



PACS manual for Windows 2000, XP and Vista

<http://pacs.mricentrum.nl>

Referring physicians
Quick user manual



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Introduction

Referring physicians that order scans from MRI Centrum can request to view both the images and reports on-line via our web-pacs. This document briefly explains how the web-pacs works.

You can use the web-pacs from any PC with internet access. Security is provided by the web-pacs.

Once you have requested a web-pacs account, all past and future patient studies that you have ordered will be available to you via the web-pacs.

In addition you can request temporary access to other studies under conditions.

Terms of usage:

- The MRI Centrum cannot be held responsible / liable for the interpretation of images by others.
- The web-pacs service is provided without any guarantee of availability of the services.



Logging-in

url: <http://pacs.mricentrum.nl/web>

Open Internet Explorer to your Centricity® Website.

Always answer "Yes" to security questions.



Click here to log in

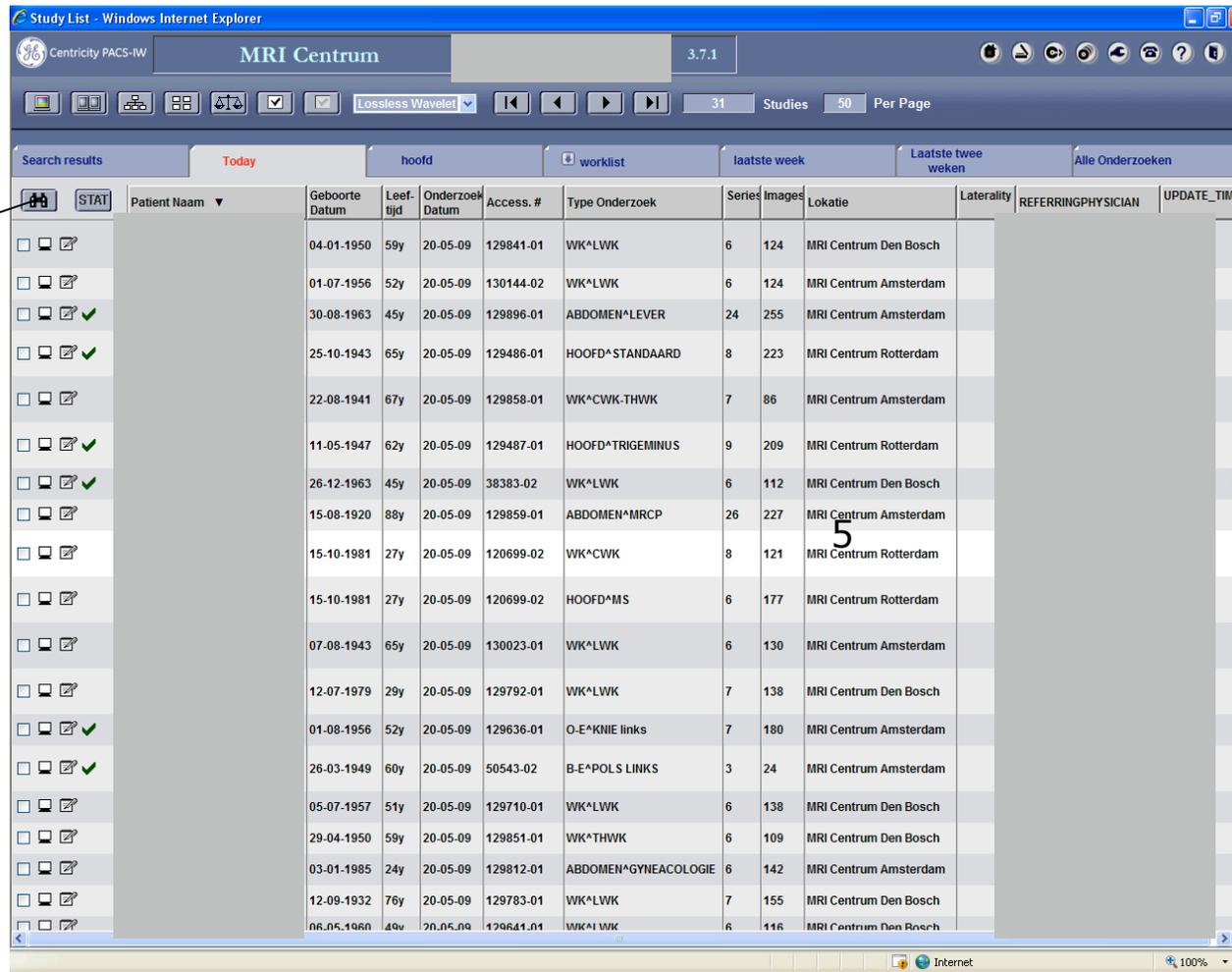
Click here to change
Your password.

Hardware requirements: Windows 2000 or Windows XP,
minimum 17 inch monitor, minimum of 512 mb of memory,
Minimum ADSL equivalent bandwidth.

Study overview screen

Single click on the highlighted line to open a patient's exam.

Search for a study



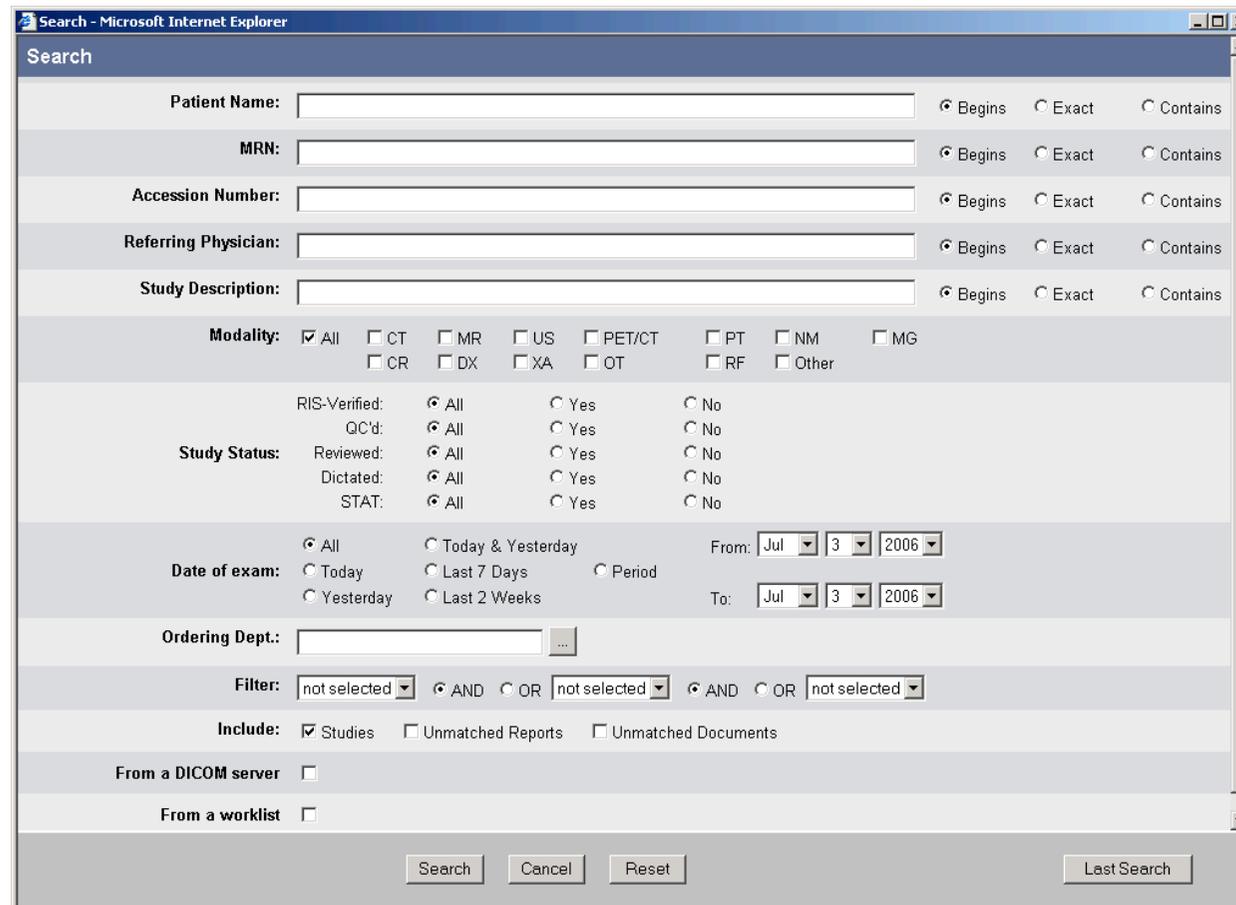
Patient Naam	Geboorte Datum	Leef-tijd	Onderzoek Datum	Access. #	Type Onderzoek	Series	Images	Lokatie	Laterality	REFERRINGPHYSICIAN	UPDATE_TIM
	04-01-1950	59y	20-05-09	129841-01	WK* LWK	6	124	MRI Centrum Den Bosch			
	01-07-1956	52y	20-05-09	130144-02	WK* LWK	6	124	MRI Centrum Amsterdam			
	30-08-1963	45y	20-05-09	129896-01	ABDOMEN* LEVER	24	255	MRI Centrum Amsterdam			
	25-10-1943	65y	20-05-09	129486-01	HOOFD* STANDAARD	8	223	MRI Centrum Rotterdam			
	22-08-1941	67y	20-05-09	129858-01	WK* CWK-THWK	7	86	MRI Centrum Amsterdam			
	11-05-1947	62y	20-05-09	129487-01	HOOFD* TRIGEMINUS	9	209	MRI Centrum Rotterdam			
	26-12-1963	45y	20-05-09	38383-02	WK* LWK	6	112	MRI Centrum Den Bosch			
	15-08-1920	88y	20-05-09	129859-01	ABDOMEN* MRCP	26	227	MRI Centrum Amsterdam			
	15-10-1981	27y	20-05-09	120699-02	WK* CWK	8	121	MRI Centrum Rotterdam			
	15-10-1981	27y	20-05-09	120699-02	HOOFD* MS	6	177	MRI Centrum Rotterdam			
	07-08-1943	65y	20-05-09	130023-01	WK* LWK	6	130	MRI Centrum Amsterdam			
	12-07-1979	29y	20-05-09	129792-01	WK* LWK	7	138	MRI Centrum Den Bosch			
	01-08-1956	52y	20-05-09	129636-01	O-E* KNIE links	7	180	MRI Centrum Amsterdam			
	26-03-1949	60y	20-05-09	50543-02	B-E* POLS LINKS	3	24	MRI Centrum Amsterdam			
	05-07-1957	51y	20-05-09	129710-01	WK* LWK	6	138	MRI Centrum Den Bosch			
	29-04-1950	59y	20-05-09	129851-01	WK* THWK	6	109	MRI Centrum Den Bosch			
	03-01-1985	24y	20-05-09	129812-01	ABDOMEN* GYNEACOLOGIE	6	142	MRI Centrum Amsterdam			
	12-09-1932	76y	20-05-09	129783-01	WK* LWK	7	155	MRI Centrum Den Bosch			
	06-05-1960	49y	20-05-09	129641-01	WK* LWK	6	116	MRI Centrum Den Bosch			

Study overview screen



Patient Selection

Select an appropriate Tab, or use click on on the search icon to search for patient exams.



The screenshot shows a web browser window titled "Search - Microsoft Internet Explorer" displaying a search interface. The interface includes several search criteria sections:

- Patient Name:** Text input field with radio buttons for "Begins", "Exact", and "Contains".
- MRN:** Text input field with radio buttons for "Begins", "Exact", and "Contains".
- Accession Number:** Text input field with radio buttons for "Begins", "Exact", and "Contains".
- Referring Physician:** Text input field with radio buttons for "Begins", "Exact", and "Contains".
- Study Description:** Text input field with radio buttons for "Begins", "Exact", and "Contains".
- Modality:** A group of checkboxes including All, CT, MR, US, PET/CT, PT, NM, MG, CR, DX, XA, OT, RF, and Other.
- Study Status:** A group of radio buttons for "RIS-Verified", "QC'd", "Reviewed", "Dictated", and "STAT", each with "All", "Yes", and "No" options.
- Date of exam:** Radio buttons for "All", "Today", "Yesterday", "Today & Yesterday", "Last 7 Days", and "Last 2 Weeks", along with "From" and "To" date pickers.
- Ordering Dept.:** A text input field with a dropdown arrow.
- Filter:** A section with dropdown menus and radio buttons for "AND" and "OR" logic.
- Include:** Checkboxes for "Studies", "Unmatched Reports", and "Unmatched Documents".
- From a DICOM server:** A checkbox.
- From a worklist:** A checkbox.

At the bottom of the form are buttons for "Search", "Cancel", "Reset", and "Last Search".

Study overview screen



Comparisons To compare a prior study:
Select the studies for comparison by checking the boxes in the first column.
After checking two or more exams, click the scales icon
The most current study will open on the left display. The second most current will display on the right.



Logout Click the logout button to end session.

Patient record

Compare Images View Study Refer Close

Patient Name	DOB	Age	Sex	Study Date	Modality	Description	Ordered By	MRN
		65	M	05-13-2006	MR	WK^LWK		46174
		65	M	03-10-2006	MR	WK^LWK		46174

Final Report . received from RISaddReport

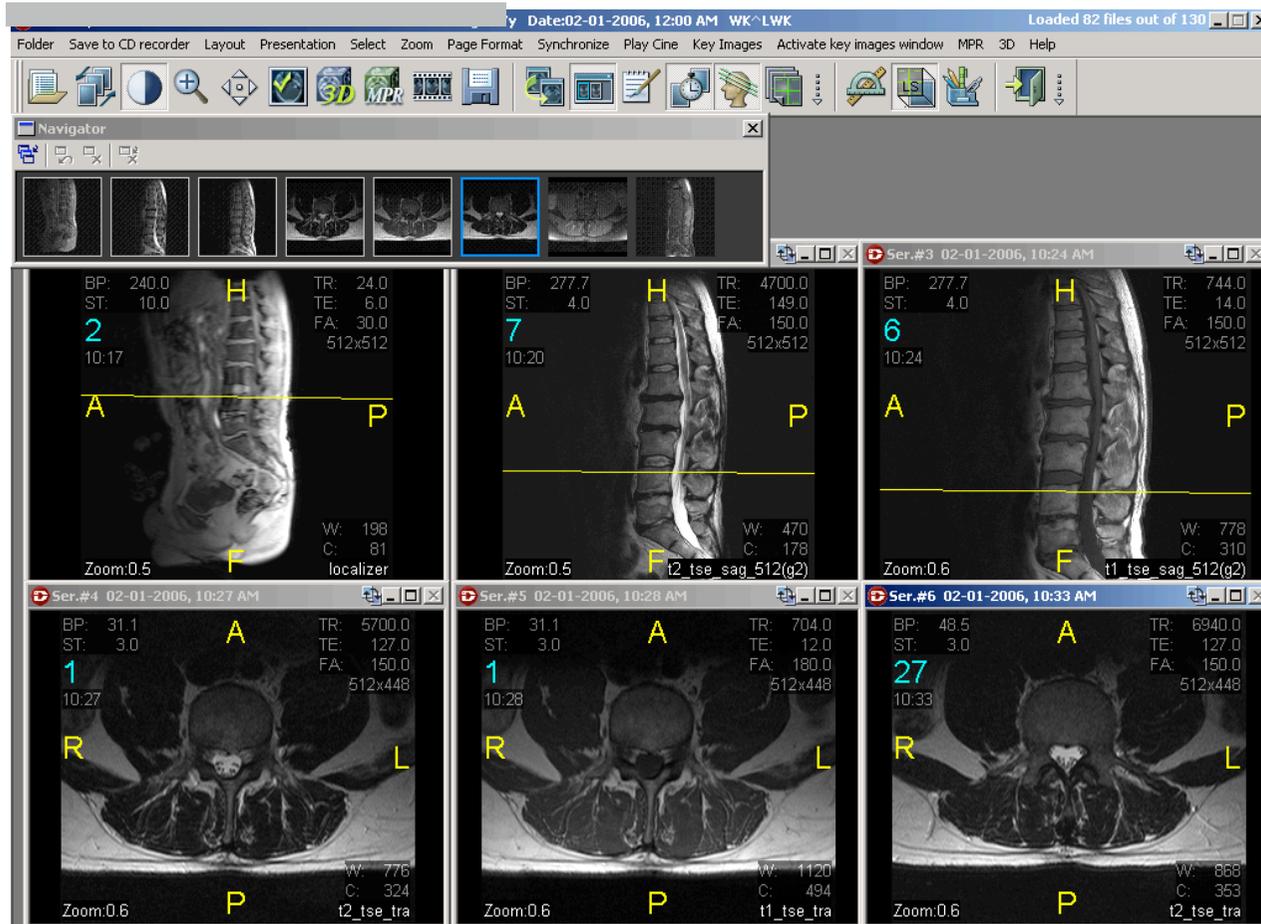
Print < >

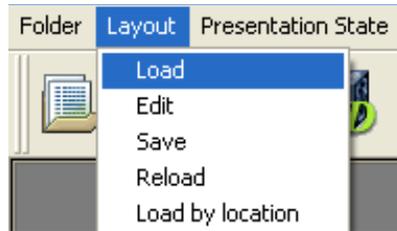
Report Dictated By: radioloog

Klinische gegevens / klinische diagnose / vraagstelling
U bekend.
MR LWK ** verslag
Vergeleken wordt met de beelden van februari 2005. Destijds was er reeds sprake van een postoperatieve status L4-5 links. Dit is echter op de destijds gemaakte opnamen niet te zien en ook nu geen postoperatieve veranderingen zichtbaar. Hoewel de klinische gegevens een verdenking van een spinaalkanaal stenose vermelden is er juist sprake van een zeer ruim spinaalkanaal over het lumbale traject. Wel enige spondylarthrosis en discopathie op de overgangen L1-2 en L4-5-S1. Naast lichte bulging van de discus L5-S1 verder geen aanwijzingen voor een HNP. Wel in parasagittale richting laag lumbaal vernauwde foramina, met name van het foramen L5-S1 links met zeer waarschijnlijk compromittering zo niet compressie van de wortel L5 links erin op coupe 12 van serie 3.

No images available.

Study details





Layouts

To select from the layout list, click Layout on the main menu, then click Load.

If no layouts appear in your Personal list, check off the box "All Screen Sizes".
If the list still appears empty, click on Common list.

Click the desired layout from the list, and then click Apply.

To create a custom layout, arrange the study, click Layout/edit, type the matching string that identifies the body part from the exam description, adjust other settings as desired, and save as the new layout name.

Tip: use reload to load the original study lay-out again.



Page/Scroll When the exam opens, Page/Scroll mode is enabled on the main toolbar. To page through images, click on a series to activate it.

- Drag left mouse button.
- Scroll using mouse wheel.
- Left/middle click.
- Use up/down arrow keys or page up/page down keys.

Shortcuts-Right click for pop-up menu. Right click and drag to adjust Window/Level. Space bar to toggle preset Window/Levels. Hold F2 for Triangulation mode.



Window/Level Adjustment and Histogram Analysis Click on the Window/Level icon. For manual manipulation-

Left click and drag to adjust Window/Level. R/L adjusts window; up/down adjusts level. For histogram analysis (sets the intensity automatically of a defined region of interest)- Select the ROI with right mouse button.

Tips- While in W/L mode, use mouse wheel or keyboard to scroll images. To restore original setting, right click and select from Preset Window menu.



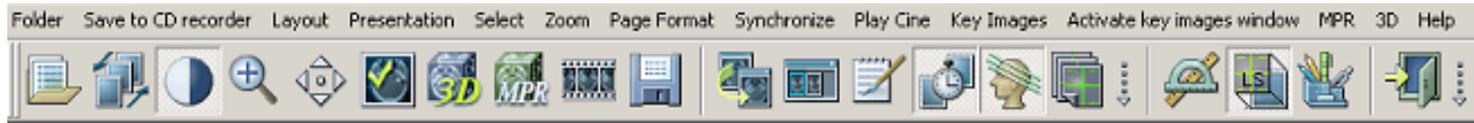
Zoom Click on the Zoom icon. Left click and drag the mouse up to increase in size. Left click and drag the mouse down to decrease in size.

Tips- Image zoom factor is denoted in the lower left corner of the image. To undo zoom, right click and select Zoom Factor- to fit, or choose Set Zoom from Main Menu. Hold middle mouse button to pan



Pan Click on the Pan icon. Left click and drag to re-center or scroll image.

Tips-Hold middle mouse button to zoom.



Select Click on the Select icon. Left click on an image to mark it as a key image. To select more than one image, use the left mouse button in conjunction with the control or shift key, the same as you would select multiple computer files- To select nonadjacent images, hold CTRL while clicking each image. To select adjacent images, click on the first image, then hold SHIFT while clicking on the last image.

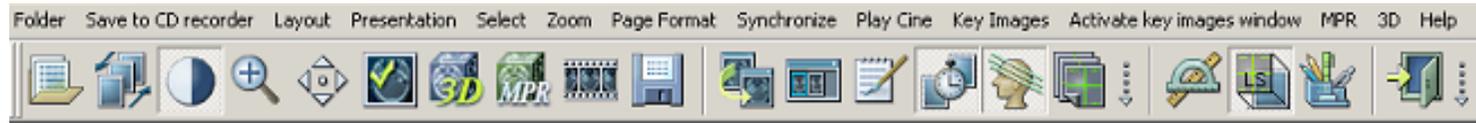
Tips-To deselect an image, hold CTRL and click on the image again. For more options, click on Select from the Main Menu.



Multi-Planar Reformatting is a method of reconstructing cross-sections of other planes (such as coronal or sagittal planes) from the original plane used in the study (such as axial). You can "cut" at a different angle or thickness, manipulating the area of interest to obtain the most beneficial view. Once created, these reconstructed images can be saved as a series and treated like any other series in the study. You can view, triangulate, annotate, cross-reference and create key images from an MPR series.



3-D rendering A selected series from a study can be rendered as a three-dimensional image. Data from a single series is used as the source, and IntegradWeb generates a three-dimensional volume from all the images in that series. Alongside the rendered three-dimensional volume, three orthogonal planes -- transverse, sagittal and coronal -- are also displayed. You can modify the volume, which is displayed as a cube, in a number of ways: by adding annotations, rotating it, cropping it, removing regions within the volume, and so on.



Cine Mode Click the Cine button to activate, and a control bar opens at the bottom of the series. Use the $\uparrow\downarrow$ arrows to set the frames per second. Use the $\leftarrow \rightarrow$ arrows to control the direction forward, backward, or bounce back and forth mode.



Tips-Pointing the mouse at a control button to define its function. Click on the slider to advance to that area.



Save Image Click the save image icon to open the options dialogue. Select the file type and the folder in which to be saved.



Create Copy
Clicking on this icon creates a duplicate of the active series.

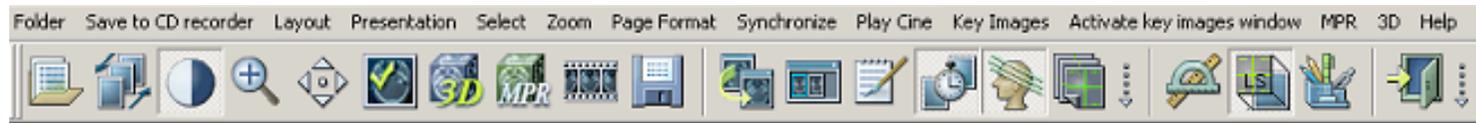


Navigator Click on the Navigator icon.

- A thumbnail image representative of each series is displayed.
- The active series is outlined in blue.
- Displayed series are outlined in white.
- Undisplayed series have no outline.
- Double click on an undisplayed series to open the window.
- Point the mouse over a thumbnail to display the series description.
- Click and hold on a thumbnail to locate its position on the monitor by flashing.
- Re-sort the order by clicking and dragging a series to the new position.



Tips- When an exam is displayed that has additional series not provided for in the layout, Navigator opens automatically. Navigator can be resized by dragging its borders. If a scroll bar appears, it indicates there is additional information that can be viewed by scrolling or resizing.



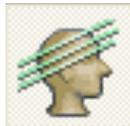
Notepad Click icon, always answer yes to security question.
Click on Add Note, Add Internal Note, or Add Preliminary Report; type message, click done.
Click red X in upper right corner to close.

*Tips-Notes and Reports are accessible from the patient list. They are color-coded and have 5 levels.
If a notepad contains both notes and reports, the icon will be the color of the highest level.*

1. Gray notepad is empty.
2. Light Yellow notepad indicates an Internal Note (viewable by all radiology personnel).
3. Dark yellow notepad indicates a Note (viewable by all users).
4. Light green notepad indicates a Preliminary Report.
5. Dark Green notepad indicates a Final Report.



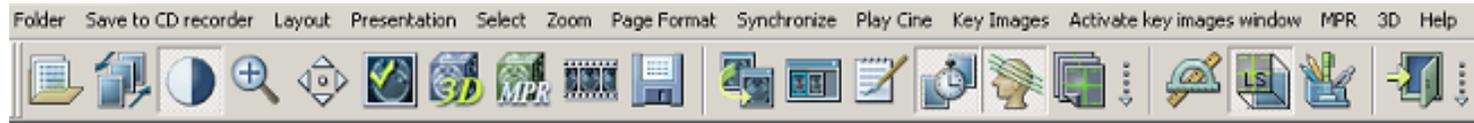
Synchronize Click icon to toggle linking off and on.
Tips- For more linking options, go to "Synchronize" in the main menu bar. Absolute Position is the bed position from the scanner. Absolute Number is the image number from the scanner. Use Relative Position or Number to link prior exams while in comparison mode.



Cross Reference
Click icon to toggle cross reference line off and on.

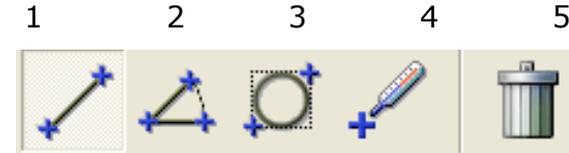


Image Overlay Click icon to toggle through the different preset slice information templates. Clicking the down arrow opens the menu to display all the overlay templates.
Tip-For more slice information, right click on image and choose image info.



Measurements Click this icon to open the tool menu.

1. Measures distance point to point.
2. Measures angles.
3. Measures ROI (elliptical).
4. Measures a single point ROI.
5. Delete all measurements.



Tips-Click and drag to define region of interest.

Move the measurement annotation box by clicking and dragging.

Click and drag the Point ROI tool (3) to obtain a roving Hounsfield measurement.

Right click on angle measurement's annotation box and choose "Ortho Angle" for orthopedic measurements. Right click over measurement to edit font and color.

To delete a single object, double click on the highlighted annotation.

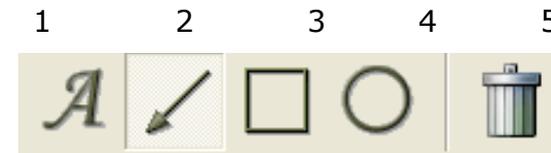
To delete all objects from active image, click on recycle bin (6).



Labels

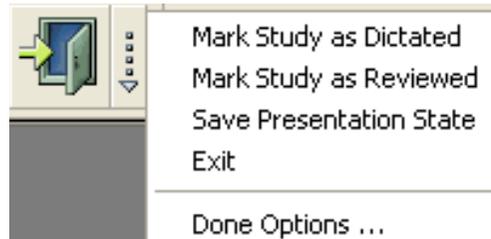
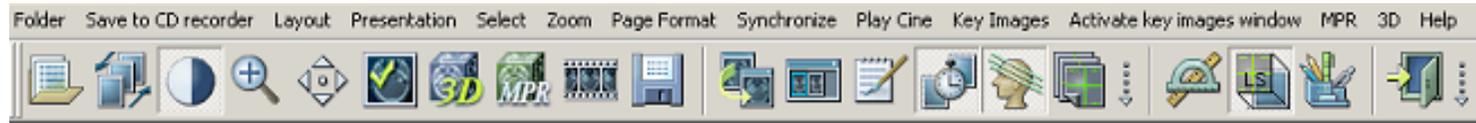
Click this icon to select from the tool's menu.

1. Annotate text.
2. Draw arrows.
3. Draw squares.
4. Draw circles.
5. Delete all annotations.



Tip-To use text annotation, click on A (1), click on image, type text, and click green check.

Drag text to desired location. Right click over annotation to edit font and color.

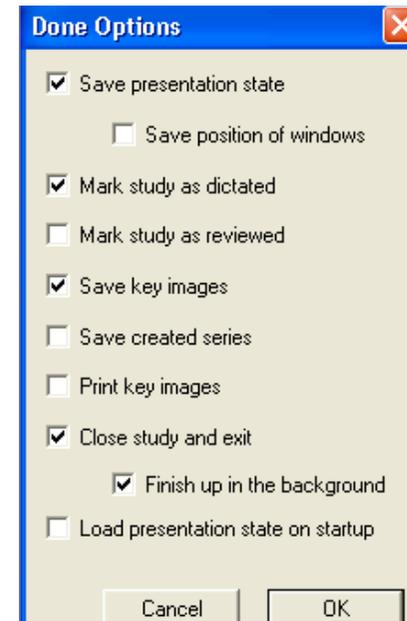


Done

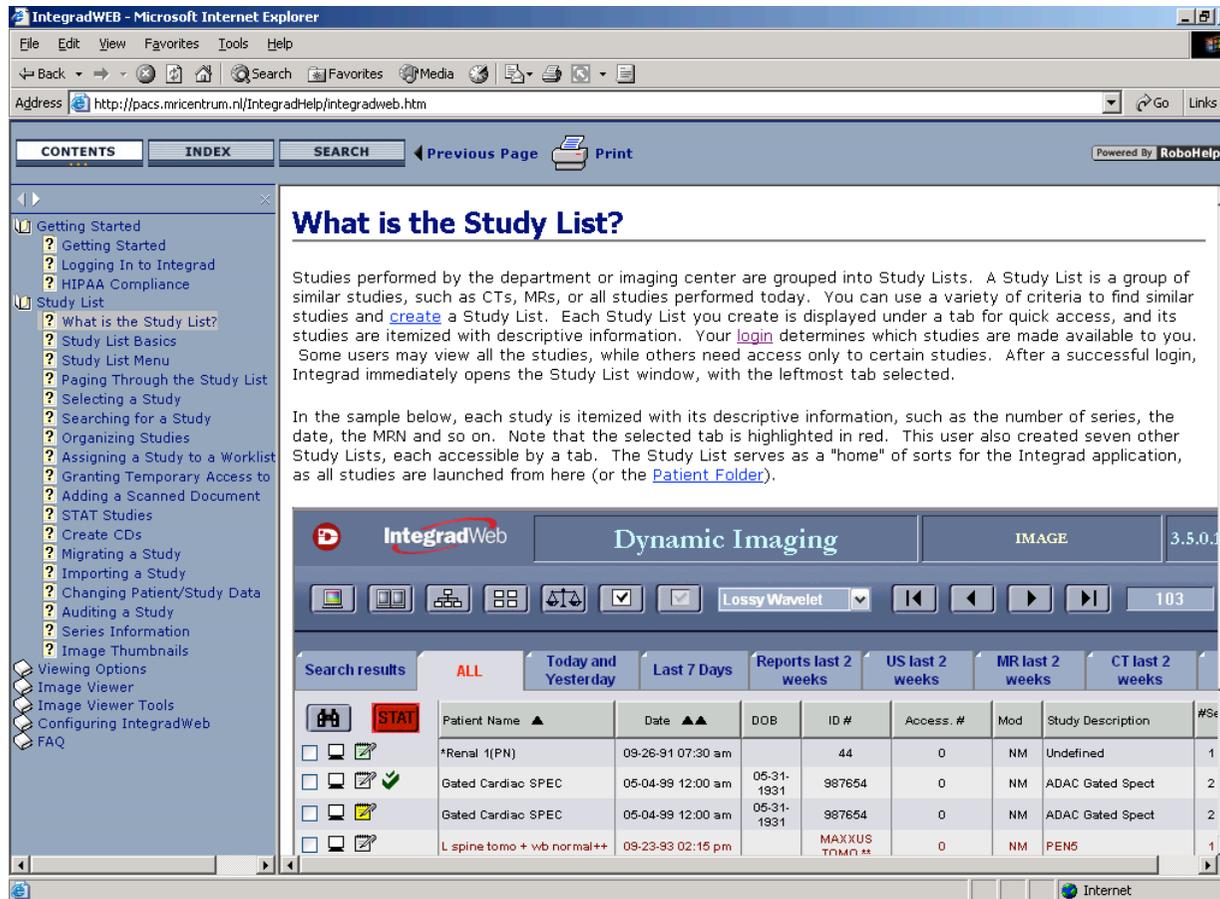
The done button can be programmed to your own default setting, as follows: Click the down arrow ↓ to open the drop down menu.

Click on Done Options, check off on desired options, click OK.

Once the default is set, left click on the exit door icon when finished to close the study using the predefined done options, or click the down arrow ↓ to select from the menu.



For more help,
click on help in the overview or study



What is the Study List?

Studies performed by the department or imaging center are grouped into Study Lists. A Study List is a group of similar studies, such as CTs, MRs, or all studies performed today. You can use a variety of criteria to find similar studies and [create](#) a Study List. Each Study List you create is displayed under a tab for quick access, and its studies are itemized with descriptive information. Your [login](#) determines which studies are made available to you. Some users may view all the studies, while others need access only to certain studies. After a successful login, Integrad immediately opens the Study List window, with the leftmost tab selected.

In the sample below, each study is itemized with its descriptive information, such as the number of series, the date, the MRN and so on. Note that the selected tab is highlighted in red. This user also created seven other Study Lists, each accessible by a tab. The Study List serves as a "home" of sorts for the Integrad application, as all studies are launched from here (or the [Patient Folder](#)).

Search results	ALL	Today and Yesterday	Last 7 Days	Reports last 2 weeks	US last 2 weeks	MR last 2 weeks	CT last 2 weeks
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
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