



MedDream
WEB DICOM Viewer
User's Manual

Version 3.03

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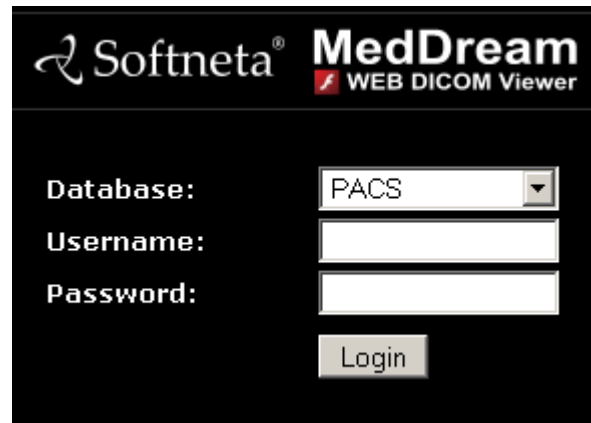
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1. Logging on to MedDream

To log on to the MedDream system, please do the following:

- enter the address given by your administrator in your Internet Browser.

The following screen will appear:



Database: PACS

Username:

Password:

Login

- Enter the username you were given in the field “**Username**”
- Enter the password in the field “**Password**”. If you forgot your password, please contact your system administrator.

2. Search of studies

Search menu will help you to quickly find the studies you need. We recommend to use all possible search menu options in order to get the accurate search results and save your time.

To find a study, please follow these steps:

1. click “**Search**” in the left top corner of the window.



The following search screen appears:

Search

Patient ID: ▼

From: 2010.09.04

Patient Name: ▼

To: 2010.09.04

CR
 DX
 MG
 NM
 PX
 RG
 US
 CT
 ES
 MR
 OT
 RF
 SC
 XA

*	Patient ID	Name	Study ID	Accession	Mod	Description	Date Time	Re
	1234	MOUSE MICKEY	103502		US		2009-12-22 10:35:02	
	13851 L SPII	ANON0000	10377	CC285815	MR		2008-05-10 14:18:28	
	1235	Anonymized			CR		2007-10-18 01:12:45	
<input type="button" value="📄"/>	07-K3700	!!!!268BF5C2BE7D1A1B0AC	1391		MR		2007-07-13 09:52:08	
<input type="button" value="📄"/>	1112 BOTH F	ANON0000	1159	9000EE100	MR		2007-03-29 12:51:20	
	1111111	Anonymized			MR	SHOULDER	1995-05-01 15:26:10	
	1111111	Anonymized			XA	Cardiac Cathet	1994-10-16 08:30:00	Ar
<input type="button" value="📄"/>	7431	Simpson Homer			OT			

Add

2. select **search settings** (the default search settings are usually set to the search by “Patient ID” or “Patient Name”).

To specialize the search, you can use **two different search settings**.

If you wish to change the search settings, just click the arrow to the immediate right of the header and choose the criterion you need from the list:

A screenshot of a web interface showing a dropdown menu. The dropdown is titled "Patient ID:" and is currently open, displaying a list of search criteria. The criteria listed are: Patient ID, Patient Name, Study ID, Accession Number, Description, Referring Physician, and Reading Physician. The "Patient ID" option is highlighted in blue.

The criteria are as following:

- „**Patient ID**“ - enter patient's ID number in the search field
- „**Paciento Name**“ - enter the patient's name or surname in the search field
- „**Study ID**“ - enter the study number
- „**Accession Number**“
- „**Description**“ - enter few keywords from the study description
- „**Reffering Physician**“ - please indicate, to which doctor the study was sent
- „**Reading Physician**“ - please indicate, which physician has opened and analysed the study.

3. To specialize the search further, please select **the period** when the study could be done.

You will activate the date search fields by ticking the “From” and “To” fields:

A screenshot of two date search fields. The first field is labeled "From:" and has a checked checkbox to its left. The date "2010.08.17" is entered in the text box, and a calendar icon is to its right. The second field is labeled "To:" and also has a checked checkbox to its left. The date "2010.08.25" is entered in the text box, and a calendar icon is to its right.

To see the list of the studies done during the current day, please click the button „**Today**“. If you are looking for the studies that were done yesterday, please click “**Yesterday**”:

A screenshot of two date search fields and two filter buttons. The first field is labeled "From:" with a checked checkbox and the date "2010.09.04". The second field is labeled "To:" with a checked checkbox and the date "2010.09.04". To the right of the "From:" field is a blue button labeled "Today". To the right of the "To:" field is a grey button labeled "Yesterday".

4. The search can also be specified by selecting the method which was used to obtain the study images:

- Tick the field next to one or more methods (devises) that were used in the needed study (please look below for the meaning of the abbreviations)

For example, if you want to find all the images obtained by using Digital radiography devises, you should tick the fields as shown bellow:

CR DX MG NM PX RG US
 CT ES MR OT RF SC XA

Moreover, you can select all possible methods by clicking the “All” button, or you can clear all the ticks by clicking “None”:

CR DX MG NM PX RG US
 CT ES MR OT RF SC XA

* abbreviations :

CR – *Computed Radiography*

CT – *Computed Tomography*

DX – *Digital Radiography*

ES – *Endoscopy*

MG – *Mammography*

MR – *Magnetic Resonance*

NM – *Nuclear Medicine*

OT – *Other*

RF – *Radio Fluoroscopy*

SC – *Secondary Capture*

US – *Ultra Sound*

XA – *X-Ray Angiography*

5. After you have selected your search settings, start the search by clicking “**Search**”:

6. You will see the following window with the search results:

Search

Patient ID:

 From:

Patient Name:

 To:

CR

 DX
 MG
 NM
 PX
 RG
 US

CT
 ES

MR

 OT
 RF
 SC
 XA

*	Patient ID	Name	Study ID	Accession	Mod	Description	Date Time	R
	13851 L SPII	ANON0000	10377	CC285815	MR		2008-05-10 14:18:28	
	1235	Anonymized			CR		2007-10-18 01:12:45	
	07-K3700	!!!!268BF5C2BE7D1A1B0AC	1391		MR		2007-07-13 09:52:08	
	1112 BOTH H	ANON0000	1159	9000EE100	MR		2007-03-29 12:51:20	
	1111111	Anonymized			MR	SHOULDER	1995-05-01 15:26:10	

***TIP:** If the patient information is displayed in **blue letters**, it indicates that the study was not opened. If the information is displayed in **black letters**, it means that the study was opened previously.*

You can customize the search results in the MedDream to suit your preferences by re-sorting the columns and repositioning the fields in the results list. You can sort the list:

- alphabetically
- numerically

In order to sort the list alphabetically:

- click one time a header to sort the list according to that heading. For instance, click **“Name”** to sort the list alphabetically. Clicking the header field again will sort the list in the reverse order:

Name ▲
!!!!268BF5C2BE7D1A1B0AC
ANON0000
ANON0000
Anonymized
Anonymized
Anonymized
MOUSE MICKEY
Simpson Homer

7

Similarly, you can sort the lists of patient id's, study id's or dates. For example, just click **“Patient ID”** to sort the list numerically:

Patient ID
7431
13851 L SPINE
1235
1234
1112 BOTH HIPS
1111111
1111111
07-K3700

If you want to **reposition** the fields in the result list, please click and hold the header you want to move, and drag-and-drop it to a new location:

Search

Search Patient ID: Patient Name: From: 2010.09.04 Today To: 2010.09.04 Yesterday

CR DX MG NM PX RG US
 CT ES MR OT RF SC XA

* Patient ID	Name	Study ID	Study ID	Accession	Mod	Description	Date Time	Re
1234	MOUSE MICKEY	103502			US		2009-12-22 10:35:02	
13851 L SPI	ANON0000	10377	CC285815		MR		2008-05-10 14:18:28	
1235	Anonymized				CR		2007-10-18 01:12:45	
07-K3700	!!!!268BF5C2BE7D1A1B0AC	1391			MR		2007-07-13 09:52:08	
1112 BOTH H	ANON0000	1159	9000EE100		MR		2007-03-29 12:51:20	
1111111	Anonymized				MR	SHOULDER	1995-05-01 15:26:10	
1111111	Anonymized				XA	Cardiac Cathet	1994-10-16 08:30:00	Ar
7431	Simpson Homer				OT			

Forward Export Add Open Cancel

TIP: You can easily enlarge or narrow the fields in the result list. Move the cursor on the line that separates two fields and (when the icon with two arrows appears) drag it to the left or right:

Name	Patient ID	Study ID	Accession
Anonymized	1111111		

2.1 Opening multiply studies

If you need to open more than one study (e.g. for comparing them), please do the following:

1. Select one of the studies with one mouse click. It will be highlighted in blue:

* Name	Patient ID	Study ID	Accession
Anonymized	1111111		
Anonymized	1235		
ANON0000	13851 L SPINE	10377	CC285815

2. Tick the field “Add” which is on the right in the bottom of the search results window:

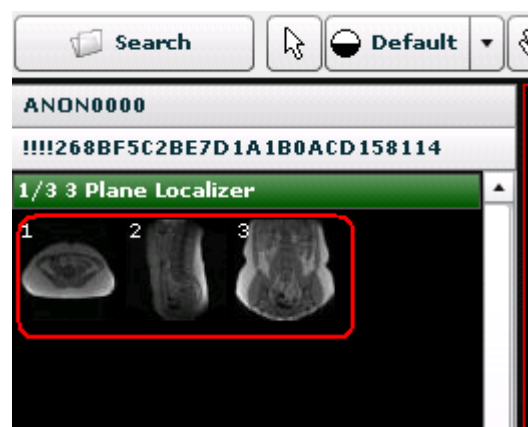


3. Click “Open”

4. Go back to the search results by clicking the “Search” button that is in the top left corner.

5. Select the next study you want to open and repeat the 1 – 3 steps that were mentioned above. Keep doing this till you open enough studies that you need for your analyses.

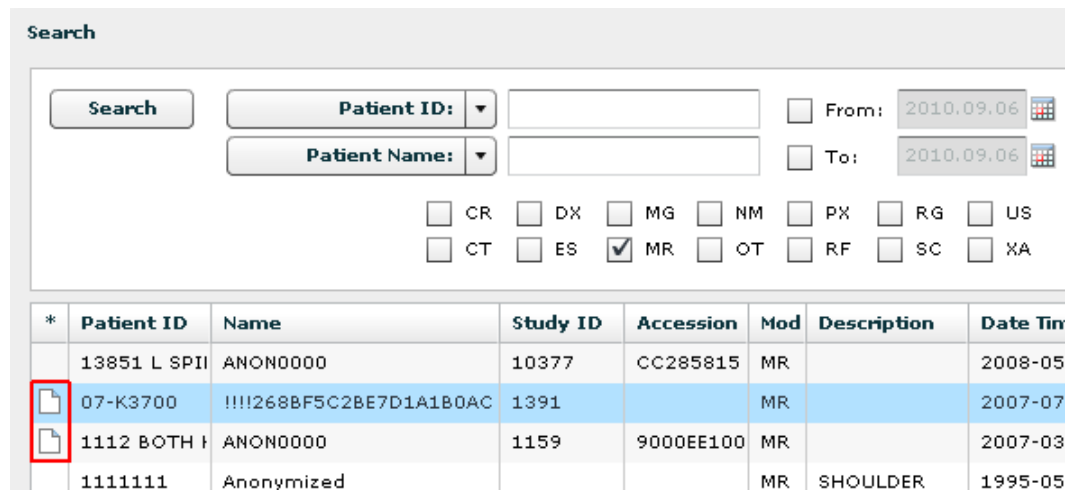
After selecting all the studies, you will see all study series displayed in the pane on the left. When you select the study and click on it, you will see the image icons of the study series:



In order to navigate through the study series, just click on the header to activate it and see the image icons.

2.2 Reading study reports



In the search results window you can notice that some of the studies have annotations (reports). This is indicated by the „Report“ icon, which appears in the first column “*“:



Search

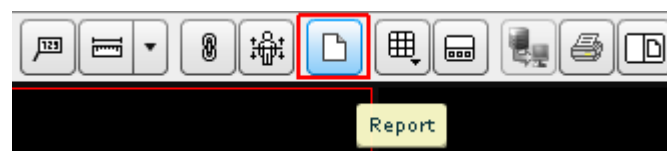
Search Patient ID: Patient Name: From: 2010.09.06 To: 2010.09.06

CR DX MG NM PX RG US
 CT ES MR OT RF SC XA

*	Patient ID	Name	Study ID	Accession	Mod	Description	Date Tim
	13851 L SPII	ANON0000	10377	CC285815	MR		2008-05
	07-K3700	!!!!268BF5C2BE7D1A1B0AC	1391		MR		2007-07
	1112 BOTH H	ANON0000	1159	9000EE100	MR		2007-03
	1111111	Anonymized			MR	SHOULDER	1995-05

To read the report:

- select the study with “Report” icon
- open the study with double-click on it
- when the study is opened, the **Report** button will be activated in the **Tools** menu:



- click the “Report” button once to open the annotation. The report window will appear:



- press “Close” to exit the report window.

3. Viewing and analysing images

3.1 Viewing one or multiply studies

After opening one of the study series, you can rearrange the preview window as you prefer. First of all, you can choose on which screen side - left or bottom - you want to see the icons of the images. Just click this button in the menu bar and change the preview window, as you prefer:

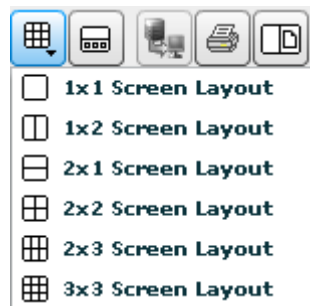


Also, you can choose, how many panes with study images there will be in the window. You can choose from one to nine panes with different images. If you want to open more panes do the following:

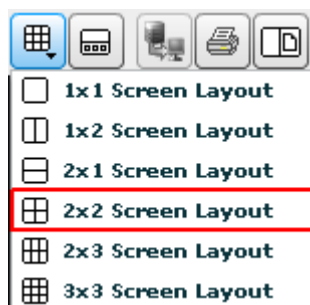
- click “Screen layout” on the menu bar:



- choose from the list how many panes you want to see:



- for example, if you need to see 4 screens with different images, select „2x2 Screen layout”:

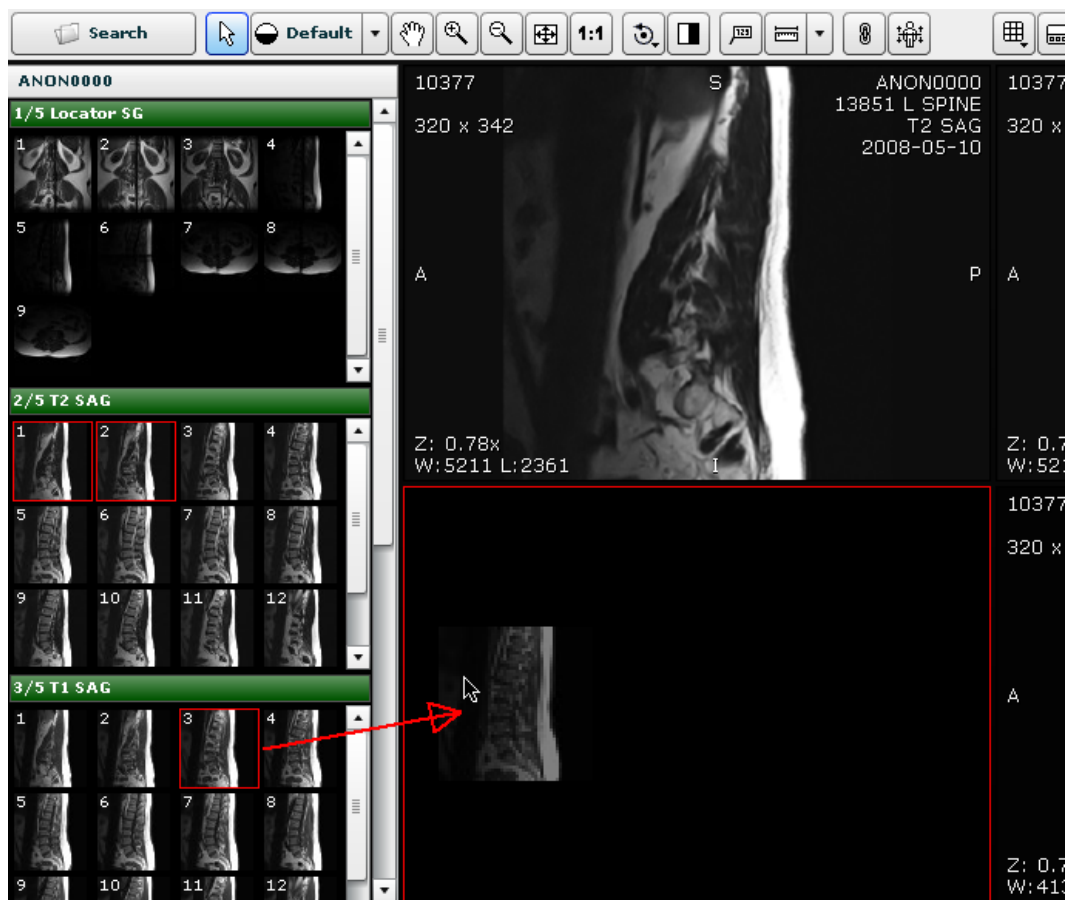


After selecting how many screens you will see in the window, move the images into them. There are two methods to do this:

First method:

- select the image icon from the study series that are displayed on the left (or in the bottom, depending on how you have rearranged the display)

- drag-and-drop the image with one mouse click into the pane where you want the image to be:



Second method:

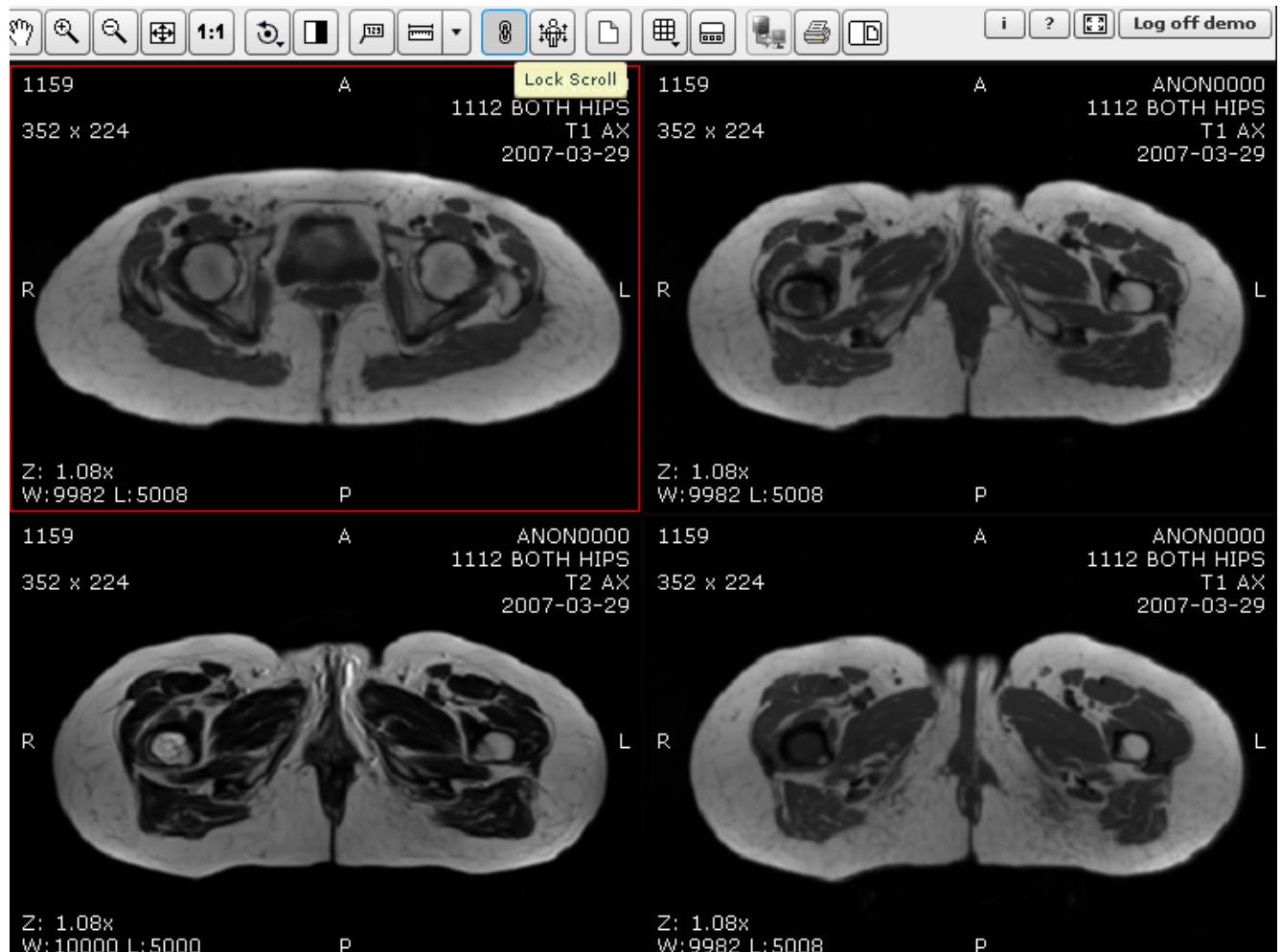
- select the pane where you want to move the image with one click mouse click. The active pane will be outlined in red.
- select the image icon from the study series that are displayed on the left (or in the bottom, depending on how you have rearranged the display)
- Double click on the image that you want to move into the pane.
- The image will appear in the selected pane.

These are the ways how you can move the images from the series into the main window. You can select and compare images not only from one study, but from multiply studies as well.

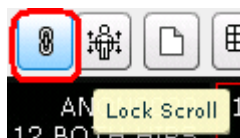
Comparing multiply studies

To compare multiple studies you can use a **“Lock Scroll“** button. **“Lock Scroll“** allows you to either move through images one at a time or easily scroll though the images of a series:

- Select the studies that you want to compare.
- From each study select and move the first images into the viewing panes:



- Click **„Lock Scroll“**:



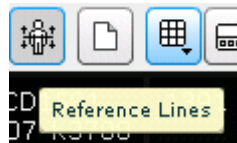
- When this button is active (is outlined in blue), you will change all images (scroll through the images of a series) by scrolling the mouse wheel.
- If the button is inactive, you will move through images one at a time by scrolling the mouse wheel.

NOTE: when the „Lock scroll“ button is active, you can move through images with the help of keyboard arrow keys, not only by scrolling the mouse wheel.

Image localization

Overlaying reference lines allow you to indicate the location of an image slice on another image of an intersecting plane.

- Select the images that you want to compare and move them into the panes:
- select one of the images you want to know the location in regard to other images.
- Click the button „Reference Lines“:



- the yellow lines appear in the images, indicating the localisation of the selected image:




NOTE: Usually, it is used in CT or MR tests, which consist of several images in different planes.

3.2 Manipulating images

You can manage and analyse the study images according to the criteria you need. The following buttons are used for this:




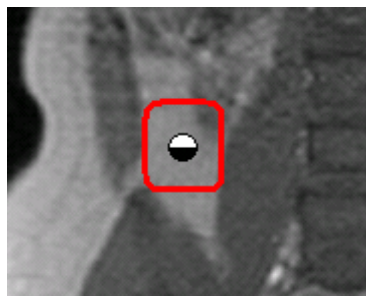
More about each of them:

1.  the „**Default**“ button is used to adjust the Level/Window contrast of the image.

You can adjust the contrast in two ways:

1)

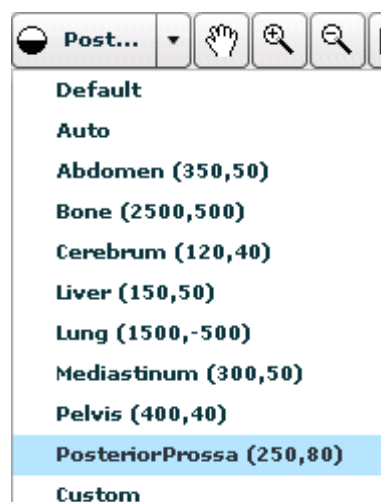
- click on 
- Position the cursor over the image to be adjusted, and right-click and drag the cursor up or down over the image



- Release the mouse button to apply the new values to all images within the series.

2)

- Click the arrow to the immediate right of the “**Default**”
- pop-up menu appears:



- select one of the standard contrast settings.
The list of the settings is as following:

Default – a preset setting

Auto – the system analyses the image and adjusts the brightness and contrast automatically.

Abdomen – a preset setting for abdomen studies.

Bone – a preset setting for bone studies.

Cerebrum – a preset setting for cerebrum studies.

Liver - a preset setting for the liver studies.

Lung – a preset setting used for studying the images of the lungs.

Mediastinum - a preset setting for mediastinum studies.

Pelvis – a preset setting for pelvis studies.

Posterior Prossa - a preset setting for Posterior Prossa studies.

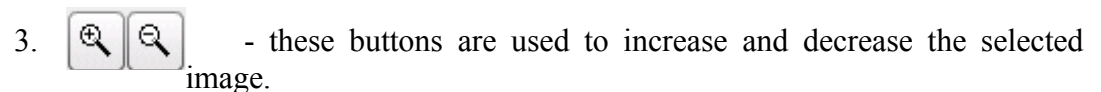
Custom – the user can define custom window/level presets.



“**Hand**” button allows you to position images within the pane. This feature is especially useful when the image is larger than the pane, as it usually is after zooming.

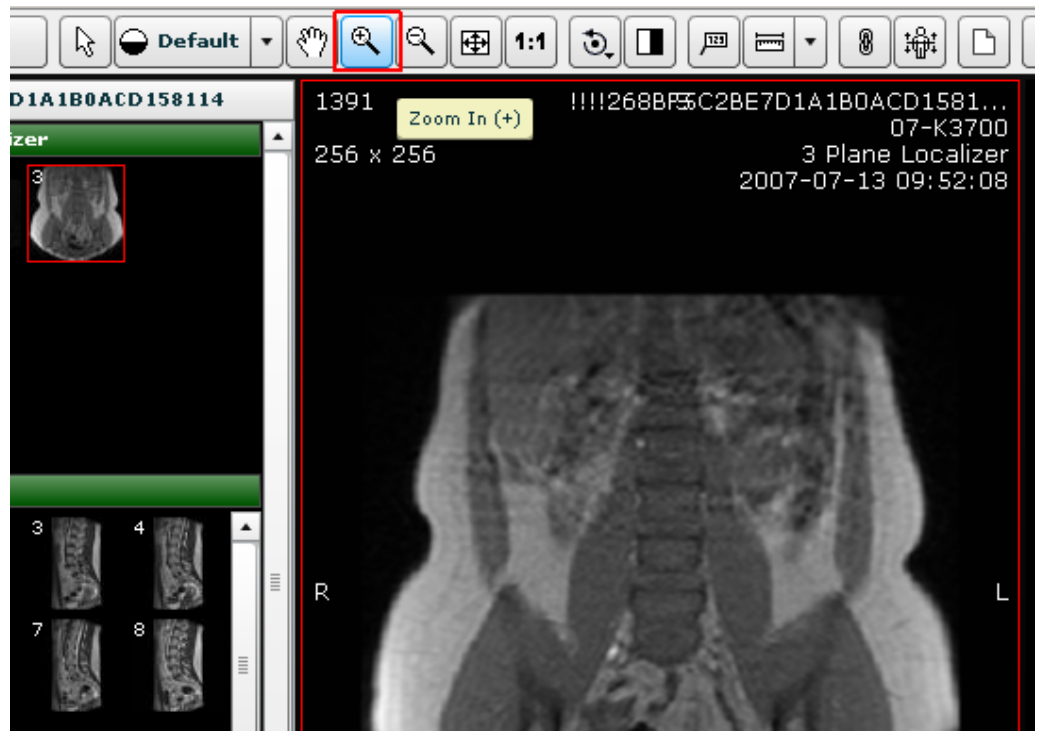
To move an image within the pane:




- On the Tools menu, click “**Hand**”
- Position the cursor over the image you want to move, and click and drag the cursor around the pane to move the image.
- Release the mouse button to drop the image in its new position.

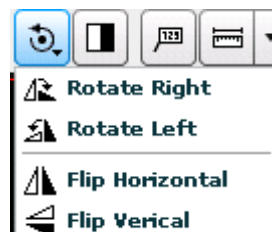


To zoom in and zoom out of an image:


On the Tools menu, click “**Zoom In**” and the image magnification will be increased. Oppositely, if you click on “**Zoom Out**”, you will decrease the image magnification:

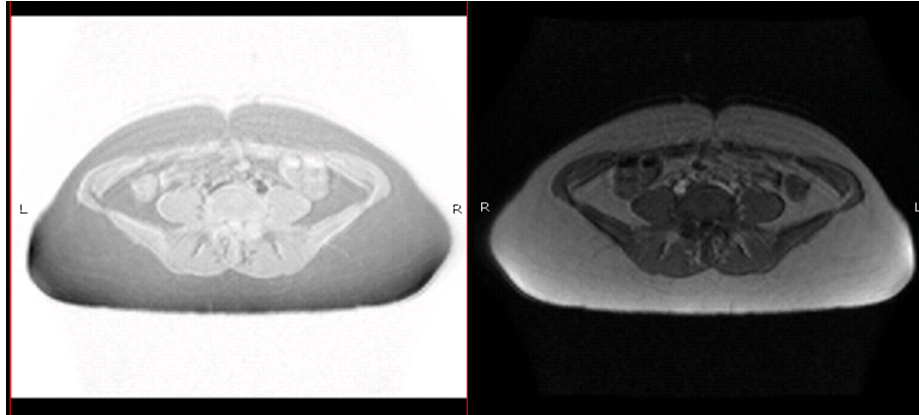


4.  - **“Fit to Screen”** button. When you press this button, the size of the image is automatically adjusted so that the image would fill the entire screen. For example, if only part of the image is visible on the screen, choose this button to see the whole image displayed in the entire screen.
5.  **„1:1 Resolution”** button allows to restore the original image display value.
6.  - **“Transform”** button allows to rotate the image. Click the arrow to the immediate right of the **“Transform”** and select one of the options from the pop-up menu:



- Rotate Right – to rotate the image 90° clockwise;
- Rotate Left – to rotate the image 90° counter-clockwise;
- Flip Horizontal – to flip an image 180° about the horizontal axis;
- Flip Vertical – to flip an image 180° about the vertical axis.

7.  **“Inverse”**. This button is used to invert the image. To invert the image, press the button once. If you press the button second time, the image will return to it's previous state:



3.3 Measuring Images

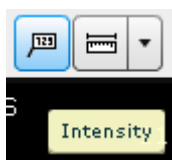
MedDream allows you to measure the images in number of ways. The main measurement buttons are “**Intensity**” and “**Measure**”:



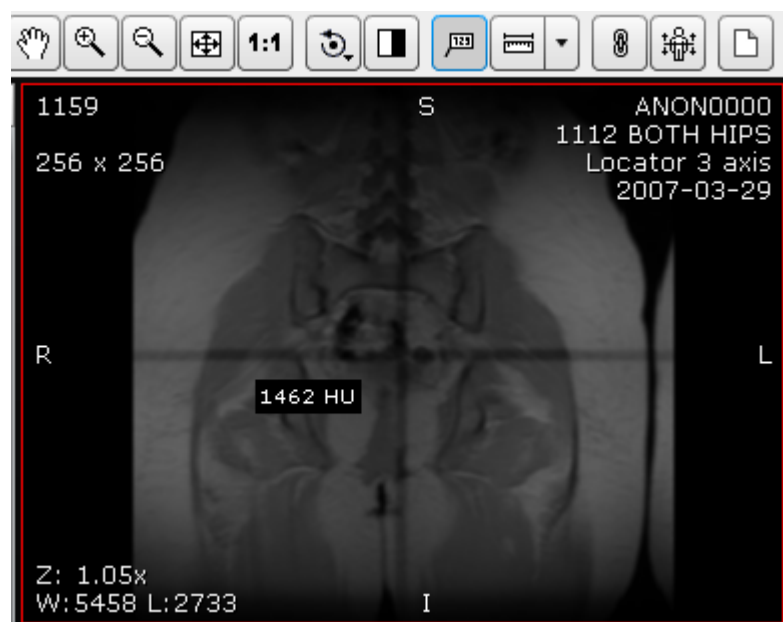
The „**Intensity**“ button is used to measure the density of a diagnostic image.

To measure the density:

- press this button once (it gets highlighted in blue)



- Move the mouse cursor on the point you want.
- The density of the point and its coordinates should be visible next to the cursor (expressed in HU units):



NOTE: this button is active only for the images obtained by using computer tomography.

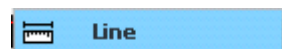
MedDream allows you you to calculate various angles, lengths, perimeters and areas easily. The "**Measure**" button is used for this:



Click the arrow to the immediate right of the "**Measure**" and select the measurement you need from the pop-up menu:



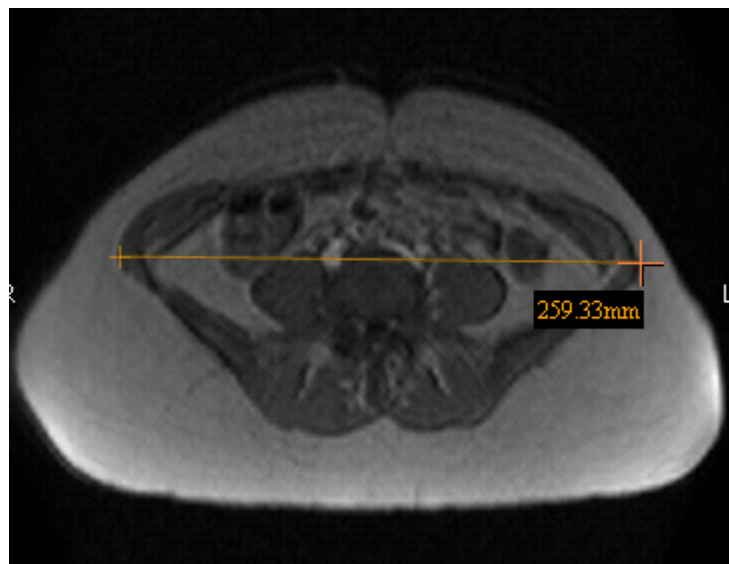
More about each of the selections:



This button is used to measure the distance between two points.

To measure the distance:

- click on the „**Measure**“ button and choose „**Line**“ from the list
- place the mouse cursor on the starting point from which you want to measure the distance.
- press and hold the left mouse button. Move the cursor to the end point and release the button.
- The distance (in millimetres) will be displayed in yellow:



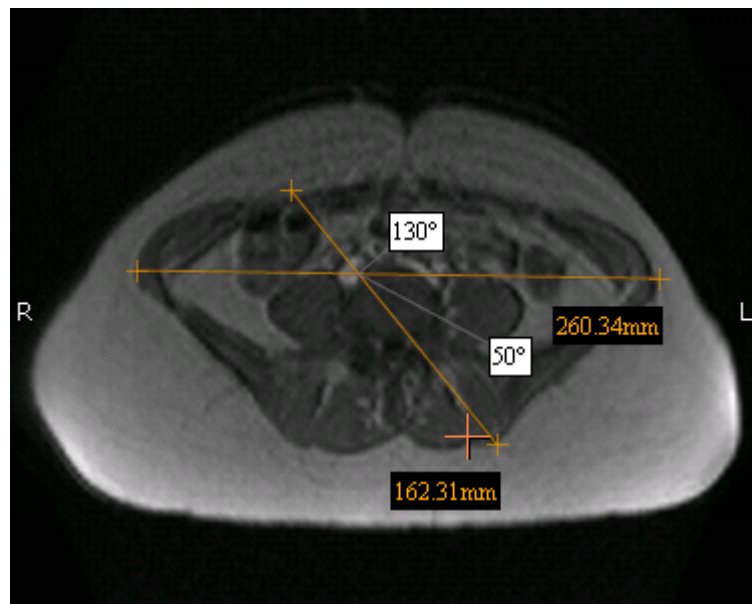
Show Angles

Angle measurements allow you to display the angles between intersecting lines. To display the angle measurements:

- Draw intersecting lines on the image.
- On the Tools menu, click „**Measure**“ button
- Tick “**Show Angles**”:



The angles between any intersecting lines appear in white boxes:



Angle

The “**Angle**” button is also used to measure an angle between any intersecting lines.

To measure an angle:

- Position the mouse pointer on the point from which you want to measure the angle. Then press the left mouse button.
- Move the pointer to the second point (the intersection point) and press the left mouse button again.
- Then move the pointer to the end point and press the left mouse button once more.

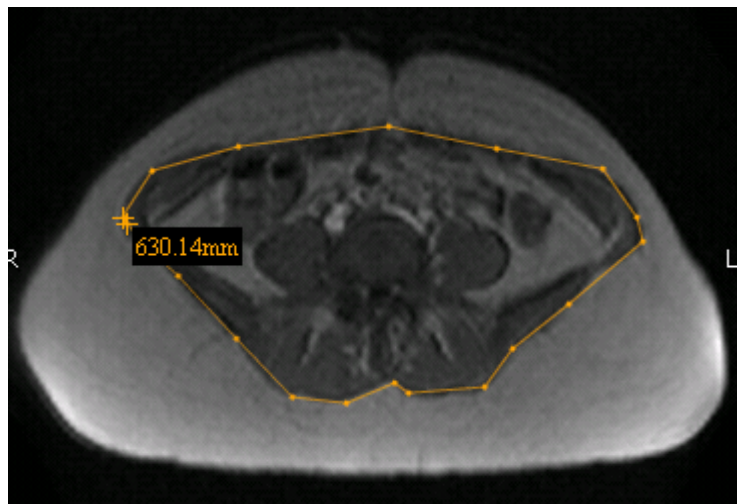
The value of the angle formed by the two lines appears on the screen.

Polyline

The „**Polyline**“ button is used to measure the perimeter of more than one line.

To measure the perimeter:

- Position the mouse pointer on the point from which you want to measure the perimeter. Then press the left mouse button.
- Move the cursor to the second point (the intersection point) and press the left mouse button again.
- Then move the cursor to the third, fourth, etc. points and each time press the left mouse button again.
- When you reach the last point, click the left mouse button twice.
- The perimeter (in millimetres) will be displayed in yellow:

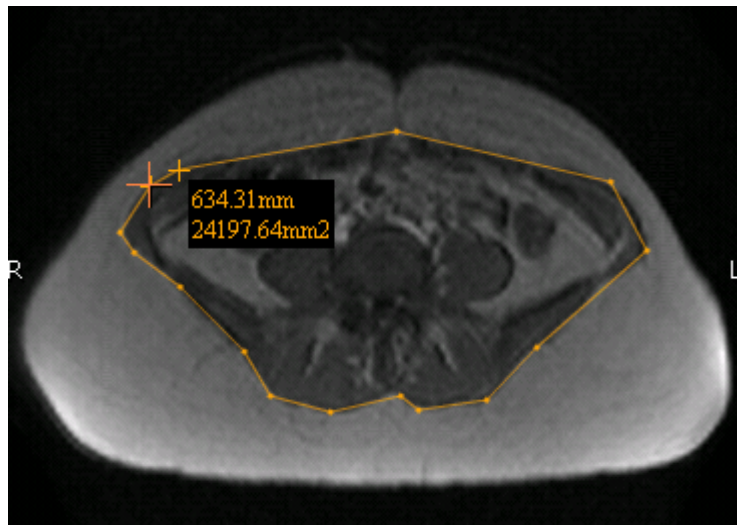


Area

The „**Area**“ button is used to measure the perimeter and the area of a region of interest.

To measure the area:

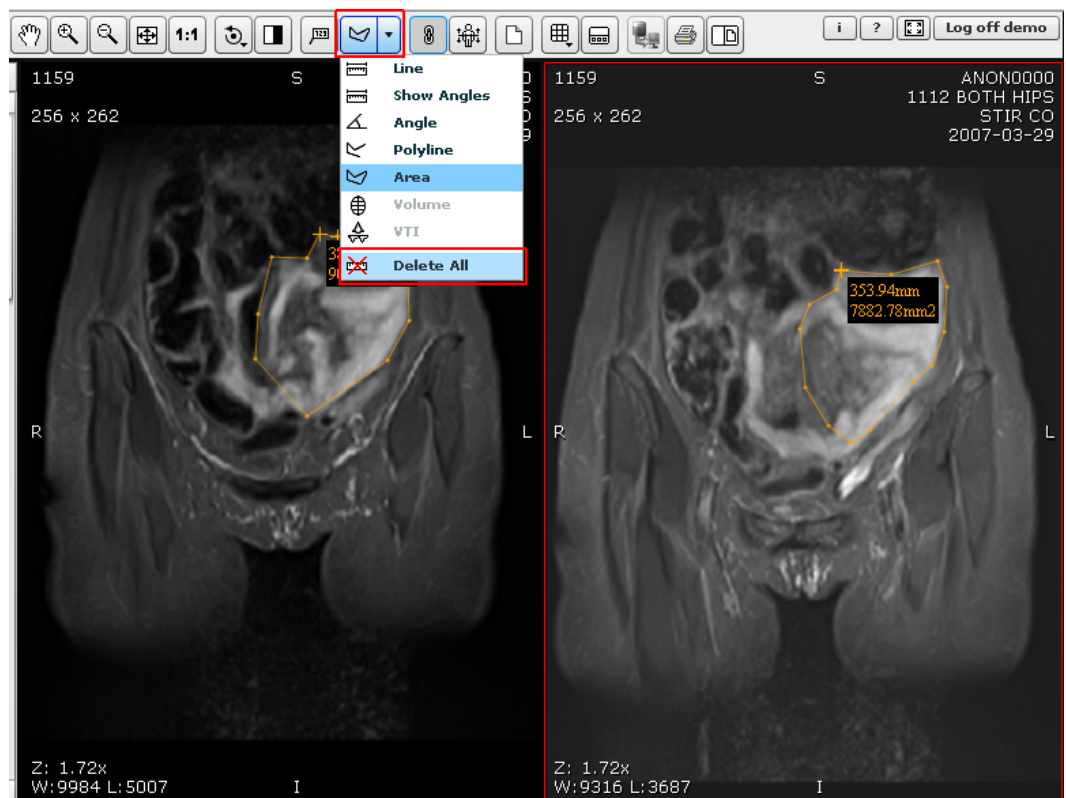
- place the mouse cursor on the point from which you want to select the region of interest. Then press the left mouse button.
- Move the cursor to the second point (the intersection point) and press the left mouse button again.
- Then move the cursor to the third, fourth, etc. points and each time press the left mouse button again.
- When you reach the last point, click the left mouse button twice.
- The area (in square millimetres) and the perimeter (in millimetres) will be displayed in yellow:



The „Delete All” button is used to remove all measurements at once.

To remove the measurements:

- select the image from which you want to remove all measurements
- click “Measure”
- select “Delete All”



4. Forwarding and exporting images

The button “**Forward**” is used to send the selected study to the remote device. While the “**Export**” button will save the study on a CD :



To forward the study:

- select the study you would like to send and click “**Forward**”:

Search

Search Patient ID: Patient Name: From: 2010.09.06 Today To: 2010.09.06 Yesterday All None

CR DX MG NM PX RG US CT ES MR OT RF SC XA

* Patient ID	Name	Study ID	Accession	Mod	Description	Date Time	Re
13851 L SPII	ANON0000	10377	CC285815	MR		2008-05-10 14:18:28	
07-K3700	!!!!268BF5C2BE7D1A1B0AC	1391		MR		2007-07-13 09:52:08	
1112 BOTH	ANON0000	1159	9000EE100	MR		2007-03-29 12:51:20	
1111111	Anonymized			MR	SHOULDER	1995-05-01 15:26:10	

Forward Export Add Open Cancel

- After pressing the button the forwarding menu appears:

Forward

Paciento ID 241
 Paciento Vardas NAME
 Tyrimo Data 2009-01-21
 Tyrimo Laikas 09:52:46
 Tyrimo Aprašymas KELIS K.

Forward eFilm1

Close

- Select the receiving device from the list, for example: device “sFilm1”.
- Click “Forward”.

To export the study (to save it on a CD):

- Select the study that you want to write on the CD and click “**Export**”:

Search

Search Patient ID: Patient Name: From: 2010.09.06 Today To: 2010.09.06 Yesterday

CR DX MG NM PX RG US All
 CT ES MR OT RF SC XA None

* Patient ID	Name	Study ID	Accession	Mod	Description	Date Time	Re
13851 L SPII	ANON0000	10377	CC285815	MR		2008-05-10 14:18:28	
07-K3700	!!!!268BF5C2BE7D1A1B0AC	1391		MR		2007-07-13 09:52:08	
1112 BOTH I	ANON0000	1159	9000EE100	MR		2007-03-29 12:51:20	
1111111	Anonymized			MR	SHOULDER	1995-05-01 15:26:10	

Forward **Export** Add Open Cancel

- Export Menu appears.

Export

Patient ID 116
 Patient Name NAME
 Study Date 2008-12-12
 Study Time 12:17:55

Export

Volumes	ISO Image	Burn

Close

- Press the button “Export” in Export Menu; the following pop-up window appears:



- You can choose one of two options in this window:
 1. „Download ISO“ - this option is used to send the file and to save on CD
 2. „Burn Now“ - this option is used to write the file on CD automatically.