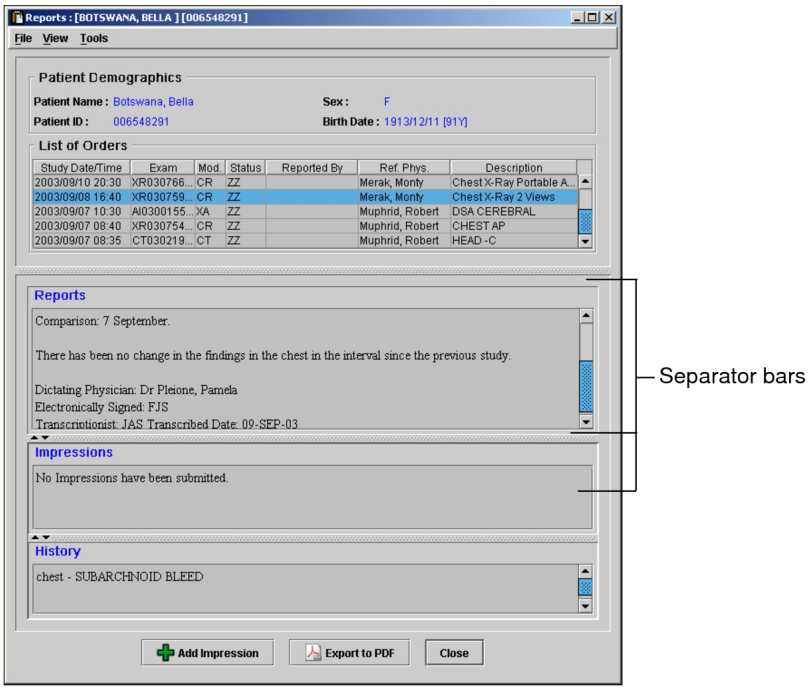
   The Report Viewer opens and displays the information for the selected study. It also lists all orders for the selected patient, so that you can quickly access other reports for your patient.

   If your IntelePACS is configured to use grouped procedures, one accession number can relate to one or more studies. Studies that contain the same accession number are considered part of the same order and, therefore, will be highlighted with the same color.

To customize the Report Viewer layout:

1. Open the Report Viewer.
2. Choose View | Change View.

   The Report, Impressions, and History information is displayed in a single window, rather than in separate tabs.



3. Click and drag the separator bars to resize the panes.

   Any changes you make to the layout are saved automatically.

4. To revert to a tabbed view, repeat step 2.

Viewing Reports in the Report Viewer

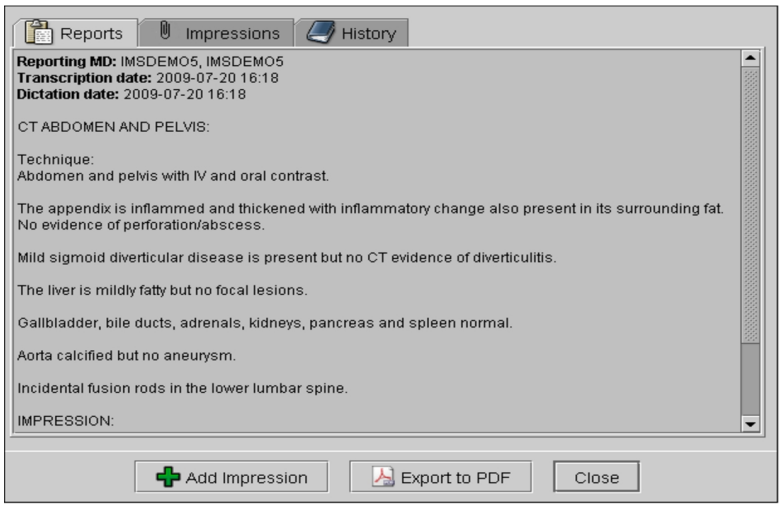
Once the report has been transcribed, you can view it in written form.

Contact your PACS administrator if you require more information on your IntelePACS configuration.

To view a report:

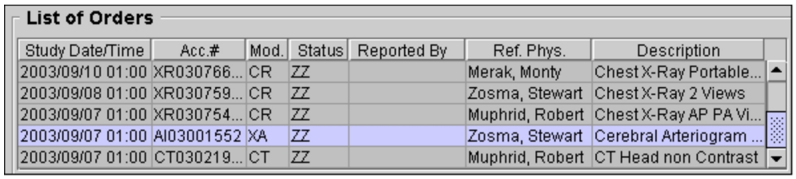
1. Open the Report Viewer. See “Accessing the Report Viewer" (page 567).
2. Select the Reports tab.

   The text of the report appears.



If the Reports tab is disabled, there is no report information available.

3. To view a report for another study for that patient, select the corresponding order in the List of Orders.



The report for the selected order appears.

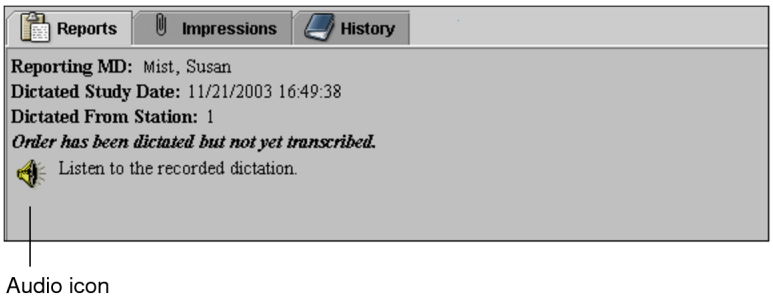
To listen to a dictated report:

1. Open the Report Viewer. See “Accessing the Report Viewer" (page 567).

   Depending on your IntelePACS configuration and your privileges, you may not be able to listen to dictated reports. For more information, contact your PACS administrator.

2. Select the Reports tab.

   The report contains a message indicating that it has not yet been transcribed and an audio icon appears.



3. Click the audio icon and use the audio playback application installed on your computer to listen to the dictated report.

Viewing Reports in the Patient Record Tab

You can view reports in the Patient Record tab.

To view reports in the Patient Record tab:

- Do either of the following:
  - In the Worklist tab, select the order that you require.
  - Open the order from either the Worklist tab or Search tool and view the Patient Record tab.

  If you select a previous order in the Patient History panel, the report also appears.

Viewing Patient History

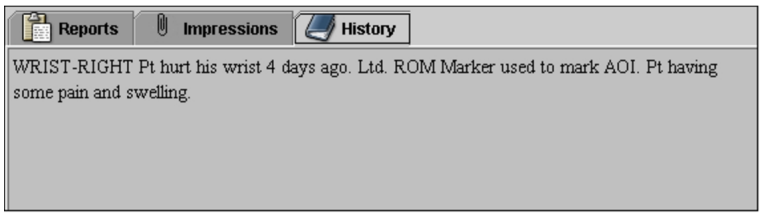
Reports can contain information on the patient's background and reason for the study requisition.

Viewing Patient History in the Report Viewer

To view the patient history:

1. Open the Report Viewer. See "Accessing the Report Viewer" (page 567).
2. Select the History tab.

   The report history appears.



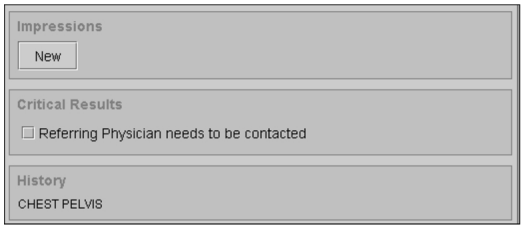
If the History tab is disabled, there is no history information available.

3. To view the history for another study requisitioned for that patient, select the corresponding order in the List of Orders, and then select the History tab.

Viewing Patient History in the Patient Record

To view patient history:

1. Do either of the following:
   - In the Worklist tab, select the order that you require.
   - Open the order (from either the Worklist tab or Search tool) and view the Patient Record tab.
2. Locate the History section.



Searching for Audio Reports

In addition to accessing audio reports in the Report Viewer, you can search the IntelePACS for audio reports that are stored on the system and then play them back. To do so, you must use the InteleBrowser. For information, please refer to the *InteleBrowser User Guide.*

13 MANAGING REPORTS

This chapter contains all the information you need for working with reports.

In this chapter:

About Managing Reports 575

About Dictating Reports 575

Using ClickView for Ultrasound Reports 582

Viewing DICOM Structured Reports 585

Accessing the Structured Report Viewer 586

Listening to Audio Reports 587

Creating Addendum Reports 589

Creating Addendum Reports by Using Third-Party Systems 590

Signing Reports 591

Exporting Reports to PDF Files 596

About Managing Reports

When your IntelePACS has been integrated with a Radiology Information System (RIS) or Hospital Information System (HIS) with reporting capabilities, you can view the patient history, emergency impressions, and transcribed reports associated with a study. Audio files of reports that have been dictated, but not yet transcribed, may also be available, depending on your IntelePACS configuration.

- Depending on your IntelePACS configuration and your privileges, you may not be able to view preliminary reports that are pending a radiologist's signature, or listen to audio files. For more information, contact your PACS administrator.

The Reporting Worklist Module offers many ways in which you can open and dictate exams, depending on how your IntelePACS is configured. If you are working in a digital environment, use the Reporting Worklist Module to find the orders you require, view the images in InteleViewer, and dictate them. If you are working in a film-based environment, you can still use the Reporting Worklist Module to mark orders as dictated.

- If you are using third-party software to dictate reports, you can use the Reporting Worklist Module to view exams in InteleViewer and, except for PowerScribe 360 and bi-directional RadWhere, mark them as dictated.

You can use the worklist to select orders and work with them immediately. When you are dictating, you can also seamlessly navigate through the list of available orders, dictating one after another.

Once an order is dictated, the images are marked as having been interpreted on the IntelePACS. If you used the Dictation Module to create a digital audio file, it is uploaded to the IntelePACS automatically.

About Dictating Reports

The method that you use to record your reports depends on your configuration. If your system is configured with the Dictation Module, you can create a digital audio file of your report, which is then stored on the IntelePACS and available for transcription.

However, you may use a hand-held tape recorder or a third-party application, such as PowerScribe, to record your reports. If so, except for PowerScribe 360 and bi-directional RadWhere, use the Reporting Worklist Module to mark exams as dictated once you have finished.

If you use grouped procedures in your workflow, you will not be able to dictate individual procedures from a group. You must create a single dictation for the entire order.

If you use linked orders in your workflow, once you link the orders, InteleViewer creates a single dictation for all the linked orders.

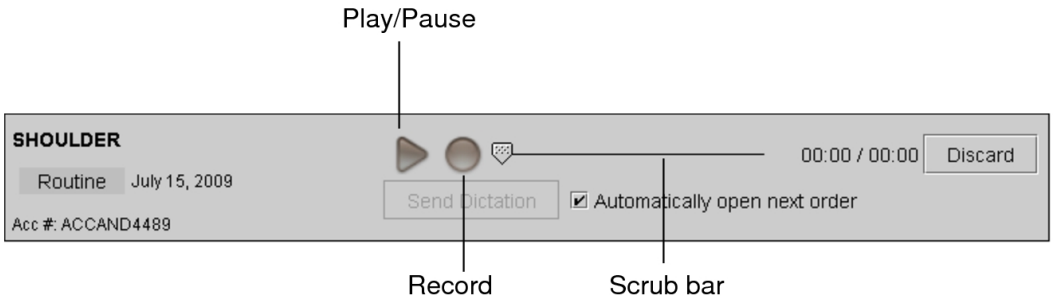
See Also

Choosing a Dictation System 150
Returning Orders to Technologists 309

Dictating Reports

You can create digital audio files of your reports and play them to review the recording. To do so, either use the dictation controls in the Reporting Worklist Module or those on the digital voice recorder, depending on your preferred work method.

Dictation Controls (in the Patient Record Tab)



Once your dictation is complete, you can upload the digital audio file to the IntelePACS for transcription.

To use the Dictation Module, your system must also be configured with a digital voice recorder. For information, contact your PACS administrator.

To dictate reports:

1. Do one of the following:
   - In the Search tool, find and double-click the study. Or, you can right-click the study and select Read Selected Studies.
   - In the Dictated tab on the Worklist tab, find and double-click the order.

   The Patient Record tab appears.

2. Do one of the following:

   - In the Patient Record tab, click the Record button. Click it again to pause.
   - Press and hold the Record button on the digital voice recorder. Release the button to pause.

   An audio file is created. The audio waveform reflects the length of the recording and the level bar indicates the volume.

3. To discard the recording, click Discard. Click Restore to revert to the state of the recording before you discarded it.

   If you click the Play button before clicking the Restore button, you will not be able to restore the recording to the state prior to clicking the Discard button.

4. To use the Dictation controls to playback and review the audio recording, do the following:

To:	Then:
Playback audio	Click the Play button.
Advance or rewind the audio	Click and drag the scrub bar.

   The scrub bar updates to reflect the current location in the audio file.

5. To use the Philips SpeechMike Pro digital voice recorder model controls to playback and review the audio recording, do the following:

To:	Press:
Move to the beginning of the recording.	EOL or INSTR
Move to the end of the recording.	INS/OVWR
Playback or pause playback of the recording.	
Rewind the recording.	
Fast forward the recording.	

   The controls on other Philips SpeechMike digital voice recorder models will differ from those described above.

6. To use the Olympus DirectREC digital voice recorder model controls to playback and review the audio recording, do the following:

To:	Press (DR-2000 Model):	Press (DR-2100/2300 Models):
Move to the beginning of the recording.	REW	REW
Move to the end of the recording.	FF	FF
Increase the priority of the order.	A	F1
Send the recording, and return to the worklist.	B	NEW
Send the recording, and open the next order.	NEW	F2

7. To continue a dictation, rewind or fast forward the audio until the scrub bar is at the required location.

   You can continue recording at the end of the audio file, or from any point in the current recording.

   ⚠ You cannot insert audio. If you begin recording again from a point in the existing recording, you will record over any existing audio from that point forward.

8. When you have completed your dictation, click Send Dictation.

   The audio file is sent to the IntelePACS, a dictation lock is created, and the order status is changed to “dictated.”

   If you close the Patient Record tab before completing your dictation, a message appears. You can either save or discard your dictation before closing the tab.

9. To re-dictate the order, contact your PACS administrator to remove the existing dictation manually.

   The dictation as well as any associated audio files and their transcriptions are deleted, and the order status is changed to "completed." Once the PACS administrator has removed the dictation, close and re-open the order to re-dictate it.

See Also

Opening the Next Order 308

Parking Dictations

The Reporting Worklist Module takes workflow interruptions into account. If you are interrupted while dictating a report, and need to open a different order, your dictation is automatically *parked* so that you can complete it later. You can park as many dictations as needed.

When you park a dictation, the order remains locked for your use and will be unavailable to others users.

When you save a draft with PowerScribe 360, IntelePACS does not automatically lock the draft. To lock drafts in IntelePACS with PowerScribe 360, contact your PACS Administrator.

⚠ The Reporting Worklist Module temporarily stores parked dictations. They will be discarded if you do not complete the dictations before either exiting InteleViewer or shutting down your workstation.

InteleViewer releases the lock when either:

- You complete the dictation.
- You exit InteleViewer.
- The PACS administrator releases the lock manually.

To resume a parked dictation, you simply view the Patient Record tab and resume recording. When you have completed the dictation, you can send it for transcription.

If your lock is released for an order for which you have parked a dictation, other users will be able to open and dictate it. You therefore will not be able to resume a parked dictation for an order that is already marked as dictated by another user.

See Also

Putting Aside an Order in the Patient Record Tab 310

Dictating During Degraded IntelePACS Status

The Reporting Worklist Module and the IntelePACS always ensure that digital audio files which are dictated and completed with Dictation Module are properly uploaded to the IntelePACS, even when the IntelePACS is *degraded*. IntelePACS has a degraded status when it can still operate correctly but a problem prevents it from offering all of its

capabilities. For example, a networking problem or hardware failure might prevent IntelePACS from operating at full performance.

A yellow triangle in the status bar indicates a degraded IntelePACS status. IntelePACS will save your dictation as an addendum if another user created a dictation during a degraded time frame to prevent possibly overwriting an existing dictation.

Dictating Reports by using Third-Party Systems

You can use a non-integrated method to record your reports, such as recording them to tape or into a phone dictation system, or you can use any of the third-party tools that the Reporting Worklist Module is configured to use, such as PowerScribe 360. In all of these cases, except for Fluency for Imaging, PowerScribe 360 and bi-directional RadWhere, you use the Reporting Worklist Module to mark the orders as dictated once you have finished. The status of the order is then updated in IntelePACS to indicate that a report has been created for it.

⚠ If you are using unidirectional PowerScribe, Fluency for Imaging, or unidirectional RadWhere, marking the order as dictated in the Worklist will not mark it as dictated in Fluency for Imaging, PowerScribe or RadWhere. You must explicitly mark it as dictated in Fluency for Imaging, PowerScribe or RadWhere.

To dictate reports by using third-party systems:

1. Dictate a report by using your preferred system.

   If you are using PowerScribe 360 or bi-directional RadWhere and close the Patient Record tab before completing your dictation, you must choose to either sign or discard the report before closing the tab. If you are using unidirectional PowerScribe or unidirectional RadWhere and close the Patient Record tab before completing your dictation, you must choose to either mark the report as dictated or discard the report before closing the tab.

2. When you have completed your dictation, click Mark As Dictated.

   The order is dictated and it is removed from the worklist.

3. If necessary, mark the order as dictated in the third-party system, such as Fluency for Imaging, PowerScribe or RadWhere.
4. If you chose to open another order in step 3, click Open to Dictate. If there are other Patient Record tabs open after completing your dictation, or you switch between

tabs without closing the first one, press **CTRL+D** to manually synchronize the order with the third-party dictation software and then begin to dictate the report.

Assigning orders in Fluency for Images

If you are using Fluency for Imaging, you can assign an order to another radiologist for review. The status of an order assigned using Fluency for Imaging will appear as "dictated" in the InteleViewer Worklist to prevent the order from being reported on by unassigned radiologists.

- The assigned radiologist will need to reopen the order using Fluency for Imaging.

See Also

Opening the Next Order 308
Saving a Draft Report in PowerScribe 360 581

Saving a Draft Report in PowerScribe 360

While dictating a report in PowerScribe 360, you can save a draft of the report and resume dictating later. Saving a draft is useful if you are interrupted while dictating, and you need to access another order.

- You must select PowerScribe 360, or PowerScribe 360 with ClickView, as the dictation system in InteleViewer.

When you save a draft report in PowerScribe 360, IntelePACS locks the corresponding order if the PowerScribe 360 Long-Term Parking feature is enabled on your IntelePACS. You can access a locked order for reporting only if you saved the draft in PowerScribe 360. You cannot report on an order that is locked by another radiologist. The PowerScribe 360 Long-term Parking feature is disabled by default. To enable this feature, contact your PACS administrator.

- When you save a draft addendum, the order is never locked since an order can have multiple addenda created by different radiologists.

The following describes the functionality when you save a draft report in PowerScribe 360 depending on whether the PowerScribe 360 Long-Term Parking feature is enabled.

If the Powerscribe 360 Long-Term Parking feature is enabled on your IntelePACS, when you save a draft report in PowerScribe 360:

- PowerScribe 360 saves and closes the report.
- The corresponding Patient Record tab closes in InteleViewer.
- The order is locked (parked) in IntelePACS.

The order remains locked until you resume dictating the draft report in PowerScribe 360. If you are dictating linked orders, the same dictation applies to all linked orders, and all linked orders remain locked when you save a draft report in PowerScribe 360. You can resume dictating a draft by opening the order again in InteleViewer. For linked orders, opening any linked order resumes the draft report. To lock the order again, you must save the draft in PowerScribe 360. Orders that are parked in this manner appear with a half-filled star icon in the InteleViewer worklist.

When dictating a report in PowerScribe 360, if you close the corresponding Patient Record tab in InteleViewer, PowerScribe 360 prompts you to save or discard the changes to the report. Click Save to keep the changes that you made since resuming the report, or Discard to save the report without your modifications. Saving a PowerScribe 360 report in this manner does not lock the order. Once the report closes, the order is available to other radiologists for reporting. To lock a draft report, you must save the draft in PowerScribe 360.

If the Powerscribe 360 Long-Term Parking feature is disabled on your IntelePACS, when you save a draft report in PowerScribe 360:

- PowerScribe 360 saves and closes the report.
- The corresponding Patient Record tab remains open in InteleViewer.

The order remains locked for as long as you have the order open in InteleViewer. When you close the order or InteleViewer, the lock is removed and the order is available for reporting by other radiologists.

When dictating a report in PowerScribe 360, if you close the corresponding Patient Record tab in InteleViewer, PowerScribe 360 prompts you to save or discard the changes to the report. Click Save to keep the changes that you made since resuming the report, or Discard to save the report without your modifications.

Using ClickView for Ultrasound Reports

InteleViewer's integration with ClickView streamlines the workflow for dictating and viewing ultrasound reports in ClickView. You can open an ultrasound order from the Reporting Worklist Module to automatically launch ClickView, or you can launch ClickView manually from the Toolbar or Patient Record tab to view an existing ClickView

report. ClickView integration applies to ultrasound orders from specific organizations only, as configured by your PACS administrator.

This feature requires InteleViewer to be configured with the PowerScribe 360 with ClickView dictation system (for dictating orders only), the ClickView user preference must be set with a valid URL, and you must have the ClickView user privilege enabled. For information on using ClickView, please refer to your ClickView product documentation.

The same username and password is required for both InteleViewer and ClickView. If you are using the PowerScribe 360 with ClickView dictation system, the same username and password are required for InteleViewer, ClickView, and PowerScribe 360.

See Also

ClickView Preferences 97
PowerScribe 360 with ClickView 156
Opening ClickView 583
Saving a ClickView Report and Marking the Order as Dictated 584

Opening ClickView

If InteleViewer is integrated with ClickView, you can open ClickView when dictating an ultrasound order or to view an existing ClickView ultrasound report.

When you open multiple ultrasound orders, each order opens a dedicated ClickView session window. If multiple ultrasound orders are open in InteleViewer, switching Patient Record tabs or InteleViewer windows does not switch the focus in ClickView to the corresponding report. When switching to a different Patient Record tab or InteleViewer window, ensure that the accession number of the report in ClickView corresponds to the Patient Record tab and InteleViewer window you are viewing.

To open ClickView for dictation:

1. From the Worklist tab, open an ultrasound order. See “Opening Orders" (page 301).

   InteleViewer automatically launches a dedicated ClickView session for the order.

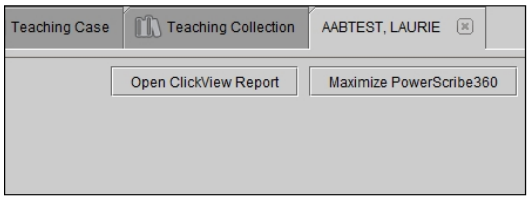
2. To re-open a ClickView session window for an order that you are dictating, click the ClickView toolbar icon or click the corresponding Patient Record tab to reset the focus.

3. After completing your dictation, save the ClickView report and set the order status to "dictated". See “Saving a ClickView Report and Marking the Order as Dictated" (page 584).

   When you are using the PowerScribe 360 with ClickView dictation system, both PowerScribe 360 and ClickView launch automatically when you open an ultrasound order for dictation. Dictate the report using either ClickView or PowerScribe 360 to avoid having multiple reports for an ultrasound order.

To open a ClickView report for a dictated ultrasound order:

1. Do one of the following:
   - From the Worklist tab, open an ultrasound order. See “Opening Orders" (page 301).
   - From the Search tab, search for and open a study. See “About Searching for Studies" (page 249).
2. Click the ClickView toolbar icon or the Open ClickView Report button in the Patient Record tab.



See Also

Using ClickView for Ultrasound Reports 582
Saving a ClickView Report and Marking the Order as Dictated 584

Saving a ClickView Report and Marking the Order as Dictated

If your IntelePACS is integrated with ClickView, you can save the report in ClickView and then click the Close as Reported button in the Patient Record tab to set the order status to "dictated" in the system.

To save a ClickView report:

- Save the report in ClickView prior to closing the ClickView session window.

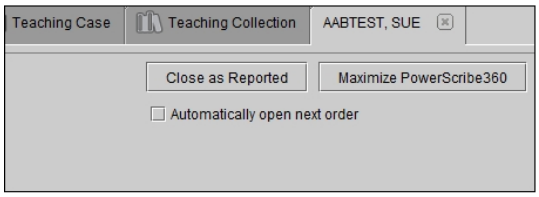
  Saving the report in ClickView does not set the order status to "dictated" in your system.

  ⚠ If you close the Patient Record tab or InteleViewer window before saving the report in ClickView, the report is not automatically saved and the corresponding ClickView session window closes without a save notification.

To set the order status to "dictated":

- After completing your dictation and saving the report in ClickView, click the Close as Reported button in the Patient Record tab.

  Clicking Close as Reported closes the corresponding ClickView session window.



See Also

Using ClickView for Ultrasound Reports 582
Opening ClickView 583

Viewing DICOM Structured Reports

When you load a study containing one or more structured reports, you can open the Structured Report Viewer to view the documents associated with the study, and any prior studies that exist for the selected patient. These documents are compliant to the DICOM Structured Report (SR) standard (Basic Text SR, Enhanced SR, and Comprehensive SR). Some examples of structured reports that you can open and view in the Structured Report Viewer are ultrasound technologists' reports (captured at the modality) and reports created by clinical applications like vascular analysis packages and nuclear medicine applications. The Structured Report Viewer automatically opens and displays associated structured reports when you load a study containing only structured reports.

You can also export structured reports to Adobe Portable Document Format (PDF) files, which can then be saved and distributed via email or printed.

Accessing the Structured Report Viewer

The Structured Report Viewer provides access to Basic Text Structured Reports, Enhanced Structured Reports, and Comprehensive Structured Reports. Any changes you make to the size and location of the Structured Report Viewer will be remembered the next time you open the Structured Report Viewer.

To open the Structured Report Viewer:

1. Find the study that contains the structured report you require. See “About Searching for Studies" (page 249).

   In the Study list of the Search tool, the structured report is indicated by the modality “SR”.

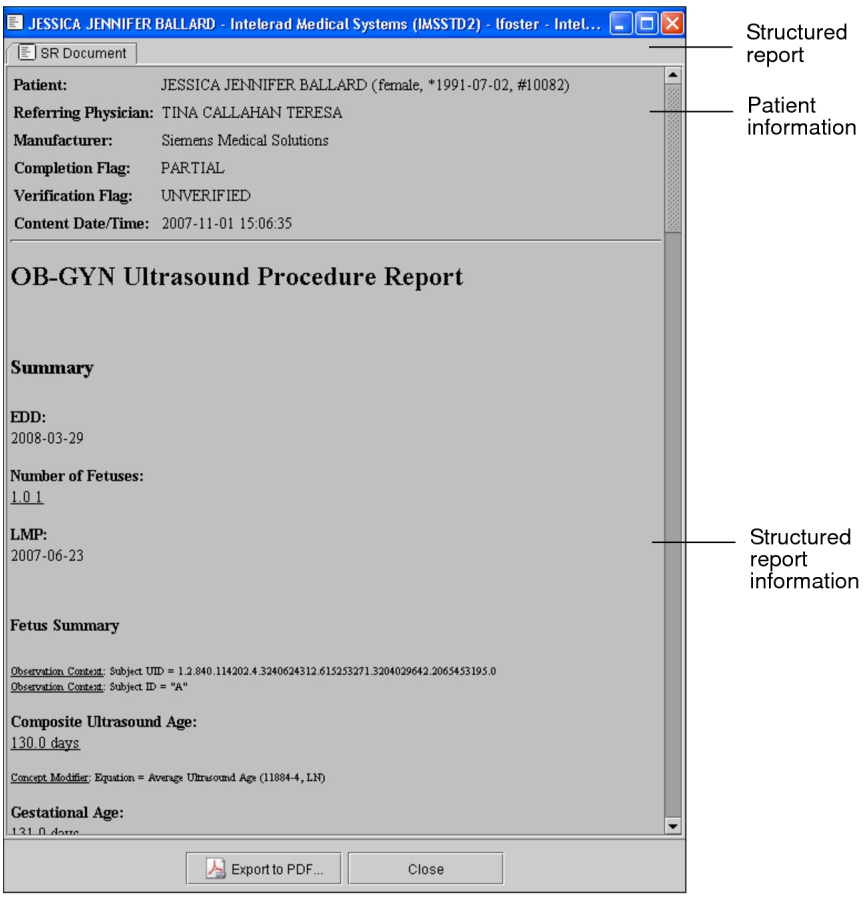
2. Open the study. See “About Opening Studies and Series" (page 361). Choose Reports | Show Structured Reports.

   The Structured Report Viewer automatically opens when you load a study containing only structured reports.

   The Structured Report Viewer opens and a progress bar appears in the bottom left corner of the window to indicate the progress of the retrieval and conversion of the structured document. You can cancel the retrieval and conversion of the structured document at anytime by clicking Cancel. The progress bar disappears when the complete structured report has been retrieved and converted.

   Once the retrieval and conversion is complete, the structured report information for the selected study appears in the Structured Report Viewer. Along the top, tabs represent the structured reports available for the selected patient. The name of the tab reflects the series description. If the series description is empty, then the name used is “SR Document”. The tabs are arranged by structured report date and time, starting with the most recent on the left to the oldest on the right. By default, the most recent structured report appears opened in the Structured Report Viewer.

Structured Report Viewer



When the Show Tooltips preference is enabled, the tab shows the series description when you place your cursor over the tab.

3. Click the tab for the structured report that you want to access.

   If the Structured Report Viewer is closed and you want to view a structured report, you can click the Reports menu and choose the structured report that you want to view for that study.

   To go to a specific location in the current structured report, click the provided link.

Listening to Audio Reports

You can listen to audio reports in InteleViewer if you are using the Dictation Module, MMR with Dictation Module, or PowerScribe 360. You can listen to audio from only unsigned reports.

After the radiologist signs the report, you can listen to any addenda associated with the report if you are using the Dictation Module or MMR with Dictation Module. If you are using PowerScribe 360, you can access only the most recent addendum.

Listening to audio dictations done with PowerScribe 360 requires IntelePACS version 4.15.1 and later, InteleViewer version 4.15.1 and later, and PowerScribe 360 version 3.5 or later.

Once a report has been transcribed, you can view it in written form.

In addition to accessing audio reports in the Report Viewer, you can also play them back in InteleBrowser. For information, please refer to the *InteleBrowser User Guide*.

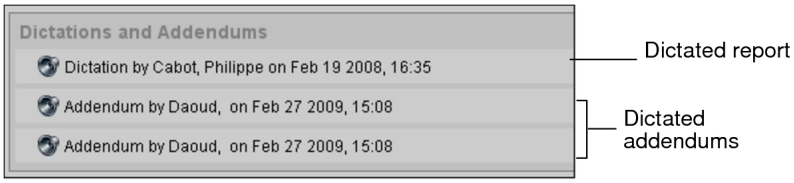
To listen to an audio report:

1. Do one of the following:

   - In the Search tool, find and double-click the study. Or, you can right-click the study and select Read Selected Studies.
   - In the Dictated tab on the Worklist tab, find and double-click the order.

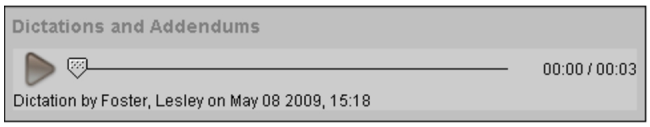
   An Audio icon appears in the Patient History panel to indicate orders that have been dictated but not transcribed.

   Audio dictations and addenda that are available appear in the Patient Record tab or the Dictated tab on the Worklist tab.



2. Select a dictation or addendum.

   The playback controls appear and the audio begins to play.



3. Pause or play the recording, as needed, or use the scrub bar to move through the recording.

Creating Addendum Reports

Report addenda allow you to add information to exams that already have been reported. They can be used, for example, to re-dictate a case or to add supplementary information to the report.

You can create an addendum for any order that has been dictated and is pending transcription or has a preliminary or signed report.

Addendum reports appear in the Transcription worklist automatically.

To dictate report addenda, your system must be configured with the Dictation Module and a digital voice recorder. For information, contact your PACS administrator.

You cannot dictate an addendum if you have No Dictation System selected as your current dictation system in User Preferences.

To create a report addendum:

1. From the worklist, click the Dictated tab.

   A list of dictated orders appears.

2. Do one of the following:

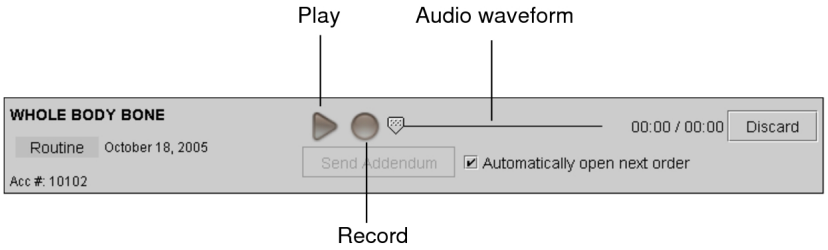
   - Double-click the order.
   - Right-click the order and choose View.
   - Select the order and then press **ENTER**.

   The Patient Record tab appears.

3. Click Start Addendum.

   The dictation controls appear.

Dictation Controls (in the Patient Record Tab)



Adding report addenda does not lock the exam; it is still available to other users that would like to add an addendum.

4. Use the dictation controls or the digital voice recorder controls to dictate the addendum. See “About Dictating Reports" (page 575).
5. When you have completed your dictation, click Send Addendum.

   The audio file is sent to the IntelePACS. The report addendum appears in the Transcription worklist, and is indicated by a plus (+) sign. Once it has been transcribed, it is sent to the RIS and can be viewed as you would any other report.

Creating Addendum Reports by Using Third-Party Systems

You can use any of the third-party dictation tools supported by the Reporting Worklist Module to create an addendum report for any order that has been dictated and is pending transcription or has a preliminary or signed report. The preferred dictation system must also be enabled in your user preferences.

Once the addendum report is complete, you use the Reporting Worklist Module to mark the addendum as finished except for PowerScribe 360 and bi-directional RadWhere. The third-party dictation system then sends the addendum report to the IntelePACS without an associated audio file.

To dictate report addenda, your system must be configured with the third-party dictation system and a digital voice recorder. For information, contact your PACS administrator.

To create an addendum report by using third-party systems:

1. From the worklist, click the Dictated tab.

   A list of dictated orders appears.
2. Do one of the following:

   - Double-click the order.
   - Right-click the order and choose View.
   - Select the order and then press **ENTER**.

   The Patient Record tab appears.

If you use linked orders in your workflow and you are using PowerScribe 360, when you open a dictated order that was previously linked in InteleViewer, PowerScribe 360 will open and load the images of all the linked orders. In the case of multiple reports, PowerScribe 360 will show the latest addendum added to the batch.

3. Click Start Addendum.
4. Dictate the report addendum by using your preferred system.

   Adding report addenda does not lock the exam; it is still available to other users that would like to add an addendum.

   If you are using PowerScribe 360 or bi-directional RadWhere and close the Patient Record tab before completing your addendum report, you must choose to either sign or discard the report before closing the tab. If you are using any of the other third-party systems supported by Reporting Worklist Module and close the Patient Record tab before completing your dictation, you must choose to either save or discard the report before closing the tab.

5. When you have completed your dictation, click Mark Addendum as Finished.

   Once it has been transcribed, it is sent to the RIS and can be viewed as you would any other report.

   ⚠ If you are using unidirectional PowerScribe or unidirectional RadWhere, marking the addendum as finished in the Reporting Worklist Module will not mark it as finished in PowerScribe or RadWhere. You must explicitly mark it as finished in PowerScribe or RadWhere.

Signing Reports

Reports are used to communicate details concerning a patient's study to the patient's referring physician. Signing a report is an important task for radiologists as the signed final report contains the findings, impressions, and a diagnosis associated with the study.

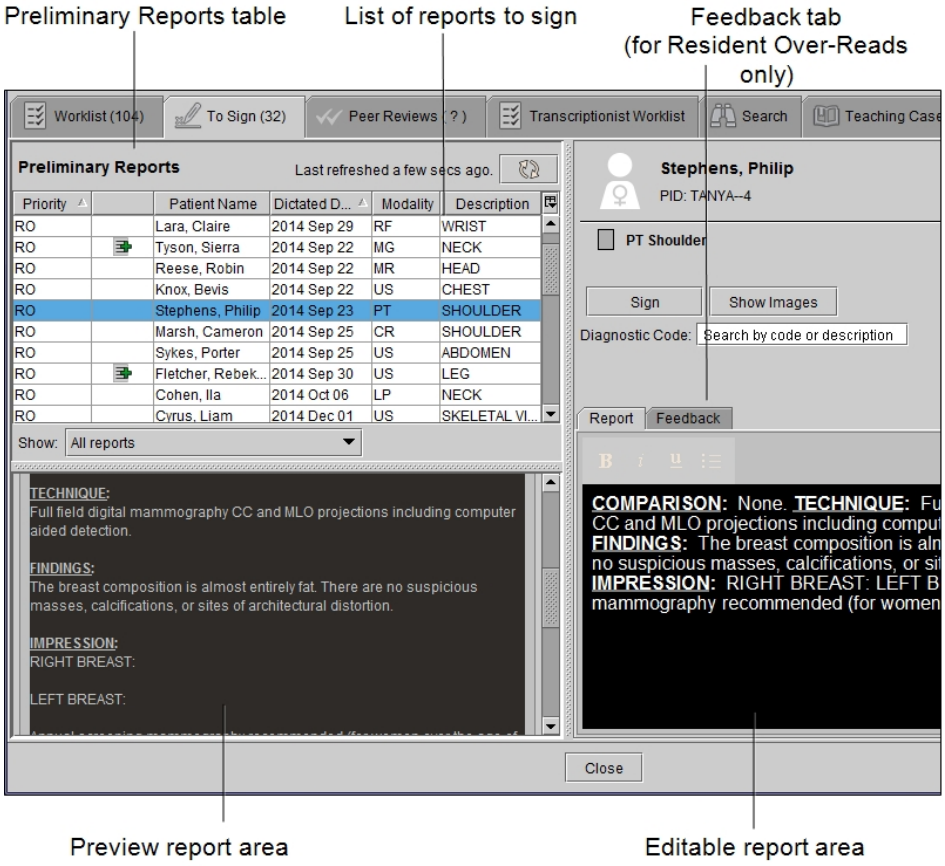
Use the To Sign tab to review, correct, and sign preliminary reports, to view images associated with the report, and to add diagnostic codes. The To Sign tab features a worklist and a text area. Each report can contain impressions and critical results. A red icon appears on the To Sign tab to indicate the existence of at least one STAT report awaiting your signature. The number in the tab indicates the total number of reports awaiting your signature. The list of reports is automatically refreshed after 90 seconds; however, you can refresh the list when necessary by clicking the Refresh button.

The Preliminary Reports table in the Signing worklist displays the status of each preliminary report in the Signing worklist.

If the report was dictated using Multi-Method Reporting (MMR), and you have the Resident Over-Reads module, you can also provide feedback on the report. If you are an attending radiologist, you can provide feedback to your resident and fellow radiologists. If you are a fellow radiologist, you can provide feedback to your resident radiologist.

You can also proxy sign a report if the dictating radiologist is unavailable.

The Signing worklist preserves the sorting order of the last three columns you selected, so you can apply three levels of sorting at a given time. For example, you can click the Priority column first, then click the Patient Name column, and finally click the Patient ID column. By default, the worklist displays information in ascending order starting with the Priority column.



In addition to reports that originate from your facility's IntelePACS, you can edit and sign reports delivered from outside IntelePACS via HL7 devices.

If you use linked orders in your workflow, InteleViewer creates a single report for all the linked orders, as opposed to one report for each order.

To use this feature, ask your PACS administrator to assign the Radiologist role, enable the Dictate Report privilege, and assign a RIS ID in your user account.

To sign a report:

1. In the Signing worklist, select the report that you want to sign.
2. If you need to edit the report before signing it, in the Report Text area, type new information or correct the current information.

   If you notice errors in the report, you may ask the transcriptionist who transcribed it to make corrections. When the transcriptionist opens the report for editing, it disappears from your Signing worklist. When the transcriptionist is finished with the edits, and sends the report for signature again, it will reappear in your Signing worklist.

   The name of the transcriptionist who transcribed the report, not the transcriptionist who edited it, is displayed in the preliminary report.
3. If you want to review the images, click Show Images.

   The images open in InteleViewer.
4. To add a diagnostic code to the report, do one of the following:

   - Type a minimum of three characters (letters or numbers) corresponding to the diagnostic code and then select the diagnostic code that appears.
   - Type a minimum of three characters (letters or numbers) that appear anywhere within the diagnostic code description and then select the diagnostic code that appears.
   - Type a single keyword or multiple keywords. For example, type "liver" or "liver disease".

   You can associate multiple diagnostic codes to your report by repeating this process. To remove a diagnostic code, click the X next to the diagnostic code.

   Diagnostic codes are for billing purposes and do not appear in the final report.
5. In the report, click Sign.

   The report is removed from your worklist. The next report is selected in the list.

See Also

Preliminary Reports Table 594
Providing Feedback 674

Preliminary Reports Table

The Preliminary Reports table in the Signing worklist displays the status of each preliminary report in the Signing worklist.

The following list describes the columns in the Primary Reports table.

Description—The body part being studied.

Dictated by— The name of the user who has dictated the report.

Dictated Date—The date that the report was dictated.

Locked— The report is locked by another user.

Modality—The modality used for the study.

Owner—The user assigned to the report.

Priority— The priority of the report. There are typically three priority levels: STAT, URGENT and Routine.

Status— The status of the report, which indicates if it is pending signature, signed, or locked. Only the fellow and attending radiologists can view this column.

This column is only displayed when Resident Over-Reads is enabled.

Icon	Description	Who can see the icon
	Pending resident signature	Resident, fellow, and attending radiologists
	Resident signature received	Fellow and attending radiologists
	Pending fellow signature	Fellow and attending radiologists
	Fellow signature received	Attending radiologists
	Locked	Resident, fellow and attending radiologists

If the icon row is blank for a report, it means that it is a legacy report that was dictated on IntelePACS or InteleViewer 4.10.1 or earlier.

Study Date—The date the study was created. This column is turned off by default.

If you use Resident Over-Reads in your workflow, you can sort the reports in the Preliminary Reports table from the Show list.

You can sort the reports in the Preliminary Reports table based on the following:

Reports pending my approval— The reports that are assigned to you for signature.

My reports/Reports pending my approval— The list of reports that you have dictated and the list of reports pending your signature.

All reports— The list of all reports in the signing worklist.

Only the fellow and attending radiologists can see the Show list.

See Also

Resident Over-Reads Workflows 610

Proxy Signing Reports or Addendums

In cases where the dictating radiologist cannot sign a report or addendum, for example, because of vacation or emergencies, another radiologist can proxy sign the report or addendum.

To use the To Sign tab and to proxy sign a report, ask your PACS administrator to configure your user account with the following:

- Assign the Radiologist role.
- Enable the View Report, Dictate Report, and Proxy Sign privileges.
- Assign a RIS ID.

For more information, contact your PACS administrator.

To proxy sign a report:

1. In the Signing worklist, from the View Report For list, select the radiologist, or select All Radiologists.
2. Select the report.
3. To review the images, click Show Images.
4. Edit the report, if desired.
5. Click Proxy Sign.

InteleViewer sends the report to the dictating radiologist's Dictated section of the Worklist. The report displays your name and the name of the dictating radiologist.

Exporting Reports to PDF Files

You can export reports to Adobe Portable Document Format (PDF) files, which can then be printed or sent via email or fax. Key images, impressions, and the clinical history information can also be included in the file. Reports can be exported in several ways:

- Automatically: Your PACS administrator will set up the rules to determine how to format the report, the people to send it to, and how the report should be distributed.
- From the InteleBrowser View Report page. For detailed information, refer to the *InteleBrowser User Guide*.
- From within the Report Viewer or from the InteleViewer window.
- From either the Report panel (if there is a report for the study) or the Impressions panel (if there is no report for the study) of the Patient record tab.

You can also choose to include a report as an encapsulated PDF file when exporting DICOM data or burning DICOM data to a CD or DVD.

InteleViewer uses the default report distribution templates to format the report. Your PACS administrator uses the InteleBrowser Report Distribution module to create templates and to specify the default template for report distribution. For more information, contact your PACS administrator.

By default, when you include key images, all images will be the same size and will be laid out one after the other, vertically, beginning at the end of the report. You can only export key images from the study that was selected when you launch the Report Viewer. To export key images from another study, you should close the Report Viewer, select the study, and then open the Report Viewer again.

Additionally, the key image series must be opened in InteleViewer (though not necessarily loaded in the viewports) to export its images. If there are multiple key image series, the images from all the key image series in the study will be exported.

The exported PDF files can be opened with Adobe Reader, a free application for viewing and printing PDF files. If you do not have Adobe Reader installed on your system, go to www.adobe.com for more information.

See Also

Burning DICOM Data to a CD or DVD 747
Exporting DICOM Data 751

Exporting a Report to a PDF File from InteleViewer

To export a report to a PDF file:

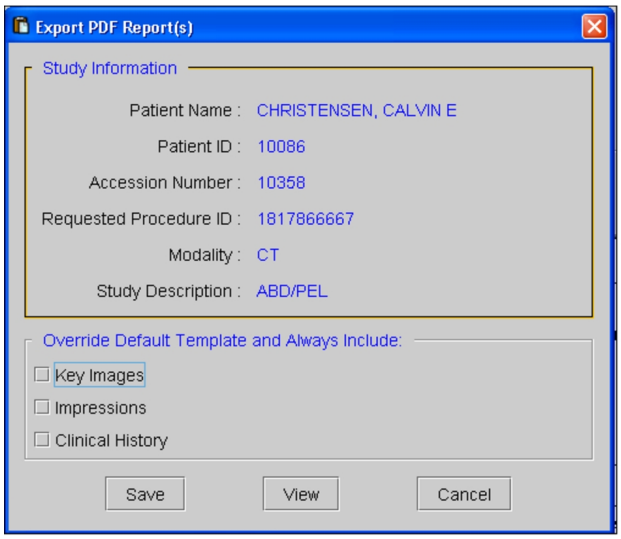
1. Select the study whose report you want to export.

   If you want to export key images, keep in mind that you can export them only from the selected study. To export them from another study, you will have to close the Report Viewer, select the appropriate study, and open the Report Viewer again.

2. Do one of the following:

   - From the InteleViewer main menu, choose File | Export Report to PDF.
   - From the Report Viewer, click the Export to PDF button or choose File | Export to PDF from the Report Viewer menu.

   The Export PDF Report(s) dialog appears.



   If you use grouped procedures in your workflow, the requested procedure ID also appears in the Study Information to identify the report.

3. Set the export options, as required:

Enable:	To:
Key Images	Add key images to the PDF file.
Impressions	Add information from the Impressions panel to the PDF file.
Clinical History	Add information from the Clinical History panel to the PDF file.

If you disable Key Images and the default template supports key images, then key images will appear in the PDF file.

4. To preview the PDF file, click View.

   The PDF file is created and automatically opens in Adobe Reader.

5. Click Save in the Export PDF Reports dialog.

   If you are previewing the file, you can also save it by using Adobe Reader. To do so, choose File | Save As, or press **SHIFT+CTRL+S**.

6. Navigate to the location where you want to save the PDF file, enter a filename, and then click Save.

   The report is saved to the specified PDF file, and can be printed, sent by email or fax, or otherwise used as you would with any other PDF file.

   The study that was selected in the List of Orders is displayed first in the generated PDF file, followed by the other studies in the list, in order of their displayed position.

Exporting a Report to a PDF File from the Patient Record Tab

To export reports:

1. Do either of the following:

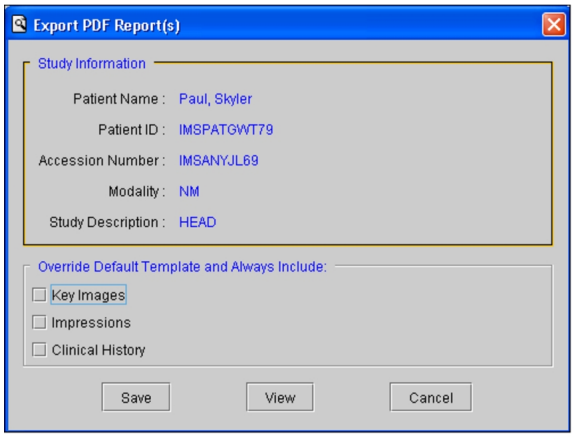
   - In the Patient History panel of the Worklist tab, select the order that you require.
   - Open the study from the Search tool and view the Patient Record tab.

   Any reports for that order appear in the Reports panel.

2. In either the Report panel or the Impressions panel, click Export PDF.

The Export PDF button appears in the Impressions panel if the study has an impression but no report.

The Export PDF Report(s) dialog appears.



3. Enable any combination of Key Images, Impressions, or Clinical History to include their respective information in the PDF.

   If you disable Key Images and the default template supports key images, then key images will appear in the PDF file. If you do not want to include key images in the PDF file, contact your PACS administrator.

4. To preview the PDF file, click View.

   The PDF file is created and automatically opens in Adobe Reader.

5. Click Save in the Export PDF Reports dialog.

   If you are previewing the file, you can also save it by using Adobe Reader. To do so, choose File | Save As, or press **SHIFT+CTRL+S**.

6. Navigate to the location where you want to save the PDF file, enter a filename, and then click Save.

   The report is saved to the specified PDF file, and can be printed, sent by email or fax, or otherwise used as you would with any other PDF file.

   The study that was selected in the List of Orders is displayed first in the generated PDF file, followed by the other studies in the list, in order of their displayed position.

Exporting Structured Reports to PDF Files

You can export structured reports to Adobe Portable Document Format (PDF) files, which can then be printed or distributed via email. Structured reports can be exported from within the Structured Report Viewer.

The exported PDF files can be opened with Adobe Reader, a free application for viewing and printing PDF files. If you do not have Adobe Reader installed on your system, go to www.adobe.com for more information.

To export structured reports to a PDF file:

1. Select the study whose structured report you want to export.
2. From the Structured Report Viewer, click the structured report tab corresponding to the structured report you would like to export, and then click the Export to PDF button.

   The Save As dialog appears.
3. Navigate to the location where you want to save the PDF file, enter a filename, and then click Save.

   The structured report is saved to the specified PDF file location, and can be emailed, printed, or otherwise used as you wish with any other PDF file.

14 REVIEWING REPORTS

InteleViewer offers several methods for reviewing the diagnostic quality of colleagues' reads, and for providing timely, structured and systematic feedback.

In this chapter:

About Reviewing Reports 603

About the Peer Review and Double Reads Worklists 604

Resident Over-Reads Workflows 610

Understanding the Double Reading Workflow 612

Peer Review Workflows 619

About Reviewing Reports

In a typical radiology reporting workflow, radiologists support patient care by the provision of accurate and timely reports on appropriate imaging. The report a radiologist produces is his or her professional opinion, based on information available at the time of the review. Therefore, with hindsight, often combined with additional information, a discrepancy may be acknowledged in the original interpretation of a study.

To ensure that processes are in place to minimize the potential harm to the patient of such events and to ensure that there is a learning process in place to avoid repetition, InteleViewer provides several tightly-integrated Peer Review and quality control tools to offer a consistent review workflow covering the entire patient reporting process.

Reviewing radiologists can choose from the following peer review workflows to ensure quality assurance within their regular reading and reporting workflow:

- Radiologists can randomly select reports to peer review.
- Radiologists are requested to conduct a peer review when they open a prior study case that has been flagged for review.
- Radiologists can complete reviews assigned to them by a proprietary Assignment Engine and that appear in their Peer Review worklist.

InteleViewer also supports the reading workflow of academic institutions, based on preliminary interpretations performed by residents or fellows with final approval by attending physicians.

For workflows that require two radiologists to review certain exams before the final report is sent out, InteleViewer provides you with a double reading workflow.

See Also

Peer Review Workflows 619
Understanding the Double Reading Workflow 612
Resident Over-Reads Workflows 610
Viewing DICOM Data on a CD or DVD 375
Viewing Exported DICOM Data 377

About the Peer Review and Double Reads Worklists

The Peer Review worklist displays all recently distributed reports that have been assigned to a reviewing radiologist by the Peer Review Assignment Engine (PRAE) in the assigned peer review workflow. Each entry in the Peer Review worklist contains one peer review of a prior order's report.

The Double Reads worklist displays the reports that are assigned to radiologists in the double reading workflow. The action required for the reports are displayed in the worklist. The first and second radiologist in the workflow will have different actions.

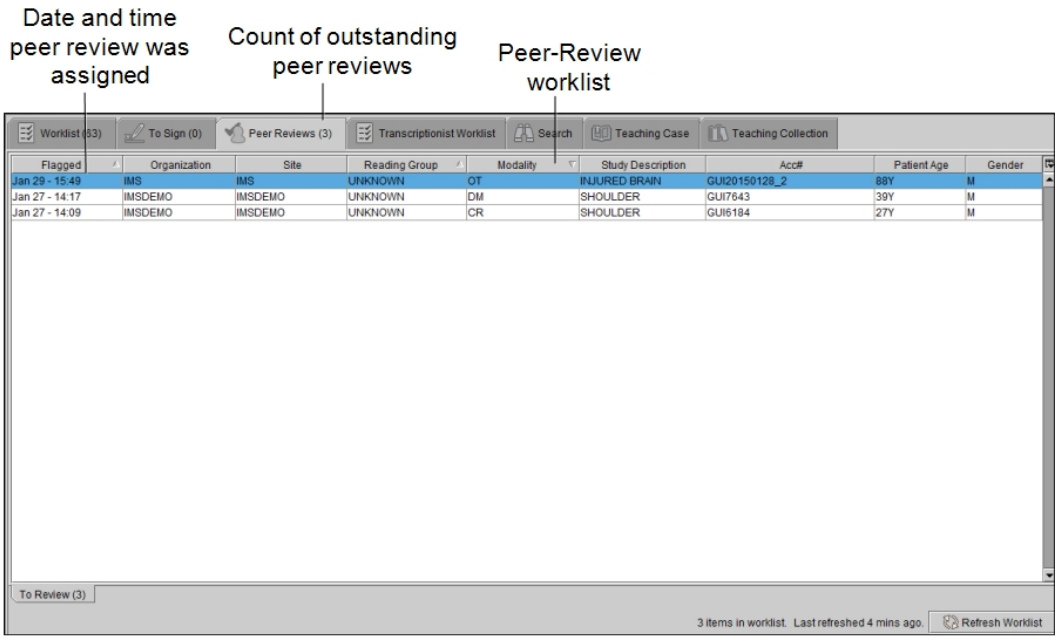
Both worklists are refreshed automatically every 5 minutes. The default refresh value can be configured by Intelerad Technical Support. Please contact the Intelerad Technical SupportCenter for more information.

You can also refresh the lists yourself by clicking the Refresh Worklist button or by pressing **F5**.

Understanding the Peer Review Worklist

The Peer Reviews tab provides access to reports to review. The main elements of the Peer Reviews tab are the Peer Review worklist, the Patient History panel, and the Current Order panel.

The Peer Review worklist displays all recently distributed reports that have been assigned to you by the PRAE. Each entry in the Peer Review worklist contains one peer review of a prior order's report.



To find the peer review you require, you can sort the Peer Review worklist. By default, the worklist is sorted by the flagged date and time in ascending order. By sorting the recent reports by the flagged date and time, reviewing radiologists have more control over how quickly they can intervene when discovering a significant discrepancy in interpretation from the original report.

When you select a peer review from your Peer Review worklist, the order opens in a separate tab which displays the Peer Review form in the Current Order panel, and a yellow flag icon in the Patient History panel. This is where you can view the report, evaluate the interpretation done by another radiologist, indicate the actions taken, add any comments regarding the review, and then send email notifications of discrepant reviews to the required people.

The Peer Review worklist supports grouped procedures, so if your IntelePACS is configured to use them, a single peer review can relate to multiple procedures within an order, as selected by the dictating radiologist.

The Peer Review worklist is refreshed automatically every 5 minutes. The default refresh value can be configured by Intelerad Technical Support. Please contact the Intelerad Technical SupportCenter for more information.

You can also refresh the list yourself by clicking the Refresh Worklist button or by pressing **F5**.

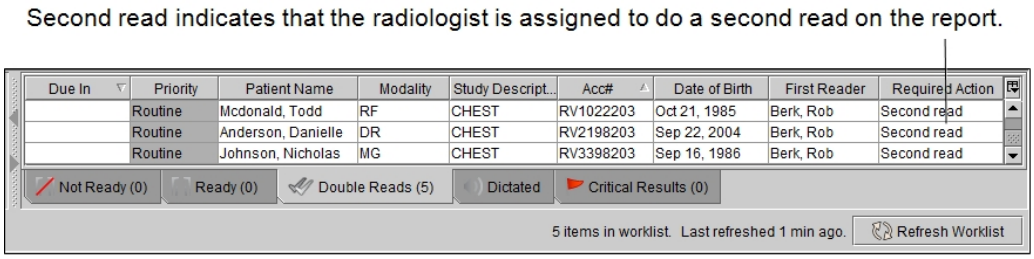
InteleViewer automatically removes any peer review requests from the Peer Review worklist that are older than 90 days to avoid performance degradation over time. This may be the case if, for example, a reviewing radiologist has taken a leave of absence, and peer review requests continue to accumulate on the radiologist's worklist.

The maximum age of a report that can appear in the Peer Review worklist is configurable. To change the default value, contact your PACS administrator.

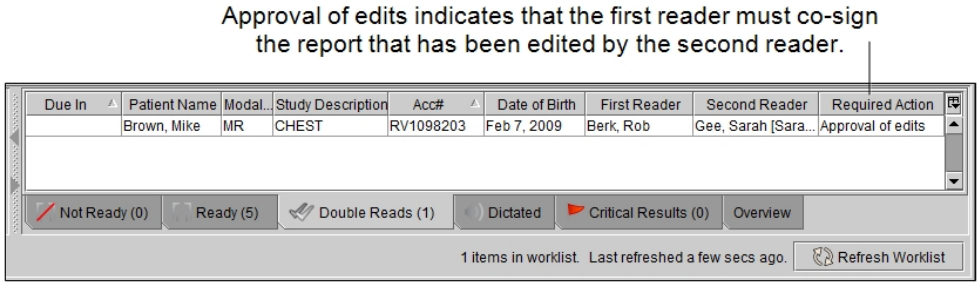
Understanding the Double Reads Worklist

The Double Reads worklist provides access to reports to review. When you select a report from the Double Reads tab, the Double Reading form is displayed in the Patient Record tab.

The second reader in the Double Reading workflow will see the reports that have been created and signed by the first reader, and are now ready to review.



The first reader will see the reports that require their approval.



To use this feature, ask your PACS administrator to enable the Dictating Reports and Reporting Worklist privileges and assign a RIS ID in your user account.

See Also

Understanding the Double Reading Workflow 612
About Review Worklist Columns 607

Showing and Hiding Columns 608

About Review Worklist Columns

The Peer Review worklist columns display information for reviewing radiologists.

The Double Reads worklist columns display who is assigned to the report and what actions need to be taken for that report, as well as the other information that is useful for the reviewing radiologists.

You can view the following columns specific to the Peer Review worklist and the Double Reads worklist.

First Reader—Displays name of the radiologist who performed the diagnosis and signed the report first in the double reading workflow. This column is displayed in the Double Reads worklist only.

Flagged—Displays the date and time the peer review was assigned to the reviewing radiologist by the PRAE. This column is displayed in the Peer Review worklist only.

PACS Assignment First Read—Displays the name of the radiologist who was assigned by the IntelePACS to perform the first read of the report for this order. This column will be empty if the name of the radiologist is defined by the RIS directly. This column is displayed in the Double Reads worklist only.

Patient Gender—Displays the gender of the patient: M (Male), F (Female), or O (Other).

Required Action—Displays the action required for the report. The Second read action indicates that the report is waiting for a review and signature by the second reader. The Approval of edits action indicates that the first reader must sign the edited report. This column is displayed in the Double Reads worklist only.

RIS Assignment First Read—Displays the name of the radiologist who was assigned by the RIS to perform the first read of the report for this order. This column is displayed in the Double Reads worklist only.

Second Reader—Displays name of the radiologist who is assigned to perform the second review of the report in the Double Reading workflow. This column is displayed in the Double Reads worklist only.

See Also

Filter and Column Descriptions 283

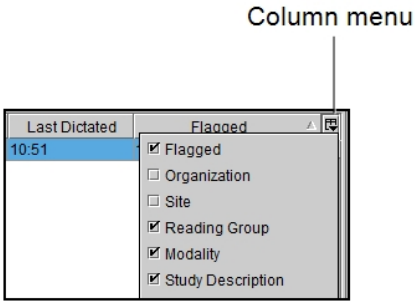
Showing and Hiding Columns

You can choose which columns of information appear in the Peer Review worklist or the Patient History panel. Any changes you make to the columns visibility are saved automatically, and roam with the general profile.

To show and hide columns:

1. Click the Column menu or right click anywhere in the column heading.

   All available columns appear, and a check mark next to a column name indicates that it is currently being displayed.



2. Select a heading to show or hide the column.

Sorting the Peer Review Worklist

You can sort peer reviews in the Peer Review worklist to find the peer review you require. For example, you can sort peer reviews by the flagged date in descending orders to view your most recently assigned peer reviews at the top of the list.

You can also sort the Peer Review worklist by primary, secondary, and tertiary criteria. An arrow appears in the column heading to indicate the primary column and whether it is in ascending or descending order (secondary and tertiary sorting is applied, but no icon appears).

Each time you click a column it moves to the first place in the sort order, and any previously-clicked columns move down one level. Clicking the same column more than once switches between ascending and descending order, but does not affect the sort order.

For example, to sort columns primarily by the peer review flagged date and secondarily by the organization, first click the Flagged column and then click the Organization column.

The sorting criteria and the sort order is saved automatically when you exit InteleViewer.

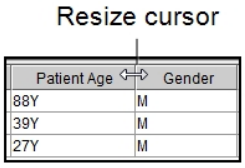
Customizing the Column Layout

You can resize, hide, display, and customize the position of all columns in the Peer Review worklist or the Patient History panel. Any changes you make to the layout are saved automatically.

The width and order of the columns in the Peer Review worklist and the visibility setting of the horizontal scroll bar roam with the general profile.

To resize columns:

1. Place your cursor over the column heading, near the divider between columns.

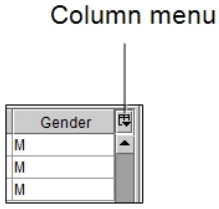


   The cursor changes to indicate you can resize it.

2. To resize the column, do one of the following:

Do this:	To:
Drag Left	Reduce the column width.
Drag Right	Increase the column width.
Double-click	Automatically adjust the column width to match the widest element.

3. To automatically adjust the width of columns to match the widest element, click the Column menu and choose Pack All Columns or Pack Selected Column.



To change column position:

1. Click the heading of the column whose position you want to change and drag it to the new position.
2. When you reach the required column position, release the mouse button.

   The column is moved to the selected location.

To display a horizontal scroll bar:

- Click the Column menu and choose Horizontal Scroll.

  The horizontal scroll bar appears at the bottom of the Peer Review worklist.

Resident Over-Reads Workflows

Often in teaching hospital environments, radiologists are responsible to review, provide feedback on, and sign the reports for the residents or fellows that they supervise. To do this, they use a *resident/attending workflow* or a *resident/fellow/attending workflow*. The Resident Over-Reads module is used to perform these two workflows. Your IntelePACS may use another term for resident, fellow, and attending. For more information, contact your PACS administrator.

The Resident Over-Reads module is only available for the Multi-Method Reporting (MMR) dictation systems. Also, ask your PACS administrator to configure your user account to access the Resident Over-Reads module.

In the resident/fellow/attending workflow, a preliminary report is signed by the resident first, then the fellow can review, correct, and sign the report. Finally the attending can review, correct, and sign the report. The report becomes final after the attending has signed it.

For the resident/attending workflow, the resident has the option to select only an attending to review, correct, and sign the preliminary report. The report is in preliminary state until the attending radiologist reviews, corrects, and signs it, at which point it becomes final.

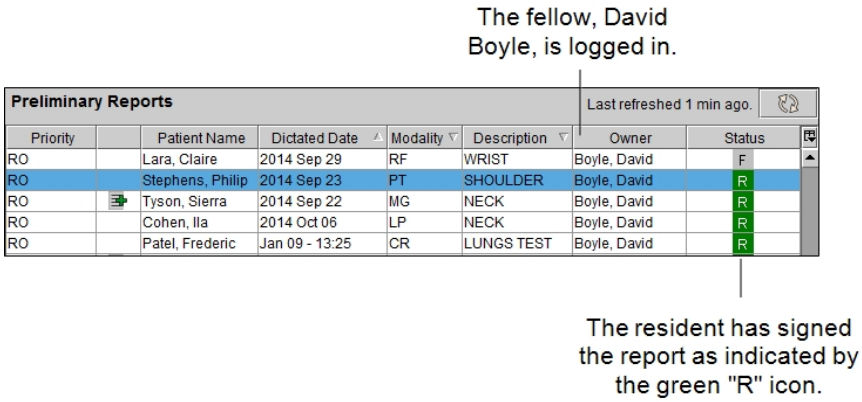
Both the fellow and attending radiologists can provide feedback on the report to the radiologists reporting to them.

When a preliminary report requires an immediate review, a fellow can supersede the resident that is assigned to the report and sign the report. Similarly, an attending can

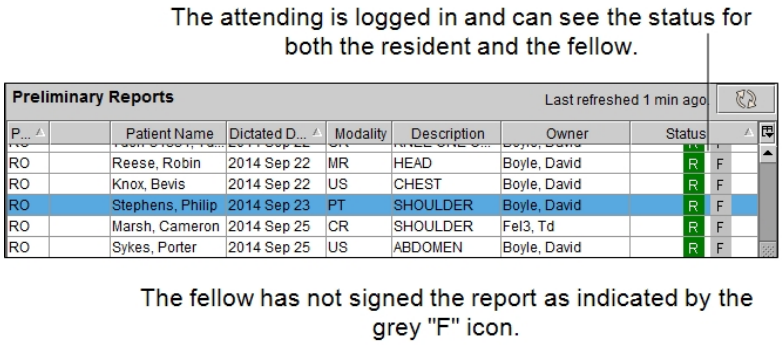
supersede both the resident or fellow who are assigned to the report and give the final signature.

In the Signing worklist, the Preliminary Reports table displays who is assigned the report in the Owner column. The table also displays the signature status of the report in the Status column.

In the following example, a resident has approved a report. The report is now ready for the fellow to review.



In the next example, the attending can still sign the report even though it has not been approved by the fellow.



Once the report receives a final signature, it is removed from the attending's Signing worklist.

See Also

Selecting a Fellow or Attending 669
Reassigning Reports 673

Providing Feedback 674
Preliminary Reports Table 594

Understanding the Double Reading Workflow

IntelePACS can be configured to support diagnosis by two radiologists. For example, specific exams, such as mammographies, can be assigned two readers. The Acquisition Traffic Controller (ATC) assigns these exams through their faciilty's third-party RIS.

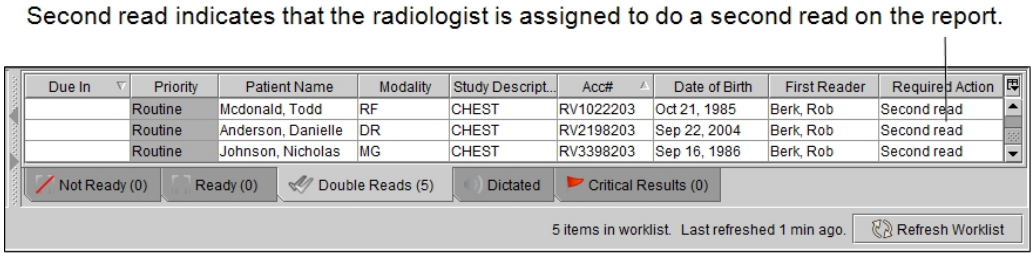
The double reading workflow is only available for reports dictated using a Multi-Method Reporting (MMR) system .

In the double reading workflow, the ATC assigns two radiologists to a case before the final report is sent out. The first reader is the dictating radiologist and the second reader is the reviewing radiologist.

To use this feature, ask your PACS administrator to enable the Dictating Reports and Reporting Worklist privileges in your user account.

The first reader opens the report for dictation from the Ready tab in the Reporting worklist. The Second Reader column displays the name of the second reader who is assigned to review the report.

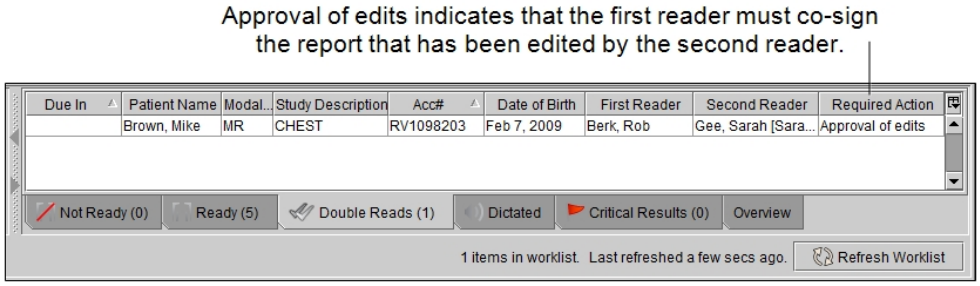
After the first reader dictates and signs their report, it is removed from his or her worklist and is sent to the second reader's Double Reads worklist.



The second reader sees the report in his or her Double Reads tab in the Reporting worklist. The report to review is indicated with a Second read status in the Required Action column. The second reader has access to the images, prior reports, and patient history.

If a report is co-signed by the second reader with a concurrent score, it becomes final.

If a discrepancy is found in the report, the second reader edits the report and provides a score and comments, and if needed, changes the diagnostic code before signing it. The report is re-assigned to the first reader to review and co-sign. The report is displayed in the first reader's Double Reads worklist with an Approval of edits status in the Required Action column. After the report is co-signed by the first reader, it becomes final.



The first reader will receive an email notification when a report dictated by him or her has been closed by the quality committee.

Your PACS administrator can configure which first readers will receive an email notification to approve a review performed by a second reader. The email contains a link to the Peer Review portal where the first reader can see the original report and the score given by the second reader. The first reader cannot approve the report from the Peer Review portal. The first reader can launch InteleViewer from the Peer Review portal to review the changes and co-sign the report. For more information on customizing the Peer Review template and configuring notifications, see the *IntelePACS Administrator Guide*.

See Also

Edited Reports in a Double Reading Workflow 616
Reviewing Reports in a Double Reading Workflow 613
Understanding the Double Reads Worklist 606

Reviewing Reports in a Double Reading Workflow

After the first reader dictates and signs a report in the double reading workflow, it is displayed in the second reader's Double Reads worklist. The Required Action column displays Second Read to indicate that the second reader must review the report.

If the report does not require any changes, the second reader co-signs the report, at which point it becomes final.

If a discrepancy is found in the report, the second reader edits the report, can change or add a diagnostic code, provides a score and comments, and then signs it. The report is reassigned to the first reader to review and to co-sign, at which point it becomes final.

To review a report in the Double Reading workflow as a second reader:

1. From the Double Reads tab of the Reporting worklist, open the report to review.

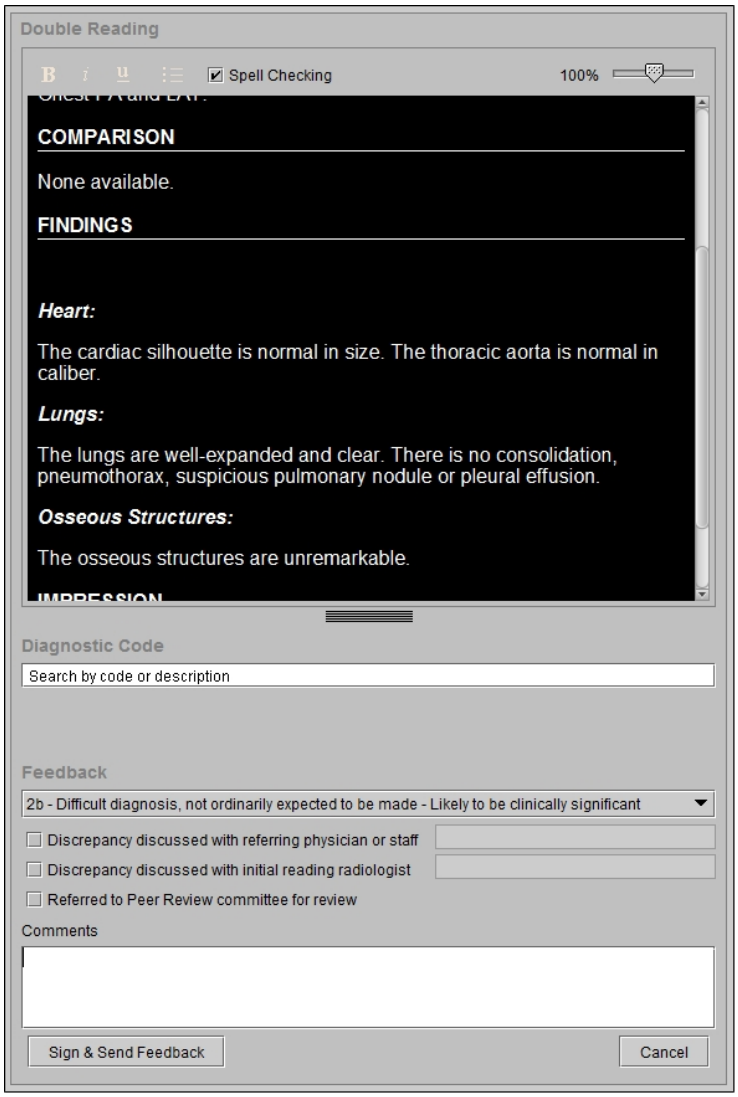
   The report is displayed in the Patient Record tab.

2. If you do not want to make any changes to the report, click Co-sign.

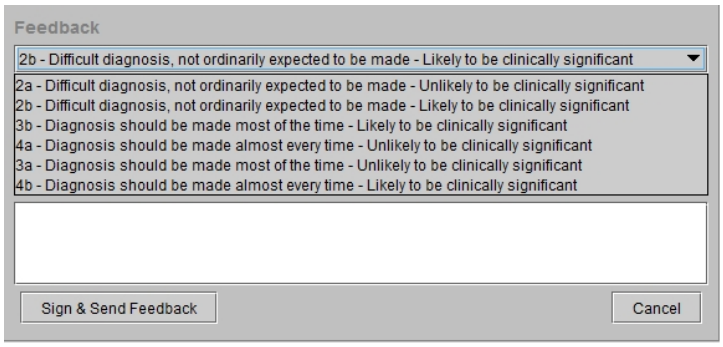
   The report is final and is removed from your worklist.

3. If you found a discrepancy in the report, click Edit.

   The Double Reading panel expands and the report becomes editable.



4. To add or change a diagnostic code, in the diagnostic code field, search and enter the new code and description and then press **ENTER**. See "Selecting a Diagnostic Code" on page 1.
5. In the Feedback panel, select a score from the list.



Depending on the score that you selected, the first reader may have to review and co-sign the edited report.

The PACS administrator configures which scores will require a signature by the first reader. See the *Peer Review Administrator Guide*.

6. Select the check box that best represents the actions you took as a result of the review, and enter a comment, if required.

   If you selected a score that requires a comment, the Comments field label will display (Required) in red, and the Sign & Send Feedback button becomes inactive. Once you have entered a comment, the Sign & Send Feedback button is active.

7. Click Sign & Send Feedback.

   Once you sign the review, you cannot delete it.

   The report is removed from your Double Reads worklist. If the score you selected requires an approval by the first reader, it is still in preliminary state. Otherwise, the report is final.

See Also

Edited Reports in a Double Reading Workflow 616
Understanding the Double Reading Workflow 612
Linking Orders 326
Understanding the Double Reads Worklist 606

Edited Reports in a Double Reading Workflow

As the first reader in the double reading workflow, you may have reports to approve and sign that have been reviewed and co-signed by a second reader. If your PACS administrator has configured certain scores to trigger approval of edits, and the second

reader has selected a score that merits an approval, you will see the report displayed in the Double Reads worklist indicated by the Approval of edits action in the Required Action column. For information on configuring the scores that will require an approval by the first reader, see the *Peer Review Administrator Guide*.

The PACS administrator also configures the scores, also known as opinions, and which scores trigger a notification. You may get an email notification indicating that one of your double reading reports received a score that requires a review and approval. The email contains a link to the Peer Review portal, where the original report is displayed. To view the edited report and provide a final signature, launch InteleViewer.

When you launch InteleViewer, the preliminary report is displayed in the Patient Record tab, but you cannot co-sign it. Close the report, open it from the Double Reads worklist, and then co-sign it.

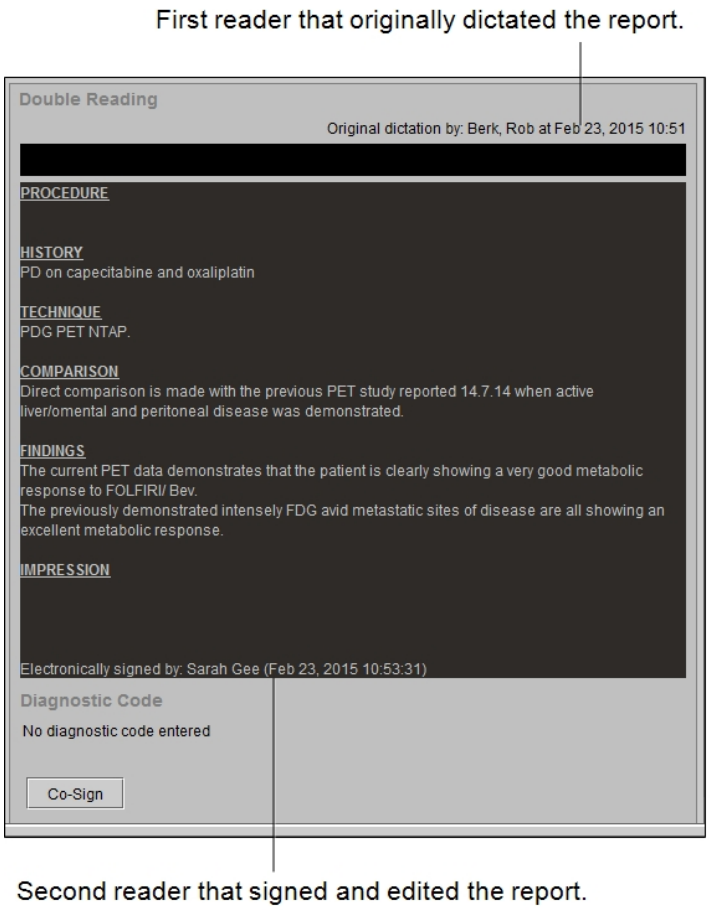
The scores (opinions and actions) used for double reading are the same as those used for peer review. Any change performed to the scores and the notifications they trigger impact both the Double Reading and Peer Review features. For more information on customizing the Peer Review template, see the *IntelePACS Administrator Guide*.

To review and approve the edited report in InteleViewer:

1. From the Reporting Worklist Module, click the Double Reads tab.
2. Open the report you want to approve.

   The report is displayed in the Patient Record Tab.

   The first and second reader signatures are displayed in the report.



3. Review the changes made by the second reader.
4. To approve the changes, click Co-sign.

   The report is final and is removed from your worklist.

   If you disagree with this report, contact your PACS administrator and the reviewer to resolve the disagreement.

See Also

Understanding the Double Reading Workflow 612
Reviewing Reports in a Double Reading Workflow 613
Understanding the Double Reads Worklist 606

Peer Review Workflows

Peer review is an essential component of a comprehensive radiology department quality assurance program. The peer review workflow provides a useful mechanism for evaluating the diagnostic accuracy of radiologists' reports. InteleViewer provides three types of peer review workflows for evaluating interpretations done by other radiologists. Your IntelePACS can be configured to use several peer review workflows providing greater efficiency and accuracy in the interpretation of reports.

InteleViewer provides the following types of peer review workflows:

Peer Review Workflow	Description
Ad-Hoc	• Radiologists randomly select reports to peer review at any time. • Peer reviews are not automatically flagged for review or automatically assigned to a suitable reviewing radiologist. • Peer reviews do not count toward the radiologist's peer review performance objective.
Flagged	• Recently relevant reports are automatically flagged for review when radiologists open orders for dictation. • Peer reviews are randomized via an automated quota system that ensures an even distribution of evaluations across the entire IntelePACS installation. • Ideal for historical or educational evaluation of prior reports. • Peer reviews count toward the radiologist's peer review performance objectives. Your IntelePACS can be configured to support the flagged peer review workflow in a RIS-driven workflow. For more information, contact the Intelerad Technical SupportCenter.
Assigned	• Recently dictated reports are automatically assigned to specific radiologists and appear in their Peer Review worklist. • Reports are generally evaluated shortly after distribution and provide a close-to-real-time feedback loop with radiologists, facilitating peer review and measuring your IntelePACS installation performance.

Peer Review Workflow	Description
	• Ideal for a timely, interventionist approach that is effective in changing the course of patient care for clinically significant discrepancies. • Peer reviews count toward the radiologist's peer review performance objectives.

See Also

Assigned Peer Review Workflow 621
Flagged Peer Review Workflow 620
Ad Hoc Peer Review Workflow 620

Ad Hoc Peer Review Workflow

In an ad-hoc peer review workflow, radiologists randomly select reports to peer review at any time. Discrepant peer review findings are escalated to the Quality Control manager and Quality Committee for evaluation and completion of the reviews.

See Also

Assigned Peer Review Workflow 621
Flagged Peer Review Workflow 620

Flagged Peer Review Workflow

In a flagged peer review workflow, the PACS administrator or Quality Control manager assigns a peer review quota for radiologists. Requests to perform a peer review are presented to radiologists within their regular reading and reporting workflow. Radiologists that have not yet met their peer review quota targets are requested to conduct a peer review when they open a current study with a prior that has been marked for review. They have the option to perform the peer review or to reject it.

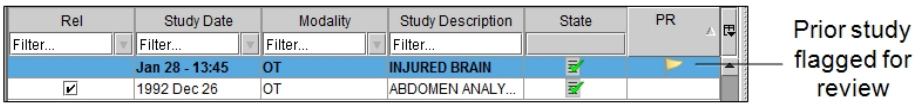
For InteleViewer to flag a comparison of the same normalized procedure code or the same normalized modality, your PACS administrator must configure Study Classifier.

InteleViewer flags a recent relevant report for review when it meets all the following criteria:

- Has the same normalized procedure code or the same normalized modality as the current order.
- Matches all the conditions defined in a peer review quota rule that has not yet been met.
- The dictating radiologist has not yet met peer review performance objectives.
- The dictating radiologist is not currently in a grace period.
- The dictating radiologist has not exceeded his or her maximum daily limit of peer review suggestions.
- The report has not been reviewed.

Your PACS administrator or Quality Control manager defines the quota objectives for reviewing radiologists, as well as the quota rules. For more information, contact your PACS administrator.

InteleViewer marks relevant prior studies for peer review with a yellow flag icon in the peer review column in the Patient Record tab.



See Also

Assigned Peer Review Workflow 621
Ad Hoc Peer Review Workflow 620

Assigned Peer Review Workflow

In an assigned peer review workflow, the Peer Review Assignment Engine (PRAE) automatically assigns a suitable reviewing radiologist for recently dictated reports. The PRAE matches reviewing radiologists to reports based on the following criteria: specialty, quota objective, quota performance, and availability. The reports appear in the assigned reviewing radiologist's Peer Review worklist in InteleViewer. The reviewing radiologist opens the order from the Peer Review worklist and performs the peer review.

In an assigned workflow, a report appears in a reviewing radiologist's Peer Review worklist if it meets all of the following criteria:

- Automatic assignment to the reviewing radiologist by the PRAE.
- The report matches the peer review quota rules.
- The reviewing radiologist has not met his or her peer review performance objective.
- The report has not been reviewed.

For specialty orders, PRAE assigns reviews to radiologists with matching specialty qualifications. For example, a neuroradiology order is assigned to a neuroradiologist. For non-specialty orders, classified as general radiology orders, all reviewing radiologists have equal preference, with respect to specialty qualification.

Your PACS administrator must create a mapping table that assigns normalized procedure codes to specialties. Normalized procedure codes that cannot be matched to a specialty are assigned to the general radiology specialty. PRAE uses the normalized procedure code-to-specialty mappings in the table to assign an order to a specialty. Orders for patients that are less than 18 years old are automatically assigned to a radiologist with a pediatric specialty. To change the default age, contact the Intelerad Technical SupportCenter.

See Also

Flagged Peer Review Workflow 620
Ad Hoc Peer Review Workflow 620

Reviewing Reports in an Ad-Hoc Workflow

In an ad-hoc peer review workflow, a reviewing radiologist selects a report to peer review.

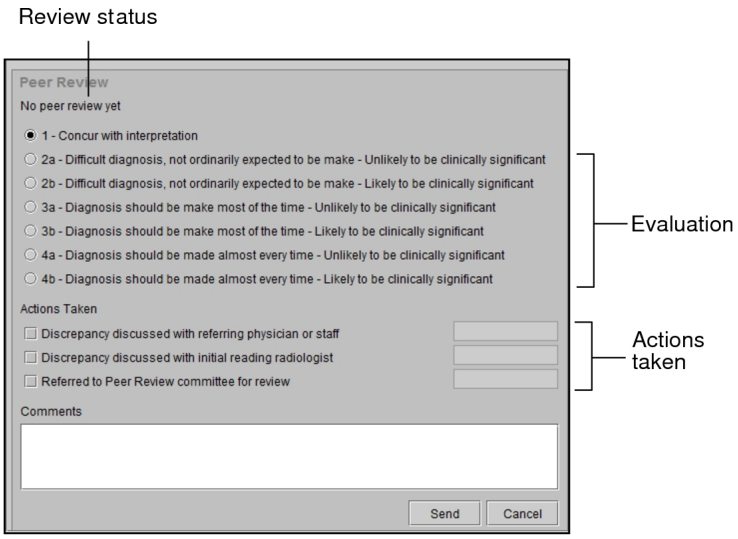
Your PACS administrator or Quality Control manager configures the opinions and actions that appear in the peer review form, as well as the opinions that require a comment. By default, seven opinions appear which are based on the American College of Radiology's (ACR) standardized four-point rating scale, where 1 means a correct diagnosis and 4 means an obvious misinterpretation.

To review a report in an ad-hoc workflow:

1. Do one of the following:
    - From the Worklist tab, open an order and then select a prior order that has a report dictated by another radiologist. See "Opening Orders" (page 301).
    - From the Search tab, search for and open a study. See "About Searching for Studies" (page 249).

2. In the Peer Review section of the Patient Record tab, click New.

   The peer review form appears.



3. Select the opinion that best represents your evaluation of the interpretation.
4. In Actions Taken, select the check box that best represents the actions you took as a result of the review.
5. To add general comments regarding your review, enter them in the Comments field.

   If you selected an opinion that requires a comment, the Comments field label will display (Required) in red, and the Send button becomes inactive. Once you have entered a comment, the Send button is active.

6. Click Send.

   The review is sent to the IntelePACS server, and the order remains opened. The Peer Review section displays the message “A peer review has been done” to indicate that the review was successfully sent.

   If you close the Patient Record tab before completing the peer review, a message appears indicating that the report has not been signed and that there is an unsent peer review. Click Sign to sign the report and to send the review to the IntelePACS server.

   Depending on the opinion selected for the review, a notification email is sent to inform the required people of a discrepant or concordant peer review finding. Your

PACS administrator or Quality Control manager configures the evaluation options which trigger automatic notifications of discrepant or concordant reviews.

See Also

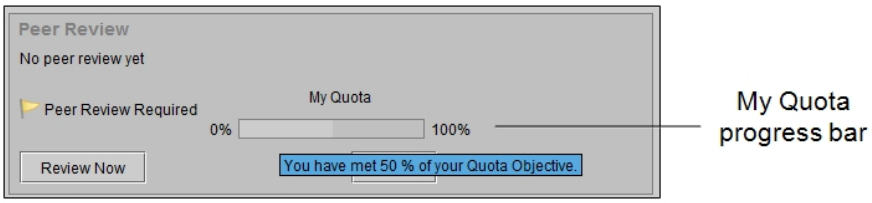
Reviewing Reports in an Assigned Workflow 626
Reviewing Reports in a Flagged Workflow 624

Reviewing Reports in a Flagged Workflow

In a flagged peer review workflow, a report is automatically flagged for review when a dictating radiologist opens an order for dictation. The radiologist can choose to perform or decline the peer review request.

Your PACS administrator or Quality Control manager assigns a peer review quota for all radiologists in your facility.There may be instances in which your facility may want to assign a specific peer review quota for a radiologist. For example, your facility may assign a quota of 100% for a radiologist starting to read for a new specialty.

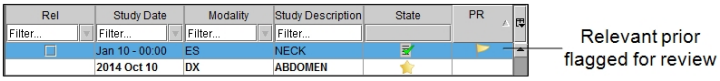
When you open an order for dictation, the Peer Review section in the Patient Record tab displays a progress bar that shows the percentage of your peer review quota objective. By hovering the mouse cursor over the bar, you can see the current percentage of your quota objective.



Your PACS administrator or Quality Control manager also defines the maximum number of reviews to be completed by each radiologist in a day. The default is five reviews per radiologist per day.

To review a report in a flagged workflow:

1. In the Patient Record tab, select the prior study that has been flagged for review.



2. In the Report section, click Show Report to display the prior report text.

3. In the Peer Review section, select the opinion that best represents your evaluation of the interpretation.
4. In Actions Taken, select the check box that best represents the actions you took as a result of the review.
5. To add general comments regarding your review, enter them in the Comments field.

   If you selected an opinion that requires a comment, the Comments field label will display (Required) in red, and the Send button becomes inactive. Once you have entered a comment, the Send button is active.

6. Click Send.

   The review is sent to the IntelePACS server, and the order remains opened. The Peer Review section displays the message “A peer review has been done” to indicate that the review was successfully sent.

   If you close the Patient Record tab before completing the peer review, a message appears prompting you to conduct a peer review. You can either perform the review or decline the review before closing the tab.

   Depending on the opinion selected for the review, a notification email is sent to inform the required people of a discrepant or concordant peer review finding. Your PACS administrator or Quality Control manager configures the evaluation options which trigger automatic notifications of discrepant or concordant reviews.

To decline to review a report in a flagged workflow:

- In the Peer Review section, select Reject.

  Your PACS administrator or Quality Control manager defines a *grace period* for declined peer review requests. The grace period is the number of times that you can decline consecutive peer review requests so that you are not automatically prompted to perform peer reviews for a specified time duration (in hours). By default, if you decline five consecutive peer review requests, you will not be prompted to perform peer reviews for one hour.

See Also

Reviewing Reports in an Assigned Workflow 626
Reviewing Reports in an Ad-Hoc Workflow 622

Reviewing Reports in an Assigned Workflow

In an assigned peer review workflow, a completed report is automatically assigned by the PRAE to a suitable radiologist and appears in the reviewing radiologist's Peer Review worklist. The radiologist opens the order from the Peer Review worklist, and reviews the report.

To review a report in an assigned workflow:

1. Click the Peer Reviews tab to view the Peer Review worklist.

   The Peer Review worklist displays a list of peer reviews that have been assigned to you by the PRAE.

2. Sort the Peer Review worklist, if necessary, to find the peer review you require. See “Sorting the Peer Review Worklist" (page 608).

   By default, the Peer Review worklist is sorted by the flagged date and time in ascending order.

3. In the Peer Review worklist, right-click the peer review and choose Review Now, or double-click the peer review.

   The order is opened for peer review. A yellow flag icon appears in the peer review column in the Patient Record tab, and the Peer Review section appears.

4. In the Report section, click Show Report to display the report text.
5. In the Peer Review section, select the opinion that best represents your evaluation of the interpretation.
6. In Actions Taken, select the check box that best represents the actions you took as a result of the review.
7. To add general comments regarding your review, enter them in the Comments field.

   If you selected an opinion that requires a comment, the Comments field label will display (Required) in red, and the Send button becomes inactive. Once you have entered a comment, the Send button is active.

8. Click Send.

   When you click Send, the review is sent to the IntelePACS server, the order is closed, and the Peer Review worklist is refreshed.

Any pending reviews in the Peer Review worklist will be remembered the next time you start InteleViewer.

Depending on the opinion selected for the review, a notification email is sent to inform the required people of a discrepant or concordant peer review finding. Your PACS administrator or Quality Control manager configures the evaluation options which trigger automatic notifications of discrepant or concordant reviews.

To decline to review a report in an assigned workflow:

- In the Peer Review worklist, right-click the peer review and then choose Reject.

  The peer review is removed from the Peer Review worklist, and the PRAE reassigns the peer review to another suitable reviewing radiologist.

See Also

Reviewing Reports in a Flagged Workflow 624
Reviewing Reports in an Ad-Hoc Workflow 622

15 COMMUNICATING

InteleViewer offers several methods for communicating with colleagues.

In this chapter:

About Communicating 629

Messaging 629

Using Notes 640

Communicating Critical Results 643

Communicating Impressions 657

About Communicating

In a typical radiological workflow, you need to quickly communicate general clinical impressions or critical findings to referring physicians, or send links to patient studies to request a second opinion from other radiologists. There are several methods that you can use to communicate with colleagues.

To:	Use this communication method:
Initiate chat sessions with colleagues, or send links to patient studies to request a second opinion from other radiologists.	Messaging
Communicate with a technologist or radiologist about an order.	Notes
Deliver and confirm critical findings to referring physicians.	Critical Results
Communicate general clinical impressions to physicians in an emergency department.	Impressions

See Also

Messaging 629
Using Notes 640
Communicating Critical Results 643
Communicating Impressions 657

Messaging

You can quickly initiate secure, encrypted chat sessions with colleagues by using the Messaging feature. These colleagues might include PACS administrators, referring physicians, technologists (also known as radiographers), and other radiologists. For example, a referring physician has examined his patient and suspects intracranial hemorrhaging. He wants to order an imaging exam, but is not sure if it would be better to send the patient for a head CT scan or brain MRI. By using InteleConnect EV, the referring physician initiates a chat session with the radiologist and sends her a link to the patient's study. The radiologist sees the message and clicks the link to open the study in InteleViewer. The radiologist views the study and sends a message to the referring physician that a non-contrast CT of the brain would be the best exam for the patient to identify an acute intracranial hemorrhage.

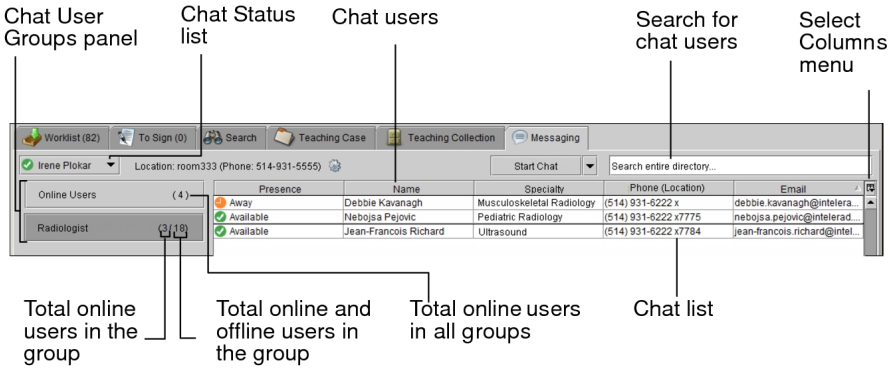
The Messaging feature is an invaluable tool for:

- finding the colleagues with whom you want to communicate
- sending messages to offline recipients
- broadcasting messages to multiple recipients
- viewing which colleagues are online or offline
- obtaining a colleague's telephone number
- sending links to patient studies to provide or request a second opinion
- setting your status to available, busy, or away
- knowing where a colleague is currently situated

To use this feature, ask your PACS administrator to enable the Messaging privilege in your user account and in the user accounts of the people with whom you want to communicate.

Understanding the Messaging Tab

The Messaging tab contains a list of all chat users, their current status, name or alias, specialties, current room location and telephone number, department, personal telephone number, and email address. Use this tab to initiate conversations, send messages to offline recipients, broadcast to multiple recipients, send links to studies to colleagues, request telephone numbers, and copy email addresses.



You can filter the Chat list to display only the information and the group of users you require. To sort the columns in the Chat list, click a column heading. By default, the table is sorted by last name, first name in ascending order, but displayed by first name, last name in the Name column. To reverse the sort order, click the column heading again. To change the columns that appear in the list, click the Select Columns icon then enable or disable the names of the columns to display.

You will see several groups of chat users located in the Chat User Groups panel. Your primary role determines which groups you will see. Your PACS administrator configures your primary role in your user account.

The type of user that appears by default in the Chat User Groups panel depends on your role. The table below describes who each primary role can view:

If your primary role is:	You can view:
Radiologist	Other radiologists, technicians, administrators, transcriptionists, and customized roles (such as “chief-tech” or “clerk,” for example).
Referring physician (or “Clinician”)	Only radiologists.
Technician	Other technicians, radiologists, customized roles, administrators, and transcriptionists.
Administrator	Other administrators, technicians, radiologists, transcriptionists, and customized roles.
Transcriptionist	Other transcriptionists, technicians, radiologists, administrators, and customized roles.
A customized role	Other customized roles, radiologists, technicians, transcriptionists, and administrators.

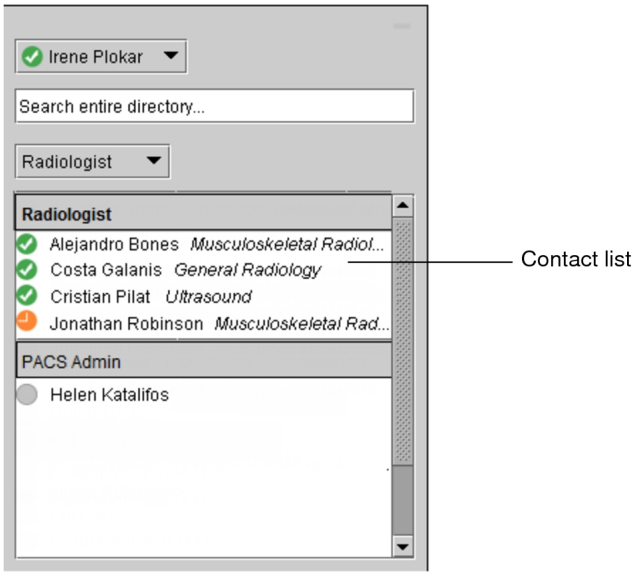
You can search for and send messages to users assigned any primary role regardless of your primary role. However, only the above-specified users appear in your Chat User Groups panel by default.

If you send a message to a user who is not included in any of your default groups, InteleViewer automatically adds that user to a new group in the panel. For example, a radiologist sending a message to a referring physician will see a new chat users group called Referring Physicians displayed in the panel with the name of the referring physician added to the group.

You can also remove a chat user from a group, and add them again later.

Understanding the Mini-Chat Window

You can display the Mini-Chat window by clicking the Chat icon in the status bar. The Mini-Chat window is a compact version of the Messaging tab. It allows you to change your chat status, or search for a chat user by name or group.



Right-click a name in the contact list to display a menu with several options that allow you to start a conversation with the selected user, send them a link to the currently opened study, request their telephone number, copy their email address to the clipboard, or remove them from your contact list.

Place your cursor over a name in the contact list to show the selected chat user's telephone number and other summary information.

Understanding Chat Notifications

Chat notifications let you know when you have a new message. When you enable these notifications, the Chat window appears either on top of your InteleViewer window (the default location) or minimized in the Windows taskbar or the Apple Mac Dock. You will also hear a sound when you receive a new message.

See Also

Messaging Preferences 118

Changing your Chat Status

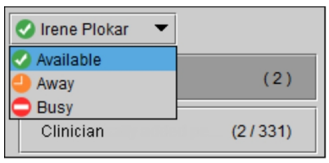
Your chat status controls your availability to chat with your colleagues. When you log in to InteleViewer, your chat status automatically changes to Available. This means that you can send and receive messages and links to current orders. When you exit InteleViewer or lock your session, your status automatically changes to Offline.

Here are the different chat statuses and what they mean:

Icon:	Indicates:
	Available: The user is online and therefore able to send and receive messages.
	Offline: The user is currently offline, but will receive messages when he or she logs in to InteleViewer.
	Away: The user is online, but away from his or her workstation, or is unavailable to chat.
	Busy: The user is online, but does not want to be interrupted.

To change your chat status:

- In the Chat Status list, select the new status.



  Your new status appears next to your name in the Chat Status list. Your colleagues will see your new status in the Presence column of their Chat lists. They will also see your new status in the tab label in the Chat window when they send you a message.

Setting Location Information

You can specify the room in which you are located, as well as its telephone number so that colleagues can find and communicate with you. This information is stored locally on the workstation. Subsequent users that log in to the same workstation will also show the same information.

To set the location information:

1. Click the gear icon on the top left side of the Messaging tab, and choose Edit Location.

   The Edit Location Information dialog appears.

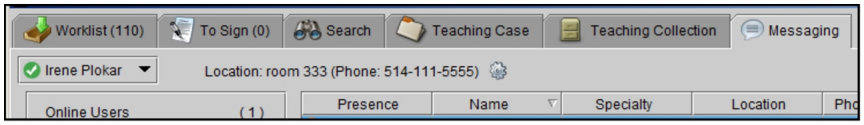
2. In the Location field, enter the room in which you are located.
3. In the Phone Number field, enter the telephone number of the room in which you are located.

Your colleagues will see the location information in their Chat windows.

If the Phone Number field is empty, then the telephone number specified in your user account is displayed in the Chat window.

4. Click Save.

   The location and telephone information appear beside the gear icon, as well as the Location and Phone (Location) columns in the Chat lists of your colleagues.



Updating Contact Information

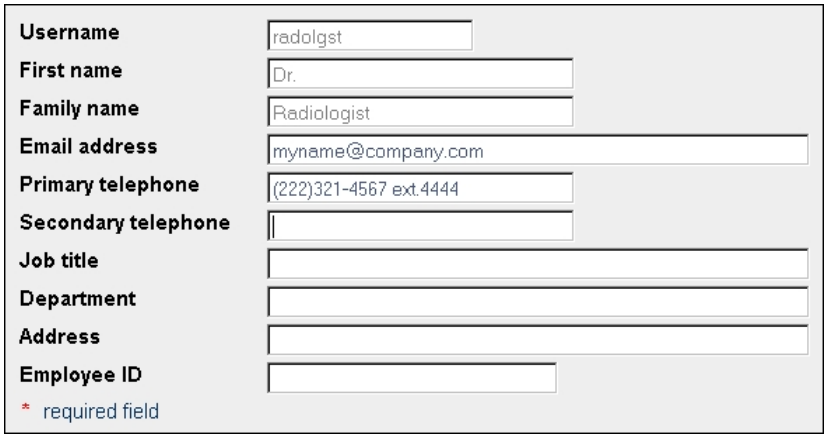
Change your contact information as often as required to keep it current. Your colleagues refer to this information when it is necessary to communicate with you.

To change your contact information:

1. Click the gear icon on the top left side of the Messaging tab, and choose Edit My Profile.

   The My Profile page appears in a new web browser window and displays your account information.

2. Modify your contact information as required. Certain fields, such as the Username field, cannot be modified.



   To discard your changes, click Revert.

3. Click Save.

Your contact information is saved and overrides the information in your user account. Your colleagues will see your updated contact information in their Chat lists the next time they restart InteleViewer.

Searching for Chat Users

You can use the Search field in the top right corner of the Messaging tab to locate a user by name, and send that user a message. The search results will display all users, even those not included in your default chat user groups.

To search for a chat user:

1. In the Search field beside the Start Chat button, type the first few letters of the chat user's first name, middle name, or last name.

   InteleViewer searches for all first, middle, or last names that begin with the specified text. Names that contain the specified text in any other location, such as in the middle of the name, will not be matched. For example, if the specified text is "an," InteleViewer matches the first name "Andrew," but does not match the first name "Alexander."

   The list displays up to ten names along with the user's chat status and department within parentheses. If the chat user does not have a first name, middle name, or last name, then InteleViewer searches for the IntelePACS user name.

   The chat user names and departments appearing in the list are based on IntelePACS user accounts that are assigned the Messaging privilege.

2. In the list, click the name of the chat user or department to open the Chat window.

Starting a Chat Conversation

You can log in to any IntelePACS server and be visible for chatting to all online and offline chat users. In the case of an offline chat user, the next time the chat user logs in to InteleViewer or unlocks his or her session, your message appears as an unread message in the chat user's Chat window.

When you send a message to a user that is not in a group in the Chat User Groups panel, InteleViewer automatically adds the user to a new group.

To start a chat conversation:

1. Find the name of the chat user with whom you want to communicate. See "Searching for Chat Users" (page 635).

2. In the Chat list, do one of the following:

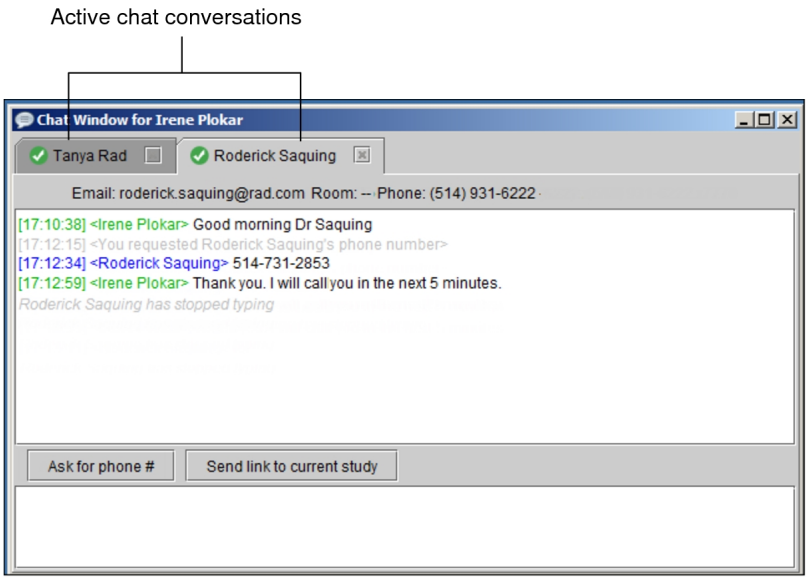
   - Double-click the name of the chat user.
   - Right-click the name of the chat user and then select Start Chat.
   - Click the name of the chat user, and then click Start Chat.

   If a chat user name is not selected in the list, you can click Start Chat, and then find the name of the chat user you want to communicate with in the dialog that appears.

   The Chat window opens displaying the chat user's status, email address, location, and telephone number of the room in which the user is located.

3. Type your message and then press **ENTER** on your keyboard.

   Depending on the theme you selected in your appearance user preferences, the text you enter appears in green or amber font and is identified by your name; the text your colleague enters appears in blue or yellow and is identified by name. A time stamp appears next to the text to indicate the time of the last communication.



   If you are sending a message to the user for the first time, that user will be added to their respective group in the Chat User Groups panel, and will also appear in the Chat list.

   If the user is offline, a message appears in yellow in the middle of the Chat window indicating so, and your message is sent when the chat user is online.

4. To switch to the next tab in the Chat window, press **CTRL+TAB**.

You can communicate with multiple chat users simultaneously. Each chat conversation is contained in a separate tab and the chat history for each conversation is retained until you log out.

5. To end the conversation, do one of the following:

Press this key:	To:
CTRL+W	Close a tab in the Chat window and end the conversation
ALT+F4	Close the Chat window and end the conversation

Removing Chat Users

You can remove users from your Chat list at any time. For example, you would remove a radiologist who leaves the radiology department.

To remove a chat user:

- Do one of the following:
  - Click the user, and then press **DELETE** on your keyboard.
  - Right-click the user and choose Remove.

Broadcasting Messages

You can broadcast messages to all online users of a chat group, a particular specialty, or both. You might want to send messages to inform the users of important information.

To use this feature, ask your PACS administrator to enable the Message Broadcasting privilege in your user account.

To broadcast a message:

1. In the Start Chat list, choose Send Broadcast Message.

   The Send Broadcast Message dialog appears.

2. Use the Recipient field, Specialty checkboxes, or Group checkboxes to select the recipients of the broadcast message.

   The recipients appear in the Recipients area of the dialog.

3. In the Message to Broadcast area, type your message, and click Send.

InteleViewer broadcasts the message to the recipients of the selected groups who are online at the time that the message is broadcast. The message includes the name of the user who sent the message, the message, and the day, date, and time of the message.

Receiving Message Notifications

Each time you receive new messages, the Chat window appears at the top of your InteleViewer window or appears minimized in the Windows taskbar or the Apple Mac Dock, depending on the chat notifications you enabled in your user preferences. A Chat icon also appears in the status bar providing information about the new message.

This chat icon:	Indicates:
	The number of unread messages (up to a value of three).
	More than three unread messages.
	No unread messages. Instead, your chat status appears.

You can click the Chat icon to display the Chat window and read your new messages.

If you are already engaged in another chat conversation when someone sends you a new message, the tab label in the Chat window flashes to indicate that there is a new, unread message from another chat user.

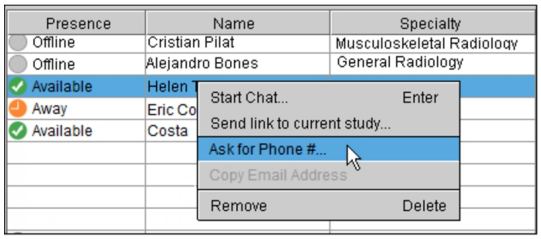
Requesting Telephone Numbers

Use the Messaging feature to request a colleague's telephone number.

To request a telephone number:

- Do one of the following:
  - If you are already engaged in a conversation with a colleague and you would like to obtain his or her telephone number, in the Chat window, click Ask for Phone #.
  - If you are not already engaged in a conversation with a colleague, in the Chat

list, right-click the name of the chat user, and then select Ask for Phone #.



Copying Email Addresses

Use the Messaging feature to copy a colleague's email address so that it can be easily transferred to an email message, for example.

To copy an email address:

1. In the Chat list, right-click the name of the chat user, and then select Copy Email Address.

   The email address is copied to the Windows system clipboard.

2. To paste the information open the email application into which you want to copy the information and press **CTRL+V**.

Sending and Receiving Links to Studies

Requesting a second opinion or providing a second opinion is an invaluable step in the workflow process. The Messaging feature makes it easy for radiologists to send and receive links to current studies from colleagues to request or provide second opinions.

There are several ways to send links to studies. You can send links to studies from the Messaging tab, from the Search tab, the Chat window, and the InteleViewer status bar. Only users who are online can send or receive links to studies.

To send a link to a study:

1. Open a study. See "About Searching for Studies" (page 249).
2. Do one of the following:

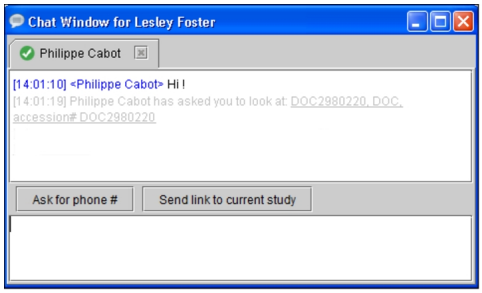
   - From the Search tab, in the Studies or Series list, right-click the study or series, select Send Link to Study, and then select the name of the colleague.
   - From the Messaging tab, in the Chat list, right-click the name of the colleague, and then select Send Link to Current Study.

- From the Chat window, click Send Link to Current Study.
- From the Messaging tab, if you are already engaged in a conversation with a colleague, at the bottom of the Chat window, click Send Link to Current Study.
- From the Messaging tab, if you are not already engaged in a conversation with a colleague, in the Chat list, right-click the name of the colleague, and then select Send Link to Current Study.
- From the Mini-Chat window in the status bar, search for the name of the colleague, then right-click the name and select Send Link to Current Study.

Only the names of colleagues who are online appear in the list.

To open a study sent to you by a colleague:

- In the Chat window, click the link to open the study in InteleViewer.



Using Notes

The Patient Record tab includes sections for different types of notes to communicate additional information to the radiologist. The types of notes displayed depend on your system's configuration.

Order Notes

You can communicate information about an order to a technologist or radiologist by using the Notes section of the Patient Record tab.

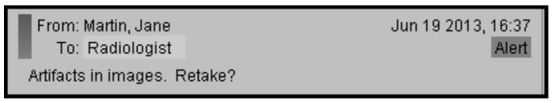
While messages communicated in the Impressions section are used for diagnostic purposes, messages in the Notes section can be used to convey information about images associated with the order. For example, perhaps artifacts are visible in the images, and the technologist leaves a note to the radiologist to explain the cause for such—the patient was not able to receive sedation, for example—and to inquire whether new images are necessary. The radiologist can respond to the technologist's inquiry using the Notes feature.

⚠ You might notice that the From field does not display the name of the user that created the note. If the note originates from a RIS, the display name configured for that RIS is displayed instead of the note author. This name is configured during the integration setup. It is recommended as a best practice that the name of the author be included in the note text when the note is sent from a RIS. For more information, contact the Intelerad Technical SupportCenter.

Order notes are not visible to referring physicians (while notes communicated in the Impressions section are).

Recent notes are displayed before notes created at an earlier time.

If a note is urgent, you can make it an alert. For example, you may want to notify a radiologist of a patient's related medical condition, such as diabetes, or perhaps of a disability. An "Alert" indicator, as well as a red bar, appear beside notes marked as alerts.



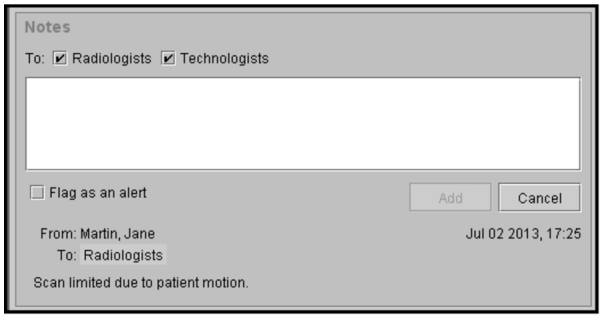
To add an order note:

1. From the Worklist tab, open an order. See "Opening Orders" (page 301).

   The Patient Record tab appears.

2. In the Notes section, click New.

   The Notes section expands to display additional options.

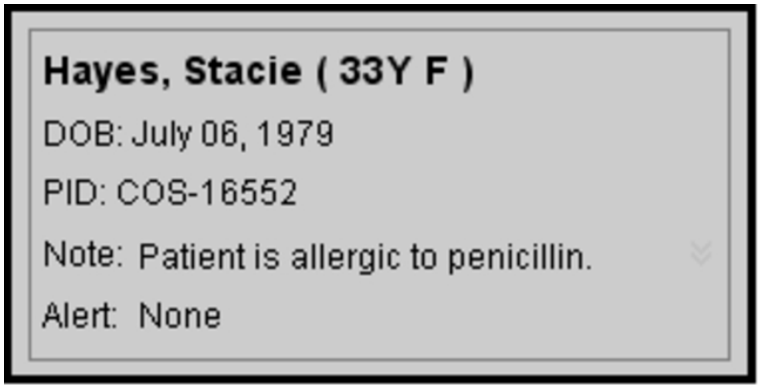


3. To select recipients for the note, in the To field, enable the checkbox associated with a recipient. For example, enable Radiologists.
4. To remove a recipient, disable the check box associated with the recipient.
5. Enter a note in the text box.
6. To make the note an alert, enable the Flag as an alert check box.
7. To cancel the creation of the note, click Cancel.
8. Click Add to add the note.

   The note appears as the first note in the list.

Patient Notes

The patient note section on the Patient Record tab displays notes specifically related to the patient, perhaps entered by a technologist or a front-desk administrator.



Patient notes might include information about allergies to medicines or requirements for a translator. Only the most recent patient note and the most recent patient alert are displayed. Patient notes are created using InteleConnect EV. For more information on creating patient notes, refer to the *InteleConnect User Guide*.

Communication Notes from Clario SmartWorklist

When your system's configuration includes bi-directional support for Clario SmartWorklist, the Patient Record Tab displays a Communication section containing the different types of notes you have configured in your implementation of Clario SmartWorklist. An icon represents each type of note, and the number shown on the icon represents the number of notes of that type listed in the section. The Communication section refreshes automatically every 30 seconds.

Incomplete notes are not visible to other users. Make sure that you finish your notes by clicking OK or Submit or the equivalent depending on your configuration.

To add a note:

1. Open the Patient Record Tab for the patient.
2. In the **Communication** section, click the icon for the type of note that you want to add.
3. Enter the information as required.
4. Click **Submit** or the equivalent depending on your configuration.

To edit a note:

1. In the **Communication** section, click the note you want to edit.
2. Make the changes.
3. Click **OK** or the equivalent depending on your configuration.

Communicating Critical Results

A critical-result communication is required when a radiologist's findings must be delivered to the referring physician in a timely way, and when the delivery of these findings must be confirmed. The findings (for example, a tension pneumothorax) are delivered sooner than the usual process of dictation, transcription, verification, and report distribution. You use the Critical Results feature to record the follow-up actions you took to communicate these findings to the referring physician.

⚠ It is strongly recommended that the radiologist expedite notification of critical findings to the referring physician in a manner that reasonably ensures timely receipt of the findings. It is also recommended that the radiologist rely on an explicit response from the referring physician to confirm that the critical-result communication was successful.

To use this feature, ask your PACS administrator to enable the Communicate Critical Results privilege in your user account.

Guidelines for Implementing a Critical Results Workflow

It is generally recommended that you define a policy for documenting and delivering critical results. This policy provides all concerned users with guidelines that ensure that critical results are successfully communicated to the defined default value or the referring physician.

You should begin by defining critical findings and establishing urgency levels and timelines for communicating critical results. For example, after consulting with your colleagues, you determine the following urgency levels and turn-around times are required for communicating and documenting critical results:

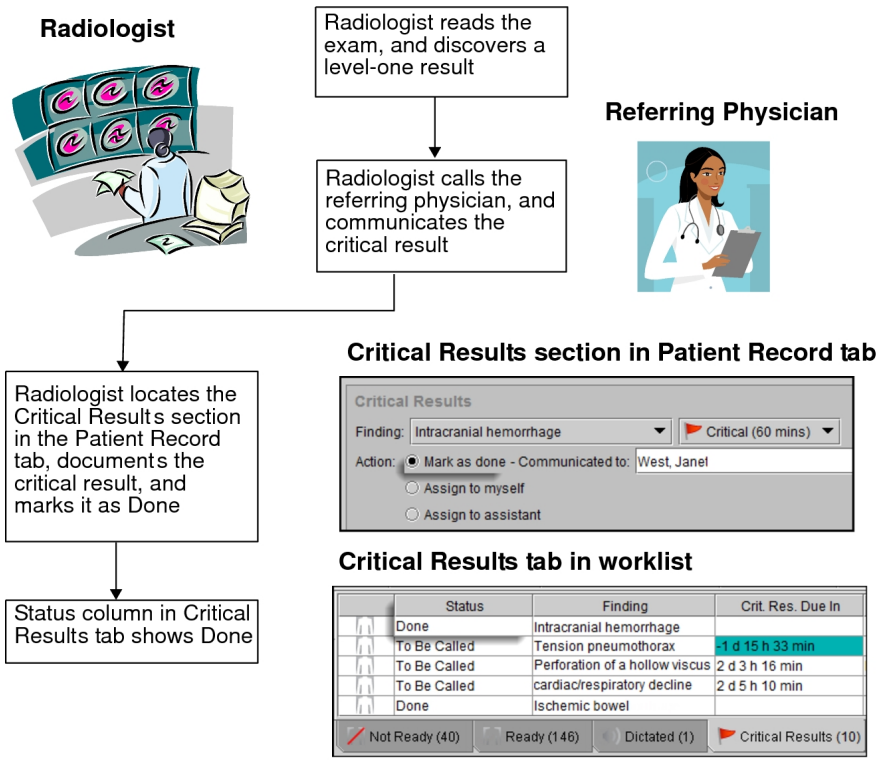
Urgency Level	Definition	Timeline for Communication
Level 1	Findings that are potentially life-threatening, such as intracerebral hemorrhage	Within 60 minutes
Level 2	Findings that could result in mortality or significant morbidity if not appropriately treated urgently (for example, intra-abdominal abscess)	Within 3 hours
Level 3	Findings that could result in mortality or significant morbidity if not appropriately treated—but that are not immediately life-threatening or urgent (for example, lung nodule)	Within 3 days
Level 4	Findings that could result in mortality or significant morbidity if not appropriately treated—but that are not immediately life-threatening, and less urgent than Level 3 (as defined by your organization)	Within 5 days

Critical Results Workflows

There are a few possible workflows for communicating and recording a critical result.

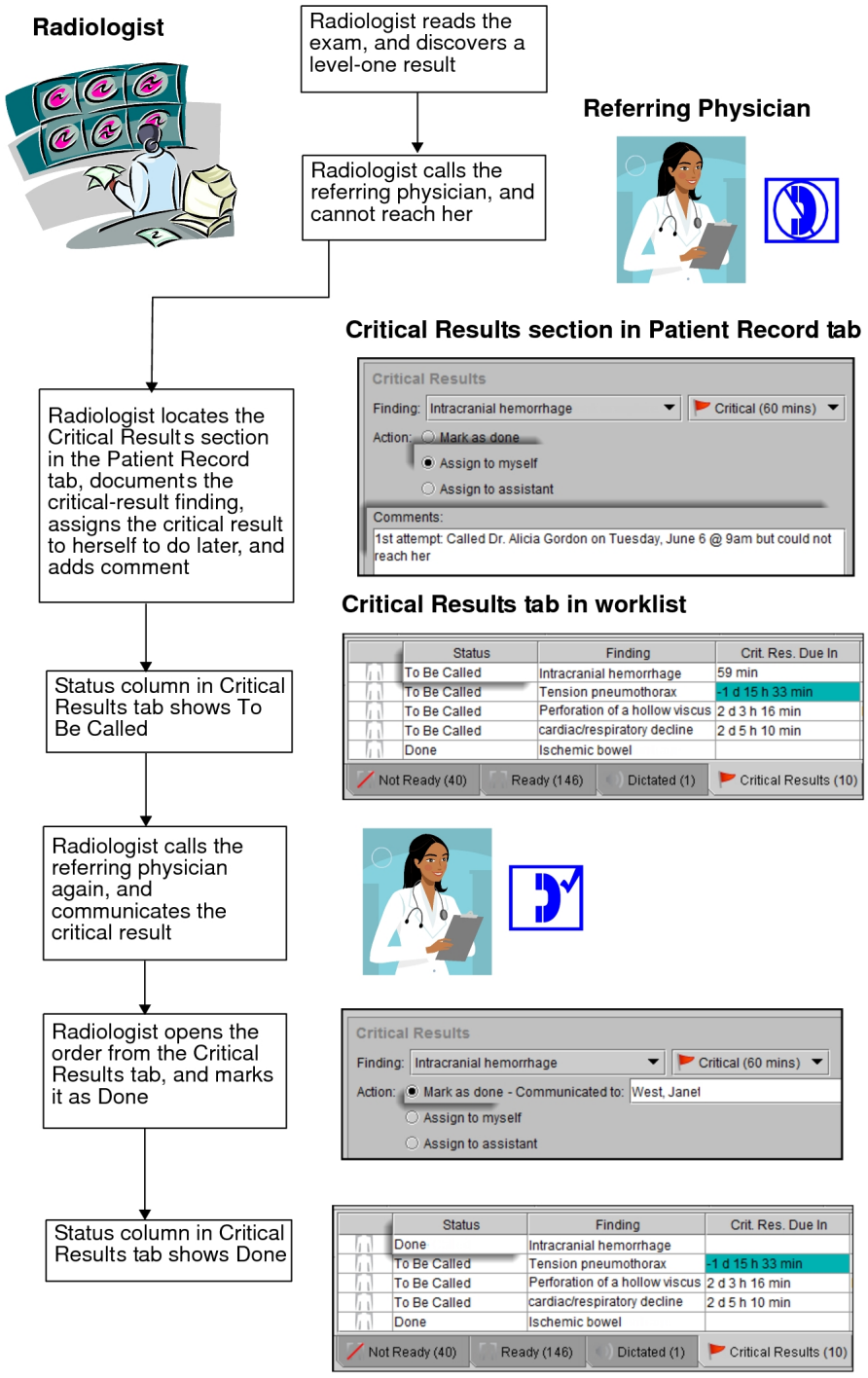
Radiologist Calls the Referring Physician

In this workflow, the radiologist calls the referring physician and communicates the critical result.



Radiologist Assigns Result to Self to Complete Later

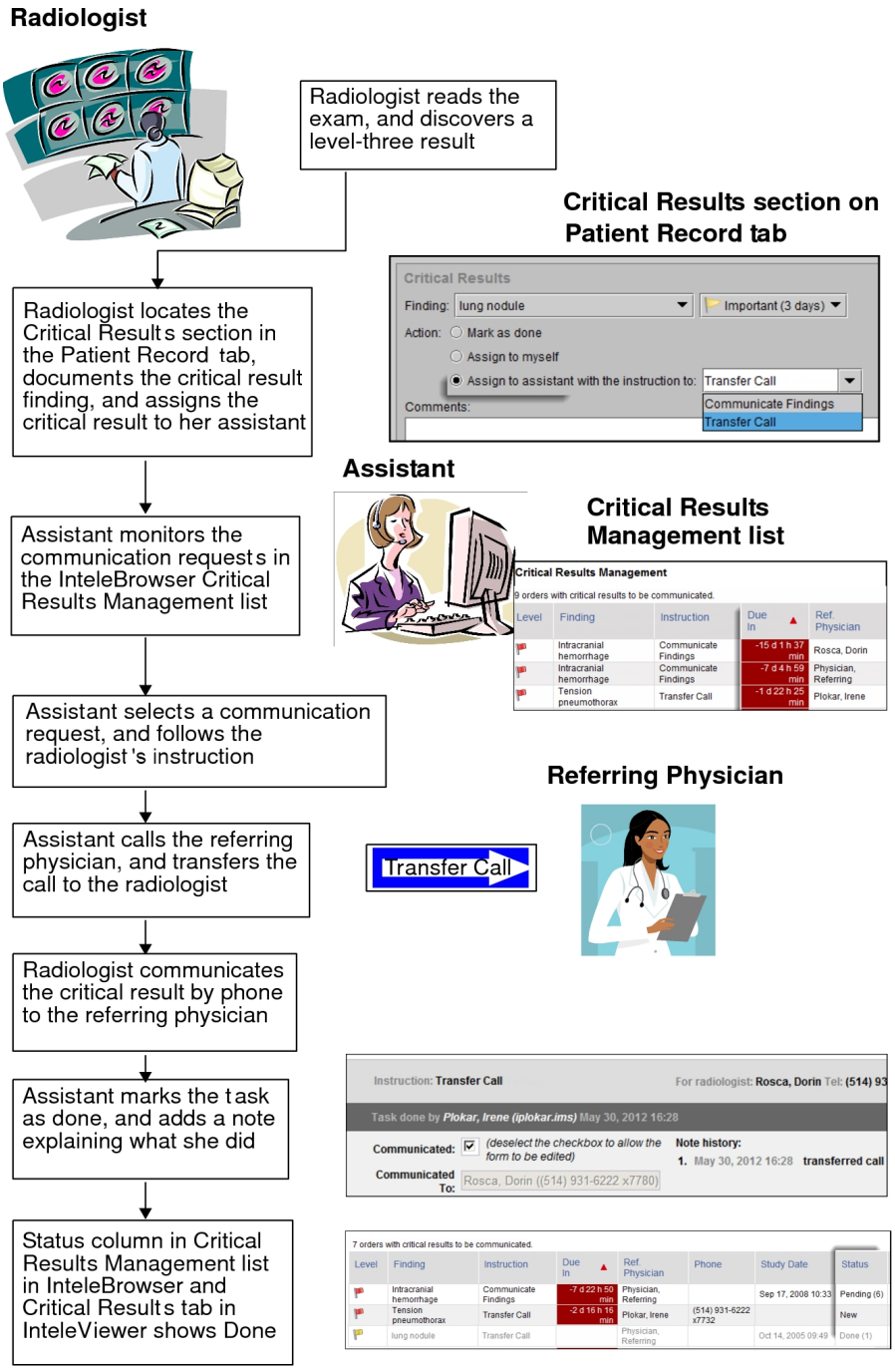
In this critical results workflow, the radiologist assigns the critical result to himself or herself to complete later.



Radiologist Instructs Assistant to Transfer Call to Referring Physician

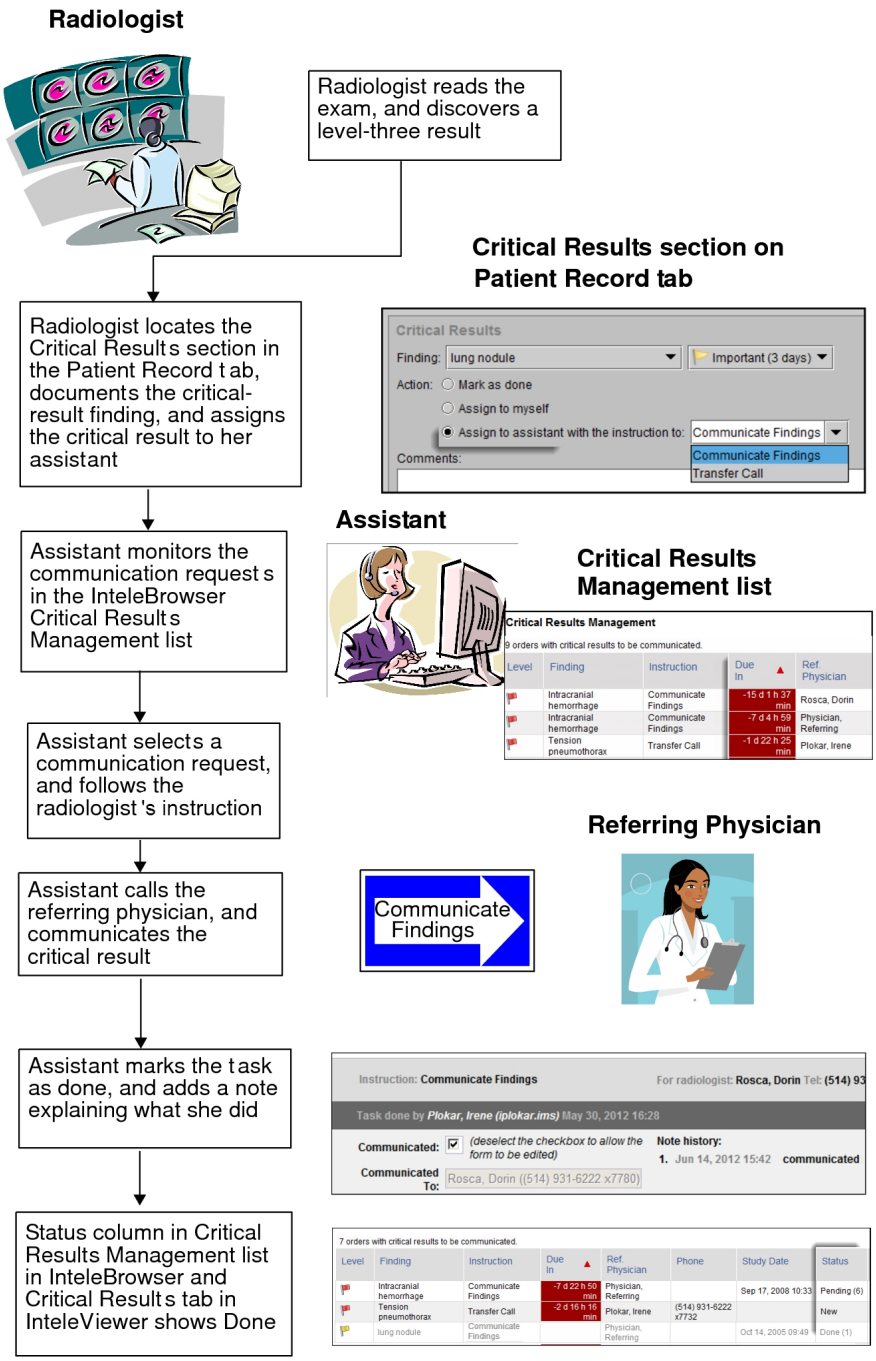
In this critical results workflow, the radiologist instructs an assistant to call the referring physician and to transfer the call to the radiologist so that he or she can communicate the

results.



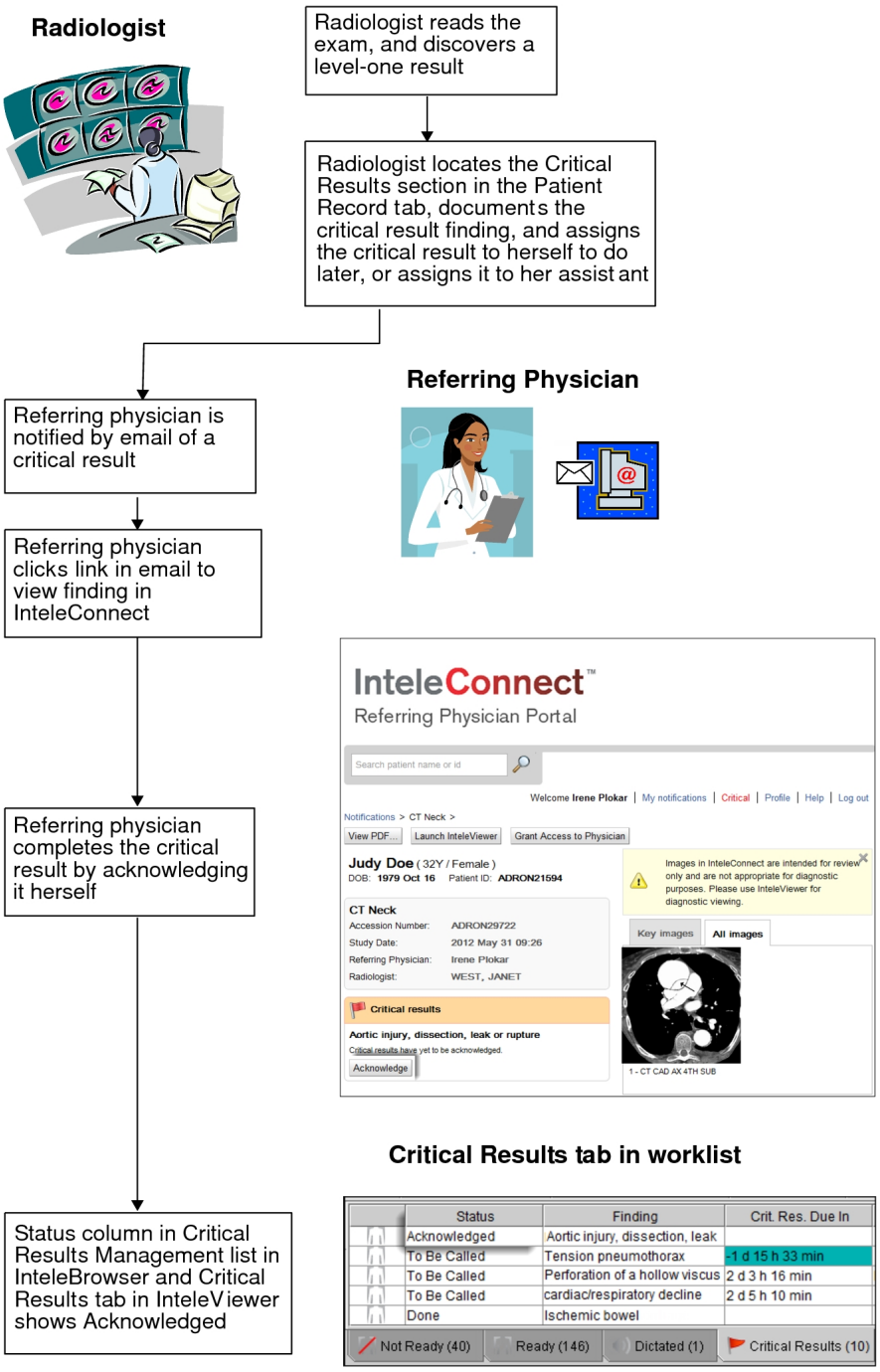
Radiologist Instructs Assistant to Communicate Result to Referring Physician

In this critical results workflow, the radiologist instructs an assistant to call the referring physician and to communicate the results to the referring physician.



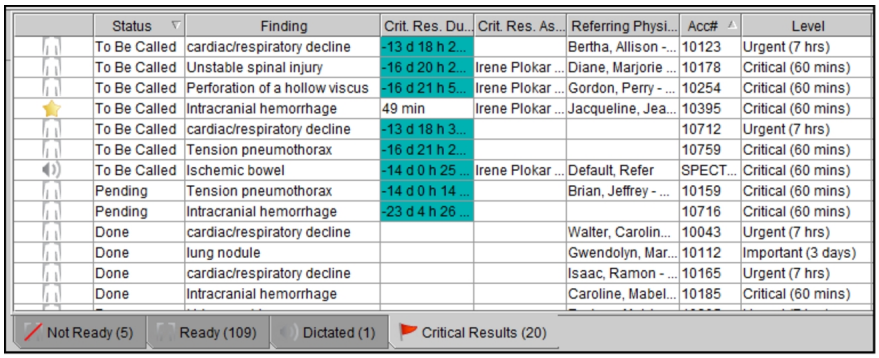
Referring Physician Completes the Result

In this critical results workflow, the radiologist creates the critical result, and the referring physician independently confirms the critical result in the InteleConnect EV web portal.



Understanding the Critical Results Tab

The Critical Results tab displays all orders with completed or pending critical results. The tab displays all completed critical results in the past 30 days. The number in parentheses on the Critical Results tab label is the number of pending critical results.



As you are working, the Critical Results worklist automatically updates during regular intervals to display new critical results and removes those that have been completed. The exact interval of time between automatic updates depends on your workflow configuration. The default is every 60 seconds; however, you can choose to manually update the list to ensure that you are working with the most current critical results.

Each critical result appears on a separate row in the list. By default, the table is sorted by the due-in time in ascending order. Outstanding communication requests appear first, followed by pending requests.

To sort the list, click a column heading. To change the columns that appear in the list, click the Select Columns icon then enable or disable the names of the columns to display.

The width and order of the columns in the list roam with the general profile.

Each critical result has a priority level that is displayed in the Level column and is based on the severity of the radiologist's findings which appear in the Finding column. By default, there are seven level-one findings.

There are four priority levels that are designated by a colored flag indicator in the Critical Results section of an order. These priority levels categorize the urgency and response time of a critical result. By default, the priority levels are defined as follows:

This flag color:	Indicates:
Red	Critical priority level—The critical result must be communicated to the referring physician within 60 minutes.
Orange	Urgent priority level—The critical result must be communicated to the referring physician within 6 hours.
Yellow	Important priority level—The critical result must be communicated to the referring physician within 3 days.

This flag color:	Indicates:
Blue	Less important priority level—The critical result must be communicated to the referring physician within 5 days.

On some versions of InteleViewer, the Less important priority level has a yellow instead of a blue flag. A Less important critical result still appears with a blue flag in other IntelePACS products.

The Critical Results Due In column displays the time remaining for communicating the critical result to the referring physician. Overdue critical results appear at the top of the table and are indicated by a negative sign and a red or cyan background (depending on the color theme selected in your user preferences). The due-in time is indicated in days, hours, and then minutes. For example, -3 d 4 h 35 min translates as 3 days, 4 hours, and 35 minutes overdue. After a critical result for an order has been communicated, the entry moves to the bottom of the list.

The Crit. Res. Assigned To column displays the name of the assistant who most recently added a follow-up. If a critical result is assigned to an assistant and no follow-up exists for the critical result, the column is blank. If a radiologist self-assigns a critical result, the radiologist's name appears in the Crit. Res. Assigned To field.

The status of each critical result in the list appears in the Status column as follows:

Status	Description
To be Called	The radiologist has created a new critical result and assigned it to himself or herself or delegated it to an assistant or clerk.
Pending	The radiologist, or an assistant or clerk who has been delegated this task, has attempted but not yet succeeded in confirming this critical result with the referring physician. At least one note or comment has been added to the critical result.
Viewed	The referring physician has viewed the critical result in the InteleConnect EV web portal but has not acknowledged it. Also, the radiologist, assistant, or clerk has not yet confirmed the critical result with the referring physician.
Done	The radiologist, assistant, or clerk has successfully confirmed the critical result with the referring physician.
Acknowledged	The referring physician has independently confirmed the critical result in the InteleConnect EV web portal.

If your workflow uses grouped procedures, a critical result is associated with the entire order and, therefore, can be viewed from any exam in the order.

If your workflow uses linked orders and you link an order, you will not be able to associate a critical result with all linked orders. You must add an individual critical result for each linked order.

Critical Results Customizations

If necessary, you can contact your PACS administrator to customize any of the following critical results settings:

- Priority level descriptions
- Maximum time duration and unit for communicating a critical result
- List of predefined findings
- Time period for keeping clinical results in the Critical Results tab
- Time period between automatic refreshes of the number that appears in parentheses on the Critical Results tab label

Adding Critical Results

Add critical results to orders to communicate to referring physicians serious or unexpected findings that were revealed during the reading of images.

To add a critical result:

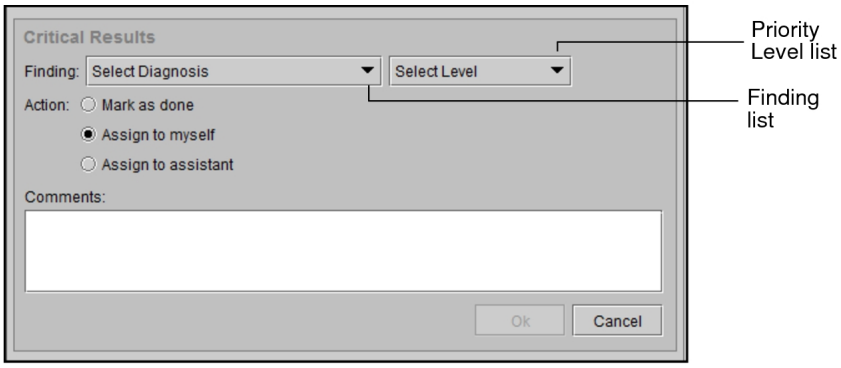
1. From the Worklist tab, open an order. See “Opening Orders" (page 301).

   The Patient Record tab appears.

2. In the Critical Results section, click New.

   The Critical Results section expands to display additional options.

   Depending on your site configuration, the Critical Results section might open automatically based on the critical priority of the order. For more information, contact your PACS administrator.



3. In the Finding list, choose one of the predefined findings, and then select the finding in the list.

   The corresponding default priority level is selected in the Priority Level list. The number in parentheses indicates the maximum time for communicating the critical result.

   If your user preferences are set to filter critical result findings by priority level, select a priority level first in order to see only findings pertaining to this priority level.

4. To specify your own finding, do the following:

   - Select Custom Diagnosis.
   - In the Finding field, enter the finding text.
   - In the Priorities list, select the priority level of the finding: Critical, Urgent, Important, or Less important. By default, the important priority level is selected.

5. To indicate that you contacted the referring physician and then communicated the findings, do the following:

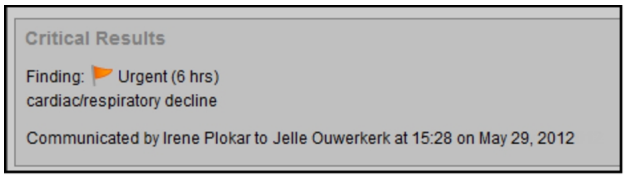
   - Click Mark as Done. The Communicated To field appears, displaying the name and telephone number of the referring physician as defined in the order. If you communicated the results to another referring physician, enter the name and telephone number of the referring physician in the field.

     If the default value is set (eg: Support), then the Communicated To combo box appears. You can communicate the findings to Support or the referring physician from the drop-down option. You can edit the combo box to change the values.

Depending on your site configuration, the Communicated To field can be set to a default value. For more information, contact your PACS administrator.

- To include a comment, such as special instructions or the steps taken to communicate the finding (for example, sent fax to referring physician's office), enter the comment in the Comments field.
- Click OK.

Information related to the critical result appears.



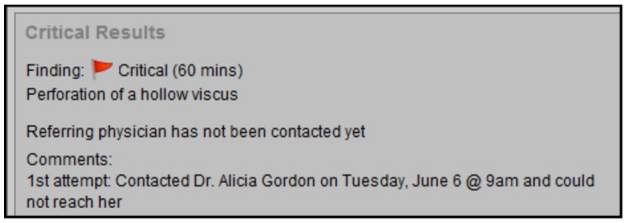
The completed critical result also appears in the Critical Results tab, displaying Done in the Status column.

If your referring physician uses InteleConnect, the physician will be notified by email about the critical result.

6. To assign the critical result to yourself, do the following:

   - Click Assign to Myself.
   - In the Comments field, enter a comment.
   - Click OK.

   Information related to the critical result appears.

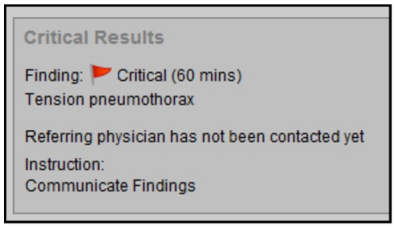


Also the critical result appears in the Critical Results tab, displaying To Be Called in the Status column, and your name appears in the Critical Result Assigned To column.

7. To indicate that you want your assistant to contact the referring physician, click Assign to Assistant, and do one of the following:

   - In the Instruction field, enter your own message, and click OK.
   - In the Instruction list, select Communicate Findings to instruct your assistant to contact the referring physician and communicate the results, and then click OK.
   - In the Instruction list, select Transfer Call to instruct your assistant to contact the referring physician and then transfer the call to you so you can communicate the results to the referring physician, and then click OK.

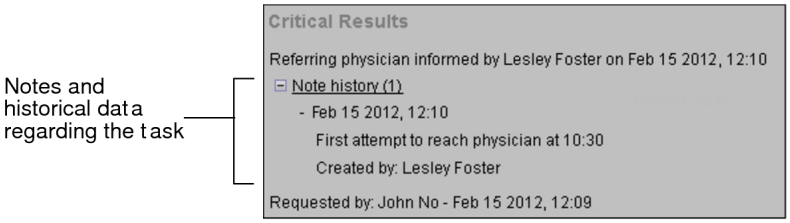
   The priority level and finding appear in the Critical Results section. A message also appears indicating that the referring physician has not been contacted yet. The instruction that you selected for communicating the critical result (Communicate Findings or Transfer Call) appears below, followed by a comment, if entered.



   The critical result appears in the Critical Results tab, displaying To Be Called in the Status column. Also, the assistant receives this task in the Critical Results Management worklist in InteleBrowser.

8. To check the status of the communication, view the Status column in the Critical Results worklist tab.

   If the assistant completed the communication or the referring physician acknowledged the communication, in the Critical Results section, you will see a log of the communication attempts or any notes from the assistant.



9. In the Notes section, if you see a message indicating that the referring physician has not been contacted yet, do the following:
    - Open the order.
    - Contact the referring physician and communicate the findings.
    - Click Mark as Done.

Editing Critical Results

You can edit a pending critical result whose status is—Pending, To Be Called, or Viewed.

⚠ Updating the Patient Record tab or the Worklist tab while editing a critical result, will cause your changes to be lost.

To edit a critical result:

1. Do one of the following:
    - If the Critical Results worklist tab has been open for a while, click .
    - Open the Critical results tab.
2. From the Critical Results worklist tab, find the order whose critical result you want to edit.
3. Do one of the following:
    - Double-click the order.
    - Right-click the order and then choose View.
    - Press **ENTER**.

    The Patient Record tab appears. In the Critical Results section, a message appears indicating that the referring physician has not yet been contacted.
4. Click Edit.

    The Critical Results section expands to display the finding and priority level of the critical result.
5. To change the finding, in the Finding list, choose a predefined finding or specify your own finding.
6. To change the priority level, choose a level in the Priority Level list.
7. To indicate that you contacted the referring physician and then communicated the findings, do the following:

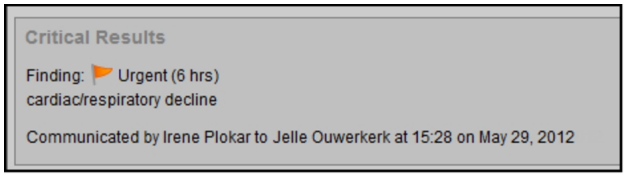
- Click Mark as Done. The Communicated To field appears, displaying the name and telephone number of the referring physician as defined in the order. If you communicated the results to another referring physician, enter the name and telephone number of the referring physician in the field.

  If the default value is set (eg: Support), then the Communicated To combo box appears. You can communicate the findings to Support or the referring physician from the drop-down option. You can edit the combo box to change the values.

  Depending on your site configuration, the Communicated To field can be set to a default value. For more information, contact your PACS administrator.

- To include a comment, such as special instructions, enter the comment in the Comments field.
- Click OK.

The new priority level and finding appear in the Critical Results section. A message also appears indicating the name of the radiologist and referring physician, and the time and date of the communication. If you entered a comment, it also appears below.



Also the completed critical result appears in the Critical Results tab with a Done status.

Communicating Impressions

Use impressions to quickly communicate general clinical impressions, typically between physicians in an emergency department and the radiologist. You can create as many impressions as required.

You can send impressions within the same IntelePACS or from an IntelePACS to an external RIS. For impressions sent within the same IntelePACS, InteleViewer displays the user name of the user who entered the impression. For impressions sent to an

external RIS, InteleViewer displays the name of the facility where the impression was created.

If your workflow uses grouped procedures, when you create an impression it will be associated with the entire order and, therefore, can be viewed from any exam in the order.

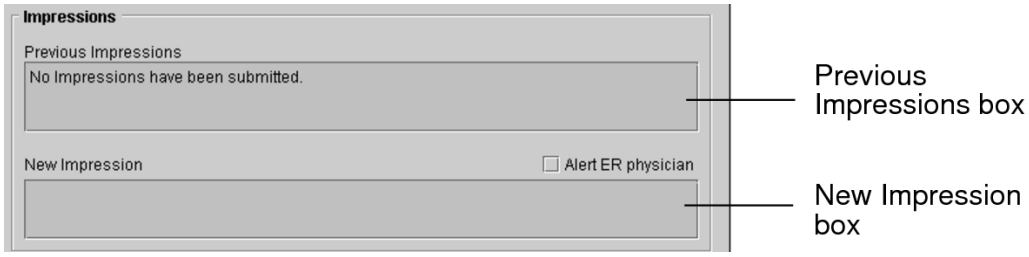
If your workflow uses linked orders, once you link the orders, you will not be able to create an impression that will be associated with all the linked orders. You must create an individual impression for each linked order.

Your PACS administrator can also configure an ER physician's user account to prevent the physician from creating an impression for a locked or dictated order. This is useful if a radiologist is dictating a report and wants to prevent the ER physician from concurrently creating an initial impression for the same study and mistakenly assuming that the radiologist has viewed the impression. For more information, contact your PACS administrator.

⚠ The emergency physician may encounter possible interruptions in the delivery of impression alerts from the radiologist. It is recommended that the emergency physician rely on an explicit response from the radiologist to confirm that the initial impression was correct.

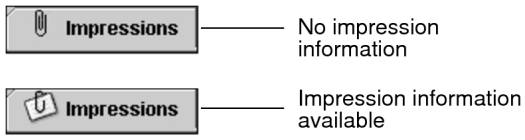
Creating and Viewing Impressions in the Report Viewer

You can create impressions in the Report Viewer. If any impressions have already been entered, they appear in the Previous Impressions box.



To use this feature, ask your PACS administrator to enable the Add Impressions privilege in your user account.

The icon on the Impressions tab indicates if there is any information available.



To create an impression:

1. Open the Report Viewer. See “Accessing the Report Viewer" (page 567).
2. Do one of the following:

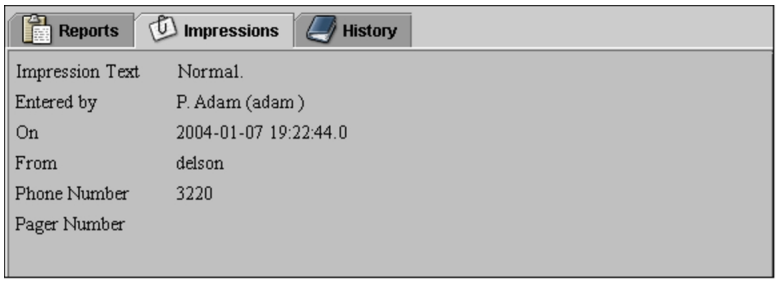
   - Choose Tools | Add Impression.
   - Click Add Impression.

   You may be restricted from creating impressions for locked or dictated orders. For information, contact your PACS administrator.

   The Create New Impression dialog appears.
3. Enter your impression in the New Impression box.
4. To alert the ER physician about the new impression, enable Alert ER Physician.
5. If required, enter the numbers where you can be reached in the Telephone and Pager fields.

   By default, the numbers associated with your IntelePACS user account appear.
6. Click Submit or press **CTRL+ENTER**.

   The impression is saved. Once saved, the impression cannot be modified.



To view impressions:

1. Open the Report Viewer. See “Accessing the Report Viewer" (page 567).
2. Click the Impressions tab.
3. To view the impressions for another study requisitioned for that patient, select the corresponding order in the List of Orders, and then select the Impressions tab.

Creating Impressions in the Patient Record Tab

You can create impressions in the Patient Record tab.

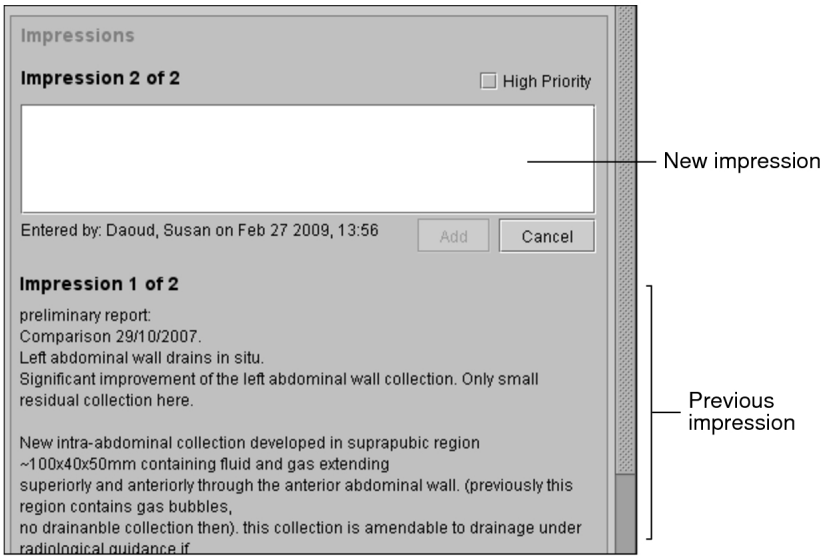
To use this feature, ask your PACS administrator to enable the Add Impressions privilege in your user account.

To create impressions:

1. Open the order that you require.
2. In the Impression controls of the Patient Record tab, click New.

   The New button is disabled if you are restricted from creating impressions for locked or dictated orders. For information, contact your PACS administrator.

   A text field appears. If any impressions have already been entered, they appear below.



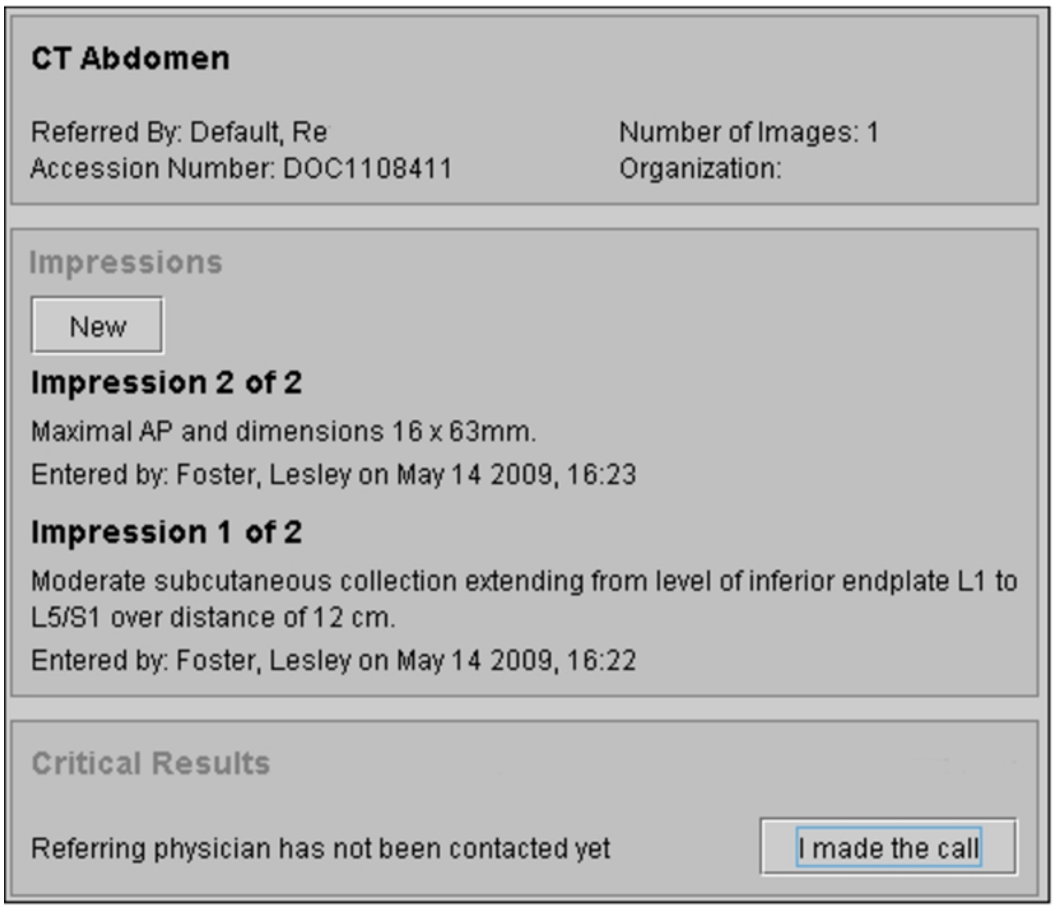
3. Enter your impression.
4. To flag this impression as urgent, select High Priority.
5. Click Add.

   The impression is saved.

To view impressions:

- Do either of the following:
  - In the Worklist tab, select the order that you require.
  - Open the order (from either the Worklist tab or Search tool) and view the

Patient Record tab.



16 MULTI-METHOD REPORTING

InteleViewer provides a multi-method approach to dictating reports by using digital dictation, report templates, quick texts, and custom report templates.

In this chapter:

About Multi-Method Reporting 663

About Worksheet Report Templates 663

Dictating a Report 665

Submitting a Normal Report 672

Reassigning Reports 673

Providing Feedback 674

Creating an Addendum 676

Managing Quick Texts 678

Administering Multi-Method Reporting 688

Managing Custom Report and Addendum Templates 697

About Multi-Method Reporting

InteleViewer allows you to take a multi-method approach to dictating reports and adding report addenda. While other dictation options require you to choose one method of reporting for all orders, Multi-Method Reporting (MMR) allows you to combine digital dictation, and the use of quick texts and report templates—including custom report templates.

In addition, MMR matches your order with the most appropriate report template.

MMR also includes a *resident/fellow/attending workflow* and a *resident/attending workflow*. This allows fellow and attending radiologists to review, correct, and sign a report dictated by a resident. The fellow and attending can also send feedback to the radiologists reporting to them about a report. These workflows are performed using the Resident Over-Reads module.

Reports done with MMR can also be part of a *double reading workflow*. In the double reading workflow, a second radiologist is assigned to review and sign the report created by the first radiologist.

Version of Multi-Method Reporting:

- MMR with Dictation Module—It allows the user to create custom report templates. Its features include Custom Templates, Submit Normal Report, Add Addendum, Template Matching, Quick Texts, Resident Over-Reads, and Double Reading.

The sections in this chapter specify when features apply to only one version of MMR.

See Also

Selecting a Report Template 668
Managing Custom Report and Addendum Templates 697
Choosing a Dictation System 150
Resident Over-Reads Workflows 610
Understanding the Double Reading Workflow 612

About Worksheet Report Templates

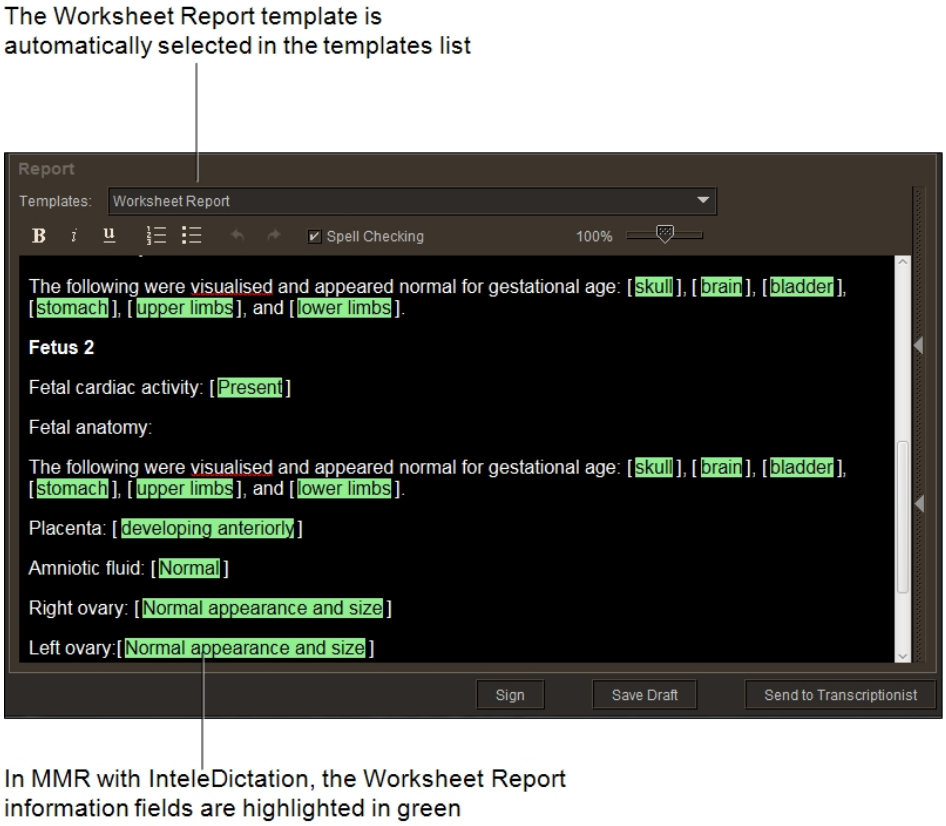
To reduce the time it takes to dictate a report, Multi-Method Reporting (MMR) provides a worksheet report template.

The Worksheet Report template contains information that the technologist gathered during the exam.

For example, a technologist uses SonoReview to fill a worksheet report for an ultrasound procedure. When you open the order, information from the technologist`s worksheet report is displayed automatically. You do not have to dictate the measurements and findings from the exam.

If you are using MMR with Dictation Module, the worksheet report fields are shown in green.

This feature requires IntelePACS 4.14.1 and later, and that you have purchased the third-party technologist software that is integrated with InteleViewer. For more information, contact your PACS administrator.



When you open an order containing a technologist worksheet report, the report appears as a template named Worksheet Report and displays the information from the technologist’s worksheet.

Depending on how your IntelePACS is configured, you can view the original technologist worksheet as a scanned document in the Document Viewer, and as a thumbnail image in the thumbnail strip in the Viewport.

Order linking with worksheet reports works the same way as order linking with normal reports in MMR, but the matching is based on the application that sent the report. If you have several orders that contain the Worksheet Report template, only the worksheet report of the leading order is displayed. For example, if you are linking orders with several SonoReview reports, the SonoReview Worksheet Report of the leading order is the one that appears.

⚠ If the technologist has updated a worksheet report that you are currently working on, InteleViewer does not update you with that information. Reload the study from the worklist to update your worksheet report template.

You can do all of the same things that you do with normal reports when you dictate a Worksheet Report report using Multi-Method Reporting. For example, you can:

- link orders
- edit and add fields
- insert quick texts
- save as draft (the draft report changes to the Worksheet Report Draft template)
- send the report to the trancriptionist
- sign the report

See Also

Editing Draft Transcriptions or Transcribed Reports 556
Dictating a Report 665
Editing Sent Dictations or Addendum Dictations 671

Dictating a Report

Multi-Method Reporting provides three methods of dictating a report:

- Traditional dictation: You dictate a report and then send the audio dictation to a transcriptionist. (No text can be sent by using this method.)

- Dictation using custom report templates: You dictate a report by using a report template that you created, or that was created by another user. A combination of audio and text can be sent to the transcriptionist using this method.
- Dictation using quick text. You can create and edit quick text while you dictate a report.

When you open an order, a template is automatically selected based on template matching rules. Your PACS administrator, or a user with the necessary privileges, configures template matching rules.

Draft reports that were dictated using Multi-Method Reporting might contain information from a technologist`s worksheet report. This information is displayed in green fields in MMR with Dictation Module. You can edit and navigate the fields like any other fields in a draft report.

Multi-Method Reporting supports only the SpeechMike Pro, SpeechMike Classic, and SpeechMike Air voice recorders.

To dictate a report by using Multi-Method Reporting:

1. Open the order that you require.

   The Multi-Method Reporting window appears. The order is locked to prevent other radiologists from opening the order.

2. If you use linked orders in your workflow and you want to link several orders from the same patient and read them as a batch to create a single report, see “Linking Orders" (page 326).
3. To use another template, select the report template from the Templates menu. See “Selecting a Report Template" (page 668).
4. For M*Modal only, add diagnostic codes to the report, if necessary. See "Selecting a Diagnostic Code" on page 1.
5. For Resident Over-Reads, if you are a resident radiologist, you can select either a fellow and attending radiologist for signature, or just an attending. If you are a fellow, you must select an attending for signature. See “Selecting a Fellow or Attending" (page 669).
6. For Resident Over-Reads, if you are a fellow or attending radiologist, you can provide feedback. See “Providing Feedback" (page 674).
7. Record a dictation using your dictation voice recorder and the audio controls in the Multi-Method Reporting window. See “Recording Dictations in the Multi-Method

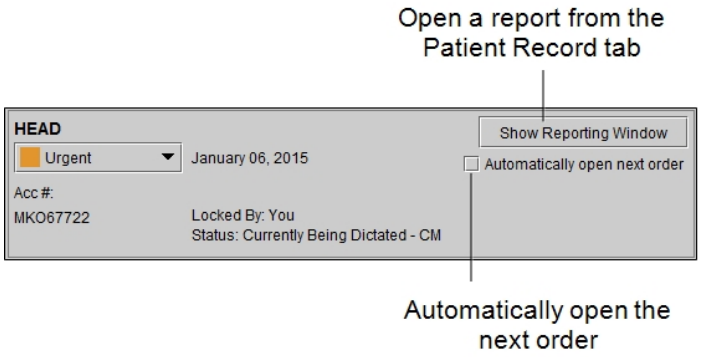
Reporting Window" (page 670).

8. When you have finished recording your dictation, do one of the following:

Click:	To:
Save Draft	Save your audio recording as a draft report. The audio recording is associated with the order. The order remains locked and you can resume dictation by opening the order again. If you are dictating linked orders, InteleViewer associates the same audio recording to each linked order. All linked orders remain locked. See "Saving a Draft Report or Draft Addendum" on page 1. If you selected diagnostic codes, they are not saved in your draft.
Send to Transcriptionist	Bypass M*Modal processing and send your audio recording to a transcriptionist for transcription. After a report is transcribed, it appears in the Signing worklist in the To Sign tab, where you can review, correct, approve, and sign the transcribed report. Depending on your IntelePACS configuration and the privileges in your user account, you may not be able to send an audio recording to a transcriptionist. If you send linked orders to a transcriptionist, the same audio recording is sent for each linked order. When the report is transcribed, a separate entry is added for each linked order in the signing worklist. You must sign each linked order separately. If you selected diagnostic codes, they are not contained in the report that is sent to the transcriptionist. You can also re-open and edit the addendum before the transcriptionist has opened it. See “Editing Sent Dictations or Addendum Dictations" (page 671).
Sign	Bypass the transcriptionist and sign the report. Once signed, InteleViewer removes the report from your worklist.

Click:	To:
	If you have the Resident Over-Reads module enabled, and you are a resident radiologist, you must select either a fellow or attending to enable the Sign button. If you are a fellow radiologist, you must select an attending radiologist to enable the Sign button. See “Resident Over-Reads Workflows" (page 610).

9. To immediately dictate the next order in the worklist when you are finished, see “Opening the Next Order" (page 308).
10. If your Multi-Method Reporting window is minimized or not in the foreground of your screen, you can easily access it from the Patient Record tab by clicking Show Reporting Window.



See Also

Signing Reports 591
About Worksheet Report Templates 663
Editing Sent Dictations or Addendum Dictations 671
Managing Quick Texts 678
Editing Template Matching Rules 694

Selecting a Report Template

Report templates are predefined sections, subsections, fields, and text that allow you to report on specific scenarios quickly. When you open a report for dictation, InteleViewer matches your order with the most appropriate template, according to matching rules specified in the Manage Template Matching window.

The matched template opens automatically in the Multi-Method Reporting window. You can select a different template if you choose.

To select a report template:

- Do the following:

  - Select a template from the Templates menu. The Templates menu lists all available report templates. You can choose which report templates appear in the Templates menu by using the Manage Template Matching window. See “Hiding Report Templates from the Templates Menu" (page 693).

  The new template appears in the Report Editor. If you change the report template after editing the draft report, you are warned that all your modifications will be discarded. If you confirm, the selected template replaces all sections, subsections, fields, and text in the Report Editor.

See Also

Managing Template Matching 692

Selecting a Fellow or Attending

Fellow and attending radiologists are responsible for reviewing, correcting if necessary, and signing the reports that have been dictated and signed by a resident.

If you are a resident, you can select a fellow and an attending to review the report, or you can select just an attending. Selecting a fellow is optional.

If you are a fellow, you must select an attending to review the report.

The Resident Over-Reads module must be enabled on your IntelePACS to use a *resident/fellow/attending* or *resident/attending* workflow. For more information, contact your PACS administrator.

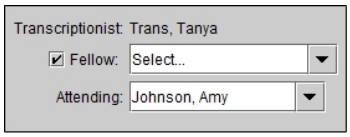
To select a fellow and attending:

1. If you are a resident, and would like the report reviewed by a fellow, select a fellow from the list.

   Only the resident can see the Fellow list.

2. To remove the fellow from the workflow, disable the checkbox.

3. From the Attending list, select the attending. Both the resident and fellow radiologists must select an attending from the list.



   The report will be displayed in the Signing worklist of the reviewing radiologists that you have selected.

See Also

Resident Over-Reads Workflows 610

Recording Dictations in the Multi-Method Reporting Window

You record dictations in the Multi-Method Reporting window when you either start dictating a report or create an addendum.

This topic describes how to use a SpeechMike Pro model. The controls on other digital voice recorder models may differ from those described. Consult the documentation that came with your digital voice recorder.

To use your SpeechMike and audio controls to record a dictation:

1. Press and hold the Record button on the SpeechMike to dictate. Release the button to pause.

   The audio waveform reflects the length of the recording while the level bar indicates the volume.

   If you enable Allow Click to Record on SpeechMike in the Dictation System preferences, you do not have to hold the Record button to dictate. Click the Record button to dictate. Click the record button again to pause.

2. To use the Dictation controls to playback and review the audio recording, do the following:

To:	Do this:
Playback audio	Click Play.
Advance or rewind the audio	Click and drag the scrub bar.

The scrub bar updates to reflect the current location in the audio recording.

3. To use the digital voice recorder controls to playback and review the audio recording, do the following:

Press:	To:
	Playback or pause playback of the recording.
	Rewind the recording.
	Fast forward the recording.

4. To continue a dictation, do one of the following:

   - Press and hold the Record button to dictate.
   - Rewind or fast forward the audio until the scrub bar is at the required location.

   You can continue recording audio at the end of the recording, or from any point in the current recording.

   ⚠ You cannot insert audio. If you begin recording again from a point in the existing recording, you will record over any existing audio from that point forward.

5. To remove the audio recording and start over, click Discard.

   ⚠ Discarding an audio recording cannot be undone. Once an audio recording is discarded, it cannot be restored.

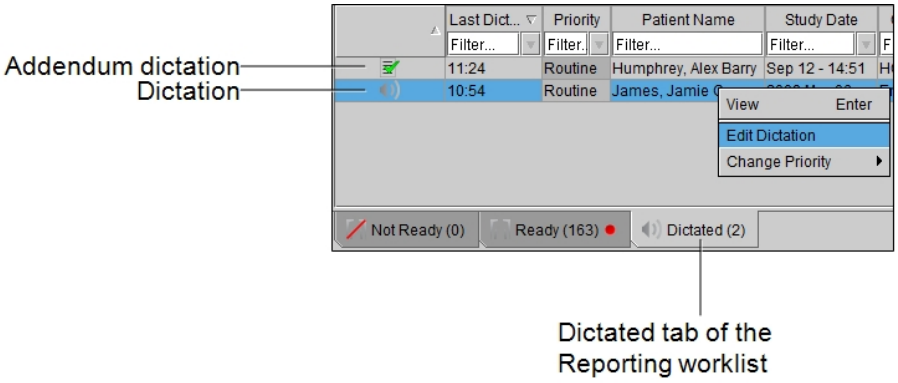
Editing Sent Dictations or Addendum Dictations

You can edit a dictation or addendum dictation that you have already sent and that a transcriptionist has not opened. The addendum dictation is displayed with the signed report icon.

Once you edit the dictation or addendum dictation, you can sign it, save it as a draft, or send it to the transcriptionist.

To edit a sent dictation or addendum:

1. From the Dictated tab of the worklist, right-click the dictation or addendum dictation.



   Double-clicking the dictation or addendum dictation opens it in View-only mode.

2. Select Edit Dictation.

   The Edit Dictation option is grayed out if the transcriptionist already opened the dictation.

3. Make the desired changes to the dictation or addendum dictation.

   ⚠ You cannot insert audio. If you begin recording again from a point in the existing recording, you will record over any existing audio from that point forward.

See Also

Dictating a Report 665
Creating an Addendum 676

Submitting a Normal Report

For cases that are routine and normal, you may find that a standard template provides all or most of the information you need for your report. For this scenario, when little or no dictation is required, you can follow a more streamlined workflow, whereby you submit a standard or slightly altered report template for signing.

To submit a normal report:

1. Open the order that you require.

   The Multi-Method Reporting window appears. A template is automatically selected for your order based on template matching rules that are configured by either your PACS administrator or a user with the necessary privileges. See, “Editing Template Matching Rules" (page 694).

2. Click Edit Report.

   The draft report, based on the matched report template, becomes editable.

3. If you want to use another template, select the report template from the Templates menu.

   The new template appears in the Report Editor.

   You can choose which report templates appear in the Templates menu by using the Manage Template Matching window. See “Hiding Report Templates from the Templates Menu" (page 693).

4. Make the necessary edits to the report.
5. Click Sign.

   Your report is sent to the Dictated section of the Worklist tab. See "Signing a Report or Addendum" on page 0.

6. To immediately dictate the next order in the worklist when you are finished, see “Opening the Next Order" (page 308).

Reassigning Reports

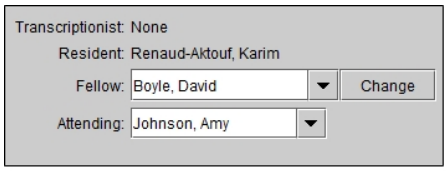
In the Resident Over-Reads workflows, fellow and attending radiologists are responsible for signing the reports that have been dictated and signed by a resident.

If you are a fellow or an attending radiologist, and have received a report in error, you can reassign it to another fellow or attending radiologist. If you are a fellow, you can only reassign the report to another fellow. If you are an attending, you can only reassign the report to another attending.

The Resident Over-Reads module must be enabled on your IntelePACS. For more information, contact your PACS administrator.

To reassign a report:

1. In the Signing worklist, select the report you would like to reassign.
2. Click Change beside your name and do the following:



   - If you are a fellow, select a radiologist from the Fellow list.
   - If you are an attending, select a radiologist from the Attending list.
3. In the confirmation dialog that displays, click Reassign.

   The report will removed from your Signing worklist, and added to the Signing worklist of the fellow or attending radiologist.

See Also

Resident Over-Reads Workflows 610

Providing Feedback

For Resident Over-Reads, fellow and attending radiologists can provide feedback on the reports that have been signed by the radiologists reporting to them. The fellow can provide feedback to the resident. The attending can provide feedback to both the fellow and the resident. The feedback is sent by email to the selected recipients.

The Resident Over-Reads module must be enabled on your IntelePACS to provide feedback. For more information, contact your PACS administrator.

You must select at least one recipient before you can sign the report or send feedback on the report. The Send Me a Copy checkbox is also disabled until you select at least one recipient.

You must enter feedback text to enable the Sign + Send Feedback and the Send Feedback buttons.

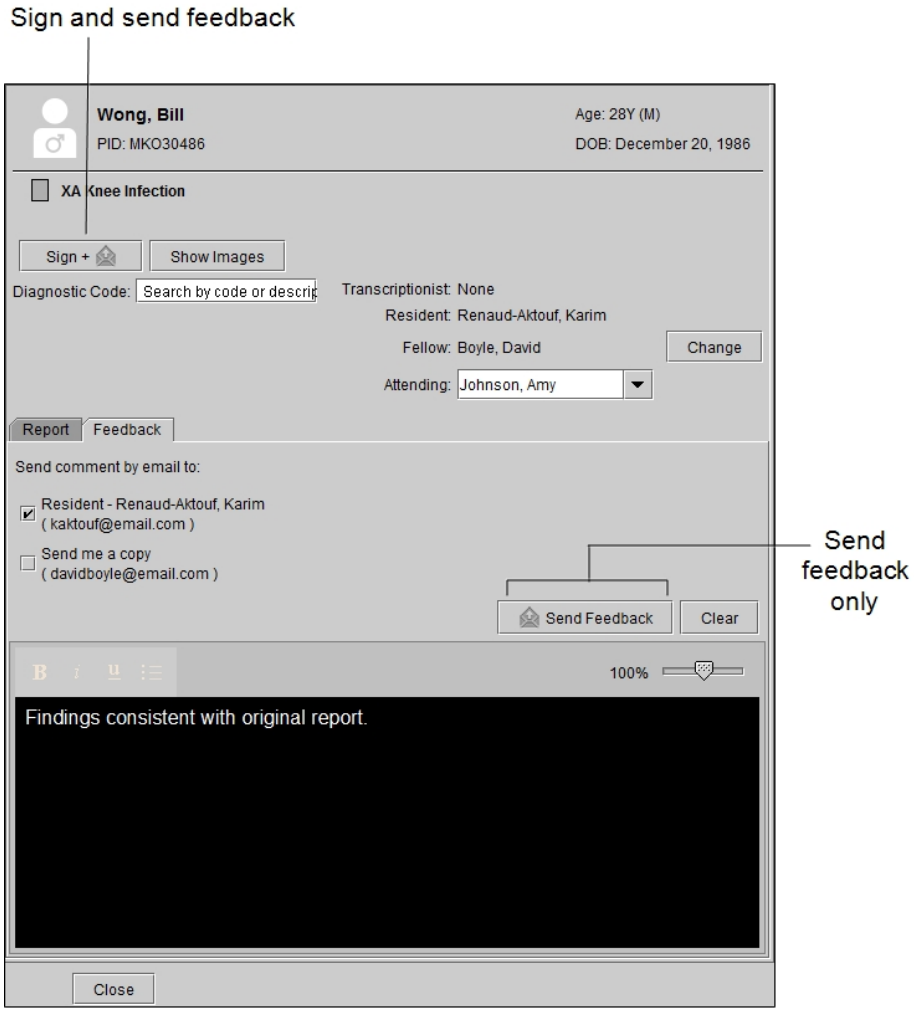
If you have selected at least one recipient, and entered feedback text, the Sign button becomes the Sign + Send Feedback button.

You can also sign the report from this tab without sending feedback.

The email addresses for the recipients of the feedback must be configured. If the email addresses of the recipients listed in the feedback tab are not enabled, contact your PACS administrator.

To provide feedback on a report:

1. From the Signing worklist, select the report to sign.
2. Click the Feedback tab.



3. If you are a fellow, select the resident who will receive the feedback. If you are an attending, select the fellow or resident, or both, who will receive the feedback.
4. To receive a copy of the feedback email, select Send Me a Copy.
5. Enter your comments in the feedback panel.

6. To sign the report and send the feedback, click Sign + Send Feedback.
7. To send feedback without signing the report, click Send Feedback.

See Also

Resident Over-Reads Workflows 610

Creating an Addendum

You can add supplementary information to a final, signed report by creating an addendum.

Adding an addendum does not lock the order. It is still available to other users who would like to add an addendum.

After an addendum is transcribed, it appears in the To Sign tab in the Signing worklist, where you can review, correct, approve, and sign the addendum.

When you transcribe an addendum for linked orders, a separate entry appears for each linked order in the Signing worklist. You must sign each addendum separately.

To create an addendum:

1. From the worklist, click the Dictated tab.

   The Dictated tab lists the orders that have been dictated.

2. Do one of the following:

   - Double-click the order.
   - Right-click the order and choose View.
   - Select the order and then press **ENTER**.

   The Multi-Method Reporting window appears.

   If you opened a linked order, InteleViewer opens and loads the images of all the linked orders. Also, the Patient Record tab displays the report and audio recording for all the linked orders.

3. Select an addendum template from the Templates menu.
4. Dictate the addendum by doing one of the following:

- Use the dictation controls.
- Use the digital voice recorder controls.

See “Recording Dictations in the Multi-Method Reporting Window" (page 670).

5. When you have finished recording your dictation, do one of the following:

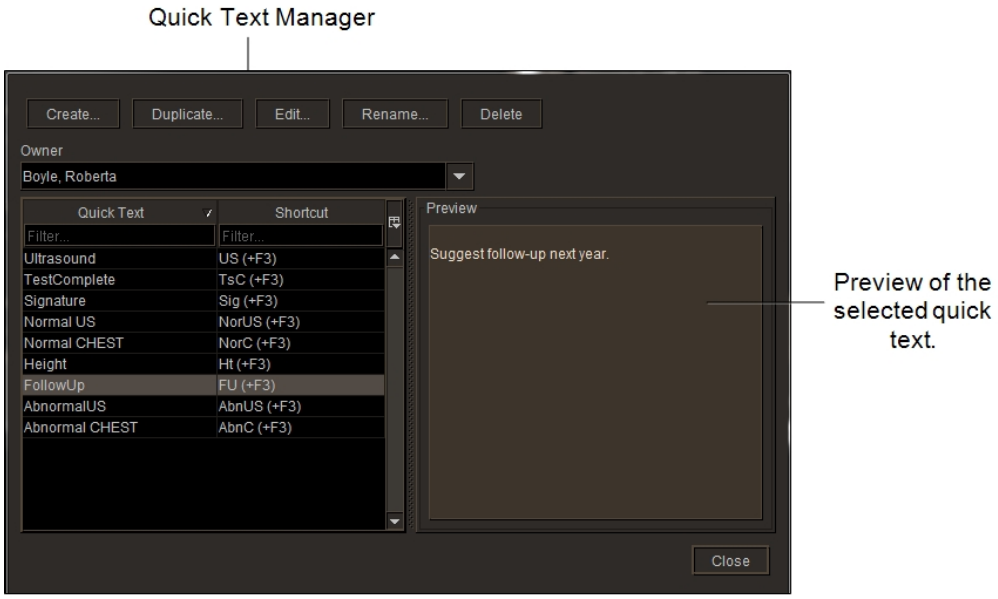
Click:	To:
Save Draft	Save your audio recording as a draft addendum. The audio recording is associated with the addendum. If you open an order that has a saved draft addendum, the audio recording is opened. If you are dictating the addendum for linked orders, InteleViewer associates the same audio recording to each linked order. See "Signing a Report or Addendum" on page 0. You can resume only your own saved drafts. You cannot edit drafts saved by other users.
Send Addendum to Transcriptionist	Bypass M*Modal processing and send your audio recording to a transcriptionist for transcription. If you are sending an audio recording for linked orders to a transcriptionist, the same audio recording is sent for each linked order. You can also re-open and edit the addendum before the transcriptionist has opened it. See “Editing Sent Dictations or Addendum Dictations" (page 671).
Sign Addendum	Bypass the transcriptionist and sign the addendum. The addendum will be removed from your worklist. If your site is configured to use the Resident Over-Reads module, and you are a resident radiologist, you must select a reviewing radiologist to enable the Sign button. If you are fellow radiologist, you must select an attending radiologist to enable the Sign Addendum button. See “Resident Over-Reads Workflows" (page 610).

Managing Quick Texts

Quick texts are standard replies to common scenarios that you can reuse in draft reports. Creating quick texts saves you time when dictating reports.

For example, when reporting on normal heart imaging, you may want to define the following standard text as quick text: “The cardiac silhouette is normal in size. The thoracic aorta is normal in caliber.”

The Quick Text Manager allows you to create, modify, rename, duplicate, and delete quick text. You can also associate quick texts with one or more modalities, body parts, or both.



You can also view another user's quick texts. You cannot edit another user's quick texts, but you can use the Quick Text Manager to duplicate their quick texts to add to your personal quick texts list.

If you are using InteleViewer with M*Modal and IntelePACS 4.4.1 or later, you will see a list of public quick texts, as well as your own, in the Quick Texts panel. If you are using InteleViewer connected to IntelePACS 4.11.1 or earlier, the Owner list is disabled.

See Also

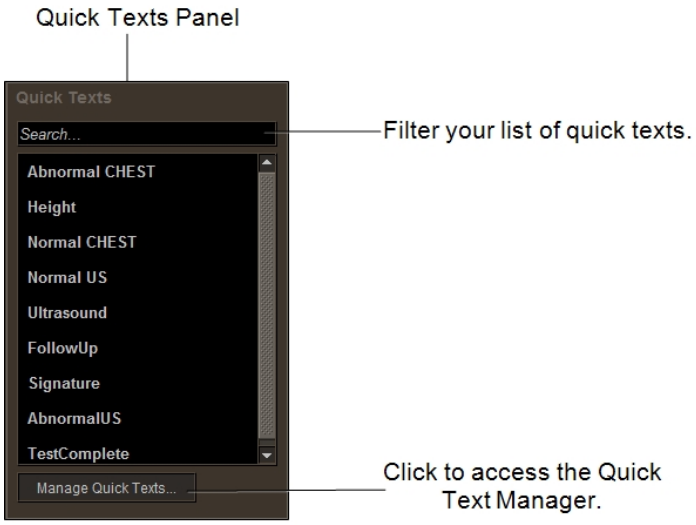
Creating Quick Texts 679
Editing Quick Texts 686

Associating Quick Texts with Modalities and Body Parts 684
Deleting Quick Texts 687

Creating Quick Texts

There are several methods that you can use to create quick texts:

- You can use the Quick Text Manager to duplicate your own or another user's quick text, make changes to the content, and then save the resulting quick text as your own personal quick text.
- You can use the Quick Text Manager to create a quick text starting with blank content. To use this method of creating a quick text, follow the steps in this topic.



To create a quick text:

1. In the Quick Text Manager, click Create.

   Or, if you are a radiologist, you can select text directly from your report, right-click and then select Create Quick Text from Selection.

2. From the Quick Text Editor window, in the Name field, enter the name for the new quick text. When you name quick texts, you should consider the following factors:

   - The Quick Texts panel organizes all quick text alphabetically.
   - You may want to give the quick text an easily identifiable name. For example, you could start the name of the quick text with the modality, such as CR Left Arm, to group the quick texts by modality.

3. In Shortcut, type a shortcut that represents the new quick text. For example, LUM or lum for Lumbar.
4. To associate the quick text with a modality, body part, or both, see “Associating Quick Texts with Modalities and Body Parts" (page 684).
5. To insert an Order Information field in the quick text, see “Inserting Order Information in Quick Texts" (page 680).
6. To insert a Custom Value field in the quick text, see “Inserting Custom Value Fields in Quick Text" (page 682).
7. Click Save.

See Also

Creating Quick Texts from Existing Quick Texts 682
Inserting Custom Value Fields in Quick Text 682
Inserting Order Information in Quick Texts 680

Inserting Order Information in Quick Texts

Radiologists fill parts of a report by cutting and pasting, or dictating order information from the original order. To improve efficiency, you can create quick texts that includes special information fields that automatically insert order information.

To insert order information in a quick text:

1. In the Quick Text Editor, place the cursor where you want to insert the order information field.
2. Click the auto drop-down list and choose one of the following recognized items:

Select:	To insert:
Accession Number	The unique identifier for the dictated order. For linked orders, a list of all the accession numbers that are currently being dictated appears. Generally sent from the RIS in HL7 field OBR-18.
Completion Date	The date the order was completed. Generally sent from the RIS in HL7 field OBR-18.
Date of Birth	The date of birth of the patient. Generally sent from the RIS in HL7 field PID-7.
Dictating Radiologist	The full name of the dictating radiologist.

Select:	To insert:
Observation Date	The date the patient arrived for the exam. Sent from the RIS in HL7 field OBR-7.
Organization	The full name of the organization associated with the order. In general, this is the entering organization (organization for the dictating radiologist) and is sent from the RIS in HL7 ORC-17.
Patient Age	The age of the patient. This is the result of the calculation of the date of birth plus the current date.
Patient ID	The unique identifier of the patient within the hospital or radiology facility. Generally sent from the RIS in HL7 field PID-3.
Patient Name	The full name of the patient. Generally sent from the RIS in HL7 field PID-5.
Procedure Description	The description of the exam, for example, "MR ANKLE". Generally sent from the RIS in HL7 field OBR-4.2.
Reason For Study	The reason for the study. For example, "SHORTNESS OF BREATH". Generally sent from the RIS in HL7 field OBR-31.
Referring Physician	The full name of the referring physician. Generally sent from the RIS in HL7 field PV1-8.
Referring Physician ID	The unique ID for the referring physician. Generally sent from the RIS in HL7 field PV1-8.1.
Relevant Clinical Information	The relevant clinical information. For example, "RULE OUT LYMPHOMA". Generally sent from the RIS in HL7 field OBR-13.
Requested Date	The date the order was requested. Sent from the RIS in HL7 field OBR-6.
Study Date	The study date (same date as listed in the worklist).

In the Quick Text Editor, the order information field is represented by the item name within shaded brackets. For example, if you select Accession Number, the following appears in your quick text: `[Accession Number]`. Since order information relies on specific order data, the order information does not appear until you insert the quick text into a draft report.

If the order information field is a person's name, such as Patient Name or Referring Physician, the name appears as title case. For example, the patient name JOHN DOE appears as John Doe.

For linked orders, the text displayed is taken from the leading order. The leading order is the first order that you have selected. For example, if you insert the Organization field in your quick text, the leading order's organization appears in the report.

Inserting Custom Value Fields in Quick Text

Use the Quick Text Editor to create custom value fields that have a default value. Custom value fields make it more efficient to enter measurements, data, or other information that may change depending on the reading.

For example, quick text may contain the phrase “Cardiac activity is [140] beats per minute.” where “[140]” is a custom value field that can either be changed or left showing the default value (140).

Using MMR with Dictation Module, you can press **CTRL+F** to move forward from field to field, or **CTRL+SHIFT+F** to move backward.

To insert custom value fields in quick text:

1. In the Quick Text Editor, place the cursor where you want to insert the custom value field.
2. Click the custom button or press **F4**.

   The custom value field appears and you can add your text.

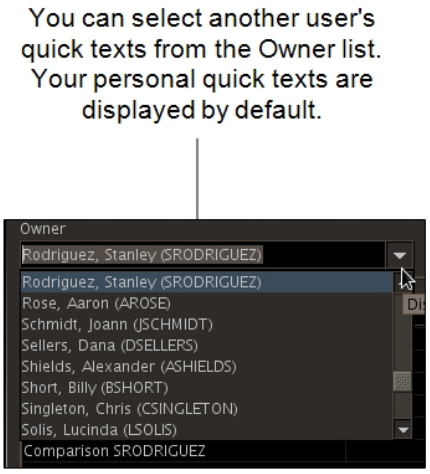
Creating Quick Texts from Existing Quick Texts

Use the Duplicate feature to copy and edit existing quick texts. For example, an existing quick text named "Normal Heart" contains the text: “The cardiac silhouette is normal in size.” You may want to add an additional standard phrase such as “The thoracic aorta is normal in caliber.” You can duplicate the existing quick text, edit it to add the extra phrase, and rename it to add to your list of quick texts.

To duplicate quick text:

1. In the Quick Text Manager, search for the quick text that you want to duplicate. To search for another radiologist's or transcriptionist's quick text, select the name of the radiologist or transcriptionist from the Owner list.

If you have a long list of radiologists or transcriptionists to choose from, you can filter the search by entering the first few letters of their last name. The list updates to show the closest matches as you type.



A radiologist can only view another radiologist's quick texts. A transcriptionist can only view another transcriptionist's quick texts.

The quick text table displays the quick texts of the selected radiologist or transcriptionist.

2. Select the quick text, and then click Duplicate.

   The Quick Text Editor appears, displaying the duplicated quick text. If the name of the quick text already exists in your list of quick texts, InteleViewer adds "copy" at the end of the name.

   If a shortcut name already exists for one of your quick texts, InteleViewer creates a new quick text shortcut name for the duplicated quick text. For example, if you already have a shortcut named "Lum" in your quick text list, InteleViewer will create a new quick text shortcut named "Luma".

3. To select multiple quick texts from the selected radiologist or transcriptionist, **CTRL+CLICK** each required quick text, or to select a range, click the first and then **SHIFT+CLICK** the last quick text in the range. Click Duplicate All.

   You can only batch duplicate another user's quick text, not your own.

Because it is a batch duplication, the Quick Text Editor does not appear after you click Duplicate All. For quick text names that already exist in your personal list, InteleViewer adds "copy" at the end of the duplicated quick texts. Shortcut names for quick text are not duplicated when copying more than one quick text at a time.

4. In the Name field, enter a name for the new quick text. For more on the factors you should consider when naming or renaming quick texts, see “Editing Quick Texts" (page 686).
5. To edit the content, see “Editing Quick Texts" (page 686).
6. Click Save.

   The quick text is added to the Quick Texts panel.

See Also

Associating Quick Texts with Modalities and Body Parts 684
Managing Quick Texts 678

Associating Quick Texts with Modalities and Body Parts

To quickly find a quick text in a long list of quick texts, you can associate quick texts with modalities and body parts.

Once you associate quick texts with one or more body parts, modalities, or both, InteleViewer uses these associations to determine how quick texts will appear in the Quick Texts panel.

InteleViewer places the quick text at the top of the list when they are associated body parts or modalities that match those of the currently opened order or dictation. Otherwise, InteleViewer places the quick text at the bottom of the list in alphabetical order.

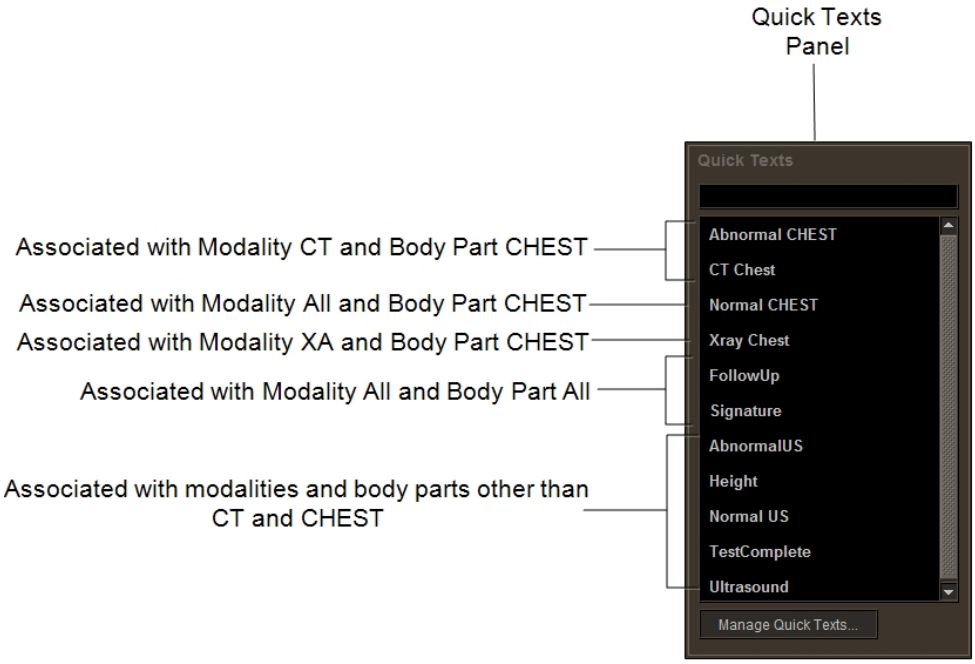
For example, if you have text that you use frequently for chest reports, you can save it as a quick text and associate it with the body part "CHEST". The next time you open an order or a dictation specific to the chest, the quick text that you associated with body part "CHEST" appears at the top of the list.

InteleViewer displays quick texts in the Quick Texts panel in the following top-to-bottom:

- Quick texts that are associated with both the body parts and modalities of the currently opened order or dictation.

- Quick texts that are associated with the modalities of the currently opened order or dictation.
- Quick texts that are associated with the body parts of the currently opened order or dictation.
- Quick texts that do not have an association.
- Quick texts that are associated with body parts or modalities that do not match the currently opened order or dictation.

In the following image, the currently opened order for a radiologist, or dictation for a transcriptionist, is a chest exam done with the CT modality.



If your site is configured to use linked orders, InteleViewer matches the quick texts with the leading order. If your site is configured to use grouped procedures, InteleViewer matches the quick texts to all of the distinct body parts from from all of the procedures. These are only available for the radiologists in the Reporting Worklist Module.

If you are connected to a PACS that is an earlier version than 4.12.1, you cannot associate quick texts to modalities and body parts.

To associate a quick text:

1. From the Quick Text Manager, do one of the following:
   - To create a new quick text, click Create.
   - To edit a quick text, click Edit.
2. From the quick text editor, in the Associated With lists, select one or more modalities, body parts, or both.

   InteleViewer bases the default modalities and body parts on the currently opened order or dictation.
3. To quickly find a body part or a modality in the list, type the first few letters of the modality or body part that you are looking for, and the list will begin filtering.
4. Click Save.

See Also

Creating Quick Texts 679
Editing Quick Texts 686

Editing Quick Texts

You can make changes to your personal quick texts. For example, you can rename them, change which body parts or modalities to which they are associated, or change the content of the phrases for the quick texts.

To edit a quick text:

1. In the Quick Text Manager, select the quick text you want to edit, and then click Edit.
2. To change the name of the quick text, enter the new name in the Name field. For more on the factors you should consider when naming or renaming quick texts, see “Creating Quick Texts" (page 679).
3. To change the shortcut, enter the new shortcut name in the Shortcut field.
4. To change the quick text associations, see “Associating Quick Texts with Modalities and Body Parts" (page 684).

5. To format and organize the quick text, do the following:

Click:	To:
	Bold the text.
	Italicize the text.
	Underline the text.
	Insert a bulleted list. This is only available for radiologists using MMR.
	Add a special field that contains a custom value. See “Inserting Custom Value Fields in Quick Text" (page 682).
	Add a special field that contains order information. See “Inserting Order Information in Quick Texts" (page 680).
	Undo the last action. The Quick Text Editor supports multiple levels of undo.
	Redo the last undo. The Quick Text Editor supports multiple levels of redo.
F4	Add a special field that contains either order information or a custom value. See “Inserting Order Information in Quick Texts" (page 680) or “Inserting Custom Value Fields in Quick Text" (page 682).

6. Click Save.

See Also

Creating Quick Texts from Existing Quick Texts 682
Inserting Custom Value Fields in Quick Text 682
Inserting Order Information in Quick Texts 680

Deleting Quick Texts

You can delete unused personal quick texts in the Quick Text Manager. You cannot delete another radiologist's or transcriptionist's quick texts.

To delete quick text:

1. In the Quick Text Manager, select the personal quick text you want to delete, and then click Delete.

A confirmation window appears.

2. Click Yes to delete the selected quick text.

Administering Multi-Method Reporting

You must perform certain administrative tasks in InteleBrowser and InteleViewer to integrate Multi-Method Reporting with InteleViewer.

Administration tasks are split into one-time setup tasks, such as installing the Multi-Method Reporting dictation system and voice drivers, and tasks that are performed more often, such as managing report templates and the voice recognition dictionary.

Before you can use the M*Modal dictation system, your PACS administrator must access the M*Modal AnyModal Console and create an author for each InteleViewer user. For more information, contact your PACS administrator.

See Also

Setting up Multi-Method Reporting 688
Managing Template Matching 692

Setting up Multi-Method Reporting

Before using Multi-Method Reporting, you must perform set up tasks for each user and each workstation. For example, you must install Multi-Method Reporting on each workstation and set up user accounts in InteleBrowser.

Administrative tasks also include configuring SpeechMike buttons, monitoring the status of report templates, managing the M*Modal Dictionary, and managing report templates.

See Also

Installing Multi-Method Reporting and Voice Recorder Drivers 689
Setting up Users in InteleBrowser 690
Configuring SpeechMike Buttons 690

Installing Multi-Method Reporting and Voice Recorder Drivers

You must install the Multi-Method Reporting dictation system on your workstation before you can use it in InteleViewer. Furthermore, since you use Multi-Method Reporting with a dictation voice recorder, you must ensure that the applicable voice recorder drivers are installed on your workstation.

After you have installed Multi-Method Reporting, starting InteleViewer triggers an upgrade of Multi-Method Reporting as needed. An upgrade occurs only if you are running a version of Multi-Method Reporting that is different from the version on the IntelePACS. InteleViewer starts when the Multi-Method Reporting upgrade is complete. You are notified if an upgrade fails.

To install Multi-Method Reporting:

1. Be sure you have installed InteleViewer.
2. Close InteleViewer if it is running.
3. Log in to InteleBrowser.
4. In the InteleBrowser main menu, click Installers.

   The Intelerad User Resources page appears.
5. If you did not previously install SpeechMike drivers, do so now, by using the appropriate installer from the menu.
6. Click Multi-Method Reporting Installer.

   The Opening MultiMethodReporting.exe dialog appears, allowing you to save the installer.
7. Click Save File.

   The Downloads dialog appears.
8. Click the .exe file.

   A dialog appears asking you to confirm that you want to open the file.
9. Click OK.

   A dialog appears asking you to confirm that you want to run the file.
10. Click Run.

A dialog appears asking you to confirm that you want to install Multi-Method Reporting components.

If InteleViewer is running when you start the installer, a dialog appears instructing you to close the application and click Retry.

11. Click Yes.

    The installer installs Multi-Method Reporting.

12. To display a log file of the installation process, click Show Details.
13. To close the installer, click Close.

See Also

Supported Dictation Voice Recorders 158

Setting up Users in InteleBrowser

Before InteleViewer users can use Multi-Method Reporting, you must ensure that the following is true for their user accounts in InteleBrowser:

- Contains a first name, last name, and a RIS ID
- The Dictate Report privilege under the Report category is enabled
- The Reporting Worklist privilege under the InteleViewer category is enabled

If you want to give a user permission to modify report template matching rules, the Manage Profile privilege, under the InteleViewer category, must also be enabled.

Configuring SpeechMike Buttons

You can use your SpeechMike buttons to perform common actions in Multi-Method Reporting with Dictation Module.

You can assign the following SpeechMike buttons to one action each:

- **EOL**
- **F1—F4**
- **INS/OVR**

For MMR with Dictation Module you can also assign these buttons:

- **INSTR**
- **COMMAND**

For example, you can assign the **EOL** button to the Edit Report action. A radiologist can then press the **EOL** button to edit the report. Or, perhaps you assign the **F1** button to the Navigate to Next Section action. A radiologist can then press the **F1** button to navigate to the next section in a report.

You can use your button configuration at a different workstation. InteleViewer uses your preferences when the different workstation has the same SpeechMike and you are using the same dictation system. The dictation system is workstation specific and does not roam.

You must have Multi-Method Reporting with Dictation Module selected as your current dictation system.

To configure SpeechMike buttons to perform common actions:

1. In InteleViewer, choose Utilities | User Preferences (**CTRL+U**).
2. From the Application menu, choose Dictation System.
3. For each SpeechMike action, select a button from the list.

   Use the following table as a guideline:

When you assign this button to an action:	Pressing the button will:
Bring Multi-Method Reporting Window to Front	Bring the Multi-Method Reporting window to the foreground of your screen.
Save Draft	Save your audio recording as a draft report.
Send to Transcriptionist	Send the audio recording to the transcriptionist. The ability to send an audio recording to a transcriptionist may or may not be configured for your workflow.
Sign Report	Sign the draft report.
Seek to Start Available for MMR with Dictation Module only.	Navigate to beginning of audio stream.

When you assign this button to an action:	Pressing the button will:
Seek to End Available for MMR with Dictation Module only.	Navigate to end of audio stream.

4. Repeat the previous step for each action to which you want to assign a button.
5. Click Apply to save your changes.

Managing Template Matching

Report templates include predefined sections, subsections, fields, and text that allow you to report on specific scenarios quickly. For example, a CT Chest template might be designed to facilitate reporting on normal CT imaging of the chest. This template might include Procedure, History, Technique, and Comparison sections, as well as standard replies for normal findings.

The Manage Template Matching window allows you to hide templates from the Template menu, and edit template matching rules. The Manage Template Matching window is accessible from the Multi-Method User Preferences dialog.

Understanding Public and Private Templates and Matching Rules

Depending on how your IntelePACS is configured, the Manage Template Matching window may include both private and public report templates:

- Public report templates are created by your PACS administrator for all users. In the Manage Template Matching window, the public icon indicates a public template.
- Private templates are created by your PACS administrator for your own use. In the Manage Template Matching window, a blank cell indicates a private template.

Your PACS administrator creates both private and public report templates. You cannot edit report templates, but you can edit template matching rules.

Multi-Method Reporting uses template matching rules to determine which template appears when a radiologist opens an order for dictation. You can modify the matching rules for your own, private report templates.

To to edit matching rules for public templates, ask your PACS administrator to enable the Manage Profile Templates privilege in your user account.

If the matching rules for a public and private template are the same, Multi-Method Reporting uses the private template. Private templates and their matching rules take priority over public templates.

If the matching rules for two private templates are the same, Multi-Method Reporting chooses the template alphabetically, based on template name.

Filtering the Report Template List by Work Type

In the Manage Template Matching window, you can show the Work Type column to make it easier to identify report templates. The Work Type column is hidden by default.

To filter the report template list by work type:

1. Enable Work Type in the Column menu .

   The Work Type column appears and lists the Document Model Code assigned to the report template when it was first created. The Work Type column is hidden by default.

2. Do one of the following:

   - Click the Work Type column heading to sort the list of report templates, in ascending or descending order, by Work Type.
   - Use the Filter field to enter the filter text and then press **ENTER**.

Hiding Report Templates from the Templates Menu

In the Multi-Method Reporting window, when you attempt to choose a report template from the Template menu, there may be too many report templates shown, making it difficult for you to select the template you want to use. To reduce the number of report templates shown, you can hide them from the Templates menu.

When you hide a report template, its matching rules are ignored and the report template is never matched. For example, if a CT study is opened for dictation and the only matching CT report template is hidden, then a blank template is used instead of the CT template.

If all report templates are hidden, the Template menu is empty. When a report is opened for dictation, M*Modal uses the default template created by your PACS administrator. The draft template may include blank sections for Indication, Comparison, Technique, Findings, and Impression.

To hide report templates from the Templates menu:

1. From InteleViewer, choose Utilities | User Preferences (**CTRL+U**).

   The User Preferences dialog appears.

2. From the Application menu, click Dictation System.

   The Dictation System preferences for Multi-Method Reporting appears (unless InteleViewer is configured to use another dictation system).

3. Click Manage Template Matching.

   The Manage Template Matching window appears.

4. Select at least one template row in the Manage Template Matching window. To select multiple template rows, do the following:

   - **CTRL**-click to select or deselect a row.
   - **SHIFT**-click to select a range of rows.

   When more than one template row is selected, the Mark All As button is renamed Mark Selected As.

5. Do one of the following:

   - Choose Mark Selected As | Mark As Inactive.
   - Right-click the selected row, or rows, and then select Mark as Inactive.

   The selected templates are disabled and hidden from the Template menu. When you mark a report template as inactive, the template matching rules are also ignored.

   You can also hide a single report template by clicking the Active column for the template you want to hide.

See Also

Editing Template Matching Rules 694

Editing Template Matching Rules

The Manage Template Matching window allows you to specify the matching criteria that determines the public or private template InteleViewer chooses when opening an order

for dictation. These template-matching criteria correspond to order data—such as HL7 information associated with a RIS, for example.

To configure template-matching rules for public templates, ask your PACS administrator to enable the Manage Profile Templates privilege in your user account.

To edit template-matching rules:

1. From InteleViewer, choose Utilities | User Preferences (**CTRL+U**).

   The User Preferences dialog appears.

2. From the Application menu, click Dictation System.
3. Click Manage Template Matching.

   The Manage Template Matching window appears.

4. From the Show menu, select My Templates, Public Templates, or All Templates.
5. You can filter information in the Manage Template Matching window. See “Filtering the Report Template List by Work Type" (page 693).
6. You can show the Work Type column to make it easier to identify report templates. See “Applying Filters" (page 278).
7. Select at least one template row in the Manage Template Matching window. To select multiple rows, do the following:

   - **CTRL**-click to select or deselect a row.
   - **SHIFT**-click to select a range of rows.

   When multiple template rows are selected, the Edit Selected Row button is renamed Edit Selected Rows.

   If the Manage Profile Templates privilege is not assigned to your user account, the Edit Selected Row button is disabled when at least one public template is selected.

8. Click Edit Selected Row or Edit Selected Rows.

   The Edit Rules window appears.

9. Use the Edit Rules window to edit the matching criteria for the selected template or templates.

Since editing the matching rules for public templates affects all users, you should be careful when changing matching rules for public templates. If you are unsure, contact your PACS administrator.

In this field:	Do this:
Organization	Select the organization code to which the report template will be matched. The template menu in the Multi-Method Reporting window is filtered based on organization code. To match all organizations, select <Any>.
Modality	Select the modality to which the report template will be matched to an order. To match all modalities, select <Any>.
Study Description	Enable the checkbox and enter the keywords used to match the report template to an order. For example, if the template should be used for orders related to the abdomen and neck, enable the checkbox and enter `abdomen neck`. Use quotation marks to match exact words. For example, `"left arm"`. To match all orders, enable the checkbox and leave the field blank.

10. Click OK.

    The Edit Rules window disappears and the changes are made to the matching rules in the Manage Template Matching window. These changes are not applied until you click OK.

11. Click OK to close the Manage Template Matching window and apply changes to the template matching rules.

Monitoring the Status of Report Templates

The report template service retrieves updates from M*Modal and distributes those changes to InteleViewer, ensuring quick loading of templates in the Multi-Method Reporting window. The Report Template Status pane in User Preferences allows you to monitor the status of the report templates and to take possible action accordingly.

To monitor report templates:

1. From InteleViewer, choose Utilities | User Preferences (**CTRL+U**).

   The User Preferences dialog appears.

2. From the Application menu, click Dictation System.

   The Dictation System preferences for Multi-Method Reporting appears (unless InteleViewer is configured to use another dictation system).

3. In the Report Template Status section, view the report template status and perform the following actions accordingly:

For this Status:	Perform this Action:
Out-of-date	Wait for Multi-Method Reporting to update.
New template updates available	Wait for Multi-Method Reporting to update, or restart InteleViewer to apply the template updates immediately.
Up-to-date	No action required.
Not yet available	Wait for Multi-Method Reporting to update.
System not available	Contact your PACS administrator.

Managing Custom Report and Addendum Templates

Radiologists and transcriptionists can use InteleViewer to create and manage report templates and addendum templates to be used in dictations. Radiologists can self-sign the report created from a custom report template, bypassing the transcriptionist. Or, they can choose to send text, audio, or a combination of the two to transcriptionists.

You create and manage templates in the Report Template Manager. Once you create a template, you can edit, rename, delete, duplicate, or share it.

Unlike the templates created using the AnyModal Console by a PACS administrator or by a representative in professional services, these templates are created directly by the user in InteleViewer.

Typically, Intelerad provides a default addendum template for your site. Before creating a new addendum template, contact your PACS administrator for best practices.

The workflow for creating and using templates is as follows:

- Create a template.
- Match rules to the template.
- Use the template in the dictation process.
- Transcribe a report or addendum using the custom template.

See Also

Creating Report and Addendum Templates 699
Managing Template Matching 692
Dictating a Report 665
Transcribing Dictated Reports 554

Accessing the Report Template Manager

You access the Report Template Manager to create, edit, rename, duplicate, and delete report templates. Depending on whether you are a radiologist or a transcriptionist, you access the Report Template Manager from the User Preferences window, or from the main menu in InteleViewer.

Radiologists must have Multi-Method Reporting with Dictation Module selected as their dictation system to access the Manage Report Templates window. Contact your PACS administrator for more information.

To create, edit, duplicate, or delete global report templates or , you must be assigned the Manage Report Templates privilege in InteleBrowser.

To access the Report Template Manager as a radiologist:

1. Click Utilities | User Preferences (**CTRL+U**).
2. From the Application menu, select Dictation System.

   The Dictation System dialog appears.
3. From the Current Dictation System list, select Multi-Method Reporting with Dictation Module.
4. Click Manage Report Templates.

   The Manage Report Templates dialog appears.

To access the Report Template Manager as a transcriptionist:

- From the main menu, click Reports | Manage Report Templates.

  The Manage Report Template dialog appears.

Creating Report and Addendum Templates

Using the Manage Report Templates window, the following users can create the following templates:

Type of Template:	User:	Definition of Template:
Personal	Radiologist	A personal report or addendum template can be used only by the user who created it. However, a transcriptionist can also select a dictating radiologist's personal templates during the transcription process.
Global	Radiologist or Transcriptionist	A global template is a report template or an addendum template that can be used by any user. Users must have the Manage Report Template privilege in InteleBrowser to create global report templates.

These templates may contain fields that automatically populate with either order (HL7) information or user-defined information.

To create a report or addendum template:

1. Access the Report Template Manager. See "Accessing the Report Template Manager" (page 698).
2. In the Report Template Manager, click Create Template.

   The Document Model Selection window appears.

   This window appears only if multiple document models are configured for your workflow.

3. To review the various document models, click each to display the default sections in each.
4. Select a report or addendum document model and click OK.

   The Template Editor appears.

5. In the Name field, enter a name for your report template.

   Since the report template name can be used in a voice command, the name should only contain alphanumeric characters, and be easy to pronounce.

6. In the Category field, select whether to make the template a personal or a global template.

   To use this feature, ask your PACS administrator to enable the Manage Report Template privilege in your user account.

7. To enter a field in one of the sections, refer to the section on Adding, Editing, or Deleting a Field, later in this topic.
8. Click Save to save the report or addendum template.

   The template appears in the list of templates in the Report Template Manager.

Adding and Editing a Field in a Report or Addendum Template

An important aspect of the template is the field. You can add either custom or automated fields in a section of a template. The text that appears in automated fields is derived from HL7 information in a patient order.

Fields are placeholders for information. For example, in the Findings section of your template, you may enter the field “Measurements.” Users who select this template could go to this field to enter measurements of a specimen located on an image, for example. Or perhaps in the Procedures section, you wish to enter fields for “Procedure 1” and “Procedure 2,” to allow users to enter information accordingly. As such, fields facilitate entering information in particular areas of a template during the dictation process.

Automated fields include HL7 information found in patient orders, such as Accession number, Study date, and Patient ID, for example. When you use a template for dictating, transcribing, or signing, these fields are automatically populated with this information.

To add, edit, or delete a field:

1. Follow the procedure in “Creating Report and Addendum Templates" (page 699), until you arrive at the step referencing adding a field.
2. To enter a custom field in one of the template sections, do the following:

- Place your cursor in the desired section of the Template Editor (for example, the Procedure section), and from the toolbar, click Custom. Closed square brackets appear ([]).
- Enter text into the field.

3. To enter an automated field in one of the report template sections, do the following:

   - Place your cursor in the desired section of the Template Editor (for example, the Procedure section).
   - From the Auto menu in the toolbar, select a field.

   The automated field appears in the section (and populates with values when the template is used in the Report Editor).

4. To edit a field, click inside the brackets and edit the text.
5. To delete a field, highlight the field and press Delete on your keyboard.
6. To format or correct the text in the fields, use the various tools on the toolbar.

Renaming Report or Addendum Templates

You can use the Report Template Manager to rename a report or addendum template. When you name or rename a template, you should consider the following factors:

Since the template name can be used in a voice command, the name should only contain alphanumeric characters, and be easy to pronounce.

The template menu, in the Multi-Method Reporting window, organizes all templates alphabetically. Give the template an easily identifiable name. For example, you could start the name of the template with the modality, such as CR Left Arm, to group all templates by modality.

To rename a template:

1. Access the Report Template Manager. See “Accessing the Report Template Manager" (page 698).
2. In the Templates list, select the template that you want to rename and then click Rename.

   The Rename Template window appears.

3. Type the new name for the template and then click Rename.

The template appears with its new name in the Templates section of the Report Template Manager.

Editing Templates

Once you have created a report or addendum template, you can use the Report Template Manager to edit it. For example, you can add or remove fields, format text, or change the template from personal to global, or vice versa.

To edit a report template:

1. Access the Report Template Manager. See “Accessing the Report Template Manager" (page 698).
2. In the Report Template Manager, click a template in the Templates field to select it.
3. From the toolbar, click Edit.

   The Template Editor appears.
4. Make changes to the template, as necessary. See “Creating Report and Addendum Templates" (page 699).
5. Click Save to save the template.

   The edited template appears in the list of templates in the Report Template Manager.

Duplicating or Creating a Personal Copy of a Report or Addendum Template

You can duplicate a personal report template or addendum template to use as the model for another personal report or addendum template that you would like to create. You can also save a global template as a personal template for the same purpose. A copy of a global template cannot be saved directly as a global template. However, you can first save it as a personal template, and then save it as a global template, if you have been assigned the Manage report template privilege in InteleBrowser.

To duplicate or create a personal copy of a template:

1. Access the Report Template Manager. See “Accessing the Report Template Manager" (page 698).
2. To duplicate a personal template, do the following:

- In the Report Template Manager, click a template in the Personal Templates section to select it.
- From the toolbar, click Duplicate.
- A copy of the personal template appears in the Personal Templates section.

3. To make a personal copy of a global template, do the following:
   - In the Report Template Manager, click a template in the Global Templates section to select it.
   - From the toolbar, click Copy as Personal.
   - A copy of the global template appears in the Personal Templates section.

Deleting Report or Addendum Templates

The Report Template Manager allows you to delete a report or an addendum template that you no longer use.

Deleting a template cannot be undone.

To delete a template:

1. Access the Report Template Manager. See “Accessing the Report Template Manager" (page 698).
2. In the Report Template Manager, click a template in the Templates field to select it.
3. From the toolbar, click Delete.

   A window appears asking you to confirm the deletion.
4. Click Yes.

   The report or addendum template is deleted from the list of templates in the Report Template Manager.

17 SHARING AND PRESENTING IMAGES

You can collect and organize images to present and share with other IntelePACS users.

In this chapter:

About Sharing and Presenting Images 705

Working with Study Tags 705

Working with Key Images 716

Working with Teaching Cases 721

About Sharing and Presenting Images

You can collect, organize, and share images with other IntelePACS users.

You can highlight notable images in a study with key images. Referring physicians using InteleConnect EV can automatically view a patient’s key images when they open a study.

You can make a scrapbook of images and interpretations for educational presentations with teaching cases and collections. In a teaching case, you can add a patient's images along with keywords, history, findings, and other relevant information. You can group several teaching cases into a teaching collection. A teaching case captures images and interpretations at a point in time. A teaching case is not affected by later changes to the study or its order.

You can save noteworthy studies to view and share later with study tags. A study tag links to a study and remembers the viewport layout, image manipulations, and opened relevant studies. You can organize tagged studies into folders or calendar events. You can optionally share tags with other InteleViewer users. Unlike teaching cases, a study tag does not take a snapshot of images in a study. Instead, when you open a tagged study, InteleViewer displays the study as it would normally, including new images, dictations, critical results, and so on.

Working with Study Tags

You can save important studies to conveniently view them later or share with other IntelePACS users. A study tag links to a study and remembers the viewport layout, image manipulations, and related prior studies.

You can create tags and organize them in folders or associate them with calendar events. When you open a study tag, InteleViewer displays the study that it links to, re-applies the viewport layout, re-applies your image manipulations, and re-opens related prior studies. You can also add a note to a tag to remember details about a study.

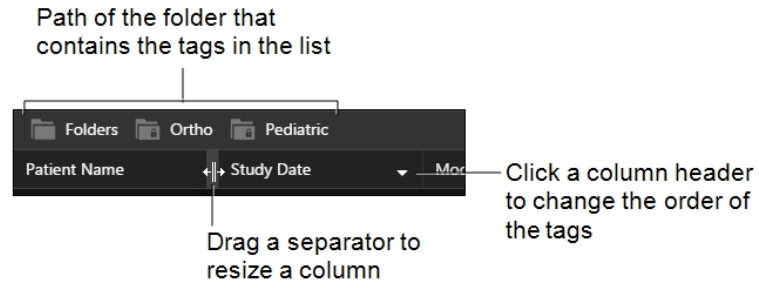
To use this feature, ask your PACS administrator to enable the Study Tagging privilege in your user account.

A study tag only links to a study and prior studies; it does not modify images, patient information, or related prior studies. Also, study tags that you create do not interfere with study tags that other users create for the same study. You can, however, create many tags for the same study, each tag with different manipulations and layout.

You can make tags public or private. Only you may search for, view, and organize your private tags. You can search for, view, and organize the public tags that you and other users create.

You can organize tags into folders or events. When you select a folder or event, its tags appear in the study tag list. You can change the sort order of the list, resize column widths, and show or hide columns. The event or hierarchy of folders that contain the tags appears at the top of the list.

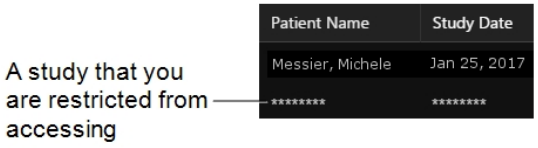
The study tags list



You navigate to parent folders by clicking them in the top of the study tag list.

You can see the complete information for a tag by hovering the mouse over it. For example, to see the complete note for a tag instead of the first few words that fit in the column, hover over the note.

You cannot open a study that a tag refers to if you are restricted from accessing the study. Also, you cannot move or delete tags that point to restricted studies. For example, if another user creates a public tag for a study from organization ABC and you are restricted from accessing ABC studies, then you will be able to view the tag but you cannot open the study. In the study tag list, InteleViewer displays restricted patient data with asterisks. However, the name of the user who created the tag is visible.



You can present tagged studies while respecting patient confidentiality. When you are presenting tagged studies, you can enable de-identification to hide patient information in the InteleViewer user interface.

Tagging a Study

You can tag a study to view it later. You can store a study tag in a folder or in a calendar event.

When you tag a study, InteleViewer creates a link to the study and also records the viewport layout, image manipulations, and related prior studies that are open. Study tags are available to you from any workstation on which you use InteleViewer because InteleViewer saves your tags on IntelePACS.

To tag a study:

1. Set the viewport layout as required. See “Changing the Viewport Layout" (page 408).
2. Add current or prior series/images to the viewports as required. See “Dragging Thumbnail Images to Viewports" (page 455).
3. Adjust the images in the viewports as required by using the image tools.
4. Click the Study Tag tool .

   The Save Study Tag dialog appears.
5. Do one of the following:

   - Choose or create an event in which to save your tag. See “Searching for Study Tags" (page 262) and “Organizing Study Tags with Events" (page 713).
   - Choose or create a folder in which to save your tag. See “Searching for Study Tags" (page 262) and “Organizing Study Tags with Folders" (page 711).

   The tag that you are about to create appears in italic in the list of tags for the folder or event.
6. To add a note to the tag, do the following:

   - Click for your new tag then enter your note.
   - To save your note, click . To discard your change, click .

   ⚠ Do not put patient information in the note of a study tag if you intend to present the tagged study to audiences that are restricted from viewing this information. Study tag notes are still visible in De-identification mode.
7. Click Save.

Viewing Tagged Studies

You can open tagged studies to view or present them. When you open a study tag, InteleViewer opens the study that it links to, opens prior studies, then re-applies the viewport layout and image manipulations.

If a report has been dictated or transcribed since the study tag was created, this information will appear as well. A study tag does not restore the stacking order of an image if the stacking order changed after the study tag was created.

Once the study is open, you can continue to change the viewport layout and apply image manipulations. These changes will not modify your study tag. You can save your new changes by creating a new study tag.

If you use sequence protocols in your workflow, sequence protocols are ignored when you open a tagged study.

To view tagged studies:

1. Find the desired study tag. See “Searching for Study Tags" (page 262).
2. Do one of the following:
    - Right-click the study tag and choose Open.
    - Click Open in the bottom-right corner of the study tags list.
    - Double-click the study tag.

Hiding Patient Information While Presenting

You can protect patient information while presenting tagged studies. *De-identification* hides patient information in the InteleViewer user interface. De-identification mode does not modify patient data, it only hides it in the parts of the InteleViewer interface that you use for presenting studies.

When you turn on De-identification mode, InteleViewer does the following:

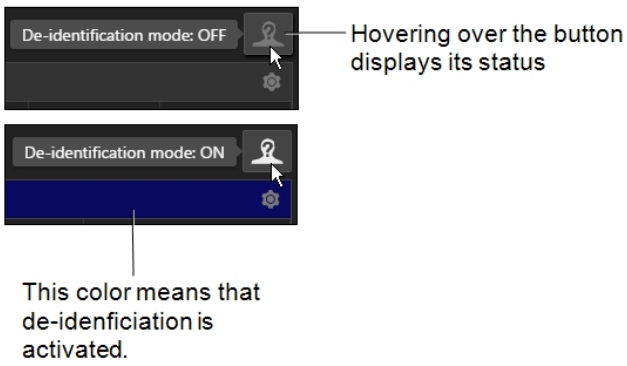
In these parts of the user interface:	InteleViewer does this:
Study tags list Viewport overlays Patient record tabs	Hides patient names, patient IDs, accession numbers, and dates of birth.

In these parts of the user interface:	InteleViewer does this:
InteleViewer main window title	
Patient record tabs	Collapses the Report, Billing Information, and History sections.
Document Viewer	Does not display the Document Viewer window when opening an order.
Study panel of the Thumbnail strip	Hides the patient name. InteleViewer replaces date of birth, patient ID, and accession number with "anonymized."

InteleViewer hides information for all patients, not just the patients for opened tagged studies. InteleViewer still displays patient age, sex, modality, study date, study description, users who created study tags, and the notes for study tags.

To remind you that De-identification mode is on, InteleViewer displays the study tag list and the main menu bar in a different color.

Activating and de-activating de-identification



You can still tag studies when De-identification mode is on.

⚠ When De-identification mode is on, avoid using InteleViewer features that are not related to viewing studies and reports. InteleViewer does not hide patient information in tools that are not related to presenting studies. For example, the Export DICOM feature always displays patient information, even when De-identification is mode is on.

To hide patient information when presenting tagged studies:

1. In the Study Tags tab, click De-identification Mode to turn it on.
2. Present your tagged studies. See “Viewing Tagged Studies" (page 708).
3. When you are done, in the Study Tags tab, click De-identification Mode.

Editing Study Tags

You can copy and paste tags to a folder or event. You can also edit the note for a tag. You cannot change the viewport layout and image manipulations for a study tag. Instead, you can open a study tag, change layout and image manipulations, then create a new study tag.

You can move tags with the clipboard by cutting or copying then pasting into folders or events. You can cut and copy folders and paste them into other folders. When you cut a tag or folder, it is deleted from its original folder or event only when you paste.

When you paste a tag into a folder or event with different permissions, an alert appears asking you to confirm that InteleViewer will change the permissions of the pasted tag to match the permissions of its new folder or event.

⚠ Do not put patient information in the note of a study tag if you intend to present the tagged study to audiences that are restricted from viewing this information. Study tag notes are still visible in De-identification mode.

To move tags with the clipboard:

1. Find the desired study tag to cut or copy. See “Searching for Study Tags" (page 262).
2. Right-click the tag then choose Cut or Copy.
3. Find the desired folder or event in which to paste the tag. See “Searching for Study Tags" (page 262).
4. Right-click the folder or event then choose Paste.
5. If you are pasting a public tag into a private folder or event or vice versa, an alert appears asking you to confirm. Click Continue or Cancel.

To edit the note for a tag:

1. Find the desired tag. See “Searching for Study Tags" (page 262).
2. Click for the tag then enter your note.
3. To save your note, click . To discard your change, click .

Deleting Tags and Folders

You can delete study tags in folders and events. You can also delete folders.

When you delete a study tag or a folder, it is not immediately deleted. Instead, InteleViewer moves it to the Trash in the Folders tab. If you change your mind, you can

move tags and folders from the trash to other folders and events. You can permanently delete tags and folders by emptying the trash.

Only you can delete your private tags and folders. You and other users can delete public tags and folders. When you delete a public study tag or folder, it is deleted for all users.

To prevent your public tags from being deleted by someone else, copy them to a private folder.

⚠ You cannot undelete tags that you have deleted by emptying the trash.

To delete a study tag or folder:

1. Find the desired study tag or folder. See “Searching for Study Tags" (page 262).
2. Right-click the study tag or folder and choose Delete.

   An alert appears asking you to confirm.
3. Click Delete or Cancel.

To empty the trash:

1. In the Study Tags tab, click the Folders tab.
2. Do one of the following:

   - To permanently delete private tags and folders, right click Trash and choose Empty Private Trash.
   - To permanently delete public tags and folders, right click Trash and choose Empty Public Trash.

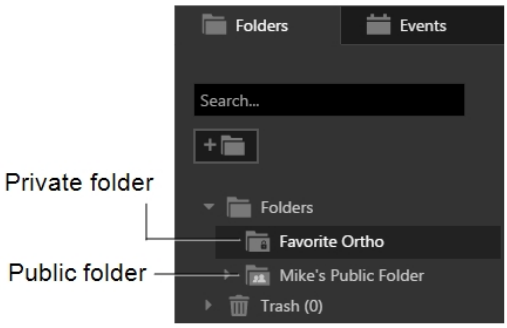
   An alert appears asking you to confirm.
3. Click Delete or Cancel.

Organizing Study Tags with Folders

You can organize study tags into folders. You can create your own folders or share them with other IntelePACS users.

Folders for study tags appear in the Folders tab of the Study Tag tab and the Save Study Tag dialog. They are arranged hierarchically into subfolders. The folders of each subfolder are ordered alphabetically.

Organizing tags with folders



Subfolders have the same public or private permissions as their parent folder. When you paste a folder into a folder with different permissions, an alert appears asking you to confirm that InteleViewer will change permissions for the folder you are pasting to match the permissions of its new parent.

If there are too many public folders shared among many users, you can manage these folders by following a convention that everyone agrees to. For example, you can organize public folders by subject matter, audience, sub-specialty, or the user's name.

To create a folder:

1. In the Save Study Tag dialog or Study Tag tab, click the Folders tab.
2. Navigate or search for the folder in which you want to create your new folder.
3. Click or right-click and choose New Folder.
4. Enter the name of your new folder.

   The folder name must contain at least two characters and may contain up to 50 characters.

5. Specify whether the folder is private or public.

   You can specify the access for a folder only if its parent is the top folder. Otherwise, your folder will have the same access as its parent, private or public.

6. Click Save.

To rename a folder or change its permissions:

1. Find the desired folder. See “Searching for Study Tags" (page 262).
2. Right-click the folder and choose Rename.

The Folder Properties dialog appears.

3. To change the folder's name, enter the new name.

   The folder name must contain at least two characters and may contain up to 50 characters.

To delete a folder:

1. Find the desired folder. See “Searching for Study Tags" (page 262).
2. Right-click the folder then choose Delete or drag and drop it on .the Trash folder.

   An alert appears asking you to confirm.

3. Click Delete or Cancel.

To move folders by dragging and dropping:

1. Find the desired folder to move. See “Searching for Study Tags" (page 262).
2. Drag the folder and drop it on its new location.
3. If you are dropping a public folder into a private folder or vice versa, an alert appears asking you to confirm. Click Continue or Cancel.

To cut or copy folders with the clipboard:

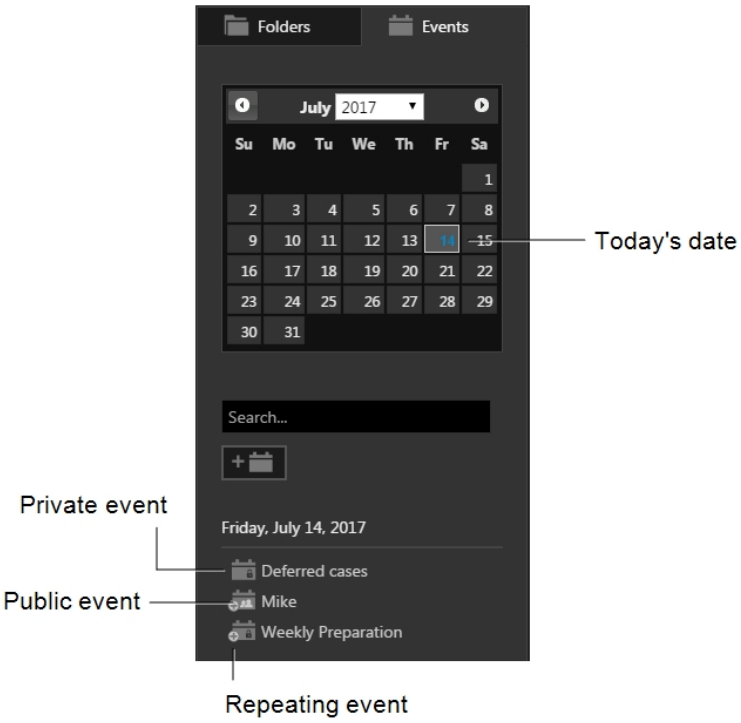
1. Find the desired folder to cut or copy. See “Searching for Study Tags" (page 262).
2. Right-click the folder then choose Cut or Copy.
3. Find the desired folder in which to paste. See “Searching for Study Tags" (page 262).
4. Right-click the folder then choose Paste.
5. If you are pasting a public folder into a private folder or vice versa, an alert appears asking you to confirm. Click Continue or Cancel.

Organizing Study Tags with Events

You can put study tags in calendar events. You can create your own events or share events with other IntelePACS users. An event may contain any number of study tags, including none.

Events for study tags appear in the Events tab of the Study Tag tab and the Save Study Tag dialog. The tab displays only the events for the date that you choose in the calendar. They are ordered alphabetically.

Organizing tags with calendar events



You can create an event that occurs once or repeats at an interval you choose.

Events can be private or public. Only you may create, search for, view, and organize the tags in your private events. You can search for, view, and organize the public events that you and other users create.

If there are too many public events shared among many users, you can manage these events by following a convention that everyone agrees to. For example, you can name public events by subject matter, audience, sub-specialty, or the name of the user.

To create an event:

1. In the Save Study Tag dialog or Study Tag tab, click the Events tab.
2. Click .
3. Enter the name of your new event.

   The event name may contain up to 50 characters.

4. To specify the date for your event click then navigate to and click the desired date.

5. To create a recurring event, choose from Frequency then choose the Start Date and End Date.

   For events that repeat weekly, you can also choose the days of the week when the event occurs.

6. Specify whether the event is private or public.
7. Click Save.

To edit an event:

1. Find the desired event. See “Searching for Study Tags" (page 262).
2. Right-click the event and choose Edit.

   The Edit Event dialog appears.

3. If this is a recurring event, choose whether you want to edit the current event or all repeating events.

   To edit the name or end date for a recurring event, choose all recurring events.

4. To specify a new name, edit Event Name.

   You cannot edit the name of a single instance of a recurring event.

5. To specify a new start date for your event, click and then navigate to and click the desired date.

   You cannot specify a new start date for past events.

6. To modify the End Date of a recurring event, click then navigate to and click the desired date.
7. Click Update.

Recovering Lost Tags

You can find tags and folders that were misplaced. Tags and folders are misplaced when another user deletes a tag folder at the same time that you add tags to the same folder. InteleViewer puts these tags in the Lost+Found folder for you.

To recover lost tags and folders:

1. Click the Study Tags tab.
2. In the Study Tags tab, click the Folders tab.

3. Navigate to the Lost+Found folder.
4. Move the tags in the Lost+Found folder to another folder by dragging and dropping. See “Editing Study Tags" (page 710).

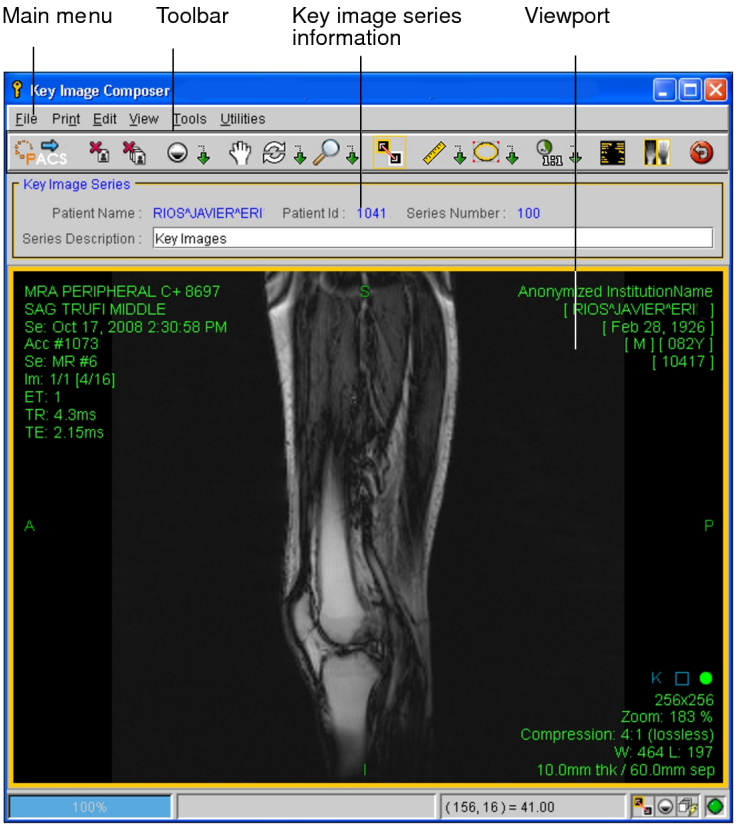
Working with Key Images

You can select important images in a study and save them as a *key image series*. Referring physicians using InteleConnect EV can automatically view a patient’s key images when they open a study. To view other images, a referring physician must have applicable privileges.

You can create key images in the Key Image Composer. You can zoom, adjust the window level, and manipulate key images by using the standard InteleViewer toolset in the Key Image Composer. You can also create measurements, text annotations, arrow annotations, elliptical, and circular annotations on the images to highlight particular areas of interest.

When you are done creating key images, you save them in IntelePACS for permanent storage as a *DICOM presentation state*. Once sent to the IntelePACS, a key image series is saved with its original study. In the Search tool, a modality of “PR” and the words “KEY IMAGES” in the Series Description indicate that the series contains key images.

To use this feature, ask your PACS administrator to enable the appropriate privileges in your user account.



See Also

Measuring Lines, Areas, Angles, and Volumes 503
Adding Annotations 525

Adding Key Images to a Study

When viewing a study, you can quickly select important images and add them to a key image series with the Key Image Composer.

To add key images:

1. Select the required image by clicking its viewport.
2. If required, manipulate the image, position and orient it in the viewport, adjust the window level, and apply measurement and annotation tools.

   You can also do this later in the Key Image Composer.

3. Do one of the following:

- From the main menu, choose Tools | Add Key Image.
- Use the shortcut key **SPACEBAR**.
- Click Add Key Image .

A key image series is created containing the selected image. A key image indicator “K” appears in the text overlay to indicate that the image has been added.

The key image indicator in the text overlay will be removed when you either delete the image or save the key image series.

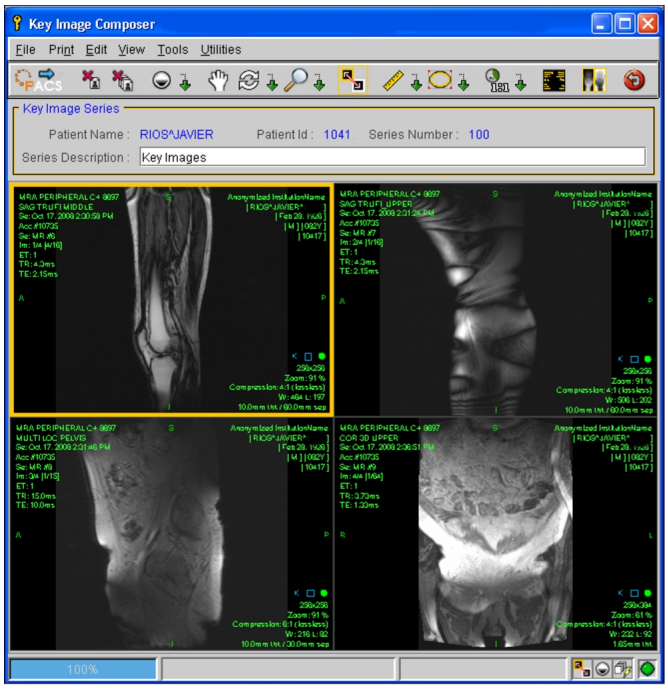
4. To add more images to the key image series, repeat steps 1 to 3 as required.

   To add them, the images must come from the same study.

   If you try to open a different study after you have added key images, a warning appears. You must choose to save or discard the selected key images before opening the next study.

5. To view the key images, from the main menu, choose View | Show Key Image Composer (**K**) or click Show Key Image Composer .

   The Key Image Composer opens, and the images you selected are displayed in the viewports. Any image manipulations or measurement and annotation tools that you added also appear.



6. To continue to add images, return to the InteleViewer window and repeat steps 1 to 3, as required.

Automatically Creating Key Images

If the auto-create key image feature is enabled, and you add measurements or annotations to an image, InteleViewer automatically creates a key image for that image when you close the study or open the Key Image Composer.

This feature allows you to work more quickly through important images as you do not have to manually create or add key images.

When the auto-create key image feature is enabled:

- Since the feature works at the study level, the feature is active when you open a study. Only measurements and annotations that you make to images for the current study will generate key images.
- Adding a spine label will not automatically create a key image.
- Auto-created, as well as manually created key images, appear in the Key Image Composer. However, if the auto-create key image feature is enabled, Composer tools will become inactive (with the exception of tools to remove or resize manually created key images).
- You can still create key images manually even if the auto-create key image feature is enabled.

Key images will not be generated automatically when you apply an IMS Presentation State.

To auto-create key images:

1. Enable the auto-create key image feature as follows:
    a. From the main menu, choose Utilities | User Preferences (**CTRL+C**)
    b. Click **Key Images** from the left pane.
    c. Select **Automatically create key images when I add a measurement or annotation**.
2. Open a study.
3. Add measurements or annotations to an image.
4. Open the Key Image Composer to save the key images. See “Saving Key Images" (page 721).

Manipulating Key Images

You can manipulate key images like any other image in InteleViewer. For example, you can adjust the window level, zoom, rotate, and add measurements and annotations to key images. The toolbar of the Key Image Composer contains all of the tools you need to work with key images.

When you save the key image series, any manipulations you have made to the key images are also saved.

You cannot make changes to a key image series after it has been saved.

To manipulate a key image:

1. Add the key images that you require. See “Adding Key Images to a Study" (page 717).
2. Do one of the following:
   - From the main menu, choose View | Show Key Image Composer.
   - Use the shortcut key **K**.
   - In the toolbar, click Show Key Image Composer .

   The Key Image Composer opens, and the images you selected are displayed in the viewports. The viewport layout automatically corresponds to the number of key images available.
3. Use the tools in the Key Image Composer to manipulate the images as you would any other image.

Removing Key Images

You can remove a selected image, or remove all images in the key image series.

To remove a selected key image:

1. In the Key Image Composer, click the image that you want to remove.
2. In the toolbar, click Remove Key Image .

   The image is removed from the key image series.

To remove all key images from a study:

- In the Key Image Composer, in the toolbar, click Remove All Key Images .

  All images are removed.

Saving Key Images

Once you have finished creating and modifying your key image series, send it to the IntelePACS to save it. The key image series is saved with the original study. In the Search tool, a modality of “PR” and the words “KEY IMAGES” in the Series Description indicate that the series contains key images.

To save key images to the IntelePACS, you need the Send Data to PACS privilege. For more information, contact your PACS administrator.

To save a key image:

1. In the Key Image Composer, enter a description in the Series Description field.

   “Key Images” appears by default.

2. Do one of the following:

   - From the Key Image Composer menu, choose File | Send Key Images to PACS.
   - From the Key Image Composer toolbar, click Send Images to PACS .

   The key image series is saved with the original study on the IntelePACS.

   It may take a few moments for the key image series to appear in the Search tool, depending on the number (and location) of images being transferred.

Working with Teaching Cases

A *teaching case* is a scrapbook of images taken from one or more studies belonging to a selected patient. InteleViewer saves teaching cases on the IntelePACS.

Using the Teaching Case Editor, you can zoom, adjust the window level, and manipulate the images by using the standard InteleViewer toolset. You can also create measurements, text annotations, arrow annotations, elliptical, and circular annotations on the images to highlight particular areas of interest.

You can also add case information, including keywords, ACR codes, and clinical history. You can then set access rights that limit the ability of other users to view and edit these cases. Finally, you can send the teaching cases to the IntelePACS for permanent storage.

When creating a teaching case, you can also anonymize the patient health information (PHI) contained in the corresponding images, in order to safely present it at conferences, clinical review meetings, or teaching sessions.

The PHI anonymization process removes the following identifiable data:

- Patient identifiers (name, ID, birth date, etc.)
- Facility identifiers
- Referring physician identifiers

The Anonymize option is only available while creating a new teaching case. When editing an already existing teaching case, it is disabled.

Since the anonymization process cannot remove PHI data from scanned documents, InteleViewer will exclude any scanned documents from the anonymized study. This feature requires a version of IntelePACS that supports this feature. For information on if this feature is supported on your version of IntelePACS, contact your PACS administrator or Customer Success manager and reference issue number IP-106402.

You can also group teaching cases into collections. A *teaching collection* is a group of teaching cases from a single patient or several different patients.

To use this feature, ask your PACS administrator to enable the Viewing Teaching Files and Edit Teaching Files privileges in your user account.

To open the teaching case editor:

- Do one of the following:
  - From the main menu, choose Tools | Show Teaching Case Editor.
  - Use the shortcut key **F**.
  - From the toolbar, click the Show Teaching Case Editor tool .

See Also

Creating Teaching Collections 734

Adding and Removing Images from Teaching Cases

When viewing a study, you can quickly select important images and add them to the Teaching Case Editor to create a new case. A case can contain images from multiple studies from the same patient, but cannot include images from other patients.

Once you have added images, you can remove any unwanted images or clear the teaching case entirely.

Use teaching collections to group images from multiple patients together.

To add an image to a teaching case:

1. Select the required image by clicking its viewport.
2. If required, manipulate the image, position and orient it in the viewport, adjust the window level, and apply measurement and annotation tools.

   You can also do this later in the Teaching Case Editor.
3. Do one of the following:

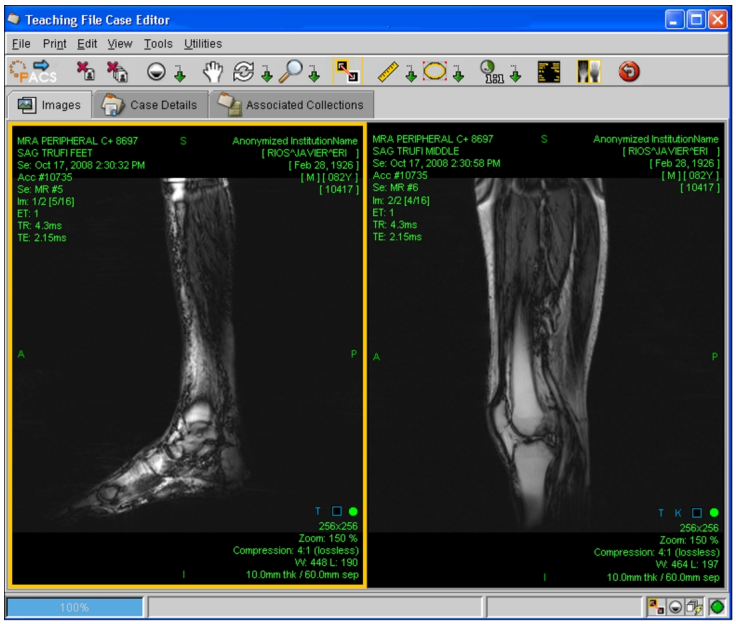
   - From the main menu, choose Tools | Add Teaching Case Image.
   - Use the shortcut keys **CTRL+SPACEBAR**.
   - From the toolbar, click the Add Teaching Case Image tool .

   A teaching case is created containing the selected image. A teaching case indicator "T" appears in the text overlay to indicate that the image has been added.

   The teaching case indicator in the text overlay is removed when you either delete the image or save the teaching case.
4. To add other images to the teaching case, repeat steps 1 to 3 as required.

   If you have unsaved teaching case images when you try to exit InteleViewer, you must choose to either save or discard these images before exiting.
5. To view the teaching case, choose Tools | Show Teaching Case Editor (**F**) or click Show Teaching Case Editor .

The Teaching Case Editor opens, and the images you selected appear in the viewports. Any image manipulations or measurements and annotations that you added also appear.



6. To continue to add images, return to the InteleViewer window and repeat steps 1 to 3, as required.

To remove a selected image:

1. In the Teaching Case Editor, click the image that you want to remove to select it.
2. From the toolbar, click Remove Teaching Case Image .

   The image is removed from the case.

To remove all images:

1. In the Teaching Case Editor toolbar, click Remove All Teaching Case Images .
2. Click Yes in the confirmation dialog that appears.

   All images are removed from the case.

See Also

Creating Teaching Collections 734

Adding and Removing Series from Teaching Cases

You can add an entire series to a teaching case, rather than selecting single images. A case can contain series from multiple studies from the same patient, but cannot include series from different patients.

You can stack the series and manipulate it normally in the Teaching Case Editor. However, measurement and annotation tools are disabled for the series, as changes cannot be saved. You can also remove an entire series from a teaching case.

To add annotations and measurements and save your changes, add individual images rather than series to the teaching case.

To add a series to a teaching case:

1. Select the required image by clicking its viewport.

   When adding an entire series to a teaching case, annotations and measurements cannot be used. Also, you cannot save any of the manipulations you make to an added series.

2. From the main menu, choose Tools | Add Teaching Case Series.

   A teaching case is created containing the selected series.

3. To add other series to the teaching case, repeat steps 1 to 2 as required.
4. To view the teaching case, from the main menu, choose Tools | Show Teaching Case Editor (**F**) or from the toolbar, click Show Teaching Case Editor .

   The Teaching Case Editor opens, and the series you selected appear in the viewports.

5. To continue to add series, return to the InteleViewer window and repeat steps 1 to 2, as required.

To remove a selected image from a series:

1. In the Teaching Case Editor, click the image that you want to remove to select it.
2. From the toolbar, click Remove Image .

   The image is removed from the case.

To remove all series:

1. In the Teaching Case Editor toolbar, click Remove All Images .
2. Click Yes in the confirmation dialog that appears.

   All series are removed from the case.

See Also

Adding and Removing Images from Teaching Cases 723

Manipulating Teaching Case Images

You can manipulate teaching case images as you would any other image in InteleViewer, by using the tools on the toolbar of the Teaching Case Editor. When you save the teaching case, any manipulations you have made to the images are also saved.

You can also modify your manipulations even after you have saved the teaching case.

To add annotations and measurements and save your changes, add individual images rather than series to the teaching case.

To manipulate a teaching case image:

1. Add the images that you require. See “Adding and Removing Images from Teaching Cases" (page 723).
2. Do one of the following:

   - From the main menu, choose Tools | Show Teaching Case Editor.
   - Use the shortcut key **F**.
   - From the toolbar, click Show Teaching Case Editor .

   The Teaching Case Editor opens, and the images you selected appear in the viewports. The viewport layout automatically corresponds to the number of images available.
3. Use the tools in the Teaching Case Editor to manipulate the images as you would any other image.

   For example, enlarge a portion of the image and then add annotations to areas of interest. See “About Manipulating Images" (page 479).

Recording Case Details

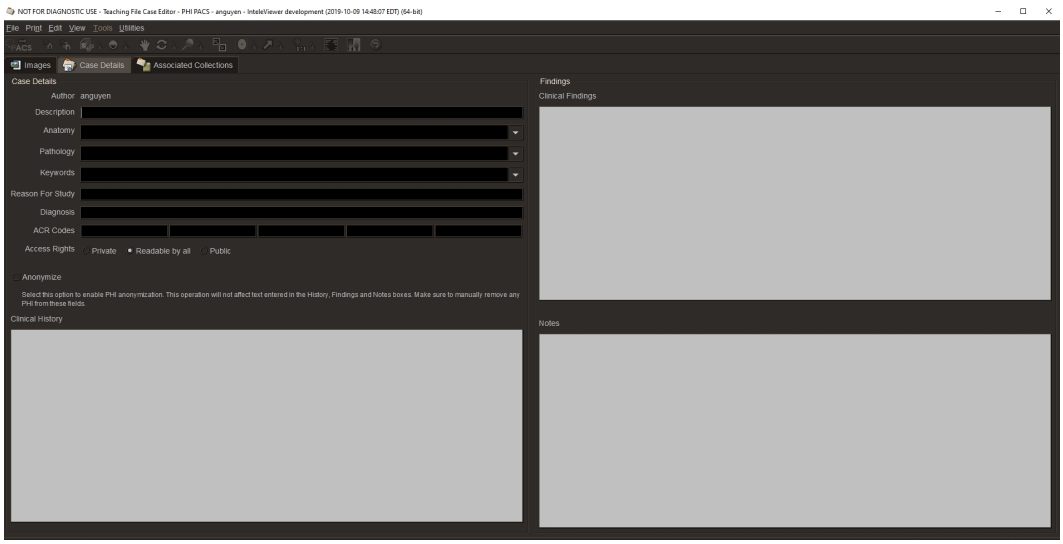
Once you add the images that comprise your teaching case, you can record information about the case, including ACR codes and clinical history. In addition to providing background information to whomever might view the case, this information will also be used when you search for the case on the IntelePACS. You can also assign access rights to the teaching case, to limit the ability of other users to view or edit it.

If available from a RIS, the Clinical History and Clinical Findings fields are completed automatically. However, you still can modify the fields, if needed. When you modify these fields, the information contained in the RIS is not affected.

To record case details:

1. In the Teaching Case Editor, click the Case Details tab.

   Your user name appears in the Author field automatically.



2. Enter information about the case in the relevant fields.

   The list of available Anatomy and Pathology options depend on your IntelePACS configuration. For more information, contact your PACS administrator.

   The Keywords you enter will be remembered the next time you add case details. Previously used keywords appear in the list as you type.

Select Anonymize to protect the patient health information (PHI) contained in the teaching cases. For more information on anonymization, see “Working with Teaching Cases" (page 721).

The information entered in the Clinical History, Findings and Notes fields of the Case Details tab is not subject to anonymization. Any note left in these fields will be displayed unchanged in the anonymized study. Please make sure to remove manually any PHI appearing in these fields.

3. Choose one of the following access rights:

Select:	To make teaching case:
Private	Accessible to only the author. The case will not appear in other users’ search results.
Readable By All (default)	Viewable by all users. Only the author of the teaching case may edit or delete it.
Public	Viewable and editable by all users. However, only the author can change access rights.

If you make a case Readable by All or Public, and it is added to non-private collections, you will not be able to change the case’s access rights to Private later. Furthermore, a teaching case that is given Private access rights cannot be added to a Readable by All or Public collection.

Adding Cases to a Collection

Add cases to as many collections as you require to organize your studies. You can add cases to new or existing collections. There are several methods you can use: you can add a case to a collection as you are creating it, edit its associations later, or add cases when you create a collection. This section provides information on the first method.

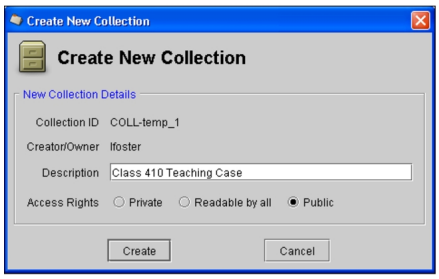
When adding a case that has private access rights, note that you will only be able to add this case to a collection that has private access rights as well, in order to maintain the security settings of the case.

To add a case to a new collection:

1. In the Teaching Case Editor, click the Associated Collections tab.
2. Click Create New Collection.

   The Create New Collection dialog appears.

3. In the Description field, enter words or phrases to identify the collection contents.



4. Choose the access rights.

Select:	To make teaching collection:
Private	Accessible to only the author. The collection will not appear in other users' search results.
Readable By All	Viewable by all users. Only the author of the teaching collection may edit or delete it.
Public (default)	Viewable and editable by all users. However, only the author can change access rights.

5. Click Create.

   The collection is created and the case is added to it automatically.

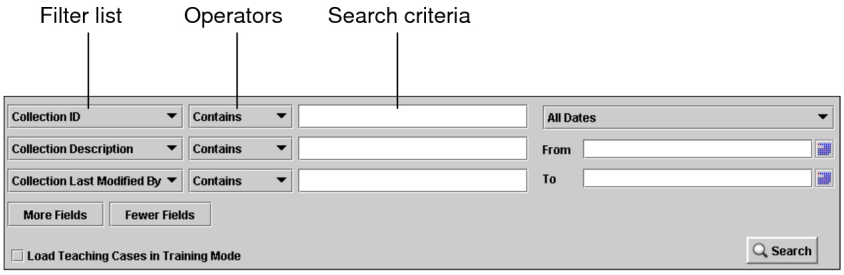
To add a case to an existing collection:

1. In the Teaching Case Editor, click the Associated Collections tab.
2. Click Add To Existing Collection.

   The Add Case To Collections dialog appears.

3. To add more collection search filters, click More Fields. To remove search filters, click Fewer Fields.
4. Choose an option from the filter list and enter the search criteria in the corresponding field. Use spaces to separate multiple words or phrases.

   If you do not enter any criteria, all collections on the IntelePACS server will be displayed.



5. Choose an operator to determine how the search criteria should match the collection information.

Select:	To search for collections that:
Contains	Contain all of the specified text, in any order. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins	Begin with the specified text. Studies with the text located elsewhere (such as in the middle) will not match.
Contains Any	Contain at least one of the specified words, in any location. Use quotation marks to specify exact phrases.
Contains None	Do not contain any of the specified words.

6. Specify the date on which the collection was last modified. See “About Searching for Studies" (page 249).
7. Click Search.

   All collections that match the criteria you specified appear in the Teaching Collections list. It may take a few moments for the search results to appear, depending on the amount of data being transferred.

8. Click a collection to select it. To select multiple collections, do the following:

   - **CTRL**-click each required collection.
   - To select a range, click the first collection and drag to the last one in the range.
   - To select all collections, press **CTRL+A**.

   If the collection has other cases associated with it, they appear in the Teaching Cases list.

9. Click Add Case To Collections.

   The case is added to the selected collections, and it appears in the Associated Collections list.

See Also

Editing Teaching Cases 731
Creating Teaching Collections 734

Saving Teaching Cases

Once you have finished creating or editing a teaching case, send it to the IntelePACS to save it. The teaching case images are saved with the original study, but can be searched for separately from the originating study.

To save a teaching case:

1. Create the teaching case and manipulate the images as required.
2. Choose File | Send Teaching Case Images To PACS or click Send Image To PACS .

   The teaching case images are saved with the original study on the IntelePACS, and the teaching case is linked to any associated collections.

   You later can search for the case itself or the associated collections by using the Search tool. See “Searching for Teaching Cases and Collections" (page 264).

   Saving newly anonymized teaching cases may take up to a few minutes. Upon selecting a newly anonymized teaching case in the Teaching Case tab, you may see its Series list empty, along with the following notification below: “The selected teaching case contains [x] series that has been deleted from IntelePACS”, where [x] is the number of series included in the teaching case. This notification simply means that the anonymization is still in progress. It will be hidden, and the missing series will be displayed in the list, as soon as the process is completed.

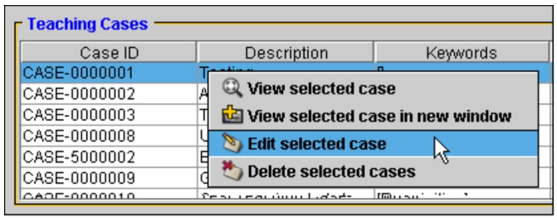
Editing Teaching Cases

You can modify the contents of teaching cases that have been saved on the IntelePACS, their case details, or associated collections at any time. You can also change the access rights that were originally applied to the teaching case when it was created.

To edit a teaching case from the Search tool:

1. Search for the teaching case you want to edit. See “Searching for Teaching Cases and Collections" (page 264).
2. Right-click and select Edit Selected Case.

   You can only open one teaching case for editing at a time.

   The Teaching Case Editor appears and displays the teaching case images.
3. Add or remove images, edit the case details, and modify the associated collections as required. See “Recording Case Details" (page 727).
4. Send the case to the IntelePACS to preserve your changes. See “Saving Teaching Cases" (page 731).

To edit a teaching case from the Teaching Case Viewer:

1. Search for the teaching case you want to edit. See “Searching for Teaching Cases and Collections" (page 264).
2. Open the required teaching case. See “Opening Teaching Cases" (page 732).

   The teaching case opens in the Teaching Case Viewer.
3. Choose Tools | Edit Teaching Case .

   The Teaching Case Editor opens.
4. Add or remove images, edit the case details, and modify the associated collections as required. See “Recording Case Details" (page 727).
5. Send the case to the IntelePACS to preserve your changes. See “Saving Teaching Cases" (page 731).

Opening Teaching Cases

Use the Teaching Case Viewer to view teaching cases and associated case details at a glance. The available tools in the Teaching Case Viewer allow you to manipulate images as you would normally in InteleViewer. For example, you can zoom, adjust the window

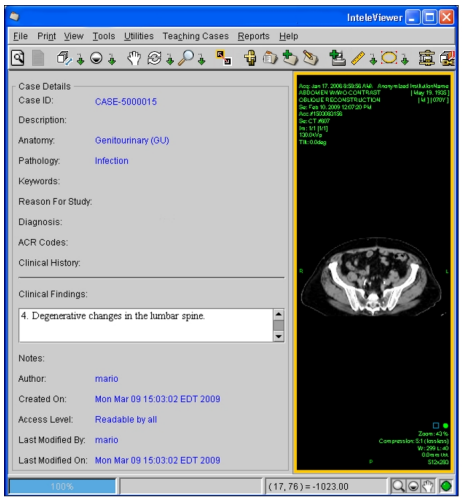
level, and apply measurement and annotation tools. You can also view additional teaching cases without disturbing your pre-existing work by opening them in a new window.

To view a teaching case:

1. Search for the teaching case you want to view. See “Searching for Teaching Cases and Collections" (page 264).
2. Do one of the following:

   - Right-click the required case and choose View Selected Case.
   - Double-click the required case.

   The teaching case opens in the Teaching Case Viewer. The associated case details appear beside the image.



3. To display or hide the case details, choose View | Show Teaching Case Details or click Show Teaching Case Details .
4. Manipulate the images as required. For example, you can zoom, adjust the window level, and position and orient the images in the viewport.

   These changes cannot be saved. To save your changes, you must make your changes in the Teaching Case Editor. For more information, see “Editing Teaching Cases" (page 731).

5. To view the patient’s related studies, choose the required study from the Teaching Cases menu.

6. To view additional teaching cases, repeat step 1, then right-click the case and do one of the following:
    - To replace the current teaching case with the new one, select View Selected Case. You can also double-click the case.
    - To open the selected case in a new window, select View Selected Case In New Window.

    You can have only one case open at a time in the Teaching Case Viewer.

To close a teaching case:

- Choose File | Close Teaching Case.

Creating Teaching Collections

Teaching collections act like folders in which you can group together multiple teaching cases from various patients that relate to a particular topic, such as a public presentation or educational subject. Any teaching case can be added to an unlimited number of collections.

When you create collections, each one is assigned a collection ID number. This allows several collections to have overlapping descriptions or keywords and still be uniquely identifiable.

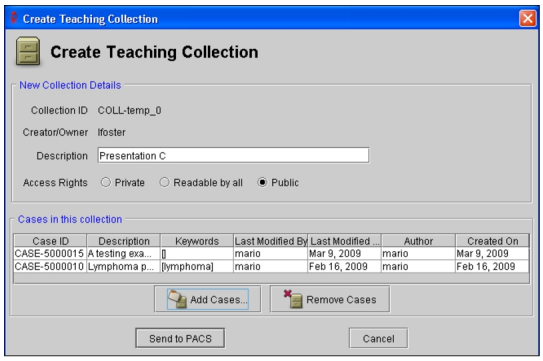
You can create a teaching collection and then add cases to it, or create a collection when you are creating a teaching case.

To create a teaching collection:

1. In the InteleViewer main menu, choose Tools | Create Teaching Collection.

    The Create Teaching Collection dialog appears.

2. In the Description field, enter words or phrases to identify the collection contents.



3. Choose the access rights.

Select:	To make teaching collection:
Private	Accessible to only the author. The collection will not appear in other users' search results.
Readable By All	Viewable by all users. Only the author of the teaching collection may edit or delete it.
Public (default)	Viewable and editable by all users. However, only the author can change access rights.

4. Click Add Cases.

   The Add Case dialog appears.

5. Search for the cases that you require. See "Adding Cases to a Collection" (page 728).

   All cases that match the criteria you specified appear in the Teaching Cases list.

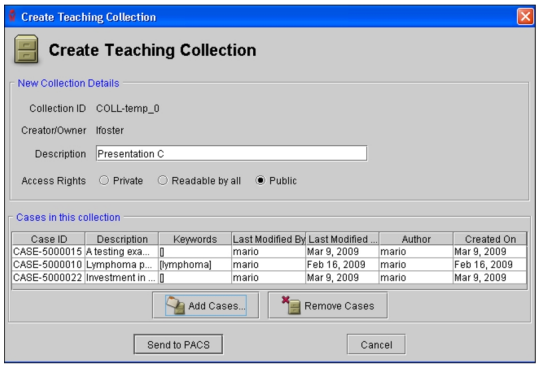
   The search results will be determined by the access rights assigned to the teaching collection. For example, if your teaching collection has been assigned Public or Readable By All access rights, you will not see private teaching cases in your results.

6. Click a case to select it. To select multiple cases, do the following:

   - **CTRL**-click each required case.
   - To select a range, click the first case and drag to the last one in the range.
   - To select all cases, press **CTRL+A**.

7. Click Add Cases.

The case appears in the list.



8. To remove a case from the collection, select it and then click Remove Cases.
9. Click Send to PACS.

   The collection is created and the cases you selected are associated with it.

See Also

Adding Cases to a Collection 728

Editing Teaching Collections

You can edit a teaching collection to make any necessary changes, add new cases, remove existing cases, or change the access rights that were originally applied to the collection. Once you are done, you can send the edited teaching collection to the IntelePACS to save your changes.

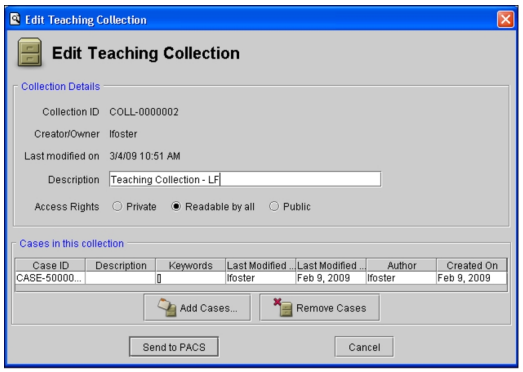
To edit a teaching collection:

1. Find the collection you would like to edit. See “Searching for Teaching Cases and Collections" (page 264).
2. Do one of the following:

   - Right-click and choose Edit Selected Collection from the menu.
   - Double-click the required collection.

   You can only open one collection for editing at a time.

   The Edit Teaching Collection dialog appears.



3. To change the description of the teaching collection, enter new text in the Description field.
4. To add cases, click Add Cases. Then search for and select the required cases and click Add Cases.
5. To remove cases, select the cases you would like to remove, then click Remove Cases.

   ⚠ Once you click Remove Cases, the teaching case is permanently deleted from the teaching collection.

6. To change the access rights for the collection, choose one of the following:

Select:	To make teaching collection:
Private	Accessible to only the author. The collection will not appear in other users' search results.
Readable By all	Viewable by all users. Only the author of the teaching collection may edit or delete it.
Public (default)	Viewable and editable by all users. However, only the author can change access rights.

7. Click Send To PACS to preserve your changes.

Viewing Cases in Training Mode

Use Training Mode to allow radiology students to view teaching cases and make their own initial assessments before revealing the radiologist's interpretations. The radiologist's findings and ultimate diagnosis can be shown separately. This way, the student first can make a preliminary diagnosis based on the patient history and image data provided, and then view the diagnosis to determine the accuracy of the initial interpretation.

To view a case in Training Mode:

1. Open the Search tool. From the main menu, choose File | Search Tool (**?**) or in the toolbar, click Search Tool .
2. Click the Teaching Case or Teaching Collection tab. To view teaching cases in training mode, enable Load Teaching Cases In Training Mode.
3. Search for the required case. See “Searching for Teaching Cases and Collections" (page 264).
4. Do one of the following:

   - Right-click the case and choose View Selected Case.
   - Right-click the case and choose View Selected Case in New Window.
   - Double-click the required case.

   The Teaching Case Viewer appears and displays the History panel for the selected teaching case. The patient’s history appears, but images belonging to this case do not. Access to the Report Viewer also is disabled.

   Cases cannot be edited when opened in Training Mode.

   The main InteleViewer window displays all of the series from the original studies referred to by the teaching case. Therefore, you can view additional images from the study so that you may make a more effective diagnosis.

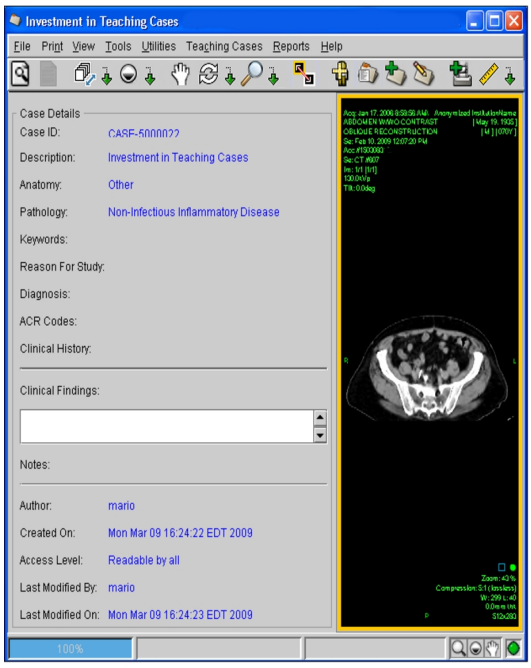
   Also, the Patient menu contains any studies acquired before the teaching case creation date, and key images for these are accessible (though key images for the current case are hidden). These studies can also be opened for further analysis.

5. To see the images associated with the teaching case, click the Key Images panel.

   The teaching case images appear. You can use this information to make a preliminary diagnosis based on the information provided.

6. To view the diagnosis and all findings associated with the teaching case, click the All Details panel.

   The teaching case images appear, along with the associated case details. Also, access to the Report Viewer is enabled. You can compare your preliminary diagnosis with the actual case diagnosis.



7. To display or hide the case details, choose View | Show Teaching Case Details or click Show Teaching Case Details .

18 SAVING DATA

You can use a variety of tools to save your work for later viewing, or communicate your findings by using teaching cases, papers, and presentations.

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Working with Presentation States 742

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Exporting DICOM Data 751

Exporting Images 756

Exporting Images as Video 760

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Printing to Paper 765

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Creating Print Protocols 778

Printing 3D Models of Studies 782

About Saving Data

You can select images from studies and save them on the IntelePACS as key images and teaching cases. You can organize teaching cases into logical groupings by creating teaching collections. All changes to the images, such as window levelling and measurements, are saved. You can search for and view these series as you would any other.

Presentation states associate image manipulations with studies. You can save, apply, and clear presentation states with the images and series in a study.

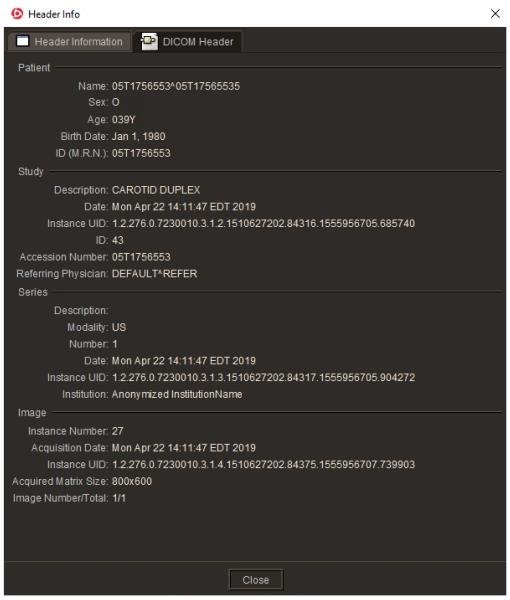
If you need to use digital images outside of InteleViewer, you have a variety of options to suit your workflow:

- Burn the images to a CD or DVD
- Export the images to a local or network drive
- Save the images as JPEG files
- Print an image to either paper or film.

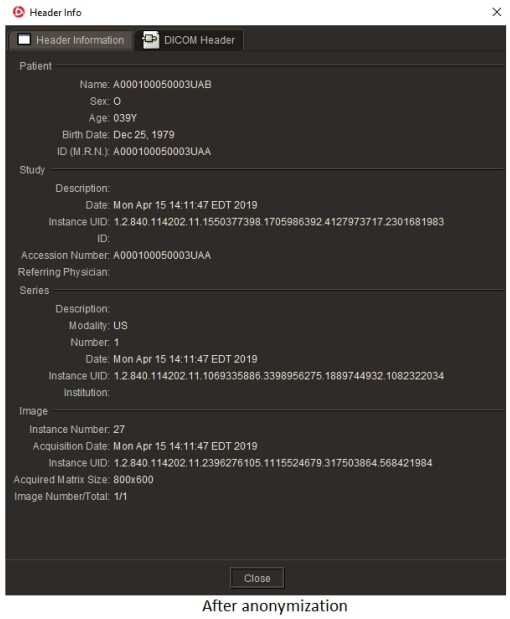
You can also use structured reports and presentation states outside of InteleViewer by burning them to a CD or DVD or exporting them to a local or network drive.

When exporting DICOM images or burning them to a CD or DVD, you can also anonymize the protected health information (PHI) contained in the images and thus safely present them within clinical trials and certifications. The PHI anonymization process removes the following identifiable data:

- Patient identifiers (name, ID, birth date, etc.)
- Facility identifiers
- Referring physician identifiers



Before anonymization



After anonymization

You can anonymize the same study or series as many times as you want. Each anonymization of the same source data will result in different anonymized data.

- Since reports cannot be anonymized, when you export DICOM data or burn the data to a CD or DVD, you cannot include the report with the exported data.
- Since the anonymization process cannot remove PHI data from scanned documents, InteleViewer will exclude any scanned documents from the anonymized study. This feature requires a version of IntelePACS that supports this feature. For information on if this feature is supported on your version of IntelePACS, contact your PACS administrator or Customer Success manager and reference issue number IP-106402.

To use the anonymization function, contact your PACS administrator to enable the necessary privileges in your user account.

Working with Presentation States

A *presentation state* is a set of image manipulations associated with a study. If you add annotations, for example, and want to retain your annotations, you can save your changes in InteleViewer as a presentation state. The next time you open this study, InteleViewer applies the latest presentation state automatically so you can view the latest image manipulations. If you open a prior study to compare with a current study, InteleViewer applies their respective presentation states automatically.

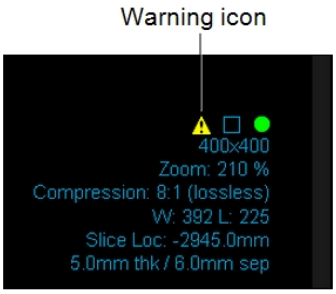
The image manipulations you can save in presentation states are zoom, window level, flip, rotate, annotations, measurements, spine labels, shutters, and pan.

Presentation states appear in the Series list of the Search tool window with a modality of PR and a series description of IMS PRESENTATION followed by the name of the user who created the presentation state.

Viewing Third-Party Presentation States

InteleViewer supports some presentation states created by third-party software. Third-party presentation states are identified by a warning icon displayed at the bottom of the viewport.

⚠ There may be a discrepancy between how presentation states are displayed in InteleViewer and what was originally intended by the manufacturer. This may be the result of differences in the way third-party presentation states are encoded at the source. This is not a reflection of how InteleViewer displays presentation states in general.



InteleViewer does not support pixel aspect ratio in third-party presentation states however when a third-party presentation state contains non-square pixels, InteleViewer displays this third-party presentation state only if the aspect ratio is within a range of 10%. InteleViewer applies this third-party presentation state with a warning. If the pixel aspect ratio of a third-party presentation state differs by more than 10%, the presentation state is not displayed.

Saving Presentation States

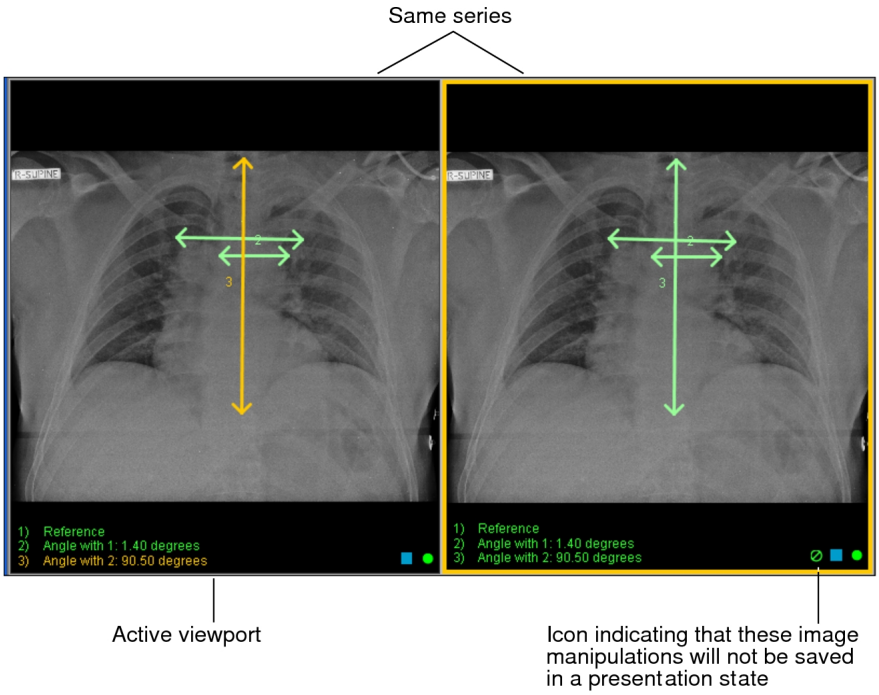
Save your image manipulations to the IntelePACS to create presentation states for a study. Depending on your needs and your user preferences, you can save your image manipulations manually or you can set InteleViewer to save your image manipulations as

presentation states automatically when you close a study or when you close InteleViewer.

Once you save a presentation state, you cannot delete it.

There are certain conditions for saving a presentation state:

- InteleViewer only saves image manipulations for series that you have viewed.
- InteleViewer automatically saves a series only if you have modified it from its original state when last opened.
- Commands for presentation states are available when working in a regular InteleViewer window. Presentation states are not available when composing key images, composing teaching cases, working with multi-planar reconstruction (MPR) perspectives, or preparing images to print to film. If you are viewing the same series or image in more than one viewport, InteleViewer saves the image manipulations to the first viewport that you used or the first viewport in which you added measurements or annotations. An icon appears in the viewports to indicate which image manipulations will not be saved in a presentation state.



To save a presentation state:

1. Select the required image by clicking its viewport.
2. Adjust the image as required by using the image tools.

3. If you have auto-save enabled, close the study; otherwise do one of the following:

   - From the main menu, choose File | Save Presentation State.
   - From the toolbar, click the Save Presentation State tool .

   InteleViewer saves the presentation state of the selected study that is open in the active viewport to the IntelePACS. The presentation state also appears as a menu item in the Presentation States menu. The name of a saved presentation state is the date and time that you created it followed by your name.

   If you use grouped procedures in your workflow, when you save a presentation state the InteleViewer application saves a presentation state to the IntelePACS for each study in the order that you viewed. The names of the saved presentation states have the same date, time and user name.

   If you use linked orders in your workflow and you have auto-save enabled, InteleViewer saves a presentation state to the IntelePACS for all the linked orders. The names of the saved presentation states have the same date, time, and user name. If you manually save your image manipulations, InteleViewer saves a presentation state to the IntelePACS for the selected viewport. If the selected viewport is part of a linked order, InteleViewer saves a presentation state to the IntelePACS for all the linked orders. If the selected viewport is a single linked order, InteleViewer saves a presentation state to the IntelePACS for only that linked order.

See Also

Presentation State Preferences 121

Applying Presentation States

When you open a study, InteleViewer applies the latest presentation state automatically to all images in the study. You can, however, choose to apply a different presentation state to the study if other presentation states exist. You can only apply one presentation state at a time.

You can apply a presentation state to a series in which case only the images associated to the series are affected by the presentation state.

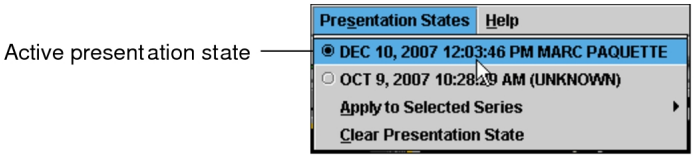
After applying a presentation state to a study or series, you can continue to manipulate the images without affecting the presentation state stored in the IntelePACS.

To apply a presentation state to a study:

1. Open the required study.

   InteleViewer applies the latest presentation state automatically to the study.

2. Click the Presentation States menu.



   A sub-menu of presentation states appears, organized by the date and time they were saved and the name of the user who created them. The active presentation state appears enabled in the menu.

3. Choose the presentation state that you want to apply.

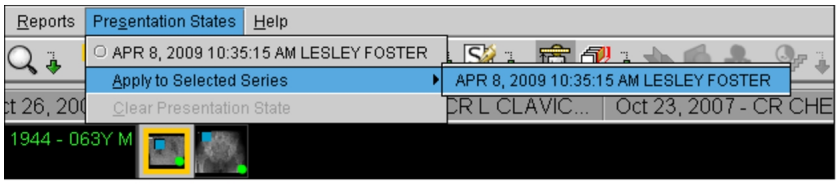
   InteleViewer applies the manipulations of the presentation state to the images in the study.

   If you use grouped procedures in your workflow, when you apply a presentation state for a study the InteleViewer application also applies the presentation states for the other studies in the order that were created at the same date and time.

   If you use linked orders in your workflow, when you apply a presentation state for a study, InteleViewer also applies the presentation states for the other linked orders that were created at the same date and time.

To apply a presentation state to a series:

1. Open the required study.
2. Select the required series.
3. In the main menu, choose Presentation States | Apply to Selected Series.



   A sub-menu of presentation states appears, organized by the date and time they were saved and the name of the user who created them. If you saved a series

without manipulating it, the series is not saved with a presentation state nor is it available in this menu.

4. Choose the presentation state that you want to apply.

Clearing Presentation States

You can revert a study to its appearance before you applied a presentation state.

If you use grouped procedures in your workflow, when you clear a presentation state, InteleViewer clears the effects of applying presentation states for this study and all other studies in the order.

If you use linked orders in your workflow, when you clear a presentation state, InteleViewer clears the effects of applying presentation states for this study and all other linked orders.

To clear a presentation state:

- In the main menu, choose Presentation States | Clear Presentation State.

Burning DICOM Data to a CD or DVD

You can transfer DICOM data (images, structured reports, and presentation states) directly to a CD or DVD. You can also choose to include the report, which is saved as an encapsulated PDF file within the DICOM data. Burning DICOM data to a CD or DVD is useful if you want to provide patients with a copy of their study, or to give DICOM data to a referring physician.

To use this feature, ask your PACS administrator to enable the Export DICOM/Burn CDs privilege in your user account. To include the report with the DICOM data, your user account must be assigned the View Reports privilege.

When you burn DICOM data to a CD or DVD, a DICOMDIR index file is created along with sub-folders for each patient, study, and series. DICOMDIR is a DICOM standard index file that describes how the associated studies are stored. You can view the saved images, reports, and presentation states by using any application capable of reading a DICOMDIR file. Individual DICOM (.dcm) files cannot be viewed. When you burn DICOM data to a CD or DVD, a stand-alone version of the InteleViewer application is written to the disc. You can use this stand-alone application to view and manipulate the DICOM data. The InteleViewer version that is saved to disc corresponds to the version on the selected InteleViewer upgrade track.

Before burning the CD or DVD, it is important to ensure that one of the following upgrade tracks for InteleViewer is installed: 4-14-1-P249 or higher, or 4-15-1-P84 or higher. Failure to do so could prevent the stand-alone version of InteleViewer from opening. See “Upgrading InteleViewer" (page 60).

You can anonymize the protected health information (PHI) contained in the DICOM data of a study or series. To use the anonymization function, contact your PACS administrator to enable the necessary privileges in your user account.

⚠ InteleViewer does not encrypt the patient health information that is stored in the DICOM data. To protect patient health information, use caution when handling and distributing DICOM data that is on portable storage, such as a CD or removable USB key.

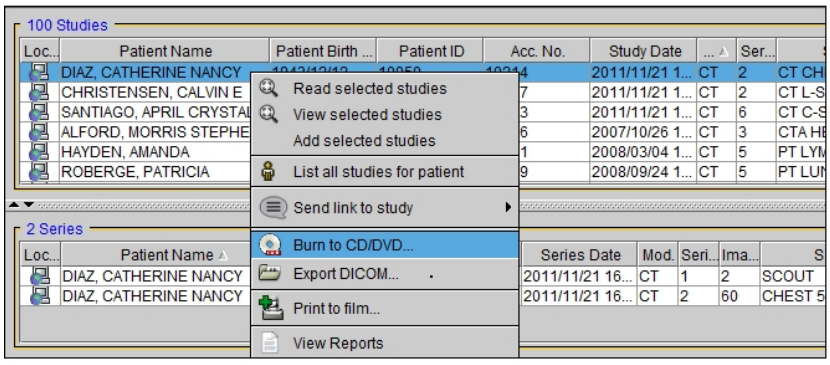
To burn DICOM data to a CD or DVD:

1. Ensure that the InteleViewer upgrade track is set to the desired track (4-14-1-P249 or higher, or 4-15-1-P84 or higher). See “Upgrading InteleViewer" (page 60).
2. Insert a blank CD or DVD into the optical drive on your workstation, and wait for the optical media to be recognized.

   Multi-session CDs and DVDs are not supported.

3. Do one of the following:

   - Open the required study or series and choose File | Burn to CD/DVD.
   - In the Search tab, search for a study or series. Right-click the study or series and then choose Burn to CD/DVD. To select multiple studies or series, **CTRL**-click each one. **SHIFT**-click or click and drag to select a range of studies or series. See “About Searching for Studies" (page 249).



4. Select Include Report if you want to add the report to the DICOMDIR file.

- If you select Anonymize, the Include Report option will be disabled. Since reports cannot be anonymized, when you export DICOM data or burn the data to a CD or DVD, you cannot include the report with the exported data.
- Since the anonymization process cannot remove PHI data from scanned documents, InteleViewer will exclude any scanned documents from the anonymized study. This feature requires a version of IntelePACS that supports this feature. For information on if this feature is supported on your version of IntelePACS, contact your PACS administrator or Customer Success manager and reference issue number IP-106402.

5. If you want the report to contain clinical history, impressions, or key images, select the corresponding options below the Include Report checkbox.
6. Select Anonymize to anonymize the protected health information in the DICOM data to add to the CD or DVD. This option automatically alters or blanks the data that refer to protected health information.

   To have access to the report options, you must have the View Report privilege enabled. For more information, contact your PACS administrator. The report option settings are stored locally on your workstation, and do not roam.

   - If you disable Add Key Images to the Report and the default template supports key images, then key images will appear in the report. If you use grouped procedures in your workflow, the requested procedure ID also appears in the Study Information to identify the report.

7. Click Burn.

   A progress dialog appears providing details on each stage of the burning process. The main stages are as follows:

   - The DICOM data for the selected study or series and a stand-alone version of the InteleViewer software is saved to a temporary export folder. If there is not enough disk space on the workstation to create the export folder, an error message is issued and the burning process is aborted.
   - An ISO disc image is created based on the contents of the export folder. If the ISO disc image cannot fit on the CD or DVD disc, an error message is issued and the burning process is aborted. InteleViewer determines if the DICOM data fits on the CD or DVD after an ISO disc image is created. Since gathering data and creating the ISO disc image can be a lengthy process, you might

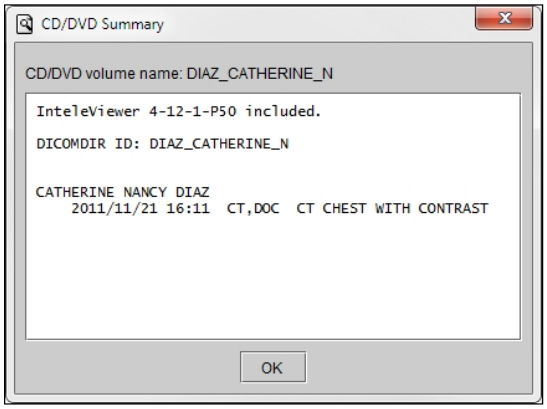
have to wait before knowing if the burning process is successful.

- The ISO disc image is burned to the CD or DVD.

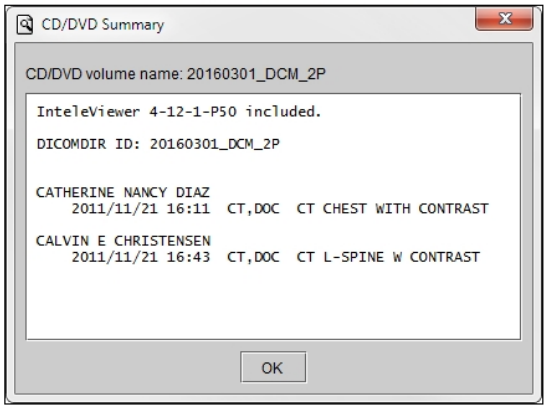
When the process is complete, the CD/DVD Summary dialog lists information about the study that was burned, and the InteleViewer version that was written to disc. The DICOMDIR ID and disc volume name are derived from the patient name. If studies for different patients are burned to disc, the DICOMDIR ID and disc volume name are derived from the burn date and the number of patients.

If the study or series has been anonymized, this screen will display [Anonymized] at the end of the DICOMDIR ID line, and the CD or DVD will be named ANON_INFO.

CD/DVD summary for one patient



CD/DVD summary for multiple patients



See Also

Viewing DICOM Data on a CD or DVD 375
Sending Studies to a DICOM Server 762

Exporting DICOM Data

You can export DICOM data (images, structured reports, and presentation states) to any local or network directory, including removable USB keys. You can also choose to include the report with the DICOM data. The report is saved as an encapsulated PDF file within the DICOM data.

To use this feature, ask your PACS administrator to enable the Export DICOM/Burn CDs privilege in your user account. To include the report with the DICOM data, your user account must be assigned the View Reports privilege.

When you export DICOM data, a DICOMDIR index file is created along with sub-folders for each patient, study, and series that is exported. DICOMDIR is a DICOM standard index file that describes how the associated studies are stored. You can view the exported images, reports, and presentation states by using any application capable of reading a DICOMDIR file. Individual DICOM (.dcm) files cannot be viewed. When you export DICOM data, you can choose to include a stand-alone version of InteleViewer, which can be used to view and manipulate the DICOM data. The InteleViewer version that is exported corresponds to the version on the selected InteleViewer upgrade track.

Before exporting DICOM data, it is important to ensure that one of the following upgrade tracks for InteleViewer is installed: 4-14-1-P249 or higher, or 4-15-1-P84 or higher. Failure to do so could prevent the stand-alone version of InteleViewer from opening from a CD or DVD. See “Viewing DICOM Data on a CD or DVD" (page 375) and “Upgrading InteleViewer" (page 60).

You can anonymize the protected health information (PHI) contained in the DICOM data of a study or series. To use the anonymization function, contact your PACS administrator to enable the necessary privileges in your user account. For more information on anonymization, see “About Saving Data" (page 741).

⚠ InteleViewer does not encrypt the patient health information that is stored in the DICOM data. To protect patient health information, use caution when handling and distributing DICOM data that is on portable storage, such as a CD or removable USB key.

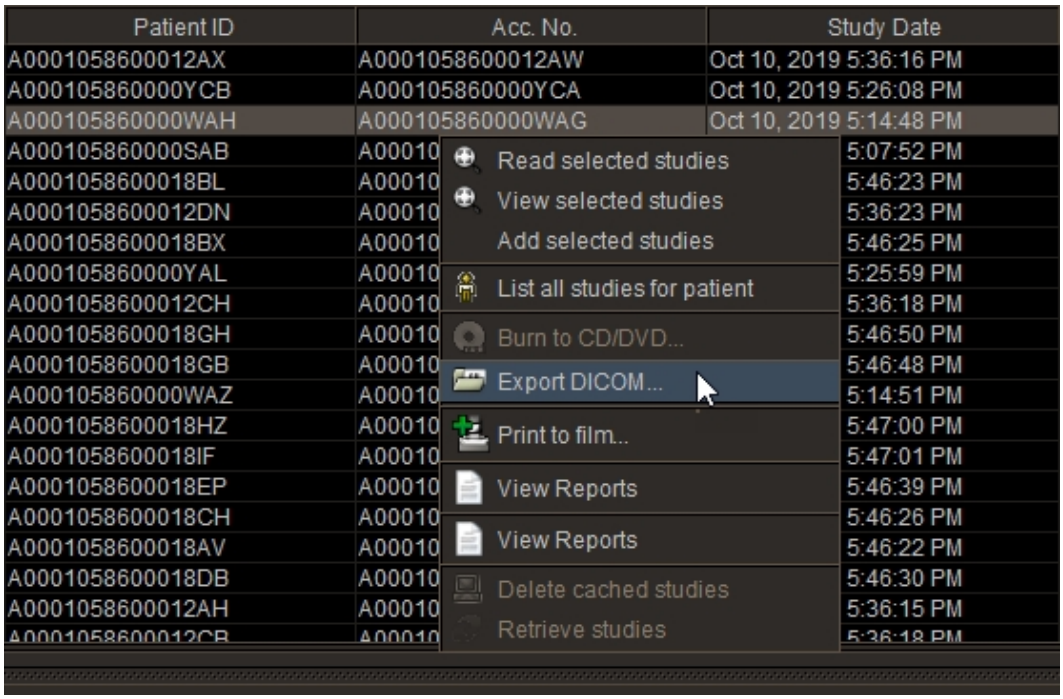
To export DICOM data:

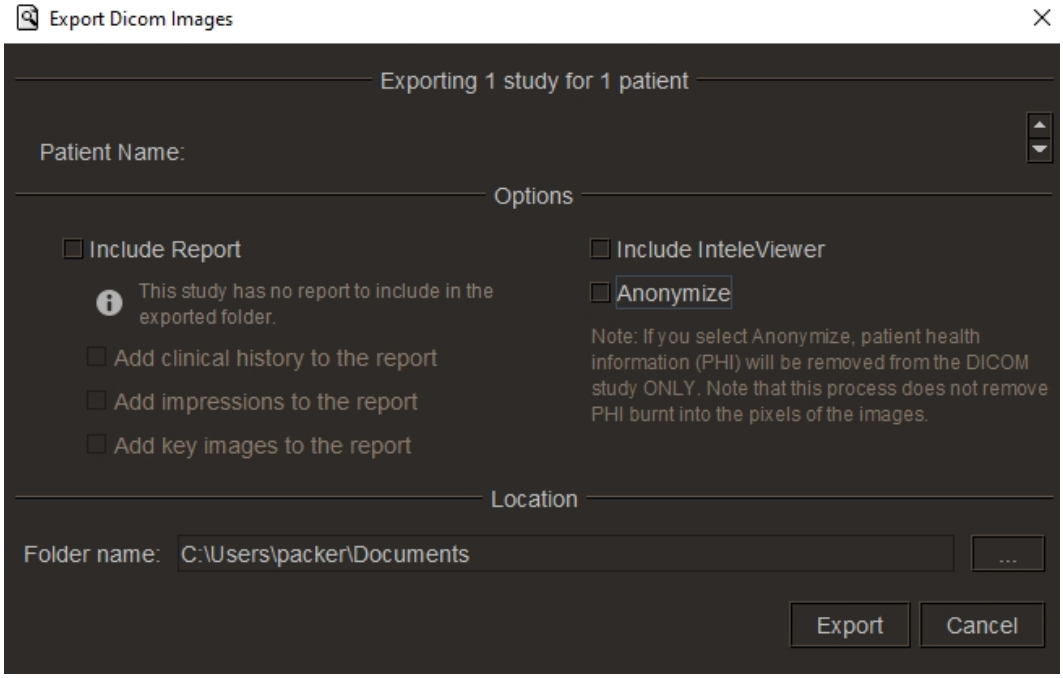
1. If you are including the stand-alone version of InteleViewer with the export, ensure that the InteleViewer upgrade track is set to the desired track. See “Upgrading InteleViewer" (page 60).

To ensure that you can open the data on the stand-alone version of InteleViewer from a CD or DVD, the selected upgrade track must be version 4-14-1-P249 or higher, or 4-15-1-P84 or higher.

2. Do one of the following:

   - Open the required study or series and choose File | Export DICOM.
   - In the Search tab, search for a study or series. Right-click the study or series and then choose Export DICOM. To select multiple studies or series, **CTRL**-click each one. **SHIFT**-click or click and drag to select a range of studies or series. See “About Searching for Studies" (page 249).





3. Select Include InteleViewer if you want to include a stand-alone version of InteleViewer, which can be used to view and manipulate the exported DICOM data.
4. Select Include Report if you want to add the report to the DICOMDIR file.

- If you select Anonymize, the Include Report option will be disabled. Since reports cannot be anonymized, they cannot be exported along with an anonymized study.
- Since the anonymization process cannot remove PHI data from scanned documents, InteleViewer will exclude any scanned documents from the anonymized study. This feature requires a version of IntelePACS that supports this feature. For information on if this feature is supported on your version of IntelePACS, contact your PACS administrator or Customer Success manager and reference issue number IP-106402.

5. If you want the report to contain clinical history, impressions, or key images, select the corresponding options below the Include Report checkbox.

   To have access to the report options, you must have the View Report privilege enabled. For more information, contact your PACS administrator. The report option settings are stored locally on your workstation, and do not roam.

   - If you disable Add Key Images to the Report and the default template supports key images, then key images will appear in the report. If you use grouped procedures in your workflow, the requested procedure ID also appears in the Study Information to identify the report.

6. Select Anonymize to anonymize the protected health information (PHI) contained in the DICOM data to export.
7. Set the location where the files are to be saved. Click the browse button, navigate to the required folder, and click Select Folder.

   If there are existing DICOM data files in the selected folder, the files will not be overwritten. Instead, new sub-folders will be created in the DICOM folder with filenames that increment by one number. The existing DICOMDIR index file will be merged with the new information so that it references all files in the selected location.

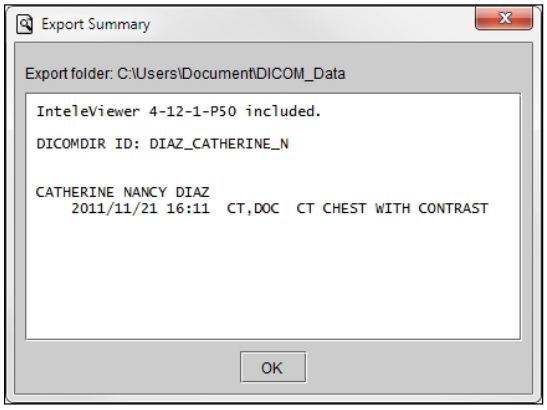
8. Click Export.
9. If the folder you selected is not empty, a dialog appears asking you to confirm the location. Click Continue to proceed or Cancel to select a new location.

   When the process is complete, the Export Summary dialog lists information about the study that was saved, and the InteleViewer version that was exported. The DICOMDIR ID is derived from the patient name. If studies for different patients are

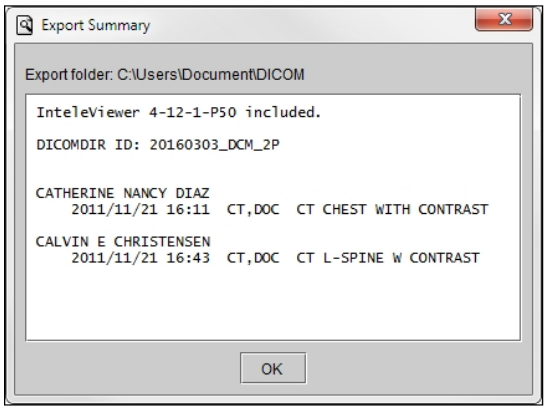
exported at the same time, the DICOMDIR ID is derived from the export date and the number of patients.

If the study or series has been anonymized, this screen will include [Anonymized] at the end of the DICOMDIR ID line.

Export summary for one patient

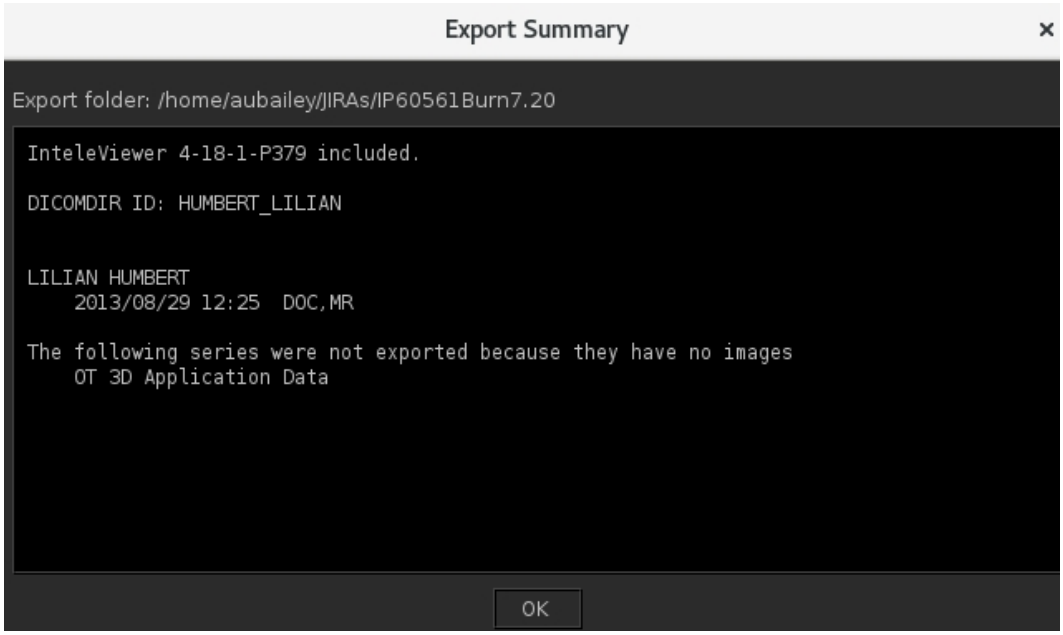


Export summary for multiple patients



10. When exporting studies, the studies containing series without images are skipped and the remaining studies are exported as expected.

    The Export Summary dialog box now lists information about the study that was saved, theInteleViewer version that was exported and the information note for the user saying as “The following series were not exported because they have no images”, followed by listing of series without images.



See Also

Viewing Exported DICOM Data 377
Sending Studies to a DICOM Server 762

Exporting Images

You can save images in TIFF or JPEG formats for use in software applications for on-screen presentations or for use in print publications such as articles in medical journals.

You can export images by using one of three methods:

- Export Images
- Quick Export
- Drag and Drop

Use the Export Images method to determine the export settings before exporting the image. For example, you can determine the export format (JPEG or TIFF), the quantity of images (single image or series), and the image dimensions. Use the Quick Export method to export an image based on the settings already defined in the Export Image dialog. Use the Drag and Drop method to export the image in a JPEG format with a single mouse movement based on the default export settings.

Exporting Images for Display and for Print

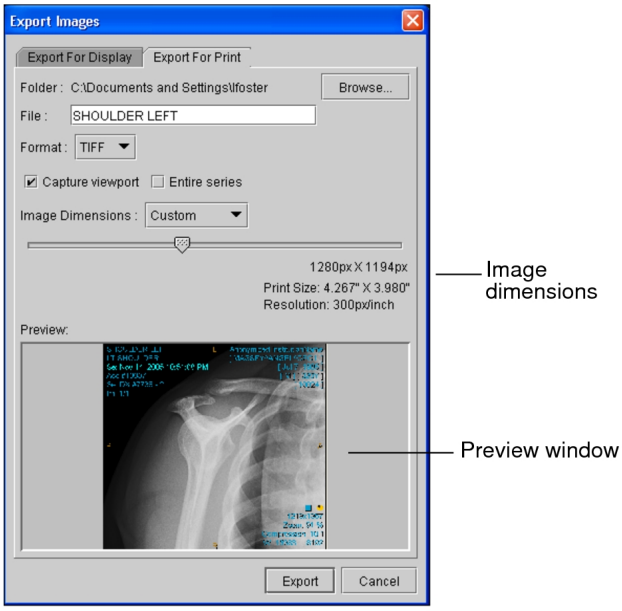
You can choose to export the image in the selected viewport or all images in the series. You can increase or decrease image dimensions from the original DICOM image size and you can choose to export the image as shown in the viewport (with any manipulations you have made). If you choose to capture the viewport view, window level, zoom, and rotation adjustments appear, as well as the text overlay and image overlay information, annotations, and measurement tools.

This feature is accessible from either the application window, the Print Film window, the Teaching Case Viewer, or the Key Image Composer.

To export an image:

1. Select the required image by clicking its viewport.
2. If required, manipulate the image. For example, pan, rotate, and zoom the image, adjust the window level, add annotations, or hide the text overlay and image overlay.
3. From the main menu, choose File | Export Images or press **CTRL+SHIFT+E**.

   The Export Images dialog appears with a view of the image in the preview window.



4. Do one of the following:

- To save the image for display on screen, chose the Export for Display tab.
- To save the image for display in print, chose the Export for Print tab.

5. Configure the export settings, as required:

Option:	Description:
Folder	Sets the location where the image is saved. Click Browse, navigate to the folder in which you want to save the file, and click Select Folder.
File	Sets the file name. By default, the file name is the same as the study description. Each image is saved in your folder with the study as prefix followed by a number that is incremented by 1. For example, CT Leg 001.tif, CT Leg 002.tif, and so on.
Format	Select the format of the image.
Capture Viewport	Exports the image as it is displayed in the viewport, including any zooming, window-levelling, text overlay, image overlay, and so on. Disable this option to export the DICOM source image.
Entire Series	Exports all images in the series. Disable this option to export only the selected image.
Image Dimensions	Sets the visual characteristics of the image. Select Custom to set the image dimensions by using the slider. Select From DICOM to create an image that is the same size as the original DICOM source image. When exporting for print, the print size and resolution appear. The image resolution is always set to 300 DPI.

   These settings are saved and applied automatically to subsequent exports. You can however, change these settings again at any time.

6. Click Export or press **ENTER**.

   The exported images appear in the specified directory.

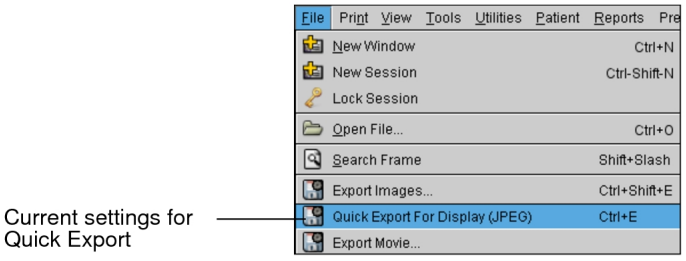
7. To change the configuration of the export settings, repeat steps 3 to 5.

Quick Exporting

You can quickly export images based on the last export settings you defined. If, for example, you exported a JPEG for display during your last operation, the Quick Export feature uses these settings by default. The File menu reflects these settings.

To do a quick export:

1. Choose File | Quick Export or press **CTRL+E**.



   The files are exported based on the current settings.

2. To change the export settings, choose File | Export Images or press **CTRL+SHIFT+E**.

Dragging and Dropping Images

You can drag images from the viewports and drop them into another application or a directory on the Windows desktop. This method automatically creates a copy of the image as a JPEG file in the selected location. Image manipulations, such as panning and zooming are preserved on the image.

As you cannot drag-and-drop images from the Thumbnail strip to a location outside InteleViewer, this method does not apply to Thumbnail strip images.

The drag and drop method converts the image into a JPEG file, not a TIFF. To export images in either JPEG or TIFF use the Export Images feature or the Quick Export feature.

To drag and drop an image:

1. Select the required image by clicking its viewport.
2. In the viewports, manipulate the image as required. For example, pan, rotate, and zoom the image, adjust the window level, add annotations, or hide the text overlay and image overlay.
3. Click Drag and Swap .
4. Click the image and drag it to the required location.

   The location can be another application or any Windows directory.

5. Release the mouse button.

A JPEG image file is created in the selected location. The date and time are appended to the file name. For example, if you dragged the file to your desktop at 1:25:52 PM on August 17, 2012 the following appears appended to the file: 20120817_132552.

If you chose to export the image to a directory or on a Windows desktop, the image is saved in that location automatically. If you chose to import it into an application, the image is copied into the file. You therefore must save the file in order to save the image.

Exporting Images as Video

Your can export images into either Audio Video Interleave (AVI) file format or MP4 file format for viewing in your preferred video player or for inclusion in presentation slides.

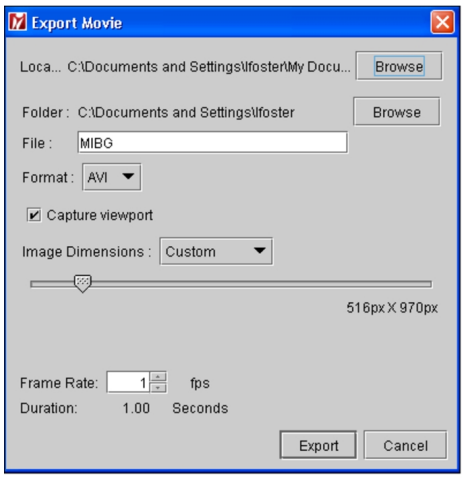
To view, record, convert and stream the video, FFmpeg.exe must be installed on your workstation. For more information, see your PACS administrator.

To export images as video:

1. Select the required image by clicking its viewport.
2. From the main menu, choose File | Export Movie.

   The Export Movie dialog appears. If the ffmpeg.exe path is not set, options in the Export Movie dialog are disabled.
3. To set the path to the executable, click Browse and then locate the ffmpeg.exe in your folders.

   The path to the executable is set and the Export Movie dialog options are enabled.



4. Configure the export movie settings, as required:

Option:	Description:
Location	Sets the location of the ffmpeg. exe file.
Folder	Sets the location where the movie is saved. Click Browse, navigate to the folder in which you want to save the movie and then click Select Folder.
File	Sets the file name. By default, the file name is the same as the study description.
Format	Exports the movie in either AVI or MP4 format.
Capture Viewport	Exports the image as it is displayed in the viewport, including any zooming, window levelling, text overlay, image overlay, and so on.
Image Dimensions	Sets the visual characteristics of the movie images. If you select From DICOM, the DICOM dimensions are applied. If you select Custom, use the slider to set the image dimensions.
Frame Rate	Sets the image frequency, that is, the frames per second (FPS). If you are viewing Cine images, you can select From DICOM to use the DICOM settings or you can select Custom to set the frames per second. The duration time updates as you change the frame rate.

These settings are saved and applied automatically to subsequent exports. You can however, change the settings again at any time.

5. Click Export or press **ENTER**.

The movie is saved in the folder you specified in your export settings.

Exporting Images to DICOM Servers

You can send studies or series to a DICOM application entity, including a PACS. You can send studies that are on IntelePACS, stored locally on your workstation, or on external storage like a CD/DVD or USB key. Use the Queue Manager to view the status of each study that is being sent to track the progress of the job.

Sending Studies to a DICOM Server

You can send a study from your local workstation to a DICOM application entity (AE) in the DICOM Entity list configured in the DICOM preferences.

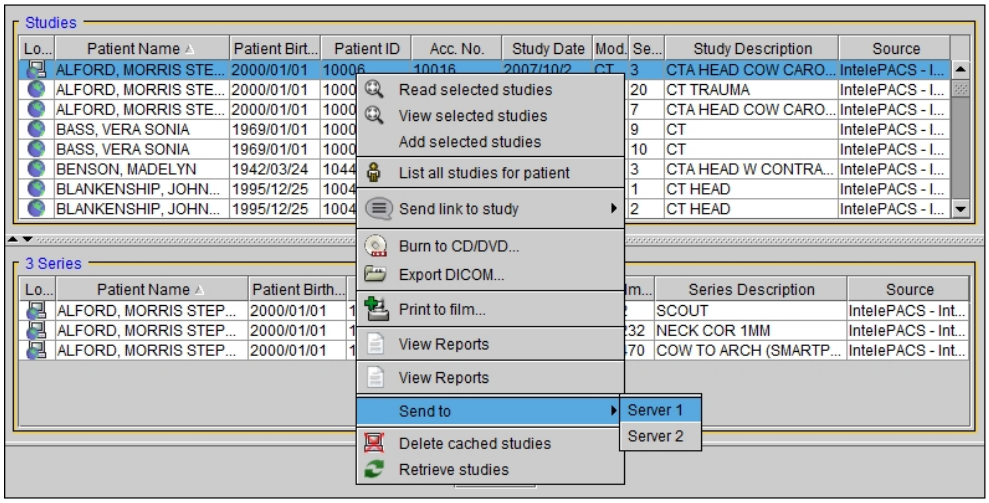
You can also send studies that have been burned to a CD or DVD, or exported to a network location or USB key.

To send a study to a DICOM server, the DICOM Query feature must be active. Please see your PACS administrator for more information.

To send a study to a DICOM server:

1. Do one of the following:
   - To send a study on a CD or DVD, or that was exported to a network location, choose File | Open File, navigate to the location of the DICOMDIR file, select it, and then click Open.
   - To send a study that is located on your workstation, choose File | Search Tool, or click the Search tab.
2. In the Search tool, select the study that you would like to send to a DICOM server.

   If you select a study that exists both locally and remotely, but that contains some series that are not local, the study cannot be sent to the selected server. In this case, you first must ensure that all the series exist locally. You can do this by retrieving the remote series to your local workstation. See “Opening Local and Remote Studies" (page 365).
3. To select multiple studies, do one of the following:
   - **CTRL**-click each required study.
   - To select a range, click the first study and drag to the last one in the range.
   - To select all studies, press **CTRL+A.**.
4. Right-click and choose Send To, then select the destination server.



The Queue Manager appears and displays the job progress. Once the job is complete, the study is available on the destination server. See “Viewing Jobs in the Queue Manager" (page 763).

See Also

DICOM Preferences 98
Burning DICOM Data to a CD or DVD 747
Exporting DICOM Data 751

Viewing Jobs in the Queue Manager

Use the Queue Manager to view the status of studies being sent to a specified DICOM server, as well as the status of studies being retrieved to your local workstation. The Queue Manager appears automatically when you send a study to a DICOM server or retrieve studies to your local workstation.

To send a study to a DICOM server, the DICOM Query feature must be active. Please see your PACS administrator for more information.

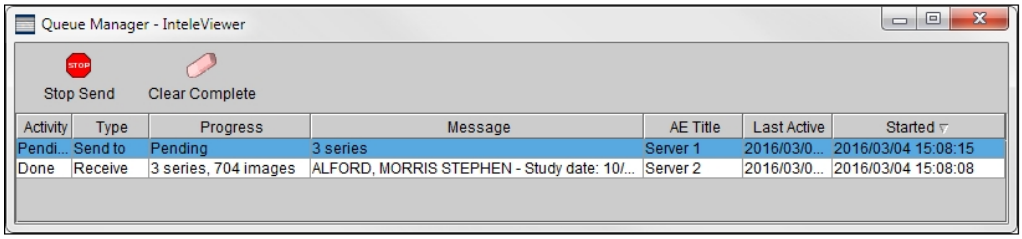
You can also view jobs, or studies in the queue, that have been unsuccessful, so that you may try sending or retrieving them again.

To open the Queue Manager:

- From the main menu, choose Utilities | Queue Manager.

  The Queue Manager appears and displays studies that are waiting to be sent, as

well as studies waiting to be retrieved.



To sort the job list:

1. Click a column heading in the job list.

   The information is sorted in ascending order and an arrow appears in the selected column heading to indicate the sort order.

2. To sort in descending order, click the column heading again.

To cancel sending a study:

1. In the Queue Manager, select the job that is pending or in progress.

   You cannot cancel the retrieval of a study to your local workstation.

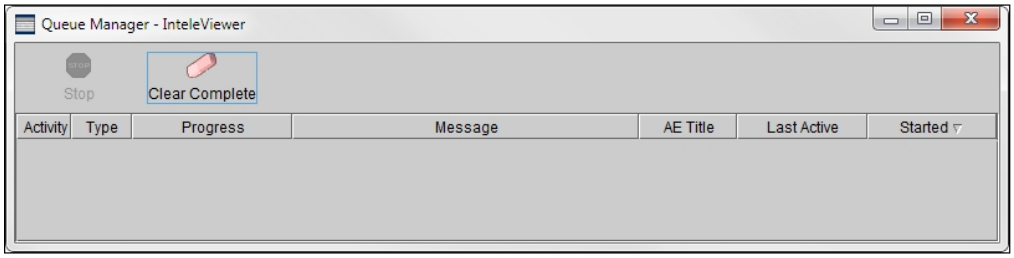
2. Click Stop Send.

   The job is aborted.

   You cannot stop studies from being retrieved.

To clear completed jobs:

- Click Clear Complete.



All the completed jobs are removed from the Queue Manager.

Printing to Paper

You can print a selected image, or the current view of the application window, to a printer to create reports and presentations, for example. You can print images from the application window, the Key Image Composer, the Teaching Case Editor, or the Print Film window.

You can also print images on a film printer.

Images are printed as they appear in the viewports. Therefore, the printed image will be at the same resolution and include any manipulations, text overlays, image overlays, measurement tools, and annotations that have been applied.

The True Size Zoom text-overlay value appears as “N/A” (rather than as a percentage) when you print an image or a window using the options in this section.

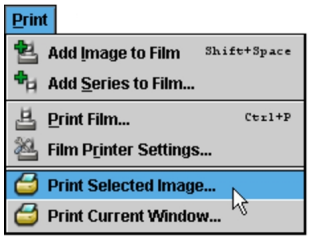
Printed documents also include a header, which lists the name of the current user and the printing date. If you need additional information printed with the image, you can do so by using the text overlay and text annotations.

To print a selected image:

1. Select the required image.

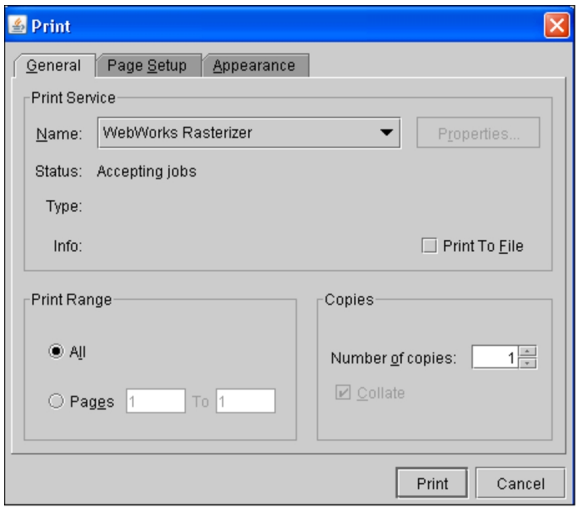
   You can select an image in a viewport, the Key Image Composer, the Teaching Case Editor, or the Print Film window.

2. Choose Print | Print Selected Image.



   The Print dialog appears.

3. Select the required printer from the Name list.



You can also select Print To File to save the image to a file. The file type depends on your selected printer.

4. Set the remaining options in the Print dialog as required, and then click Print.

   The settings that you last used on the Page Setup panel will be saved.

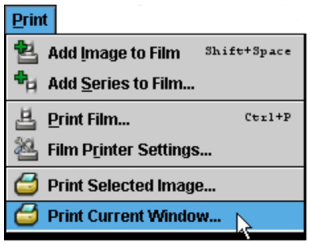
   The selected image and corresponding header information is printed.

To print the current window:

1. Select the required image.

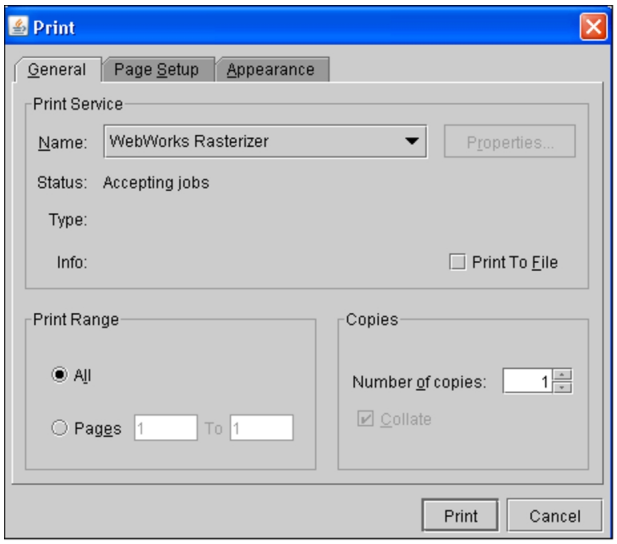
   You can select an image in a viewport, the Key Image Composer, the Teaching Case Editor, or the Print Film window.

2. Choose Print | Print Current Window.



   The Print dialog appears.

3. Select the required printer from the Name list.



You can also select Print To File to save the image to a file. The file type depends on your selected printer.

4. Set the remaining options in the Print dialog as required, and then click Print.

   All of the viewports and the corresponding header information is printed.

See Also

Printing to Film 767

Printing to Film

You can print selected images to film by using any one of several supported DICOM printers. Using the tools on the toolbar of the Print Film window, you can manipulate images as you would normally in InteleViewer before printing them. Any changes you make will appear on the printed image.

You can choose to print selected images or an entire series, including key images. Images can be selected from either the Search tool or when viewing them in the viewports.

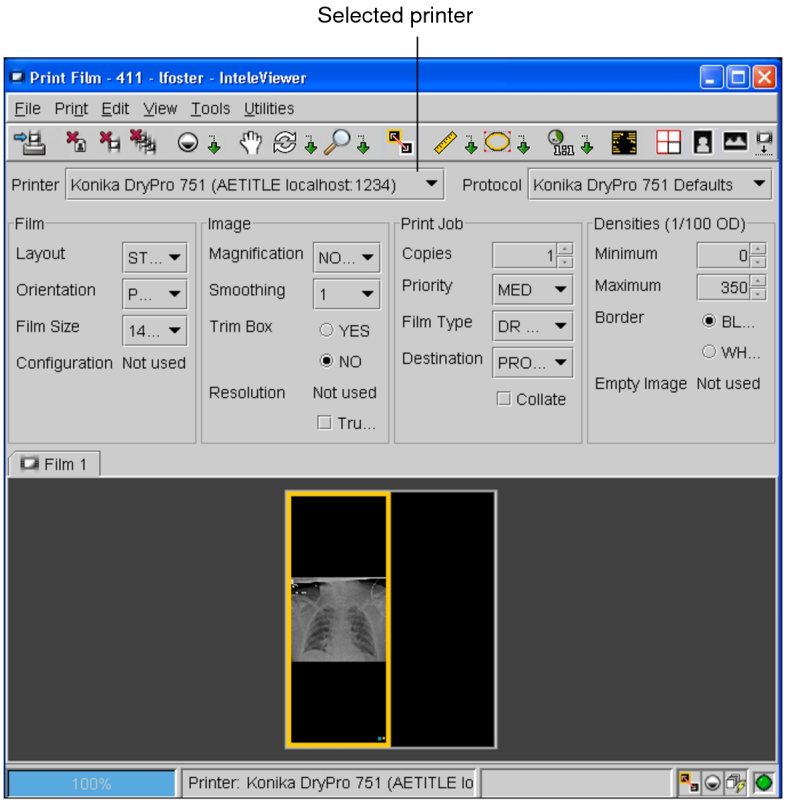
You can also print images to a (non-DICOM) paper printer or export JPEG images from within the Print Film window.

To use this feature, ask your PACS administrator to enable the appropriate privileges in your user account.

To print to film:

1. Add images to the Print Film window. See “Selecting Images to Print" (page 769).

   The Print Film window opens.



2. Manipulate the image as required.

   For example, you can add text annotations, zoom in, change the layout in the film, change the window level of the image, or display or hide the text overlay and image overlay information. For more information, see “Manipulating Images" (page 478).

   You can only change the window level of one image at a time in the Print Film window. To adjust the window level of the entire series at the same time, do so before you add the series to the Print Film window. See “Adjusting the Window Levelling" (page 489).

3. Reposition images on the films. See “Viewing and Reorganizing Films" (page 770).
4. If required, remove images from the job. See “Removing Images" (page 771).

5. Set the print job options by doing any of the following:
    - Quickly set the film size, orientation, or layout. See “Changing the Film Size, Layout, and Orientation" (page 772).
    - Apply a print protocol. See “Applying a Print Protocol" (page 774).
    - Select a different printer or customize individual print settings. See “Customizing Individual Print Settings" (page 774).

    If you select a different printer from the list of available printers, this printer will be used by default each time you print to film until you select another printer.
6. If required, set the print color to either grayscale or color. See “Setting the Print Color" (page 776).
7. Click Print | Print Images To Film (**CTRL+P**) or click on the toolbar.

    All films in the print job are printed. The progress of the job is displayed as it prints.

See Also

Printing to Paper 765
Exporting Images 756

Selecting Images to Print

You select images to print by adding them to the Print Film window. All of the images displayed in the window make up the *print job*; the pages that will be sent to the printer. Images are progressively rendered lossless as soon as you open the Print Film window to view them.

You can add images either when viewing a study in the viewports or from the Search tool. When viewing a study, you can choose to add single images or all images in a series. When adding images from the Search tool, you can choose to add a series or the entire study. Key images also can be selected.

Once you have selected the images you require, a Film panel is created for each page of film you will print.

To add images from the Search tool:

1. Search for the study or series you require. See “Searching for all Studies for a Patient" (page 270).

2. Right-click the study or series and choose Print to Film.

   The Print Film window opens. All images from the selection are added to the print job and are laid out in films, according to the current print settings.

3. To add more images to the window, repeat steps 1 to 2, as required.

To add images from the viewports:

1. Select the desired viewport by clicking it.
2. If required, manipulate the required images, position and orient them in the viewports, adjust the window level, and apply measurement and annotation tools.

   You also can do this later in the Print Film window.

3. Do one of the following:

   - To add all images in the series, choose Print | Add Series to Film.
   - To add only the selected image, choose Print | Add Image to Film (**SHIFT**+**SPACEBAR**) or click Add Image To Film .

   The selected images are added to the print job. However, the Print Film window does not open automatically, in order to allow you to continue working in InteleViewer and adding images to print, if necessary.

4. To add more images to the window, repeat steps 1 to 3 as required.
5. To view the images in the Print Film window, choose Print | Print Film or press **CTRL**+**P**.

   You can add images or series from different studies to a single print job.

Viewing and Reorganizing Films

Images that are added to the Print Film window are grouped into *films*. Films allow you to preview the layout of the images that will be printed on each page.

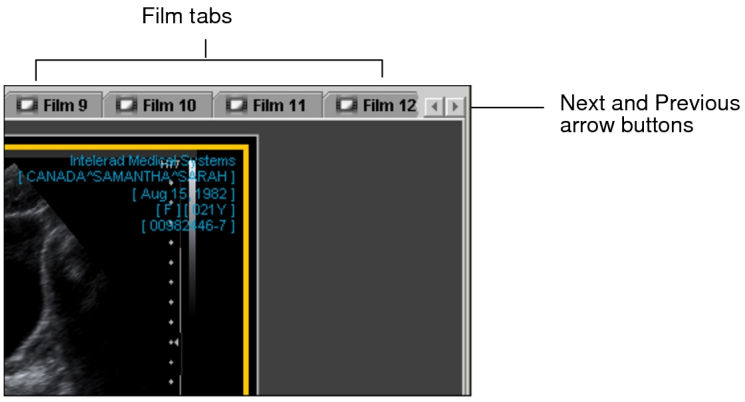
The number of films that are created depends on how many images you have added to the window and the selected layout settings. For example, if you select 10 images and have set a layout of 1 x 2, then images will be organized onto five films displaying two images each.

When you load multiple images, they initially appear in the Print Film window in the same order in which they were added. You can exchange the position of two images on the

same film, or across multiple films, in order to print them in a way that best suits your workflow.

To view films:

- Click the Film tab corresponding to the film you would like to view. If necessary, use the Next and Previous arrow buttons to view additional films.



To reorganize images on films:

1. Click the Drag and Swap tool .
2. Do one of the following:
   - To reorder an image on the same film, select the image and drag it to the new viewport position.
   - To move the image into another film, click the image and drag it over the required Film tab. The film will open. Then drag the image to the required viewport location.

   You can drag horizontally, vertically, or diagonally.
3. Once your cursor is at the required viewport location, release the mouse button.

   The images will exchange viewport positions.

Removing Images

You can remove any unwanted images and films from the print job, or clear all images from the Print Film window entirely.

To remove a selected image:

1. In the Print Film window, select the film that contains the image you want to remove, then select the image.

   Depending on the layout selected in the print protocol settings, more than one image can appear on a film.

2. Click Remove Image .

   The image is removed from the film.

To remove a film:

1. In the Print Film window, select the film that you want to remove.

   Depending on the layout selected in the print protocol settings, more than one image can appear on a film.

2. Click Remove Film .

   The film is removed from the print job.

To remove all images:

- In the Print Film window, click Remove All Images .

  All images are removed from the print job.

  ⚠ Clicking Remove All Images immediately deletes the images from the Print Film window. This operation cannot be undone. To recover the print job setup after removing all images, you must add the images again.

Changing the Film Size, Layout, and Orientation

You can quickly change the film size, layout, and orientation from the Print Film window toolbar. The film layout controls how many images will be displayed on each film for the current print job and how they will be organized on the page. The film orientation determines whether you will print in landscape or portrait format.

When you add images to the Print Film window, the initial film size, layout, and orientation is determined by the print protocol that was last used. However, you can change these settings at any time.

You can also change the film size, layout, and orientation by applying a print protocol.

To change the film size:

1. Click Film Size in the toolbar.
2. Select an option from the Film Size menu that appears.

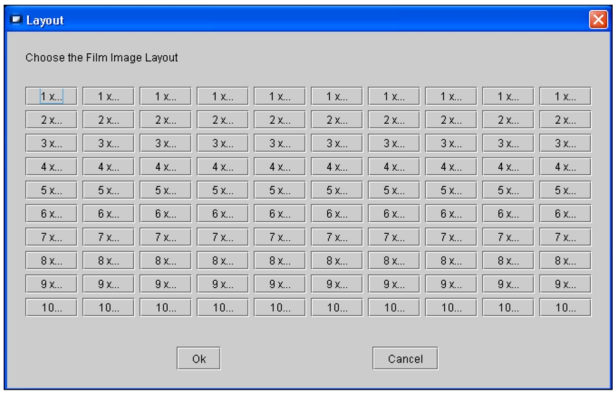
   The film size settings that are available are determined by the selected printer.

To change the film layout:

1. Click Film Layout in the toolbar.

   The Layout dialog appears. The layout settings that are available are determined by the selected printer.

   Available Layout Settings for the Konica DryPro 751 Printer



2. Click the required layout icon.

   The icons indicate the way in which multiple images on a film will appear, organized in columns and rows. For example, a 4 x 2 layout will display a total of eight images on each file, organized into four rows and two columns.

3. Click OK.

To change the film orientation:

1. To change to a landscape (horizontal) orientation, click Landscape in the toolbar.
2. To change to a portrait (vertical) orientation, click Portrait in the toolbar.

See Also

Customizing Individual Print Settings 774

Applying a Print Protocol

You can use print protocols to quickly apply a pre-configured set of options for the selected printer to a print job.

To apply a print protocol:

1. Click Choose Protocol in the toolbar.
2. Select an option from the menu that appears.

   All available protocols for the selected printer are listed.

See Also

Creating Print Protocols 778

Customizing Individual Print Settings

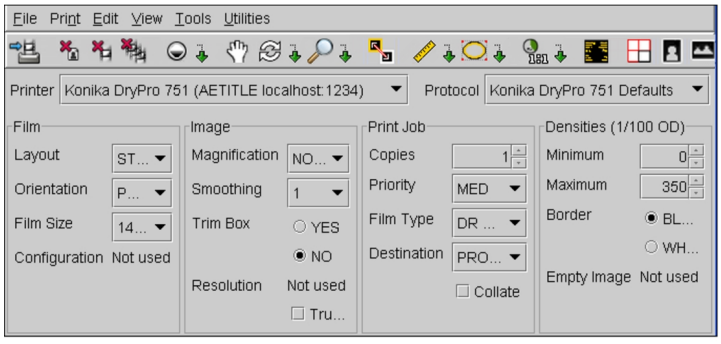
For any print job, you can choose to customize the settings as required. The settings available for a printer are determined by the configuration of the printer parameters therefore you may not have the ability to modify all of the options listed here.

You can save your customized settings as a print protocol, so that you can quickly apply them later.

To choose print settings:

1. In the Print Film dialog, click the Film Print Protocol Settings icon on the toolbar.

   The print protocol settings for the selected printer appear.



2. If required, choose another printer from the Printer list.

If you select a different printer, this printer will be used by default each time you print to film until you select another printer.

3. Configure the settings as required:

Setting	Option	Description
Film Settings	Layout	Specifies how many images will be printed on each film, and their layout, organized by rows and columns. For example, a 3 x 2 layout will print a total of six images on the film, organized in three rows and two columns.
	Orientation	Specifies the orientation of the film. You can choose between landscape (horizontal) or portrait (vertical).
	Film Size	Specifies the orientation of the film. You can choose between landscape (horizontal) or portrait (vertical).
	Configuration Information	Identifies a set of specific parameters that apply to the selected printer. This setting can be any text that is meaningful to the printer.
Image Settings	Magnification	Interpolation type by which the printer magnifies or decimates the image in order to fit it in the image area on the film.
	Smoothing	If Magnification is set to Cubic, this setting further specifies the type of interpolation to use.
	Trim Box	Specifies whether a trim box shall be printed surrounding each image on the film.
	Resolution	Specifies the density of printable pixels per inch of film.
	True Size	Enables printing of life-size images (zoom of 100%). All images selected for the print job must be calibrated in order to use this option.
Print Job Settings	Copies	Specifies the number of prints required for each film in the print job.
	Priority	Sends priority information to the printer, which may be used to order jobs in the queue (depending on the model of printer).

Setting	Option	Description
	Film Type	Selects the type of medium on which the print job will be printed. For example, film type could include clear film or blue film.
	Destination	Specifies the destination of the exposed film, for example, to a film magazine or processor.
	Collate	Enables printing each set of films separately, in sequential order. If disabled, each film will be printed the number of times specified in the Copies field before printing the next one.
Densities Settings	Minimum	Sets the minimum density of the images on the film.
	Maximum	Sets the maximum density of the images on the film.
	Border	Sets the color and density of the border surrounding the images on the film.
	Empty Image	Specifies the color and density of the image box area on the film that contains no image information.

4. When finished, repeat step 1 to hide the protocol settings.

See Also

Creating Print Protocols 778

Setting the Print Color

You can quickly change the color of the image that will be printed to either grayscale or color.

To print in color, make sure the Color Print parameter for your printer is set to `true`.

To select the print color:

- In the Print Film window, do one of the following;
  - To print in color, select the Print in color icon on the toolbar.
  - To print in grayscale, select the Print in grayscale icon on the toolbar.

See Also

Configuring a DICOM Film Printer 777

Configuring a DICOM Film Printer

You can configure a DICOM film printer in InteleViewer. When setting it up, you must be certain that the settings follow the printer's supported configurations. Otherwise, you may get error messages when printing images to film.

Supported configurations are normally specified in the DICOM conformance document that comes with the printer or that can be downloaded from the manufacturer's website.

Once you have successfully configured settings for a DICOM film printer, you can verify and copy those settings to another workstation.

To configure a DICOM film printer:

1. Choose Print | Film Printer Settings.

   The Film Printer Settings window appears.

2. If your printer model is listed in the Printer menu, select it and update the basic settings: Printer Name, Color Print, AE Title, Host, and Port.
3. If your printer model is not listed in the Printer menu, do the following:

   - Update the basic settings (Printer Name, AE Title, Host, and Port) with the printer information.
   - Click each parameter in the Parameters table and obtain the DICOM tag number in the informational section to the right of the table. The Collate and True size parameters are user preferences and are not part of the conformance document. For example, the Border Density parameter has the tag number 2010,100.
   - Use this tag number to search for the parameter's supported configuration in the DICOM conformance document. Occasionally you may only need part of the tag (e.g. 2010) to be able to locate it in the document.
   - Verify that the settings for the parameters are valid in InteleViewer.

4. Click Save Changes.
5. Add an image to film and print the film to ensure that you have successfully configured your printer.

To verify DICOM film printer parameters:

1. In the Film Printer Settings window, verify whether the parameter is not used by consulting the Not used field.

   If the parameter is indeed used, the conformance statement should mention it.

2. If applicable, verify whether the values specified in the Default and Valid Values sections are supported values.
3. If applicable, verify whether the numbers specified in the Range section are within the range specified in the document.

To copy a DICOM film printer configuration:

1. On the workstation where you have configured the DICOM film printer, exit InteleViewer.
2. Go to the InteleViewer's installation folder. For example, go to C:\Program Files\Intelerad Medical Systems\InteleViewer.
3. Copy the file dicom_print.zip to a network or USB drive.
4. On the workstation where you want to apply the printer configuration, place the file in the InteleViewer installation folder.

Creating Print Protocols

Use print protocols to save a configuration of commonly-used settings and quickly apply them to a print job. You can save as many print protocols as needed for each printer, or update existing protocols to modify the settings.

For each printer you have configured on your system, a print protocol containing the default settings for the printer is created automatically. This protocol is named: `<printername> Defaults`.

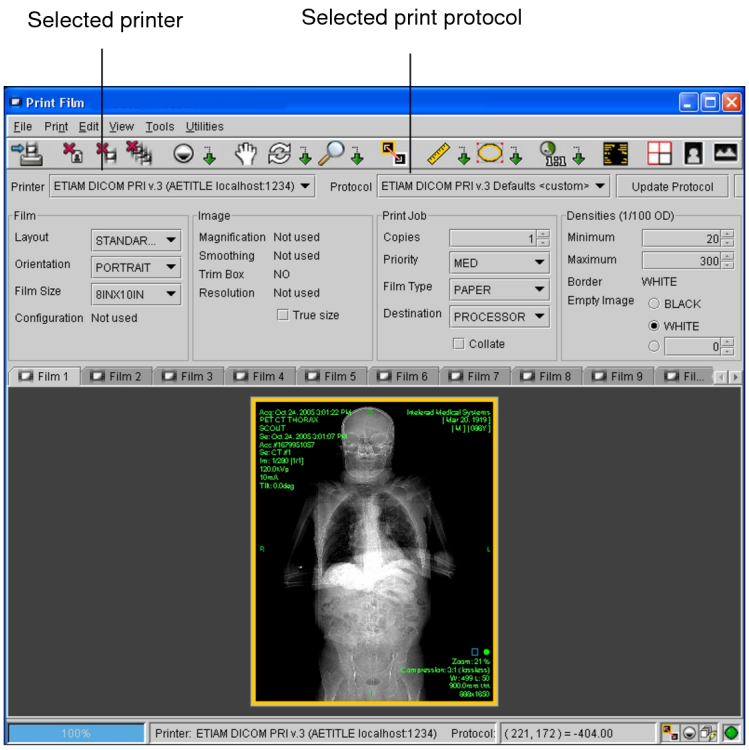
Note that print protocols differ from *printer parameters*. Printer parameters define the entire range of available options for a given printer. Protocol settings simply define a set of options to be used for a specific print job. For information, contact your PACS administrator.

To use this feature, ask your PACS administrator to configure your user account.

To display the print protocol settings:

1. In the Print Film window, choose Print | Film Print Protocol Settings or click Film Print Protocol Settings on the toolbar.

   The print protocol settings for the currently-selected printer appear.



2. If required, select another printer from the Printer list.

   The default protocol for the selected printer is displayed.

   InteleViewer remembers the last-selected printer and print protocol, and will apply these settings the next time you start the application.

Creating New Protocols

Though a default print protocol is provided for each printer, you can create your own custom protocols to save commonly-used print job settings.

To create a new protocol:

1. Open the Print Film window. In the InteleViewer main window, choose Print | Print Film or press **CTRL+P**.

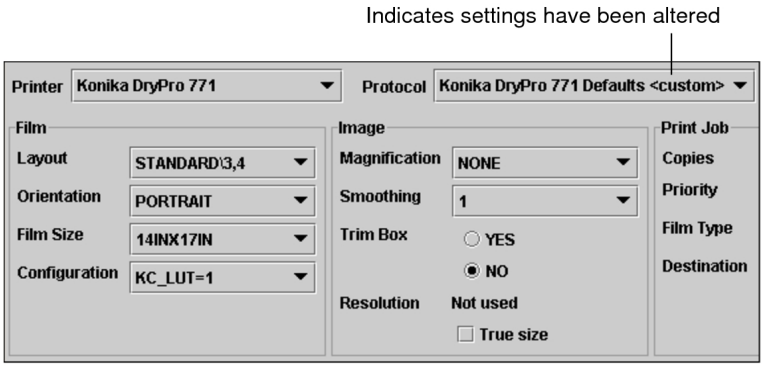
2. Choose Print | Film Print Protocol Settings or click Film Print Protocol Settings on the toolbar.

   The print protocol settings for the selected printer appear.

3. Choose a printer from the Printer list.
4. Configure the settings as required. For example, change the layout and orientation, or choose to print multiple copies.

   See “Customizing Individual Print Settings" (page 774).

   As you change the settings, the Protocol list updates and appends the word `<custom>` to the selected print protocol. Also, the Update Protocol and Remove Protocol buttons become active.

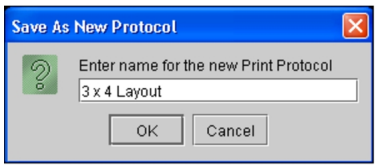


5. Click Save Protocol.

   The Save As New Protocol dialog appears.

   If you do not save these settings as a new protocol, your changes will be lost.

6. Enter a descriptive name for the new protocol and click OK.



   The new protocol is created and appears in the Protocol list. It can be applied to any print job.

Modifying Protocols

You can change the settings for existing print protocols to update them. Any changes you make to a printer's default protocol will also be reflected in the printer parameters.

To modify a protocol:

1. Choose Print | Film Print Protocol Settings or click Film Print Protocol Settings on the toolbar.
2. Verify that the required printer is selected in the Printer list.
3. Select the protocol whose settings you want to change from the Protocol list.
4. Configure the settings as required. For example, change the layout and orientation.

   As you change the settings, the Protocol list updates and appends the word <custom> to the selected print protocol. Also, the Update Protocol and Remove Protocol buttons become active. See "Customizing Individual Print Settings" (page 774).
5. Click Update Protocol.

   The new settings are saved with the protocol.

   ⚠ You cannot revert to the previous version of the print protocol. Once you click Update Protocol, the new settings are immediately applied.

Deleting Protocols

You can remove print protocols that you no longer require. However, default print protocols cannot be deleted.

To delete a print protocol:

1. Choose Print | Film Print Protocol Settings or click Film Print Protocol Settings on the toolbar.
2. Verify that the required printer is selected in the Printer list.
3. Select the protocol that you want to delete from the Protocol list.
4. Click Remove Protocol.

   The protocol is deleted.

   ⚠ This action cannot be undone. Once you click Yes, the protocol is deleted immediately.

Printing 3D Models of Studies

You can print a 3D model of a study from InteleViewer with the 3D Medical application.

To print a 3D model of a study:

1. Open the study to print.
2. From the main menu, choose Utilities | Launch 3D Medical, or click the 3D Medical icon .

   The 3D Medical application launches.

   For information on using the 3D Medical application, refer to your product documentation.

See Also

3D Medical Preferences 93

A
CUSTOM AND DEFAULT KEYBOARD SHORTCUTS

Use either custom or default keyboard shortcuts to quickly access many of the InteleViewer features without using the mouse.

In this Appendix:

About Custom and Default Keyboard Shortcuts 785

Customizing Keyboard Shortcuts 785

Default Keyboard Shortcuts 788

About Custom and Default Keyboard Shortcuts

Keyboard shortcuts allow you to quickly access many of the InteleViewer features without using the mouse. You have the option of using the default InteleViewer shortcuts, or replacing these with your own shortcuts.

Customizing Keyboard Shortcuts

You can configure keyboard shortcuts that allow you to quickly access the various tools, windows, dialogs, series and image layout options, and other functionalities-or commands provided from the main menu of InteleViewer.

From a tab in the User Preferences section of InteleViewer, you can view all the commands available for shortcut customization.

Certain keys are reserved by the system and cannot be used as a shortcut for a command. For example, the **PAGE UP** and **PAGE DOWN** keys are reserved by the system for paging. Keys that may cause unpredictable behavior, such as the Print Screen and the Pause keys, are also prohibited for use as a shortcut.

In a few instances, you can assign a shortcut to “cycle through” or switch between the various tools in a category. For example, you may assign the shortcut M to cycle through the measurement tools. As such, each time you click M in a viewport, a different measurement tool (the Linear Measurement tool, the Elliptical ROI Measurement tool, and so on) is enabled.

You can unassign previously assigned shortcuts, if necessary. You can also reset a shortcut to the default value provided by InteleViewer.

See Also

About Configuring Mouse Shortcuts 795
Default Keyboard Shortcuts 788

Assigning Keyboard Shortcuts

When you assign a keyboard shortcut to a command, the shortcut functions for all modalities in InteleViewer. For example, if you assign the X key to the Zoom command, using the X shortcut to zoom an image will work when viewing CT, X-ray, and MR images, and so on.

Each custom command can have only one shortcut, unless the commands are in a grouping that can be cycled through, such as measurement and annotation tools. In this case, each command is associated with the same shortcut.

InteleViewer, however, may provide more than one default shortcut for certain commands, such as the Zoom tool.

Furthermore, you can revert to the default shortcut after you have assigned a custom shortcut to a command, should you choose to do so.

If you select a shortcut that is already in use for another command, you can choose whether to reassign that shortcut to the command you are configuring, or to leave it assigned to the other command.

To assign keyboard shortcuts:

1. From the InteleViewer main menu, select Utilities | User Preferences | User Configuration.

   The User Configuration window appears, opened, by default, to the Keyboard Shortcuts tab.

2. Expand the Tools menu to locate the command to which you would like to assign a shortcut.
3. In the Shortcut column, click the blank space beside the command. If a shortcut already exists, click the existing shortcut for the command.
4. In the text box, enter a shortcut for the command and press **ENTER**.
5. If the shortcut is already taken by another command, do the following in the dialog that appears:
   - Click Reassign [shortcut] to [command] and go to [‘‘conflict” command] to assign the specified shortcut to the current command. You are then taken to the command that previously was assigned the shortcut and can reassign a shortcut for that command.
   - If you do not want to change either the current shortcut or the conflict shortcut, click Cancel.
   - Press **ENTER**.
6. Click Apply.
7. If you are finished with configurations on this window, click OK.

See Also

Assigning Mouse Buttons to Keyboard Shortcuts 802

Unassigning Keyboard Shortcuts

Once you have assigned a shortcut, you can change or unassign it, if necessary.

To unassign keyboard shortcuts:

1. From the InteleViewer main menu, select Utilities | User Preferences | User Configuration.

   The User Configuration window appears, opened, by default, to the Keyboard Shortcuts tab.

2. Expand the Tools menu to locate the command to which you would like to unassign a shortcut.
3. In the Shortcut column, click the existing shortcut for the command.

   A text box appears around the shortcut.

4. Click Delete or press **BACKSPACE**.

   The shortcut is deleted.

5. Click Apply.

   The shortcut is no longer assigned to the command.

6. If you are finished with configurations on this window, click OK.

Resetting Keyboard Shortcuts to Default Values

Various commonly used commands are assigned InteleViewer default shortcuts. For example, the default shortcut for the Zoom tool is Z, and the default shortcut value for the Pan tool is P. If you, however, changed the shortcut for such commands, you can later decide to reset the shortcut to the default value provided by InteleViewer.

Administrators are able to change the default or custom values of shortcuts for all users. For more information, contact your PACS administrator.

You can choose to reset one shortcut, or all shortcuts at once.

To reset keyboard shortcuts to their default values:

1. From the InteleViewer main menu, select Utilities | User Preferences | User Configuration.

   The User Configuration window appears, opened, by default, to the Keyboard Shortcuts tab.

2. Expand the menu to locate the command for which you would like to reset a shortcut.
3. To reset all shortcuts at once, do the following:

   - Click Reset All Shortcuts (from the bottom of the window).
   - From the dialog that appears, click Reset All.

   All shortcuts are reset to their default InteleViewer values. Previously configured custom values are deleted from the system.

4. To reset a particular shortcut, do one of the following:

   - Click the existing shortcut.
   - Click the Reset to Default button beside the shortcut.
   - From the dialog that appears, click Reset to Default.

   The shortcut is reset to its default InteleViewer value.

5. Click Apply.
6. If you are finished with configurations on this window, click OK.

See Also

Default Keyboard Shortcuts 788

Default Keyboard Shortcuts

The following tables list the default keyboard shortcuts in InteleViewer.

See Also

Customizing Keyboard Shortcuts 785

3D and Measurement Tools

To use:	Press:
3D Cursor	**C**
Calibrate Measurements	**CTRL+M**
Delete selected measurement	**DELETE**
Measurement Tools	**M**
Reference Lines	**R**

Series and Image Layout

Number of series viewports (on current monitor):	Press:
1	**1**
2	**2**
3	**3**
4	**4**
6	**5**
9	**6**
12	**7**
16	**8**
18	**9**

Number of images (in selected viewport):	Press:
1	**CTRL+1**
2	**CTRL+2**
3	**CTRL+3**
4	**CTRL+4**
6	**CTRL+5**
9	**CTRL+6**
12	**CTRL+7**
16	**CTRL+8**
18	**CTRL+9**

Manipulating Images

To:	Press:
Add image to Film Composer	**SPACEBAR**
Add key image	**SPACEBAR**
Add teaching case image	**CTRL+SPACEBAR**
Add text/arrow/elliptical/circular annotations	**A**
Adjust image using DSA	**X**
Auto Linked Stacking/Manual Linked Stacking	**L**
Complete annotation/measurement	**ESC**
Cycle Auto window level presets	**CTRL+F2**
Cycle DICOM presets	**SHIFT+F2**
Display CAD Marks (for Mammography Viewer)	* (NumPad)
Display Shutters	**CTRL+R**
Drag and swap	**D**
Export Images	**CTRL+SHIFT+E**
Flip horizontally	**CTRL+H**
Flip vertically	**CTRL+V**
Free rotate	**SHIFT+R**
Increase series quality	**BACK QUOTE**
Increase series quality to lossless	**CTRL+BACK QUOTE**
Invert image color map	**I**
Link Viewports	**CTRL**+click
Magnifying Glass	**G**
Lock/unlock viewports	**CTRL+L**
Open DICOM file	**CTRL+O**
Pan	**P**
Print Film/Show Print Composer	**CTRL+P**
Quick Export	**CTRL+E**
Reset image	**CTRL+BACKSPACE**
Rotate left 90 degrees	**,**

To:	Press:
Rotate right 90 degrees	.
Stack	S
Toggle text overlay	O
View header	H
Window level	W
Zoom	Z
100% Zoom (for Mammography Viewer)	CTRL+0
Quadrant zoom	Q

Search Tool

To:	Press:
Copy selected study/series information to the Windows system clipboard	CTRL+C
Select all entries in the Series or Study window	CTRL+A

Navigating through Images

To display the:	Press:
First image in the series	HOME
Last image in the series	END
Next page of the series	RIGHT ARROW
Next series	PAGE DOWN
Previous page of the series	LEFT ARROW
Previous series	PAGE UP

To:	Press:
Show/hide Cine	CTRL+I
Page backward to previous series or to previous step for mammography	LEFT ARROW
Page forward to next series or to next step for mammography	RIGHT ARROW
Page image backward (in a multiple-image viewport layout)	UP ARROW
Page image forward (in a multiple-image viewport layout)	DOWN ARROW

To:	Press:
Stack down	**DOWN ARROW**
Stack up	**UP ARROW**
Play and pause stacking of tomosynthesis slices in a dataset	**CTRL+S**

Windows and Dialogs

To display:	Press:
Extension window	**E**
Help Documentation	**F1**
Key Image Composer	**K**
Print Film	**CTRL+P**
Report Viewer	**V**
Search Tool	**?**
Show/Hide the Thumbnail View	**F11**
Teaching Case Editor	**F**
Thumbnail Strip	**T**
User Preferences	**CTRL+U**

To:	Press:
Close a tab in the Chat window	**CTRL+W**
Close the Chat window	**ALT+F4**
Create a new session	**CTRL+SHIFT+N**
Exit the application	**CTRL+Q**
Open a DICOM File	**CTRL+O**
Open a new window	**CTRL+N**
Switch to the next tab in the Chat window	**CTRL+TAB**

Third-Party Dictation Systems

To:	Press:
Manually synchronize the state of an order between InteleViewer and the third-party dictation system	**CTRL+D**

B
CONFIGURING MOUSE SHORTCUTS

You can configure your mouse buttons to quickly access many of the InteleViewer tools and commands.

In this Appendix:

About Configuring Mouse Shortcuts 795

About Paired Mouse Buttons 798

About the Starting Tool 798

Assigning Mouse-Button Shortcuts 799

Assigning Mouse Buttons to Keyboard Shortcuts 802

Unassigning Mouse Shortcuts 804

About Configuring Mouse Shortcuts

You can streamline and increase your productivity by configuring your mouse buttons to act as shortcuts to various InteleViewer tools and commands.

For example, you can create a CT toolset that includes the tools most relevant to working with CT studies. If you are using a five-button mouse, you can assign your buttons to the following tools:

Button	Tool
Left	Stack
Right	3D Cursor
Middle	Window Level
4	Linear Measurement
5	Angle Measurement

You can assign two tools to certain mouse buttons. You can assign one tool that is activated with only a click of the mouse button (click-only tool), and another that is used with a click of the of the mouse button, as well as a drag of the mouse button (click-and-drag tool). If you only click, you get the click tool. If you click and drag, you get the click-and-drag tool.

You can assign a different tool or command for each of your mouse buttons. The number of tools and commands that you can configure depends on the number of buttons on your mouse. For example, your mouse may have three primary buttons—the left, right, and middle buttons—or five or more buttons.

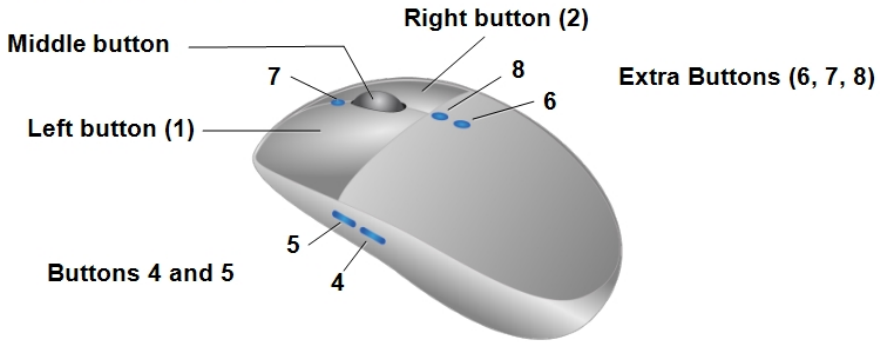
If you are using a mouse with more than five buttons, configure the extra buttons using keyboard shortcuts.

If you are using, for example, a three-button mouse with a scroll wheel, the wheel is reserved by the system for navigation purposes. If you configure the scroll wheel in Windows to be used as a third mouse button, you can assign the middle button to specific manipulation tools.

Certain mouse buttons are reserved for specific functionality and cannot be assigned to a tool. Some buttons cannot be assigned tools that are used with a simple click action; but may be used for tools that require a click-and-drag action.

You can configure the mouse buttons as follows:

Mouse Button Configurations



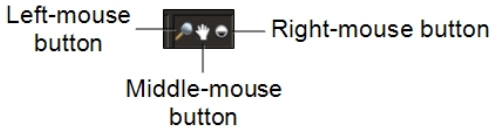
This button:	Is reserved for:	And can also be used in this way:
Left (1)	The starting tool, which is the tool that is active by default when a study is opened.	To interact with the user interface.
Right (2)	Launching the radial menu or toolset and patient menus.	To assign to these click-and-drag tools: Zoom, Window Level, Pan, Stack, 3D Cursor, and Free Rotate.
Middle (scroll wheel (3)	Navigation purposes.	
Middle (button)		To assign to these click-and-drag tools: Zoom, Window Level, Pan, Stack, 3D Cursor, and Free Rotate. To assign click-only tools and commands, such as Toggle Stacking, Invert, Show Key Image Composer.

This button:	Is reserved for:	And can also be used in this way:
		You can only use the click-only tools with the middle mouse button when viewing multi-image series in a viewport. Even if you assign a click-only tool to the middle mouse button, when you use the middle mouse button in a viewport displaying a single image, the Navigate Through menu appears instead of the assigned tool.
4, 5		To assign to click-only tools and commands.
Extra (6, 7, 8)		To assign to keyboard shortcuts.

When assigning a button to a measurement or annotation tool, you first click and release the button to select the tool. You then use the left button to perform the task. This is also true for the Magnification Glass tool and the Drag and Swap tool. For example, if you assign button four to the Linear Measurement tool, you first click button four to select the Linear Measurement tool, and then use the left button to perform the measurement.

⚠ Do not move your mouse after clicking and releasing the button or the command will not be performed.

The tools currently assigned to the left, right, and middle buttons are displayed in the bottom right corner of the status bar. The following example shows that the left-mouse button is assigned to the Zoom tool, the middle-mouse button to the Pan tool, and the right-mouse button to the Window Level tool.



See Also

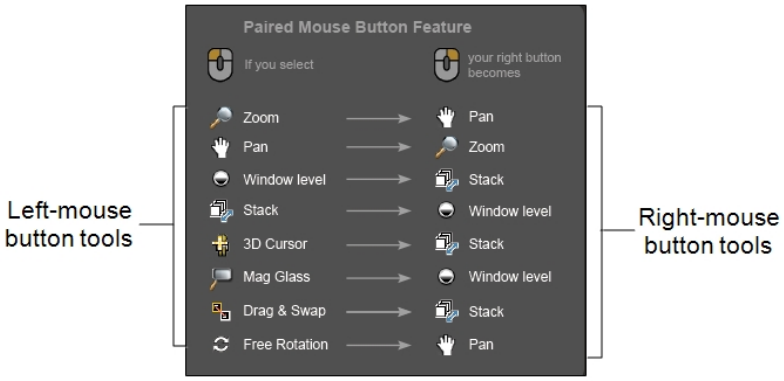
About Paired Mouse Buttons 798
Assigning Mouse Buttons to Keyboard Shortcuts 802
About the Starting Tool 798

About Paired Mouse Buttons

When using a three-button mouse or a multi-button mouse, InteleViewer automatically assigns specific manipulation tools to the right-mouse button based on your choice for the left-mouse button, to give you quick access to these tools without first selecting them.

Automatically assigning the mouse configuration for each tool gives you access to features that logically go together, making the transition between tools fast and efficient.

InteleViewer assigns the left- and right-mouse buttons to the following manipulation tools:



If you want to assign the right-mouse button to a tool other than the one that is paired to the left button, except for the Magnification Glass and Drag and Swap tools, you need to disable the Paired Mouse-Button option (enabled by default) on the Mouse Shortcuts tab in the user preferences. You can disable this feature for a specific modality or for all modalities.

See Also

About Configuring Mouse Shortcuts 795
About the Starting Tool 798

About the Starting Tool

You can configure which manipulation tool is active by default when a study is opened in InteleViewer for each modality. The tool you select as the *starting tool* will be automatically available for use via the left-mouse button.

You can choose any of the following manipulation tools as the starting tool:

- Zoom
- Window Level
- Pan
- Drag and Swap
- Stack
- 3D Cursor
- Magnification Glass
- Free Rotate

You can choose one starting tool for all modalities, or different starting tools for individual modalities. By default, the Zoom tool is starting tool for all modalities.

If you are working with a multiple-viewport layout with studies from different modalities, the default starting tool changes based on the modality in the selected viewport. For example, if you configure the Magnification Glass tool as the starting tool for mammography studies, and the Stack tool as the starting tool for MR studies, then your cursor will change to the Magnification Glass tool when you select a viewport with a mammography study, and to the Stack tool when you select a viewport with an MR study.

See Also

About Configuring Mouse Shortcuts 795
About Paired Mouse Buttons 798

Assigning Mouse-Button Shortcuts

Use the user configuration preferences to assign mouse-button shortcuts to various InteleViewer tools and commands to better fit your work style. These shortcuts apply either globally or for individual modalities.

For example, you can assign the right-mouse button to the Stack tool for the mammography modality. Clicking and dragging the right-mouse button to stack an image will work when viewing MG images only.

InteleViewer is already configured with default settings for a three-button mouse that initially apply to all modalities. These default settings are as follows:

- The Use Default Settings checkbox is enabled for each modality.
- The left-mouse button is assigned to the starting tool, which is the Zoom tool.
- The Paired Mouse-Button option is enabled.
- The middle-mouse button is assigned to the Window Level tool.

If you change the mouse-button shortcut assignments for the default settings, these changes will apply to all modalities using those settings. Additionally, when you edit a modality with default settings, such as changing the starting tool, disabling the Paired Mouse-Button option, or assigning tools, the default settings will no longer apply to that modality and the Use default Settings checkbox will be disabled. When you exit InteleViewer your default and customized settings are remembered and will roam.

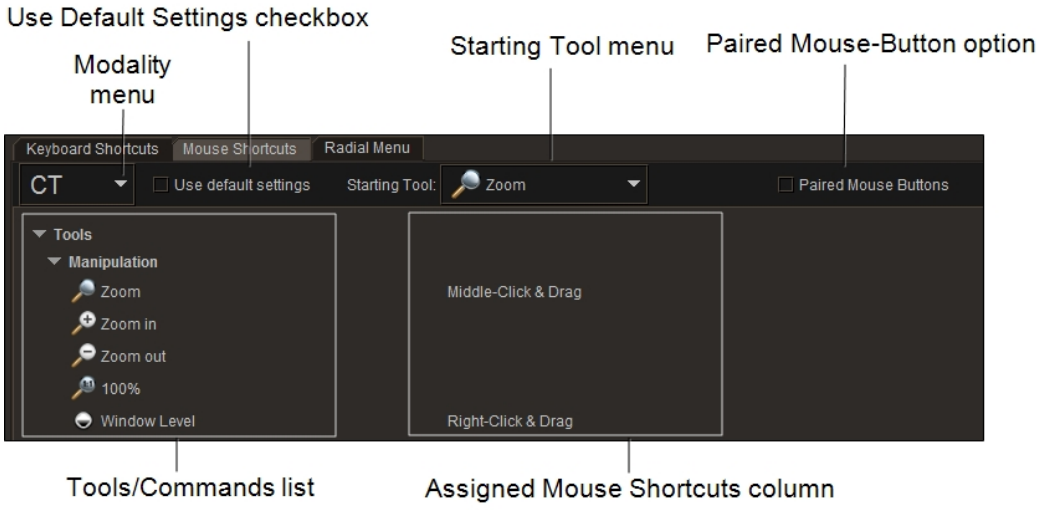
Your PACS administrator can also create a profile template that automatically assigns the default or custom values of mouse-button shortcuts for your site. For more information, contact your PACS administrator.

To assign mouse-button shortcuts:

1. From the main menu, choose Utilities | User Preferences | User Configuration.

   The User Configuration window appears, opened by default, to the Keyboard Shortcuts tab.

2. Click the Mouse Shortcuts tab to view the Mouse Shortcuts page.



3. From the Modality menu, do one of the following:

- To set the default mouse-button shortcuts for all modalities, click Default in the menu.
- To set the mouse button shortcuts for a specific modality, click the modality name in the menu.

4. In the Assigned Mouse Shortcuts column, click the field beside the desired tool or command, and then click the mouse button to which you want to assign the tool.

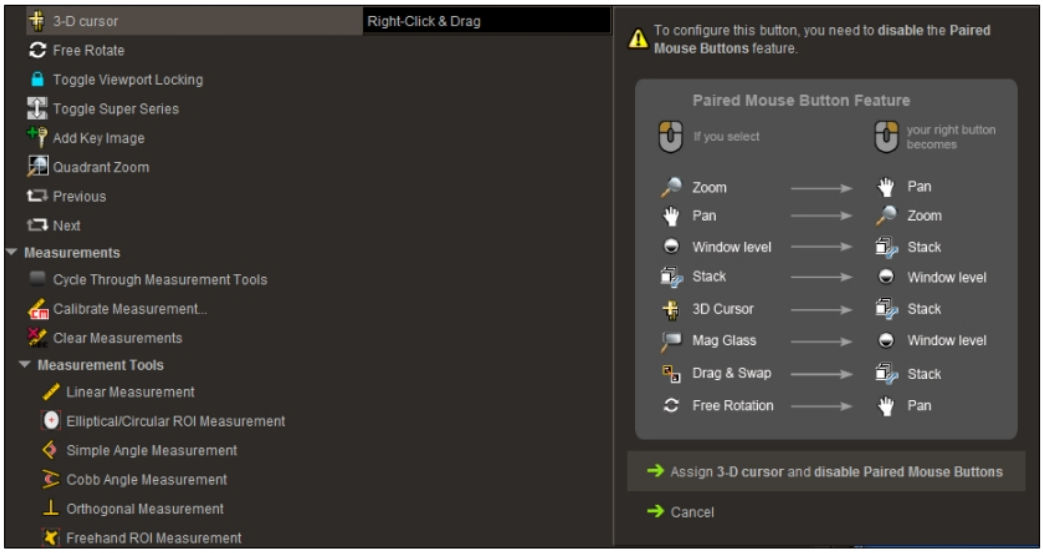
   If the tool requires a click-and-drag action to use, such as the Pan tool or the Window Level tool, InteleViewer assigns the click-and-drag action for this button. For example, if you assign the right-mouse button to the Window Level tool, the corresponding field displays "Right-Click & Drag."

   If the tool or command requires a click action to use, such as the Invert tool or the Show Key Image Composer command, InteleViewer assigns the click action for this button. For example, if you assign button five to the Invert tool, the corresponding field displays "Button 5."

5. If the button is already assigned to another tool, do one of the following in the dialog that appears:

   - Click Reassign to reassign the button to this tool.
   - Click Cancel to keep the originally assigned tool.

6. If the button is already reserved for another tool, a warning appears indicating that you cannot assign the tool or command to this button. Click outside the warning to remove the message and to keep the previous mouse-button configuration.
7. To assign the right-mouse button to a click-and-drag tool, click Assign in the dialog that appears.



The button is assigned to the tool and the Paired Mouse-Button option is disabled.

If you want to keep the original configuration, click Cancel.

8. To assign the left-mouse button to a starting tool, from the Starting Tool menu, select a manipulation tool.
9. To assign the default settings to a specific modality, enable the Use Default Settings checkbox.
10. If you are finished with configurations on this window, click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.

See Also

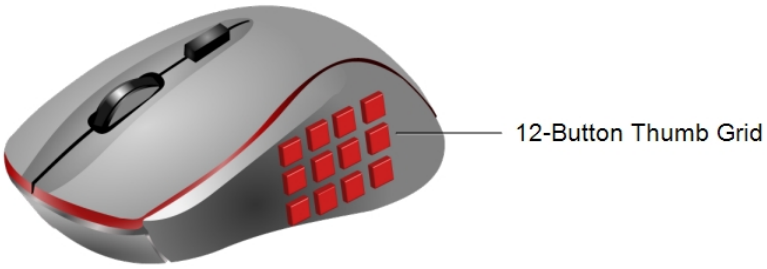
Assigning Mouse Buttons to Keyboard Shortcuts 802
Unassigning Mouse Shortcuts 804
About Paired Mouse Buttons 798

Assigning Mouse Buttons to Keyboard Shortcuts

If you are using a mouse with more than five buttons, the extra buttons are not considered by Windows as mouse buttons. Instead, the extra buttons are controlled by the mouse driver. If your mouse driver software is configured to do so, you can use

keyboard shortcuts to configure the extra buttons to various InteleViewer tools and commands.

For example, if you are using a gaming mouse with a 12-button thumb grid, you can assign button 8 to the keyboard shortcut I, the default shortcut value for the Invert tool. As such, each time you click button 8 in a viewport, the image is inverted.



To assign a mouse-button to a keyboard shortcut:

1. Configure the keyboard shortcuts for the tools and commands to which you would like to assign a mouse button. See “Assigning Keyboard Shortcuts" (page 785) for information on how to do so.
2. From the Windows Start menu, open the Mouse Properties window, and configure your mouse buttons with the same keyboard shortcuts.

   This step may differ depending on your Windows version and your mouse manufacturer and model. Please refer to the documentation from the mouse manufacturer for information relating to their equipment.

See Also

Assigning Keyboard Shortcuts 785
Assigning Mouse-Button Shortcuts 799

Unassigning Mouse Shortcuts

Once you have assigned a mouse-button shortcut, you can change or unassign it, if necessary.

To unassign mouse-button shortcuts:

1. From the Mouse Shortcuts page, locate the tool or command to which you would like to unassign a shortcut.
2. In the Mouse Shortcut column, click the existing shortcut for the tool or command.

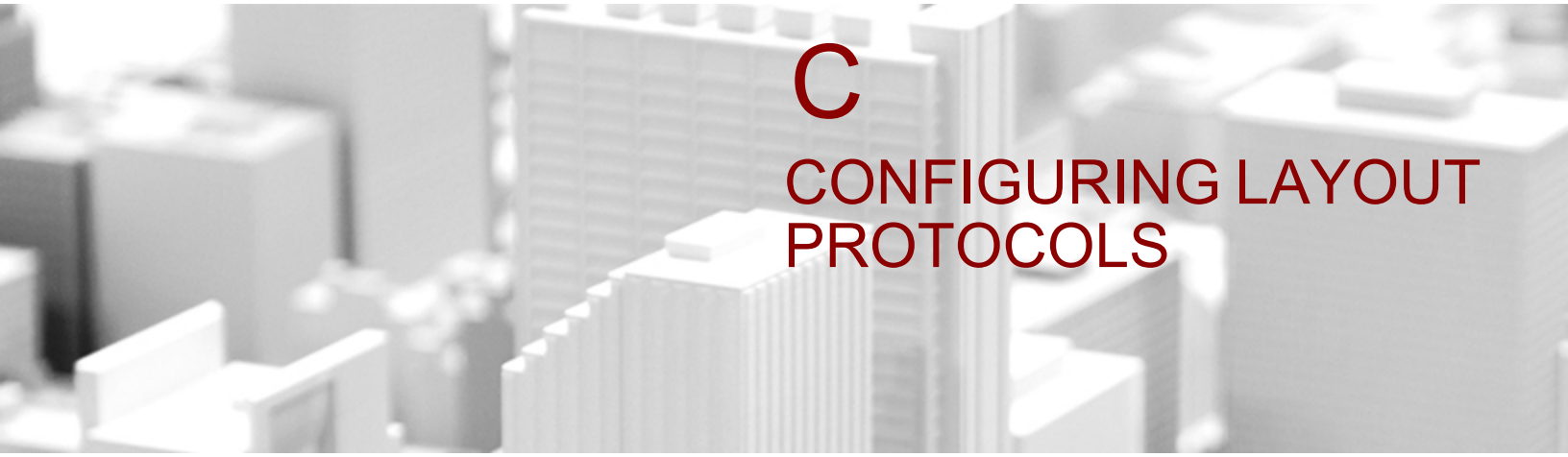
   A text box appears around the shortcut.
3. Click Delete or press **BACKSPACE**.

   The shortcut is deleted.
4. If you are finished with configurations on this window, click Apply and then click OK.

   The shortcut is no longer assigned to the tool or command.

See Also

Assigning Mouse-Button Shortcuts 799



C CONFIGURING LAYOUT PROTOCOLS

A comprehensive set of customizable layout preferences provide extensive control of image display.

In this Appendix:

About Configuring Layout Protocols 807

Allowing the Configuration of Layout Protocols 807

Creating Layout Protocols 807

Reordering Layout Protocols 820

Editing Layout Protocols 821

Capturing Layout Protocols 822

Importing and Exporting Layout Protocols 823

Copying and Deleting Layout Protocols 826

About Configuring Layout Protocols

In many radiological workflows, a radiologist needs to display a particular set of images in a specific sequence for an optimal and efficient diagnosis. InteleViewer provides two methods that you can use to identify studies and control how they are displayed:

- *Sequence protocols*: allow you to configure multiple layouts of the current study and multiple priors in the viewports.
- *Layout protocols*: allow you to configure only the initial layout of the current study and a single prior in the viewports.

This appendix contains all the information you need to configure layout protocols.

As layout protocols will be phased out in the near future, Intelerad highly recommends that you use sequence protocols.

Allowing the Configuration of Layout Protocols

To configure layout protocols, ask your PACS administrator to enable the Advanced Layout Management privilege in your user account. If your facility has this feature, new users have access to it by default. For more information, contact your PACS administrator.

Once you have configured layout management, you must then enable it to use it to lay out studies.

To activate layout protocols:

- Choose View | Advanced Layout Management.

Creating Layout Protocols

When you create a layout protocol, you need to specify the *matching criteria*; text that will be searched for in the study and series descriptions and used to identify them.

For each layout protocol that you create, you can add as many study and series matching criteria as required. For example, a layout protocol for NM studies could contain “scan” and “gallium” matching criteria.

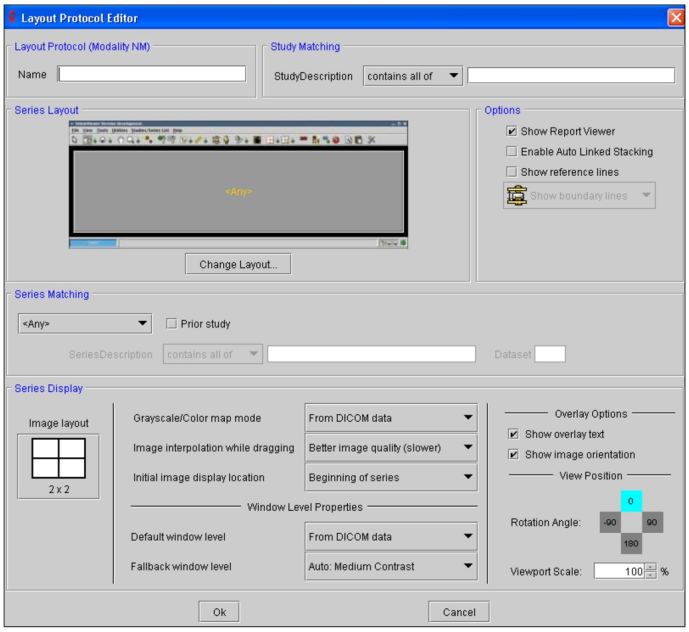
A layout protocol can define any of the following options:

- Viewport layout
- Viewport location in which each series should be displayed
- Default image layout
- Image interpolation
- Default window level settings
- Display of text overlay
- Image orientation icons
- Reference lines

The process of creating layout protocols is highly dependent on your specific needs and the particular characteristics of your data. As such, there is no single definitive process that we can document here.

📋 Layout protocol preferences roam with the layout profile.

Instead, information on the settings available in the Layout Protocol Editor is provided in the sections below to enable you to design protocols that function appropriately for your needs. It is recommended that you read and understand the behavior of each of these options and spend some time analyzing the data in your PACS before you begin creating layout protocols.



To create a layout protocol:

1. From the menu, chose Utilities | User Preferences.
2. Choose a modality and then click the Layout Protocols tab.
3. Click Add.

   The Layout Protocol Editor appears.

4. Set the options in the Layout Protocol Editor as required. Detailed information is provided in the following sections.
5. Click OK.

   The layout protocol is saved and appears in the Layout Protocols list.

6. Create additional layout protocols, as required.

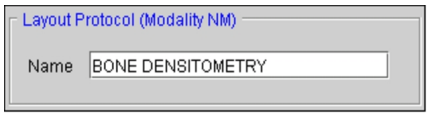
   It is important to order layout protocols from the most specific at the top to the most generic at the bottom, since they are searched from the top of the list to the bottom until a match is found. For more information, see “Reordering Layout Protocols" (page 820).

7. Click Apply to save your changes.

Layout Protocol Name

Enter a descriptive name for the layout that will clearly identify it. This is the name that will appear on the Layout Protocols panel. You can enter alphanumeric characters, spaces, and dashes (-).

If you want to export the layout protocol, make sure the name does not contain any of the standard Windows restricted characters: backward slash (\), forward slash (/), colon (:), asterisk (*), question mark (?), quotation mark (“), less-than sign (<), greater-than sign (>), and vertical bar (|).



For each modality, layout protocol names must be unique. If you try to save a protocol with a name that already exists, you will be asked whether or not you want to overwrite the existing one.

The layout protocol name (plus a *.xml* file extension) is also used to generate the filename of exported layout protocols.

See Also

Importing and Exporting Layout Protocols 823

Study Matching

When you open a study, InteleViewer uses the study matching criteria to determine whether the layout protocol should be applied to the study.

If the study matching criteria are satisfied, the series matching criteria are further used to determine whether the layout protocol will be used to display the study.

To set the study matching criteria:

1. Type text that will identify the studies to which you want to apply this layout protocol. If entering multiple words, separate each with a space.

   The text is not case-sensitive. For example, typing “Bone Scan” is the same as typing “BONE SCAN”. Also, wildcard characters are not supported.

2. Choose an operator to determine how the study description should match the text.

Choose:	To match study descriptions that:
Contains All Of	Contain all of the specified keywords, in any order. Use quotation marks to specify exact phrases.
Contains Any Of	Contain at least one of the specified keywords, in any location. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins With	Begin with the specified text. Studies with the text located elsewhere in the description (such as in the middle) will not be matched.
Contains None Of	Do not contain any of the specified keywords.

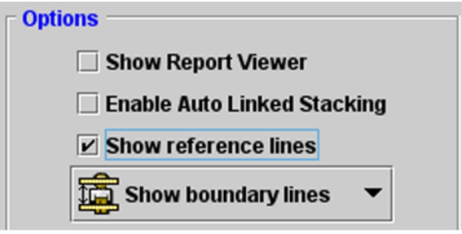
When using the Contains All Of, Contains Any Of, and Contains None Of operators, partial matches are supported—the specified keywords do not require preceding and following spaces in the study description to match. For example, if the study description contains “right elbow,” the keyword “rtelb” will match.

See Also

Series Matching 813

Study Options

Use these settings to automatically customize various aspects of the interface when opening studies. They do not have a role in determining whether the layout protocol matches a given study.



Show Report Viewer—Automatically displays associated reports when you open the study.

Enable Auto Linked Stacking—Automatically enables the Auto Linked Stacking tool when stacking multiple series simultaneously.

Show Reference Lines—Displays series cross-reference lines, and assigns the default reference line setting. You can choose Show Boundary Lines or Show Current Line Only.

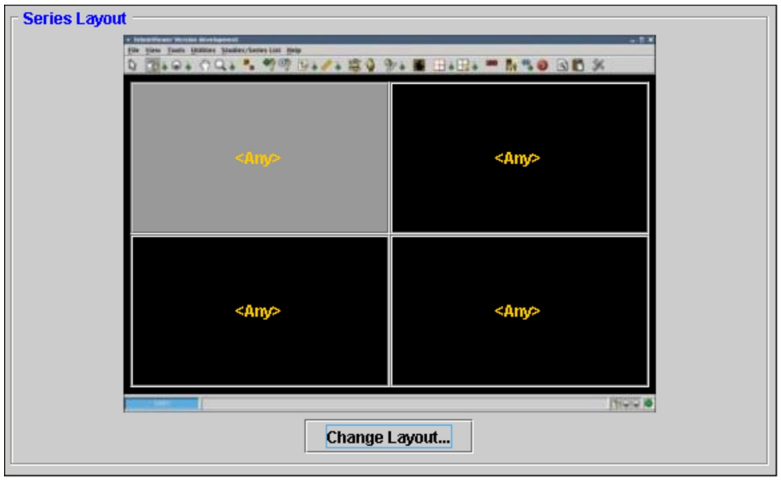
See Also

Viewing Reports in the Report Viewer 569
Synchronizing Stacking 394
Using Reference Lines 536

Series Layout

Use this option to customize the default viewport grid layout. The text displayed in each viewport corresponds to the name of the series matching criteria assigned to that location.

You should choose a series layout before setting the series matching criteria, as you will assign a series description to each viewport in the grid.



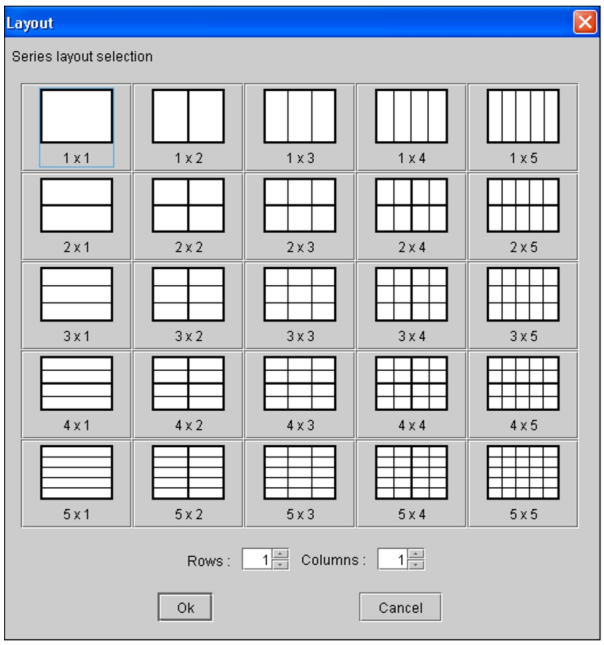
To set the series layout options:

1. Choose Change Layout.

   The Layout dialog appears.

2. Click the required layout icon. To choose a custom layout, enter the number of rows and columns in the corresponding fields.

The icons indicate the way in which multiple series will appear on screen, organized in rows and columns. For example, a 2 x 3 layout will display a total of six series on the screen across all monitors used by InteleViewer, organized in two rows and three columns.



3. Click OK.

You can also modify the layout of a series anytime after it has been opened. For information, see “Changing the Viewport Layout" (page 408).

Series Matching

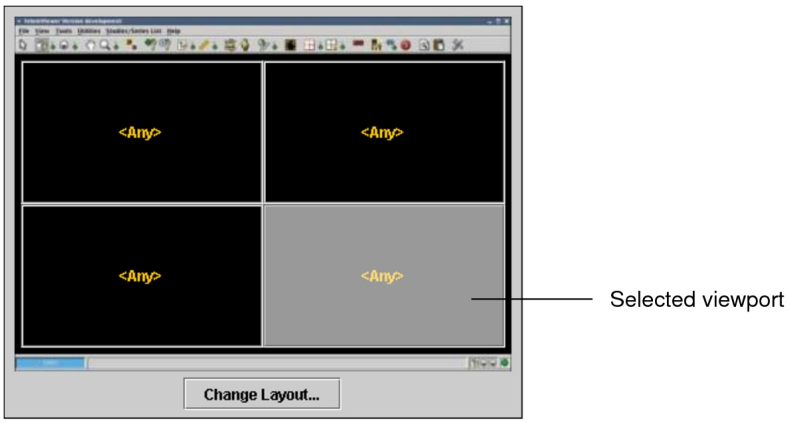
Both the study matching and series matching criteria must be satisfied for InteleViewer to apply the layout protocol to a given study. Once you create a series match, you then use it to specify where each series appears in the viewports.

⚠ Each series match that you define must be found in the study you are trying to open for the layout protocol to be used. If even one series match does not correspond to a series in the study, the layout protocol will not be applied.

To set the series matching criteria:

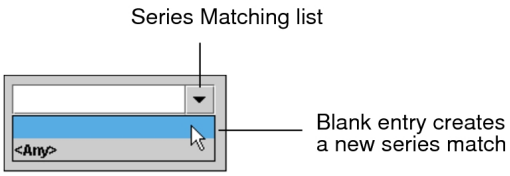
1. Choose a Series Layout. See “Series Layout" (page 812).
2. Click a viewport to select it. Choose the viewport location where you want to display the series that matches the description you are about to create.

   The selected viewport is highlighted.



   You can change the viewport assignment, if required. See “Assigning Series Matches to Viewports" (page 816).

3. Click the Series Matching list and choose the blank entry to create a new series match.



4. Enter a name for the series matching criteria in the field.

5. Enable Prior Study if this series should come from the prior study.

   When you use Layout Management when opening studies, a “P” icon appears in the viewports to indicate prior studies.

6. In the Series Description field, enter text that will be used to identify the series.

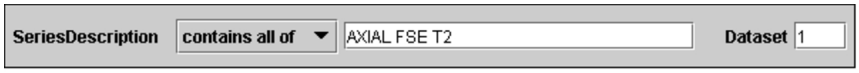
The text is not case-sensitive; therefore, typing “t1 sag” is the same as typing “T1 SAG”.

7. Choose an operator to determine how the series description should match the text.

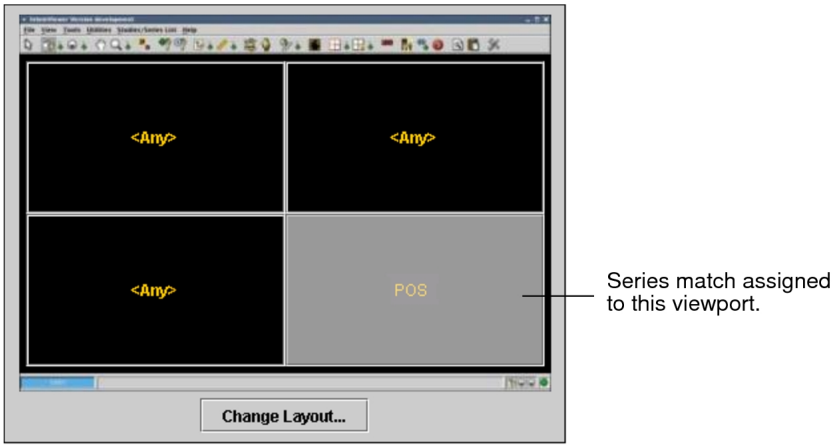
Choose:	To match series descriptions that:
Contains All Of	Contain all of the specified keywords, in any order. Use quotation marks to specify exact phrases.
Contains Any Of	Contain at least one of the specified keywords, in any location. Use quotation marks to specify exact phrases.
Equals	Contain all the text exactly as it appears, including spaces and without any additional characters.
Begins With	Begin with the specified text. Studies with the text located elsewhere in the description (such as in the middle) will not be matched.
Contains None Of	Do not contain any of the specified keywords.

When using the Contains All Of, Contains Any Of, and Contains None Of operators, partial matches are supported—the specified keywords do not require preceding and following spaces in the study description to match. For example, if the study description contains “right elbow,” the keyword “rtelb” will match.

8. If applicable, enter the dataset number in the Dataset field.



The series match that you created is assigned to the selected viewport, and its name appears in the viewport.



9. Set the Series Display options, as required. See “Series Display" (page 818).

   The Series Display options are not used to determine if the layout protocol matches a given study.

10. Repeat steps 2 to 9 for each series match that you need to define in the layout protocol.

See Also

Assigning Series Matches to Viewports 816

Assigning Series Matches to Viewports

Once you have defined the series matching criteria that you require for the layout protocol, you can reorganize the viewport layout as required by assigning them to selected locations.

You also can assign a series match to more than one viewport to display the same series multiple times (to view them with different window level settings, for example). Use the default series description “<ANY>” to indicate that no matching is required and any un-matched series can be assigned to the viewport location.

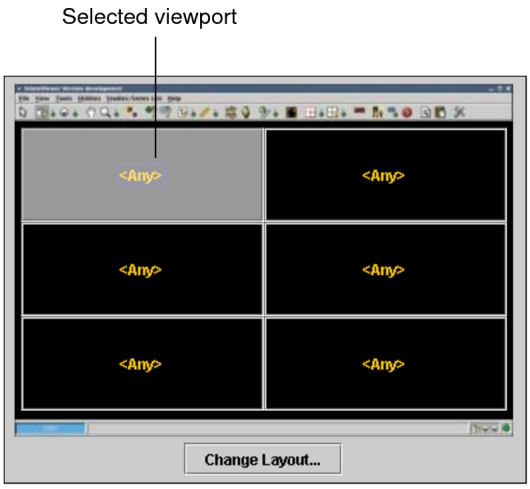
To assign a series match to a viewport:

1. Choose a Series Layout. See “Series Layout" (page 812).

   This procedure assumes that you have already created series matching criteria for the layout protocol.

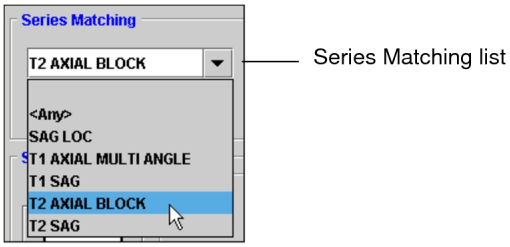
2. Click a viewport to select it.

   The selected viewport is highlighted.

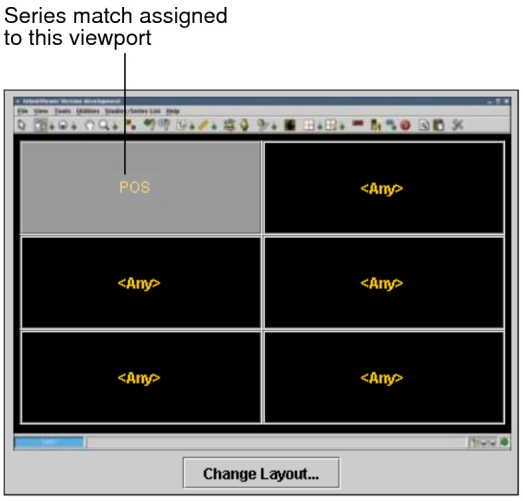


3. Click the Series Matching list and choose the series match that you want to assign to the selected viewport.

   Choose <ANY> to indicate that any unmatched series can be assigned to that location.

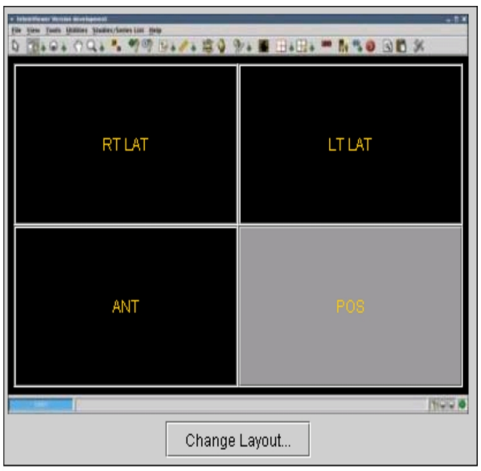


   The series match is assigned to the selected viewport. When studies are opened by using this layout protocol, the series that corresponds to the selected series match will appear in this viewport.



4. Repeat steps 2 to 3 as required to organize the viewport layout.

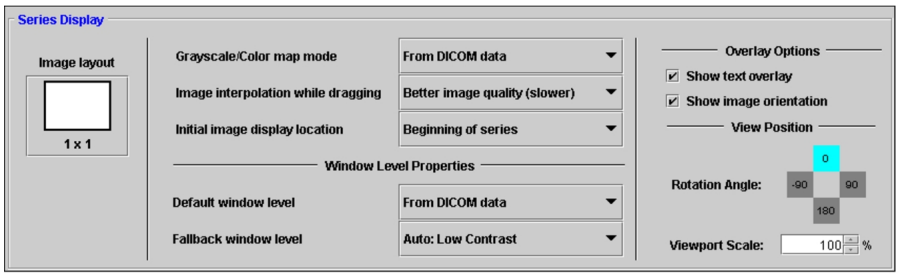
Sample viewport layout for a Bone 4 Views NM study



Series Display

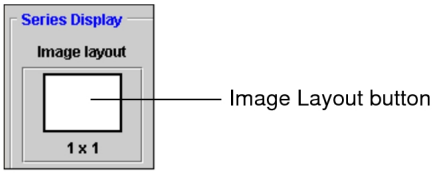
These options control various aspects of how each series is displayed, including the layout of images in the viewport, the default window level setting, and the display of text overlay and orientation icons. However, they are not used to determine if the layout protocol matches a given study.

You can set Series Display options for each series match and viewport location that you create. For example, if you create a series match called “RT LAT” and assign it to multiple viewports, you can set these options independently for each viewport.



To set the series display options:

1. Click Image Layout.



   The Layout dialog appears.

2. Click the required layout icon. To choose a custom layout, enter the number of rows and columns in the corresponding fields.

   The icons indicate the way in which multiple images will appear in the series viewport, organized in rows and columns. For example, a 2 x 3 layout will display a total of six images in the viewport, organized in two rows and three columns.

3. Configure the initial Grayscale/Color Map Mode of the image. You can choose: From DICOM Data, Inverse of DICOM Data, Low Pixel Values as White, or Low Pixel Values as Black.
4. Choose an option from the Image Interpolation While Dragging list.

Choose:	To:
Reduced Image Quality (faster)	Obtain higher speed by reducing the image quality when using tools that require you to drag on screen (for example, when stacking, zooming, or panning).
Better Image Quality (slower)	Retain higher image quality while using tools that require you to drag on screen (for example, when stacking, zooming, or panning). This option may result in reduced performance while dragging.

5. Choose an option from the Initial Image Display Location list to customize the image in the series that is displayed by default.

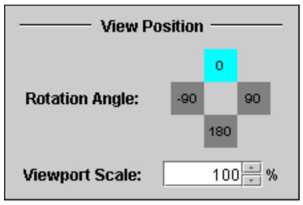
   You can choose Beginning of Series, Middle of Series, or End of Series.

6. Set the default window level. See “Adjusting the Window Levelling" (page 489).

   The window level may be a non-standard setting. If this is the case, you may want to set the window level in the layout protocol to one of the window level presets (such as Auto: Low Contrast).

7. To display the related patient, study, and image information when you open images, enable Show Text Overlay.
8. To display image orientation labels when appropriate to the series, enable Show Image Orientation.
9. To set the rotation angle of the image, select the required degree level.

   You can choose 0°, -90°, 180°, or 90°.



10. To set the size of the series relative to the viewport, click the up-arrow button or down-arrow button. You can also enter the required percentage.

Reordering Layout Protocols

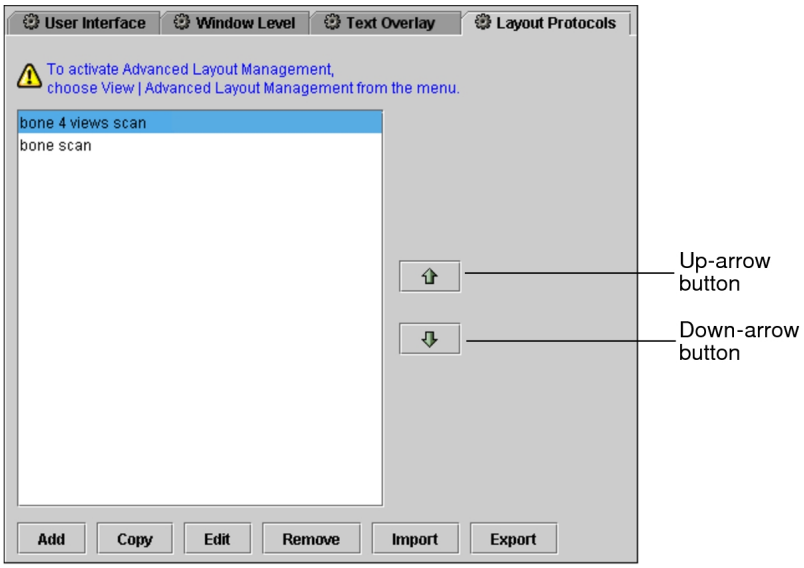
When you open studies by using Layout Management, layout protocols are searched from the top of the list to the bottom until a match is found. Therefore, it is important to make sure to order the layout protocols from the most specific (in terms of study and series match criteria) at the top, to the most generic at the bottom.

For example, place a layout protocol for “bone 4 views scan” above one for “bone scan.”

To reorder layout protocols:

1. Choose the modality whose preferences you want to set, and then click the Layout Protocols tab.
2. Click a layout protocol to select it.

3. Click the up arrow or down arrow buttons to position the layout protocol as required.



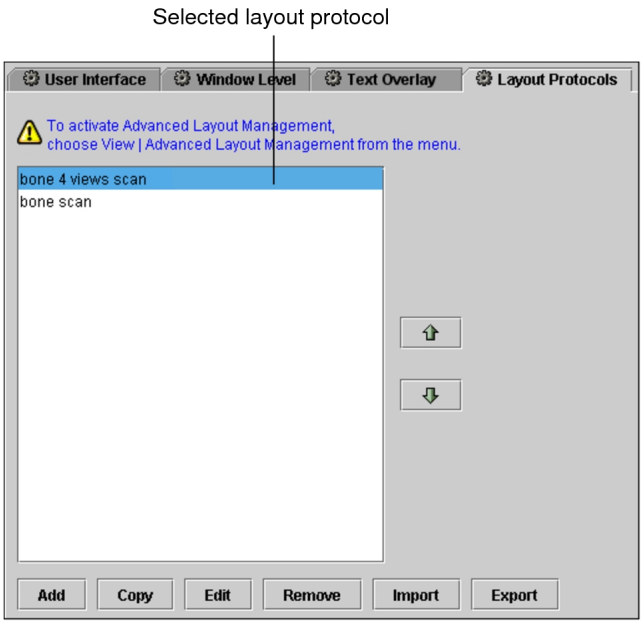
Editing Layout Protocols

Once you have created a layout protocol, you can modify any of its options to further refine it.

You can also edit layout protocols when viewing images.

To edit a layout protocol:

1. Choose the modality whose preferences you want to set, and then click the Layout Protocols tab.
2. Select the required layout protocol and click Edit.



3. To change the name of the layout protocol, enter it in the Name field.
4. Modify any other options as necessary, and then click OK. See “Creating Layout Protocols" (page 807).

   The layout protocol is updated to reflect your changes.
5. Click Apply to save your changes, or click OK to save your changes and close the User Preferences dialog.

Capturing Layout Protocols

As you are viewing images in InteleViewer, you can control how they are laid out and displayed in the viewports. You can quickly capture the settings that are currently applied to the images in the viewport as a layout protocol, which you can then save or modify as necessary.

Capturing layout protocols can be a more interactive method of defining layout protocols, since you first are able to view and manipulate the images until you have determined the optimal settings.

To capture a layout protocol, all open series must be from the same or a known modality.

To capture a layout protocol:

1. Open a study and manipulate the images as required, including defining the series and image layouts, image interpolation, window level settings, orientation, and so on.
2. Choose Utilities | Capture Layout.

   The Layout Protocol Editor appears and the settings are automatically configured to correspond to the opened study.

   For example, the study and series description keywords are derived from the study and series descriptions. A series description is created for each series that is open, and the appropriate series display options are set.
3. Modify the settings in the Layout Protocol Editor as required.

   For example, edit the Study and Series Description keywords to remove keywords that do not always appear in this type of study.

   The window level may be a non-standard setting. If this is the case, you may want to set the window level in the layout protocol to one of the window level presets (for example, Auto: Low Contrast).
4. Click OK.

   The layout protocol is saved and appears in the Layout Protocols list.

Importing and Exporting Layout Protocols

You can export your layout protocols to share them with other users, or import existing layout protocols to use them on your workstation. Layout protocols are saved as XML files.

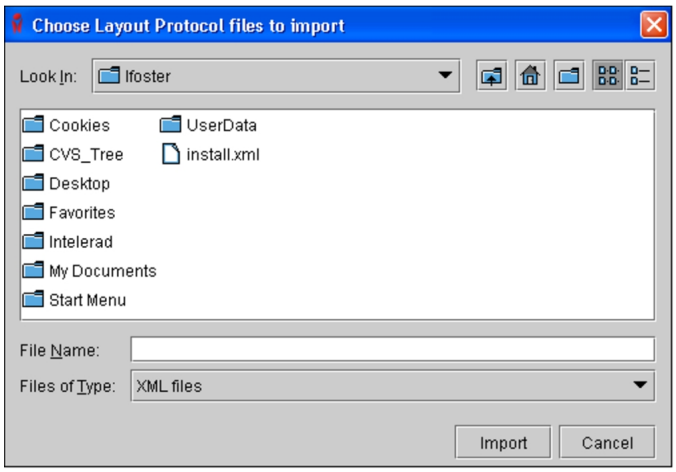
⚠ Before you export, make sure that the name of the layout protocol does not contain any of the standard Windows restricted characters. Otherwise an error message appears. These characters are: backward slash (\), forward slash (/), colon (:), asterisk (*), question mark (?), quotation mark (“), less-than sign (<), greater-than sign (>), and vertical bar (|).

To import a layout protocol:

1. Choose a modality and then click the Layout Protocols tab.
2. Click Import.

   The Choose Layout Protocol Files to Import dialog appears.

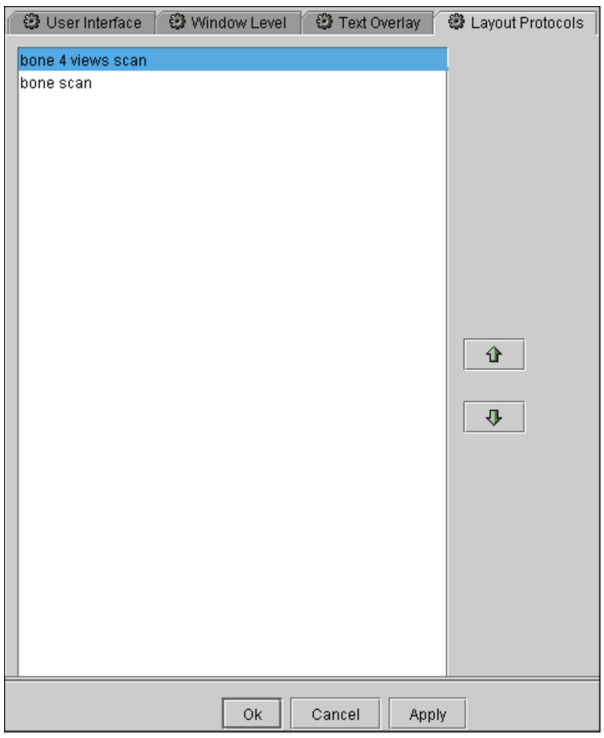
3. Browse to the location of the file you want to import and select it. To select multiple files, **CTRL**-click each one, or **SHIFT**-click to select a range.



4. Click Import.

   The selected layout protocol is imported and appears in the Layout Protocols list of

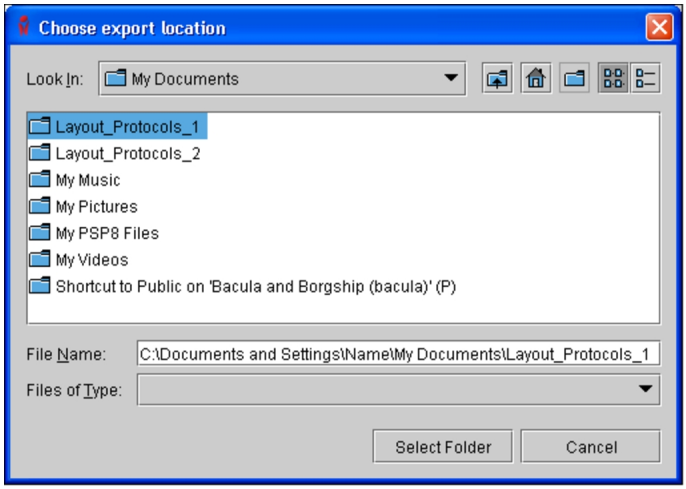
the corresponding modality.



To export a layout protocol:

1. From the menu, choose Utilities | User Preferences (**CTRL+U**).
2. Choose a modality and then click the Layout Protocols tab.
3. Select the required layout protocol and click Export.

   The Choose Export Location dialog appears.



4. Choose the location to where you want to save the file.

   The layout protocol is saved as an XML file in the specified directory. The name of the saved file is that of the layout protocol name.

   Since layout protocols are modality-specific, it is recommended that you store protocols in an appropriately-labeled folder. For example, store NM protocols in a folder named “NM Layout Protocols.”

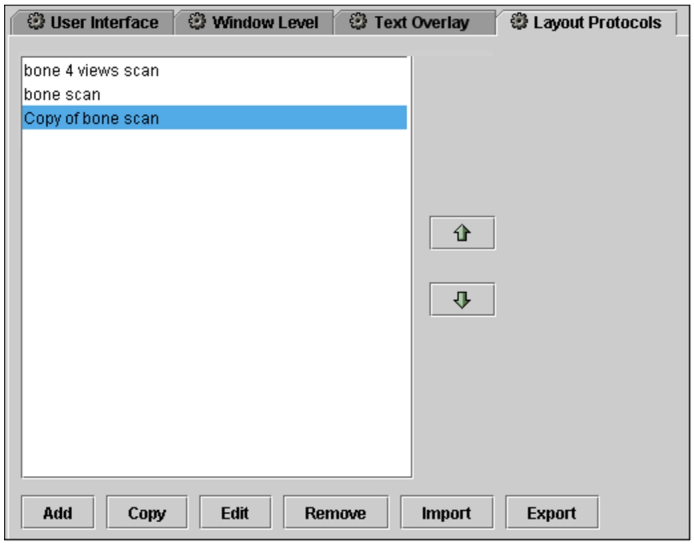
Copying and Deleting Layout Protocols

You can quickly create multiple layout protocols with similar settings by copying them and then editing only a few parameters. Delete any layout protocols that you no longer require.

To copy a layout protocol:

1. Choose the modality whose preferences you want to set, and then click the Layout Protocols tab.
2. Click a layout protocol to select it, and then click Copy.

   The new copy appears in the list, and contains the same parameters that were defined in the original.

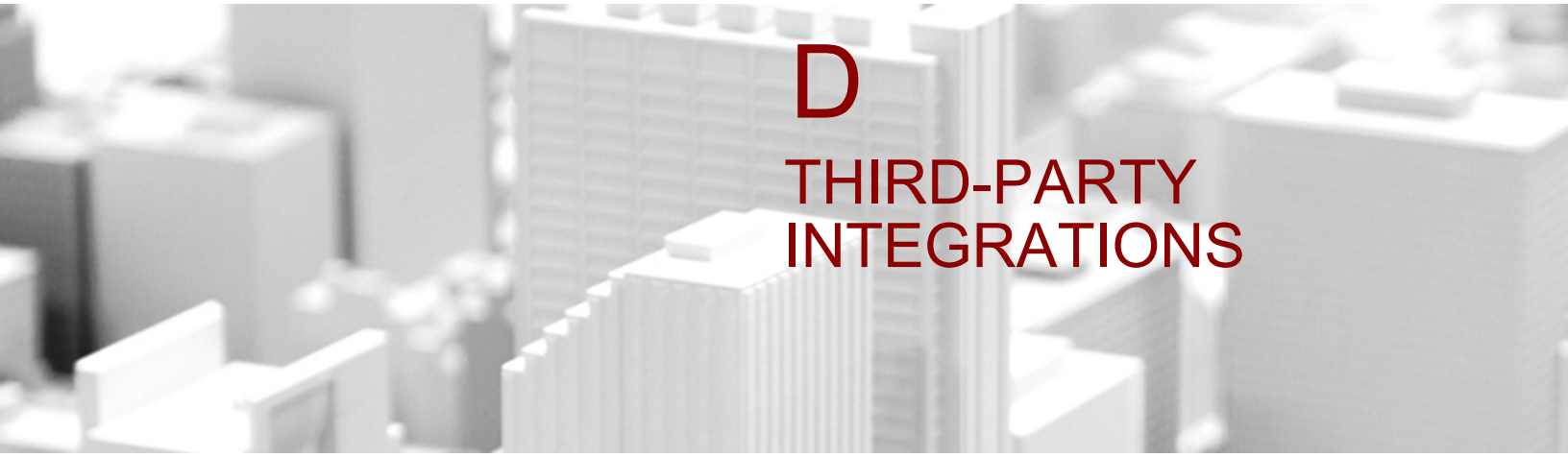


3. Edit the copied layout protocol to change its name or alter its settings, if required. See “Creating Layout Protocols" (page 807).
4. Click Apply to save your changes.

To delete a layout protocol:

1. Choose the modality whose preferences you want to set, and then click the Layout Protocols tab.
2. Click a layout protocol to select it, and then click Remove.

   The layout protocol is deleted.
3. Click Apply to save your changes.



D
THIRD-PARTY INTEGRATIONS

If your IntelePACS is configured to do so, InteleViewer can be used with various third-party products to view 3D images, nuclear PET/CT/MR images, 3D and 4D ultrasound images, images for orthopedic templating, and images for reports.

In this Appendix:

Viewing 3D Images 829

Viewing Nuclear PET/CT/MR Images 832

Viewing CT Images with Philips Spectral Magic Glass 833

Viewing Images for Orthopedic Templating 833

Viewing Nuclear Medicine and PET/CT Images 834

Viewing Images for Peer Reviews 835

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Viewing 3D Images

Depending on your IntelePACS configuration, InteleViewer can be used to launch the IntelliSpace Portal (from Philips), AquariusNET or iNtution (from TeraRecon Inc.), Voxar 3D (from Barco), or versions 1 or 2 of Vitrea (from Toshiba) to view 3D reconstructions of image data.

To view 3D images, you must first configure the IntelliSpace Portal, AquariusNET, Voxar 3D, or Vitrea preferences.

To use these applications, ask your PACS administrator to enable the Third-Party Viewer privilege in your user account.

To view 3D images in the IntelliSpace Portal:

1. Open the series whose images you want to view.
2. From the main menu, choose Utilities | Launch IntelliSpace Portal, or click the IntelliSpace icon .

   The IntelliSpace Portal viewer launches automatically, and retrieves the series images from the IntelliSpace Portal server.

   For information on using the IntelliSpace Portal features, please refer to your product documentation.

To view 3D images in AquariusNET Viewer:

1. Open the series whose images you want to view.
2. From the main menu, choose Utilities | Launch AquariusNET Viewer or click the AquariusNet icon .

   The AquariusNET viewer launches automatically, and retrieves the series images from the AquariusNET server.

   For information on using the AquariusNET features, please refer to your product documentation.

To view 3D images in iNtuition Viewer:

1. Open the series whose images you want to view.
2. From the main menu, choose Utilities | Launch iNtuition Viewer or click the iNtuition icon .

   The iNtuition viewer launches automatically, and retrieves the series images from the iNtuition server.

   For information on using the iNtuition features, please refer to your product documentation.

To view 3D images in Voxar 3D:

1. Select the series whose images you want to view.
2. Choose Utilities | Launch Voxar 3D or click the Voxar 3D icon.

The Voxar 3D viewer launches automatically and displays the selected image, typically in MPR view. However, the startup view mode may vary at your IntelePACS or a different option can be configured in the user preferences.

For information on using the Voxar 3D features, please refer to your product documentation.

To view 3D images in Vitrea 3D (version 1):

1. Select the series whose images you want to view.
2. To launch Vitrea 3D, choose Utilities | Launch Vitrea Core 3D or click the Vitrea Core 3D icon in the main menu .

   The Vitrea 3D viewer launches automatically and displays the selected image.

   For information on using the Vitrea features, please refer to your product documentation.

To view 3D images in Vitrea 3D (version 2):

1. Select the series whose images you want to view.
2. To launch Vitrea Core 3D, choose Utilities | Launch Vitrea3D or click the Vitrea 3D icon in the main menu .
3. To launch Vitrea Advanced, choose Utilities | Launch Vitrea Advanced or click the Vitrea Advanced icon in the main menu .

   The Vitrea Core 3D or the Vitrea Advanced viewer launches automatically and displays the selected image.

   For information on using the Vitrea features, please refer to your product documentation.

See Also

AquariusNET Viewer Preferences 94
Voxar 3D Preferences 129
Vitrea 3D 128

Viewing Nuclear PET/CT/MR Images

Depending on your IntelePACS configuration, InteleViewer can be used to launch syngo.via (from Siemens), Hermes (from Hermes Medical Solutions), or MIM Vista to view nuclear PET/CT/MR images. For information on using the syngo.via features, please refer to your product documentation.

To view images in any of these applications, you must first configure the syngo.via, Hermes, or MIM Vista preferences.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege in your user account.

To view nuclear PET/CT/MR images in syngo.via:

1. Select the series whose images you want to view.
2. From the menu, choose Utilities | Launch syngo.via Viewer, or click the syngo.via icon .

   The syngo.via 3D viewer launches automatically and displays the selected image. However, the startup view mode may vary for your facility or a different option can be configured in the user preferences.

To view nuclear PET/CT/MR images in Hermes Viewer:

1. Select the series whose images you want to view.
2. From the menu, choose Utilities | Launch Hermes Viewer, or click the Hermes Viewer icon .

   The Hermes 3D viewer launches automatically and displays the selected image. However, the startup view mode may vary at your facility.

   For information on using the Hermes Viewer features, please refer to your product documentation.

See Also

SyngoVia Preferences 125
Hermes Viewer Preferences 108

Viewing CT Images with Philips Spectral Magic Glass

You can view CT images in Philips Spectral Magic Glass.

To use this feature, you must have the Third-Party Viewer and Philips Spectral Magic Glass privileges enabled in your user account. This feature requires a version of IntelePACS that supports Philips Spectral Magic Glass integration.

To view CT images with Philips Spectral Magic Glass:

1. Select the CT series that you want to view in Philips Spectral Magic Glass.
2. From the toolbar, select Launch Philips Spectral Magic Glass . The Spectral Magic Glass application launches in a new window.

   For information on Philips Spectral Magic Glass functionality, refer to the Philips Spectral Magic Glass product documentation.

See Also

IntelliSpace Portal Preferences 111

Viewing Images for Orthopedic Templating

Depending on your IntelePACS configuration, InteleViewer can be used to launch TraumaCad (from Orthocrat) to use image data to pre-plan surgical procedures.

Your work in TraumaCad can be saved as a series on the IntelePACS and opened later for viewing or to continue working with them. In the Search tool, the TraumaCad series appear in the originating study.

To launch an orthopedic planning application, you must first configure the TraumaCad preferences.

A DICOM AE Title must be configured for the TraumaCad application. Also, ask your PACS administrator to enable the Third-Party Viewer privilege in your user account.

To open images in TraumaCad:

1. Open all the images you want to view, and display them in the viewports.
2. From the main menu, choose Utilities | Launch TraumaCad.

   The TraumaCad application launches automatically and displays all series that were opened in the viewports.

   InteleViewer first automatically saves the images to your local cache, and they are then opened in TraumaCad.For information on using the TraumaCad features, please refer to your product documentation.

See Also

TraumaCad Preferences 126

Viewing Nuclear Medicine and PET/CT Images

Depending on your IntelePACS configuration, InteleViewer can be used to launch MedView (from MedImage) to view nuclear medicine and PET/CT images or Mirada XD (from Mirada Medical) to view PET/CT images.

To view images, you must first configure the MedView or Mirada XD preferences.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege in your user account.

To view nuclear medicine and PET/CT images in MedView:

1. Select the series whose images you want to view.
2. From the main menu, choose Utilities | Launch MedView.

   The MedView viewer launches automatically and displays the selected image.

   For information on using the MedView features, please refer to your MedView product documentation.

To view PET/CT images in Mirada XD:

1. Select the series whose images you want to view.
2. From the main menu, choose Utilities | Launch Mirada XD or click the Mirada XD icon .

   The Mirada XD viewer launches automatically and displays the selected image.

   For information on using the Mirada XD features, please refer to your Mirada XD product documentation.

To view nuclear PET/CT/MR images in MIM Vista:

1. Load the study whose images you want to view.
2. From the menu, choose Utilities | Launch MIM Vista, or click the MIM Vista icon .

   The MIM Vista viewer launches and displays the selected study. However, the startup view mode is dependant on the configuration at your facility.

See Also

MedView Preferences 117
Mirada XD Preferences 119
MIM Vista Preferences 119

Viewing Images for Peer Reviews

You can use peerVue's qiVue software to view study images. You can also use qiVue to provide exam information or comments on a radiologist's report to meet the American College of Radiology's (ACR) peer review requirements. For information on using peerVue's qiVue, refer to your peerVue product documentation.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer, Reporting Worklist, and Dictate Report privileges in your user account.

To view images in qiVue:

1. Select the series whose images you want to view.

   To use qiVue, the study you select must contain a report.

2. From the main menu, choose Utilities | Launch qiVue or click the qiVue icon .

3. To select a different workspace, click the arrow beside the qiVue icon and choose a workspace from the list.

See Also

qiVue Preferences 123

Viewing 3D and 4D Ultrasound Images

Depending on your IntelePACS configuration, InteleViewer can be used to launch ViewPoint (from GE Healthcare) to view 3D and 4D ultrasound images.

To view images, you must first configure the ViewPoint preferences.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege in your user account.

To view 3D and 4D ultrasound images in ViewPoint:

1. Select the ultrasound series whose images you want to view.
2. From the main menu, choose Utilities | Launch ViewPoint or click the ViewPoint icon .

   The ViewPoint viewer launches automatically and displays the selected image.

   For information on using the ViewPoint features, please refer to your ViewPoint product documentation.

See Also

ViewPoint Preferences 127

Viewing Images for Clinical Reporting

Depending on your IntelePACS configuration, InteleViewer can be used with Pro Medicus to provide a single RIS/PACS product. This integration allows you to launch Pro Medicus from InteleViewer to view image data for clinical letters and reports.

To view images for reports, you must configure the Pro Medicus preferences.

To use this feature, ask your PACS administrator to enable the Third-Party RIS privilege in your user account.

To view images in Pro Medicus:

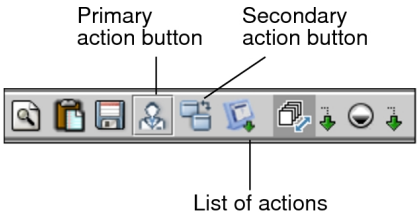
1. Select the series whose reports you want to view in Pro Medicus.
2. From the main menu, choose Utilities | Pro Medicus and select a window from the list.

   The Pro Medicus application launches automatically and displays the series in the selected window.

   For information on using the Pro Medicus features, please refer to your Pro Medicus product documentation.

3. To select an action, do one of the following:

   - Choose the primary action or secondary action button in the toolbar.
   - Choose an action from the list of actions in the toolbar.



See Also

Pro Medicus Preferences 122

Opening an Order in an External RIS

Depending on your IntelePACS configuration, InteleViewer can be used to open an order by using the IRD or GE OneView external RIS.

To access an external RIS through InteleViewer, you must first configure the IRD or GE OneView preferences.

To use this feature, ask your PACS administrator to enable the Third-party RIS privilege in your user account.

To open an order in IRD:

1. Open an order by using the Search tab.
2. From the main menu, choose Utilities | IRD View Details or click the IRD icon .

   The IRD application launches and receives order information from InteleViewer.

   For information on using the IRD features, please refer to your IRD product documentation.

To open an order in GE OneView:

- Open an order by using the Search tab.

  The GE OneView application launches and receives order information from InteleViewer.

  For information on using the GE OneView features, please refer to your GE OneView product documentation.

See Also

IRD RIS Preferences 112
GE OneView Preferences 108

Viewing Colonoscopy Studies

You can use Cadens Colon software to view, evaluate, and report on colonoscopy images. For information on using Cadens Colon, refer to your Cadens product documentation.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege in your user account.

To open a study in Cadens Colon:

1. Select a series contained in the study you want to open.
2. From the main menu, choose Utilities | Launch Cadens Colon or click the Cadens Colon icon .

The Cadens Colon review software launches automatically and displays the study containing the series.

Viewing Studies with Cerner Visual Desktop Integration (VDI)

Cerner VDI displays patient information that is not available in InteleViewer: for example, patient electronic medical records. For information on using Cerner VDI, refer to your Cerner product documentation.

To use this feature, ask your PACS administrator to enable the Cerner VDI and Third-Party RIS privileges in your user account.

To view studies in Cerner VDI:

1. Open the study that you want to view.
2. From the main menu, choose Utilities | Launch Cerner VDI or click the Cerner icon .

   The Cerner VDI software launches and displays the selected images by either accession number, or by patient ID or number, as configured in the Cerner VDI preferences.

See Also

Cerner Visual Desktop Integration (VDI) Preferences 96

Viewing Images with DynaCAD

You can use Invivo's DynaCAD software to view study images. For information on using DynaCAD, refer to your Invivo product documentation.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer and DynaCAD privileges in your user account.

To view images with DynaCAD:

1. Select the series containing the images you want to view.
2. From the main menu, choose Utilities | Launch DynaCAD or click the DynaCAD icon .

See Also

DynaCAD Preferences 105

Viewing Studies in VitreaView

VitreaView by Vital Images is an image viewer. The VitreaView is launched in the desktop default browser from the toolbar or from the menu option under Utilities. You can view the patient case in the VitreaView viewer.

For information on using VitreaView, refer to your Vital Images product documentation.

Please ask your PACS administrator to enable the Third-Party Viewer privilege in your user account.

To view studies with VitreaView:

1. Open an order from the Worklist or the InteleViewer search tool.
2. From the main menu choose Utilities | Launch VitreaView or click the VitreaView icon .

   Confirm that VitreaView is installed and running on the local workstation.

3. The Study opens in a new window in the default browser.

Viewing Studies in VitreaView 3D Advanced Viewer

VitreaView 3D Advanced Viewer (VitreaView 3D AV) by Vital Images is a modular viewing platform. The VitreaView VitreaView 3D AV is launched in the desktop default browser from the toolbar or from the menu option under Utilities. You can view the loaded study in the Vitrea app.

For information on using VitreaView 3D Advanced View, refer to your Vital Images product documentation.

Please ask your PACS administrator to enable the Third-Party Viewer privilege in your user account.

To view studies with VitreaView 3D Advanced Viewer:

1. Open an order from the Worklist or a study from the InteleViewer search tool.
2. From the main menu choose Utilities | Launch VitreaView 3D Advanced Viewer or click the launch VitreaView 3D Advanced Viewer icon on the toolbar.
3. The Study opens in the Vitrea app.

Viewing Studies with OrthoView

OrthoView by Materialise is an image viewer. The OrthoView is launched in the desktop default browser from the toolbar or from the menu option under Utilities. You can view the patient case in the viewer.

For information on using OrthoView, refer to your Materialise OrthoView product documentation.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer and OrthoView privileges in your user account.

To view a study in OrthoView:

1. Open order from the Worklist or the InteleViewer search tool.
2. From the main menu, choose Utilities | Launch OrthoView or click the OrthoView icon .

   The Study opens in a new window in the default browser.

Viewing Images with Merge Cardio

You can view cardiovascular studies in the Merge Cardio web application. When you launch Merge Cardio from InteleViewer, the patient ID (MRN) is sent from InteleViewer to Merge Cardio.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer and the Merge Cardio privileges in your user account.

To view images in Merge Cardio:

1. Open a study.
2. From the main menu, choose Utilities | Launch Merge Cardio or click .

   The Merge Cardio web application opens, displaying the study from InteleViewer.

Viewing Images in Merge CADstream

Set the Merge CADstream preference to open MR images in the Merge CADstream application.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the Merge CADstream privilege in your user account.

To view images in Merge CADstream:

1. Open an MR study.
2. Log in to Merge CADstream.
3. From the main menu, choose Utilities | Launch Merge CADstream or click Merge CADstream from the toolbar.

   The Merge CADstream application opens and displays the study you selected in InteleViewer.

   When you close the Patient Record tab in InteleViewer, the study closes in Merge CADstream.

See Also

Merge CADstream preferences 117

Viewing Images in Siemens sUSBA

You can view 2D and 3D breast ultrasound images in the Siemens sUSBA application.

If you have a study other than US selected, the Launch Siemens sUSBA option in the Utilities menu and icon in the menu bar are grayed out.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the Siemens sUSBA privilege in your user account.

To view images in sUSBA:

1. Open a US study.
2. Log in to sUSBA.
3. From the main menu, choose Utilities | Launch Siemens sUSBA or click Siemens sUSBA from the toolbar.

   The Siemens sUSBA application opens and displays the study you selected in InteleViewer.

See Also

Siemens sUSBA Preferences 124

Viewing Nuclear Medicine Images in Corridor4DM

You can view nuclear medicine (NM) images in the Corridor4DM application from INVIA.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the Corridor4DM privilege in your user account.

To view nuclear medicine images in Corridor4DM:

1. Open the NM series containing the images you want to view.
2. Log in to Corridor4DM.
3. From the main menu, choose Utilities | Launch Corridor4DM or click Corridor4DM from the toolbar.

   The Corridor4DM application opens and displays the images in the selected series.

See Also

Corridor4DM Preferences 97

Viewing Images in Annalise.ai

You can use the Annalise.ai application to view and evaluate images. For information on using Annalise.ai, refer to your Annalise.ai product documentation.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer and Annalise.ai privileges in your user account. This feature requires a version of IntelePACS that supports Annalise.ai integration in InteleViewer.

If this feature is enabled, the Annalise.ai application launches automatically when you open InteleViewer.

You can send series information from InteleViewer to Annalise.ai for a particular study or for series currently displayed in the InteleViewer viewports.

To view images for the current study in Annalise.ai:

- From the InteleViewer worklist or the Search tool, open a study.

The series information pertaining to the current study in InteleViewer is sent to Annalise.ai. If you switch between multiple open studies in InteleViewer, the series information pertaining to the currently selected study is sent to Annalise.ai.

To view other images in Annalise.ai:

1. Ensure that the series that you want to view is currently displayed as one of the series in the InteleViewer viewport area.
2. From the main menu, choose Utilities | Annalise.ai, or click the Annalise.ai icon from the toolbar.

InteleViewer sends Annalise.ai the series information pertaining to the series currently displayed in the viewport area.

Viewing Images in Fuji PowerJacket

You can view images in the Fuji PowerJacket application.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the PowerJacket privilege in your user account.

Intelerad Technical Support can configure your system to automatically open the Fuji PowerJacket application when you open a study that has an organization code that identifies it as a study residing in the Fuji PowerJacket application. Please contact Intelerad Technical Support for more information.

To view images in PowerJacket:

1. Open the series containing the images you want to view.
2. From the main menu, choose Utilities | Launch Fuji PowerJacket or click the PowerJacket tool from the toolbar.

   The Fuji PowerJacket application opens and displays the images in the selected series.

To automatically open images in PowerJacket:

1. Log in to the Fuji PowerJacket application.
2. From the InteleViewer worklist, open a study residing in the Fuji PowerJacket application.

   The Fuji PowerJacket application displays the study.

Viewing Images in TeraRecon NorthStar

You can view images in the TeraRecon NorthStar web application.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the TeraRecon NorthStar privilege in your user account.

To view images in TeraRecon NorthStar:

1. Open the series containing the images you want to view.
2. From the main menu, choose Utilities | Launch TeraRecon NorthStar or click the TeraRecon NorthsStar tool in the toolbar.

   The TeraRecon NorthStar web application displays the images in the selected series.

Viewing Medical Records in Health Connect South

You can view medical records in the Orion Health Connect South web application.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the Orion Health Connect South privilege in your user account.

To view a record in Orion Health Connect South:

1. Open an order.
2. From the main menu, choose Utilities | Launch Orion Health Connect South or click the Health Connect South tool in the toolbar.

Opening Studies in Primordial

Use the Primordial integration to open studies.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the Primordial privilege in your user account.

To view images in Primordial:

- Open a study.

  The Primordial application opens and displays the selected study.

  When you close the Patient Record tab in InteleViewer, the study closes in Primordial.

Viewing Nuclear Medicine Studies in Segami Oasis

You can view nuclear medicine (NM) or positron emission tomography (PET) studies in the Segami Oasis application.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the Segami Oasis privilege in your user account.

To view nuclear medicine studies in Oasis:

1. Open the NM or PET study you want to view.
2. From the main menu, choose Utilities | Launch Segami Oasis or click the Segami Oasis tool in the toolbar.

   The Segami Oasis application opens and displays the study.

Viewing Images in Zebra

You can use Zebra Imaging Analytics Engine software to view and evaluate images. For information on using Zebra, refer to your Zebra product documentation.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer and Zebra privileges in your user account.

To open a study in Zebra:

1. Select a series contained in the study you want to open.
2. From the main menu, choose Utilities | Launch Zebra or click the Zebra icon .

   The Zebra review software launches automatically and displays the study containing the series.

Viewing Medical Records in Joint Legacy Viewer

You can view medical records in the Joint Legacy Viewer web application.

Note: InteleViewer and Joint Legacy Viewer are not automatically synchronized. If you open other records in Joint Legacy Viewer, InteleViewer will not automatically open the corresponding order.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the Joint Legacy Viewer privilege in your user account.

To view medical records in the Joint Legacy Viewer:

1. Open an order.
2. From the main menu, choose Utilities | Launch Joint Legacy Viewer or click the Joint Legacy Viewer tool JLV in the toolbar.

Opening a Patient's SonoReview Worksheet

InteleViewer can be used to open a worksheet in SonoReview, an electronic worksheet and structured reporting solution.

To use this feature, ask your PACS administrator to enable the Third-Party Viewer privilege and the SonoReview privilege in your user account.

To view the worksheet in SonoReview:

1. Open a study.
2. From the main menu, choose Utilities | Launch SonoReview or click the SonoReview tool SR in the toolbar.

Reporting on Studies in MagView

You can create reports for mammography and tomosynthesis studies in the MagView application.

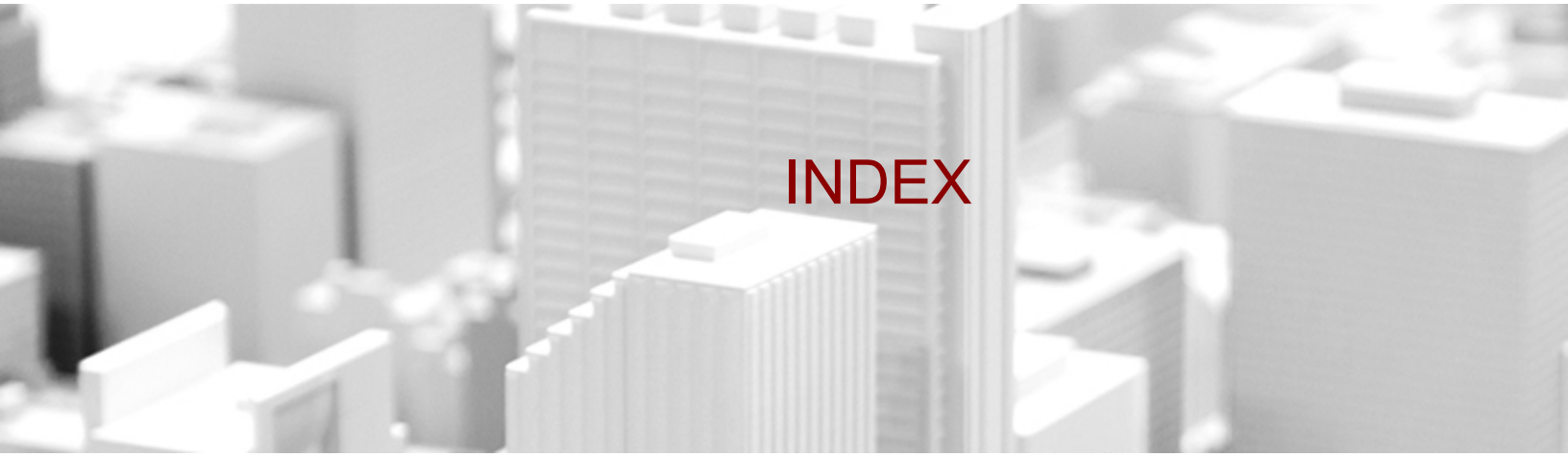
To use this feature, ask your PACS administrator to enable the Third-Party RIS privilege. You must also have the MagView application installed on your workstation.

Intelerad Technical Support can configure your system to automatically open the MagView application whenever you open a mammography or tomosynthesis study from the InteleViewer worklist or a third-party worklist. Please contact Intelerad Technical Support for more information.

To report on studies in MagView:

1. Log in to the MagView application.
2. From the InteleViewer worklist, or a third-party worklist if using the MagView (RIS-driven) option, open a mammography or tomosynthesis study.

The MagView application opens the record corresponding to the order you have opened in InteleViewer.



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