



*Quality  
in  
Quantification*

# Medis Suite 3.0

## Quick Start Manual



Medis medical imaging systems bv  
Schuttersveld 9, 2316 XG Leiden, the Netherlands



<http://www.medis.nl>

**Medis medical imaging systems bv**  
Schuttersveld 9  
2316 XG Leiden  
P.O. Box 384  
2300 AJ Leiden  
The Netherlands

Telephone: +31 71 522 32 44  
Fax: +31 71 521 56 17  
E-mail: [support@medis.nl](mailto:support@medis.nl)  
Web: [www.medis.nl](http://www.medis.nl)

**Medis medical imaging systems, Inc.**  
9360 Falls of Neuse Road, Suite 103  
Raleigh, NC 27615-2484  
USA

Telephone: +1 919 278 7888  
Fax: +1 919 847 8817  
E-mail: [support@medis.nl](mailto:support@medis.nl)  
Web: [www.medis.nl](http://www.medis.nl)

# Legal Notices

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# Regulatory Information

## Intended Use

Medis Suite is software intended to be used for the visualization and analysis of MR, CT and XA images of the heart and blood vessels.

Medis Suite is intended to support the following visualization functionalities:

- cine loop and 2D review
- performing caliper measurements

These measurements are based on contours that are either manually drawn by the clinician or trained medical technician who is operating the software, or automatically detected by the software and subsequently presented for review and manual editing. The results obtained are displayed on top of the images and provided in reports.

The analysis results obtained with Medis Suite are intended for use by cardiologists and radiologists to support clinical decisions concerning the heart and vessels.

## Indications for Use

Medis Suite is indicated for use in clinical settings where more reproducible than manually derived quantified results are needed to support the visualization and analysis of MR, CT and XA images of the heart and blood vessels for use on individual patients with cardiovascular disease.

When the quantified results provided by Medis Suite are used in a clinical setting on MR, CT and XA images of an individual patient, they can be used to support the clinical decision making for the diagnosis of the patient. In this case, the results are explicitly not to be regarded as the sole, irrefutable basis for clinical diagnosis, and they are only intended for use by the responsible clinicians.

### WARNINGS

 Medis Suite must be used by cardiologists, radiologists, or trained technicians who are qualified to perform cardiac analysis. If the analysis results are used to reach a diagnosis, the results must be interpreted by a qualified medical professional. In clinical practice Medis Suite should not be used for purposes other than those indicated in the section Intended Use.

 Users must make sure to read this manual to become familiar with the software and be able to obtain reliable analysis results.

### Note on Monitor Aspect Ratio and Resolution

 The shapes of objects and calipers displayed may get slightly distorted when the resolution is set to an aspect ratio different than the monitor's physical aspect ratio. This distortion does **NOT** affect the accuracy of measurements or analyses. To avoid distortion, set the resolution of the monitor to an aspect ratio equal to the physical aspect ratio. LCD monitors typically operate best at their native resolution. Microsoft Windows recommends a resolution when it has sufficient information to do so.

## European Regulations

 <p>0120</p>	<p>Medis Suite is qualified as a class IIa medical device. It complies with the requirements of the Dutch Medical Devices Decree (Besluit Medische Hulpmiddelen, Stb. 243/1995) and the European Medical Device Directive 93/42/EEC.</p>
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## North American Regulations

Medis Suite has been cleared for market in the United States by the FDA (Food and Drug Administration) under the provisions of Section 510(k) of the Food, Drug, and Cosmetic Act.

### Caution

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

Medis Suite complies with the requirements of the Canadian Medical Devices Regulations and has been licensed as a Class II medical device.

## Other Regulations

Medis Suite complies with the requirements of the Japanese Pharmaceutical and Medical Device Law and has been licensed as a Class II medical device.

## Conventions Used

The following conventions are used throughout this manual to indicate mouse and keyboard actions and to refer to elements in the user interface.

### Mouse

Click	Press and release the primary mouse button. If you are left-handed, you may have set the right mouse button as your primary mouse button.
Click and drag	Press and hold the primary mouse button. Drag the mouse to perform a function. Release the primary mouse button. If you are left-handed, you may have set the right mouse button as your primary mouse button.
Right-click	Press and release the secondary mouse button. If you are left-handed, you may have set the left mouse button as your secondary mouse button.
Middle-click	Press and release the wheel button or the middle mouse button. If you have a two-button mouse, press and release the left and the right mouse button simultaneously.
Double-click	Press and release the primary mouse button twice.
Wheel	Rotate the mouse scroll wheel.

### Keyboard

SHIFT+click	Press and hold down the SHIFT key on your keyboard while you click a button or object.
CTRL+K	Press and hold down the CTRL key on your keyboard while you press K, then release both keys.

### Typographical Conventions

On the <b>Annotations</b> node of the <b>Procedures</b> pane...	Names of buttons, fields, menus, menu options, and tab names are capitalized and in bold.
<b>Procedures &gt; Text Annotation</b>	A sequence of menu options that you select to perform a specific task is indicated by angular brackets.
Label: <code>Aortic root</code>	Text that you type or that appears on the screen, such as annotation labels, is displayed in <code>Courier New</code> .

## Symbols Used



**Tip:** Provides helpful information or an alternative working method.



**Note:** Brings additional information to your attention.



**Caution:** Tells you to be careful when performing a task.



**Warning:** Warns you for a potentially dangerous situation in the image representation or analysis, which may lead to incorrect results. You are advised to follow the instructions to avoid this.

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## 1 About Medis Suite

Medis Suite is the Medis software solution for the visualization of magnetic resonance (MR), computed tomography (CT), and X-ray angiographic (XA) images. It provides intuitive tools for displaying MR, CT and XA images in 2D, and provides tools for easy and quick measurements.

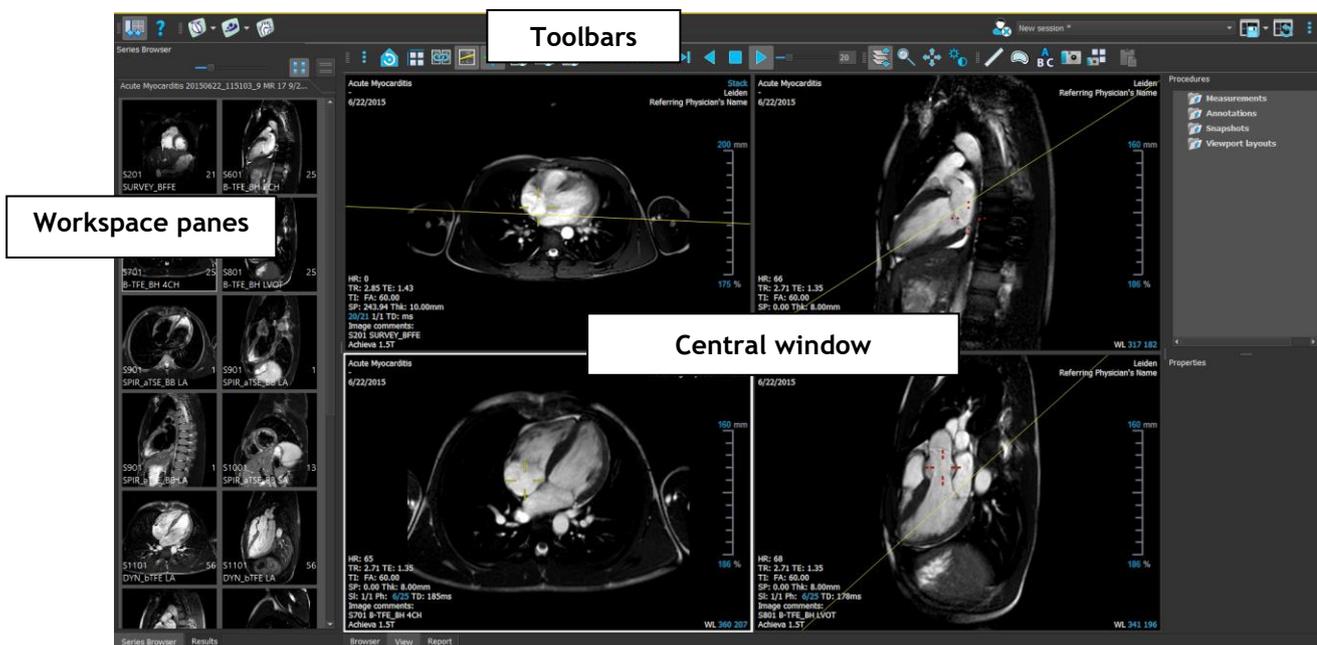
Medis Suite integrates applications that can provide advanced manual and automated image analysis. Results from the integrated applications will be gathered in Medis Suite and can be used to generate a combined report.

The Medis Suite software solution offers quantification results that enable cardiologists and radiologists to review MR, CT and XA images, and it provides a solid basis for the assessment of new therapies.

## 2 Medis Suite Workspace

### 2.1 Overview

The main workspace of Medis Suite consists of toolbars, several workspace panes, and the central window area.



You can customize the main workspace by hiding or moving the workspace panes and toolbars. Any changes that you make to the main workspace are saved for each Windows user.

The central window area holds the **Browser**, **View** and **Report** tabs that are provided by Medis Suite. Next to that, the central window is the area where integrated Medis Suite applications will be displayed after launching them.

By default, the workspace displays two panes on the left of the application area; the **Series Browser** pane and the **Results** pane. A third pane is hidden by default, the **Applications** pane.

The **Series Browser** pane shows information about the loaded patients, studies and series in Medis Suite. The series of each patient / study combination are displayed on a tab in the **Series Browser**. The name of each tab shows the patient name, patient ID, modality, number of contained series, and content date.

The **Results** pane shows all results that are available for the current session of the current study. The results are gathered from the Medis Suite viewer or any of the running Medis Suite apps.

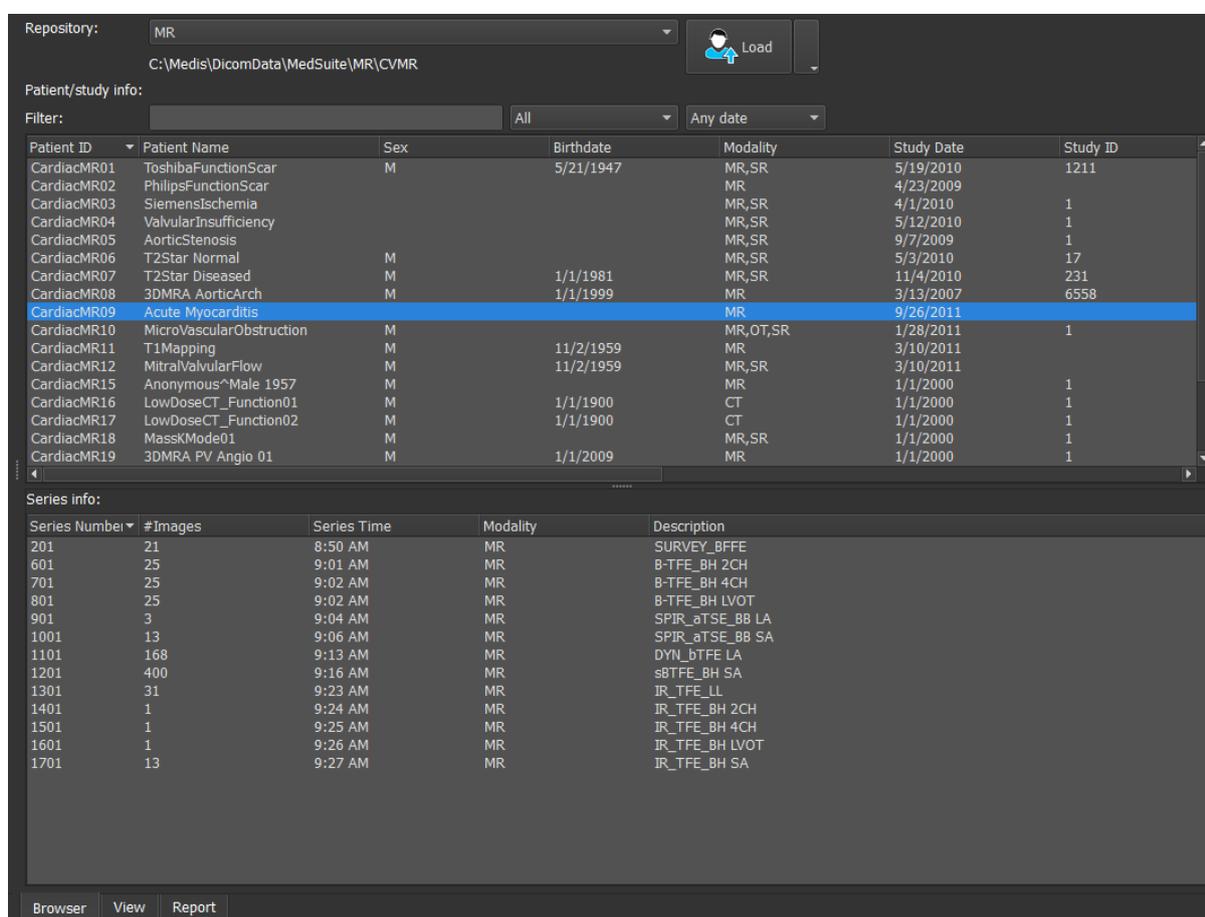
 When Medis Suite apps are closed, their accompanying results will be removed from the Medis Suite **Results** pane and the report.

The **Applications** pane shows icons of the applications (apps) that are integrated into Medis Suite. Apps can be used to perform detailed image analysis, and to create new results. Typically you will have apps installed origination from the product suites “Medis Suite MR” or “Medis Suite XA”, but the apps can also be combined into one instance of Medis Suite.

 By default, the **Applications** pane is hidden. To show the **Applications** pane, click  **> Panes > Applications**.

## 2.2 Browser

The **Browser** tab in the central window of Medis Suite provides functionality to import, view, filter, load and delete data.



The screenshot displays the Medis Suite Browser interface. At the top, the Repository is set to 'MR' with a path of 'C:\Medis\DicomData\MedSuite\MR\CVMR'. Below this, there are filters for Patient/study info, including a Filter field, a dropdown for 'All', and a dropdown for 'Any date'. The main area contains two tables:

Patient ID	Patient Name	Sex	Birthdate	Modality	Study Date	Study ID
CardiacMR01	ToshibaFunctionScar	M	5/21/1947	MR,SR	5/19/2010	1211
CardiacMR02	PhillipsFunctionScar			MR	4/23/2009	
CardiacMR03	SiemensIschemia			MR,SR	4/1/2010	1
CardiacMR04	ValvularInsufficiency			MR,SR	5/12/2010	1
CardiacMR05	AorticStenosis			MR,SR	9/7/2009	1
CardiacMR06	T2Star Normal	M		MR,SR	5/3/2010	17
CardiacMR07	T2Star Diseased	M	1/1/1981	MR,SR	11/4/2010	231
CardiacMR08	3DMRA AorticArch	M	1/1/1999	MR	3/13/2007	6558
CardiacMR09	Acute Myocarditis			MR	9/26/2011	
CardiacMR10	MicroVascularObstruction	M		MR,OT,SR	1/28/2011	1
CardiacMR11	T1Mapping	M	11/2/1959	MR	3/10/2011	
CardiacMR12	MitralValvularFlow	M	11/2/1959	MR,SR	3/10/2011	
CardiacMR15	Anonymous^Male 1957	M		MR	1/1/2000	1
CardiacMR16	LowDoseCT_Function01	M	1/1/1900	CT	1/1/2000	1
CardiacMR17	LowDoseCT_Function02	M	1/1/1900	CT	1/1/2000	1
CardiacMR18	MassKMode01	M		MR,SR	1/1/2000	1
CardiacMR19	3DMRA PV Angio 01	M	1/1/2009	MR	1/1/2000	1

Series Number	#Images	Series Time	Modality	Description
201	21	8:50 AM	MR	SURVEY_BFFE
601	25	9:01 AM	MR	B-TFE_BH 2CH
701	25	9:02 AM	MR	B-TFE_BH 4CH
801	25	9:02 AM	MR	B-TFE_BH LVOT
901	3	9:04 AM	MR	SPIR_atTSE_BB LA
1001	13	9:06 AM	MR	SPIR_atTSE_BB SA
1101	168	9:13 AM	MR	DYN_bTFFE LA
1201	400	9:16 AM	MR	sBTFFE_BH SA
1301	31	9:23 AM	MR	IR_TFE_LL
1401	1	9:24 AM	MR	IR_TFE_BH 2CH
1501	1	9:25 AM	MR	IR_TFE_BH 4CH
1601	1	9:26 AM	MR	IR_TFE_BH LVOT
1701	13	9:27 AM	MR	IR_TFE_BH SA

At the bottom of the interface, there are buttons for 'Browser', 'View', and 'Report'.

Any data that you would like to process must be contained in a Medis Suite **Repository**. Local repositories are located on your local machine or network drive. Shared repositories are managed through a Medis Suite server. You can have one or multiple repositories to work with. All configured repositories are listed in the Repository drop down in the Browser.

### To configure the Medis Suite repositories:

- Click on the dropdown icon next to the Load button  in the Browser, and select **Configure...** This will open the Options dialog in the Repository section.
- Configure an existing repository, or add a local or remote repository.

or

- Click on the menu icon  in the **General** toolbar of the viewer and select Tools, Options and choose Repository. This will open the Options dialog in the Repository section.
- Configure an existing repository, or add a local or remote repository.

### To change the active Medis Suite repository:

- Open the Browser pane, and open the repository dropdown box to see all configured repositories.
- Click on the name of the repository to activate it. For local repositories, the folder that is associated with the repository will be displayed directly underneath the dropdown box.

 The Medis Suite repositories are defined and available for all users on the computer system. Which repository is activated is saved for each individual Windows user.

Data can be imported into the Medis Suite repository directly from the Browser. This is especially useful to import data from CD, DVD, USB, or any folder on your computer or network.

### To import data into the Medis Suite repositories:

- Click on the dropdown icon next to the Load button  in the Browser, and select **Import...**
- Browse to the folder you would like to import and click **Select Folder**.
- Medis Suite will copy all files from the import folder into your repository folder.

Medis Suite will automatically keep track of all files that are in your repository folders, if they are imported by Medis Suite, received by the Medis Suite DICOM connectivity module, or removed from the Browser.

 Files that are copied into or deleted from the repository folder, for example, by using the Windows Explorer, are **not** automatically detected by Medis Suite; a rescan (i.e. F5) of the repository is required to process such repository modifications.

To rescan the files in a Medis Suite repository:

- Click on the dropdown icon next to the Load button  in the Browser, and select Rescan. This will identify newly added or removed files.

Or,

- Press F5 with the Browser window active. This will identify newly added or removed files.

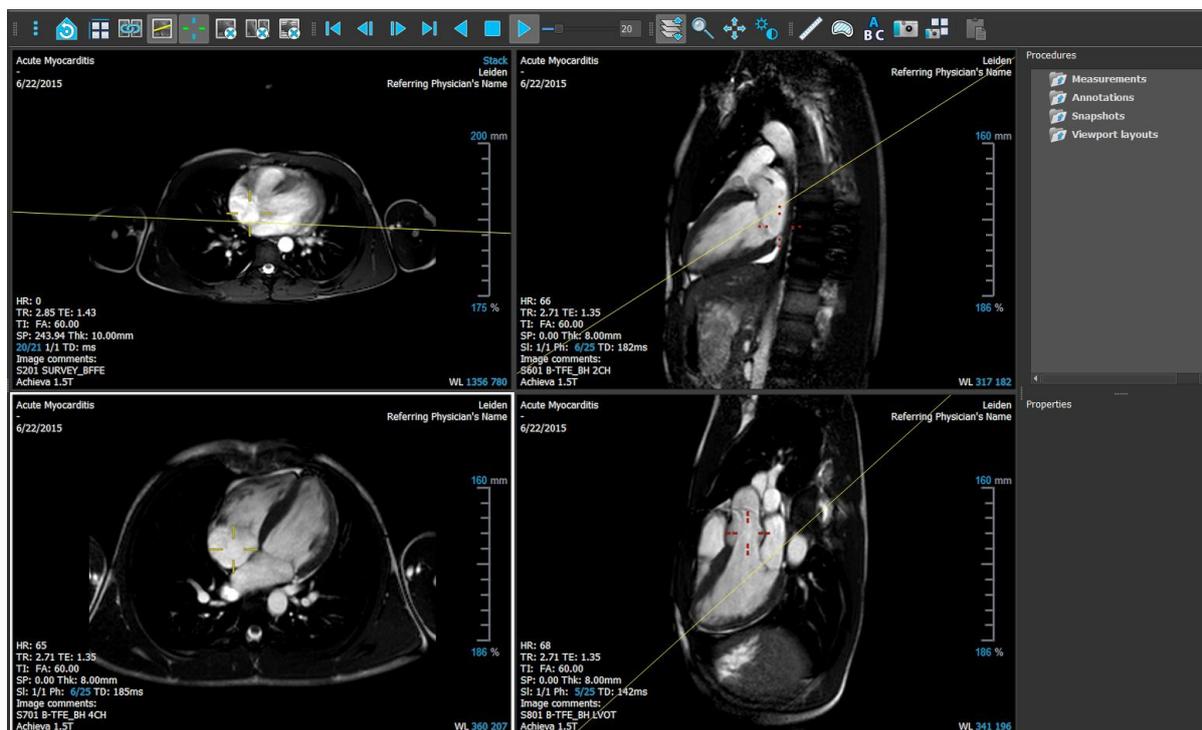
Or,

- Press Ctrl F5 with the Browser window active. This will rebuild the repository.

 Note: If the active repository is a remote repository, Ctrl F5 will rebuild the repository on the remote machine. For very large repositories this operation can take longer and it is therefore not recommended.

## 2.3 View

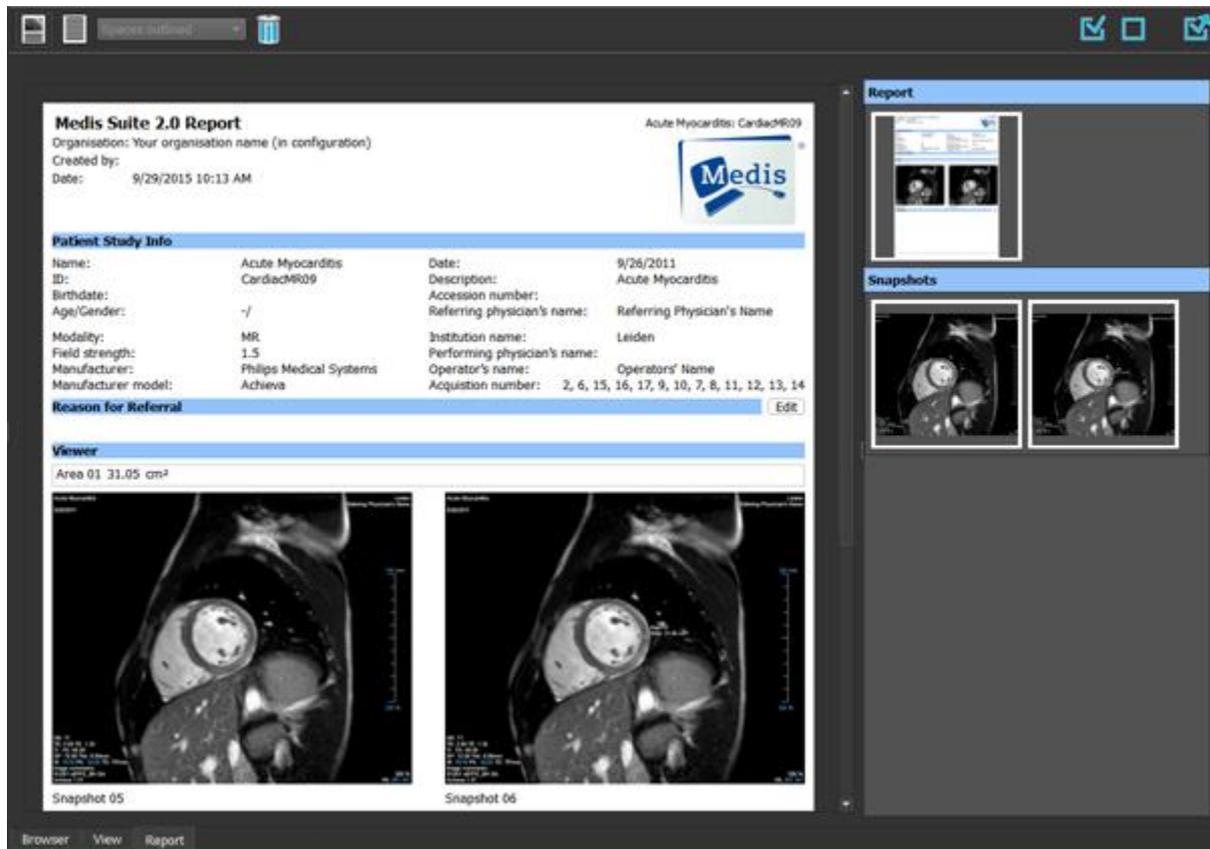
The View tab in the central window of Medis Suite provides the viewing functionality.



You can customize the viewer workspace by hiding or moving the workspace panes and toolbars. Any changes that you make to the viewer workspace are saved for each Windows user.

## 2.4 Report

The **Report** tab in the central window of Medis Suite provides the reporting functionality.



The positions and visibility of the toolbars in the **Report** tab are fixed.



# Working with Medis Suite

## 3 Viewing

### 3.1 Viewport

The image viewport displays all images that are contained in the currently loaded series.



The viewport text overlay displays detailed information about the patient, the hospital, the image acquisition, and the display settings. When a series is “Lossy” or “Derived”, it is indicated in the overlay located at the bottom right corner of the viewport.

### 3.2 Viewport layout

To adjust the viewport layout



- Click  in the general toolbar. A table of rows and columns will appear.
- Drag the mouse to determine the number of viewport rows and columns.
- E.g. 3 rows and 4 columns of viewports.
- The viewport layout will be applied.

## 3.3 Loading Series

Series can be loaded in the viewport from the **Series Browser**.

### To load series in the viewport

1. Click an item in the image view or text view of the **Series Browser** to select it.
2. Click and drag the selected series from the **Series Browser** to the viewport.

This will load the series into the viewport. When multiple slices are contained in the series, the middle slice is displayed by default. When multiple time points are contained in the series, the first time point is displayed by default. The **Series Browser** highlights the displayed series with a white border around the icon in the image view, or bold text in the text view.

3. Double click an item in the image view or text view of the **Series Browser** to select it.

### To review all series in the active study

1. Press **Page Down** on your keyboard to load the next series into the viewport
2. Press **Page Up** on your keyboard to load the previous series into the viewport

## 3.4 Navigation

You can move forward or backward through the slices and time points in the series in several ways.

### To move forward or backward through slices

Moving through slices can be done by using keys:

- Press arrow up or down to move to the previous or next slice.

Or,

- Press HOME or END to move to the first or last slice.

Moving through time points can be done by using interactive graphics:

- Click or right-click the interactive graphics for slice ('Sl') on the viewport to move to the first or last slice.

### To move forward or backward through time points

Moving through time points can be done by using buttons:

- Click  or  on the Viewing toolbar to move to the previous or next time point.

Or,

- Click  or  on the Viewing toolbar to play a cine through the time points in backward or forward direction. Click  to stop the cine.

Or,

- Click  or  on the Viewing toolbar to move to the first or last time point.

Moving through time points can be done by using keys:

- Press the left or right arrow key to move to the previous or next time point.

Or,

- Press CTRL + left arrow, CTRL + right arrow to play a cine through the time points in backward or forward direction. Press Esc to stop the cine.

Or,

- Press HOME or END to move to the first or last slice time point.

Moving through time points can be done by using interactive graphics:

- Click the interactive graphics for phase ('Ph') on the viewports to move to the next time point.

Or,

- Right-click the interactive graphics for phase ('Ph') and enter the desired number of the time point.

## 3.5 Cross Referencing



The scanline  and cross hair  tools enable the user to visually relate the active image and image position with that of the different series loaded in other viewports. Cross Referencing is visible when multiple related series are loaded.

To enable/disable the scanlines

- Click  in the general toolbar to enable or disable scanlines.

To enable/disable the cross hairs

- Click  in the general toolbar to enable or disable cross hair

 A cross hair reference of the same color implies there is an exact or nearby position cross reference. A different color cross hair indicates the position is out of range of the cross hair in the active image.

## 3.6 Mouse Controls

You can move through the slices and time points using **Stacking** when you see the stack cursor .

**To activate the stacking mouse control**

- Click  in the mouse controls toolbar.

Or,

- Select **Stacking** from the viewport context menu.

You can zoom in and out of the viewport using **Zooming** when you see the magnify cursor .

**To activate the zooming mouse control**

- Click  in the mouse controls toolbar.

Or,

- Select **Zooming** from the viewport context menu.

You can move the image within the viewport left, right, up and down using **Panning** when you see the hand cursor .

**To activate the panning mouse control**

- Click  in the mouse controls toolbar.

Or,

- Select **Panning** from the viewport context menu.

You can adjust the window width and level (WWL) when you see the WWL cursor .

**To activate the window/level mouse control**

- Click  in the mouse controls toolbar.

Or,

- Select **Window/Level** from the viewport context menu.

**To reset the zooming, panning and window width and level settings to the initial view state**

- Click  to reset the zooming, panning and window width and level.

## 4 Procedures

### 4.1 Annotations

To create an annotation

1. Click  in the toolbar, or select  > **Procedures** > **Text Annotation**.
2. Click and drag in the image to draw the annotation arrow.
3. Select a predefined label, or type a custom label and press Enter.
4. Click and drag the arrowhead or the text to adjust the exact location of the image that you want to mark.
5. Click outside the annotation. The graphic changes to white indicating it has left edit mode.

This adds the annotation to the Annotations list in the **Procedures** pane. At any time while the annotation is still active you can press Esc to remove the annotation.

### 4.2 Distance Measurements

To measure a distance

1. Click  in the toolbar, or press the D key, or select  > **Procedures** > **Distance Measurement**.
2. Click and drag in the image from the start point of the measurement to the end point.
3. Select a predefined label, or type a custom label and press Enter.
4. Click and drag either arrowhead or the text to adjust the points of the image between which you want to measure.
5. Click outside the measurement. The graphic changes to white indicating it has left edit mode.

This adds the measurement to the Measurement list in the **Procedures** pane. At any time while the measurement is still active you can press Esc to remove the measurement.

## 4.3 Area Measurements

To measure an area

1. Click  in the toolbar, or press the A key, or select  > **Procedures** > **Area Measurement** in the menu.
2. Click and drag to draw the area. The contour is automatically closed when you release the mouse button.
3. Modify the contour as necessary.
4. In the **Properties** pane, select the check boxes to include **Area**, **Circumference**, or **Signal Intensity (SI)** measurements in the image overlay.
5. Click outside the contour. The graphic changes to white indicating it has left edit mode.

This adds the measurement to the Measurement list in the **Procedures** pane. At any time while the measurement is still active you can press Esc to remove the measurement.

## 4.4 Snapshots

To save a snapshot

1. Click  in the toolbar, or press the S key, or select  > **Procedures** > **Snapshot**.
2. On the **Properties** pane, click the ellipsis  on the right of the **Label** field and select a predefined label, or type a custom label and press Enter.

## 4.5 Viewport Layout Snapshots

To save a viewport layout snapshot

1. Click  in the toolbar, or select  > **Procedures** > **Viewport Layout**.
2. On the **Properties** pane, click the ellipsis  on the right of the **Label** field and select a predefined label, or type a custom label and press Enter.

## 5 Medis Suite Apps

The Medis Suite procedures provide basic image analysis and results. For advanced image analysis and additional results, Medis Suite integrates dedicated applications, or 'apps'.

The clinical apps that are available in Medis Suite include:



**QMass** is software intended to be used for the visualization and analysis of MR and CT images of the heart and blood vessels.

QMass is intended to support the following visualization functionalities:

- cine loop and 2D review
- performing caliper measurements

QMass is also intended to support the following analyses:

- cardiac function quantification
- anatomy and tissue segmentation
- signal intensity analysis for the myocardium and infarct sizing
- MR parametric maps (such as T1, T2, T2\* relaxation)

QMass is also intended to be used for:

- quantification of T2\* results in MR images that can be used to characterize iron loading in the heart and the liver

These analyses are based on contours that are either manually drawn by the clinician or trained medical technician who is operating the software, or automatically detected by the software and subsequently presented for review and manual editing. The results obtained are displayed on top of the images and provided in reports.



**QFlow** is software intended to be used for the visualization and analysis of MR images of the heart and blood vessels.

QFlow is intended to support the following visualization functionalities:

- cine loop and 2D review
- performing caliper measurements

QFlow is also intended to support the following analyses:

- MR velocity-encoded flow quantification

QFlow is also intended to be used for:

- MR velocity-encoded flow quantification of cerebral spinal fluid

These analyses are based on contours that are either manually drawn by the clinician or trained medical technician who is operating the software, or automatically detected by the software and subsequently presented for review and manual editing. The results obtained are displayed on top of the images and provided in reports.



**3DView** is software intended to be used for the visualization and analysis of MR images of the heart and blood vessels. This includes:

- double oblique review of MR Angiographic images,
- 3D review by means of MIP and volume rendering,

- 3D reformatting of MR Angiographic images, and
- performing caliper measurements.

The measurements are based on contours that are manually drawn by the clinician or trained medical technician who is operating the software.



**QAngio XA 3D** is the Medis software solution for the quantification of coronary vessels in 3D using two angiographic projections.



**QVentricle XA** is the Medis software solution for the quantification of ventricles of the heart in biplane X-ray angiograms.

Medis Suite also supports apps for research use and/or investigation use only. These apps can be recognized by a purple color of the graphical user interface. For more information on these apps, please contact Medis.

Additional Medis Suite apps will become available in future releases of Medis Suite.

## 5.1 Starting a Medis Suite App

To start a Medis Suite app

- Click on the app icon in the **Applications** toolbar.

This will start the app without loading any series.

Or,

1. Right-click in the image viewport.
2. From the context menu, select the app name.

This will start the app, and load the series visible in the viewport into the app.

Or,

1. Select the series you want to load into the app in the **Series Browser**.

Multiple series can be selected by holding the SHIFT or CTRL key.

2. Right-click on one of the selected series in the **Series Browser**.
3. From the context menu, select the app name.

This will start the app, and load all selected series into the app.

Or,

1. Select the series you want to load into the app in the **Series Browser**.

Multiple series can be selected by holding the SHIFT or CTRL key.

2. Click and drag the selected series onto the app icon in the **Applications** toolbar.

This will start the app, and load all selected series into the app.

Or,

1. Select the series you want to load into the app in the **Series Browser**.

Multiple series can be selected by holding the SHIFT or CTRL key.

2. Click and drag the selected series onto the app icon in the **Applications** pane.

This will start the app, and load all selected series into the app.

Or,

- Double-click on the app icon in the **Applications** pane.

This will start the app without loading any series.

When the Medis Suite app is started, it will be displayed on a tab in the central window area of Medis Suite. The launched apps will be displayed after the **View** tab and before the **Reporting** tab in the order they were started.



Multiple instances of Medis Suite apps can be started. They will be running next to each other and can be identified by a sequence number.



Multiple versions of an app can be installed, for example QMass version 8.0 and version 8.1. You can configure how Medis Suite handles multiple app versions when reloading data from a session in

the options. Click  > **Options...** in the **Main Medis Suite** toolbar, and select the **Version Management** tab.

Results from the Medis Suite apps will be visible in the **Results** pane of Medis Suite automatically or by actively pushing results from the apps to Medis Suite. Refer to the user manuals of the Medis Suite apps for more detailed information.

## 5.2 Loading Series into Medis Suite Apps

You can load series into Medis Suite apps that were already running, appending or replacing data that was already loaded.

### To load series into Running Medis Suite apps

1. Click on the tab that holds the running Medis Suite app in the central window of Medis Suite

2. Select the series you want to load into the Medis Suite app in the **Series Browser**.

Multiple series can be selected by holding the SHIFT or CTRL key.

3. Double-click one of the selected series, or click one of the selected series and drag the selection onto the running Medis Suite app.

The series will be loaded by the Medis Suite app and the first series will be activated.

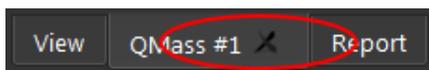
💡 Press SHIFT during dragging to add the data to the running Medis Suite app without modifying the app's series selection.

💡 Press CTRL during dragging to unload previously loaded series from the Medis Suite App, and load the new series.

## 5.3 Closing a Medis Suite App

To close a Medis Suite app

- Click the 'X' on the tab that holds the running instance of the app.



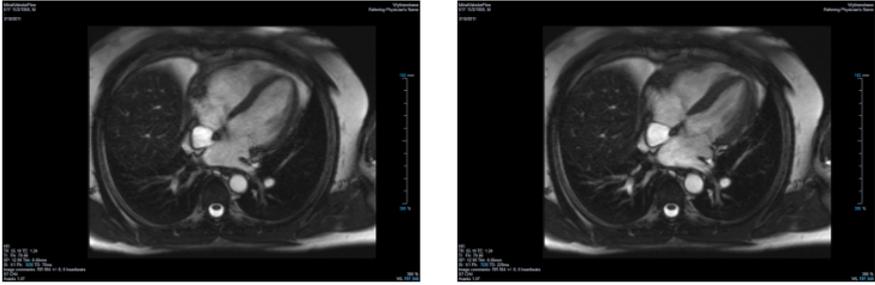
ⓘ When Medis Suite apps are closed, their accompanying results will be removed from the Medis Suite **Results** pane and the report.

ⓘ When you switch to another patient or study in the **Series Browser**, all running Medis Suite apps will be closed.

## 6 Reporting

### 6.1 Create a Report

You can create a Medis Suite report from the **Results** pane, by showing or hiding results, paragraphs or sections from the report.

Results	Viewer
<b>Patient Study Info</b> Reason for Referral Technique <b>V Viewer</b> <b>V Manual Calipers</b> Distance 1 73.9 mm Area 1 24.46 cm <sup>2</sup> Area 1 179.1 mm Area 2 20.80 cm <sup>2</sup> Area 2 171.1 mm <b>V Manual Output</b> Snapshot 03 Snapshot 04 <b>V Volumetry (QMass #3, S7) CH4/*tfi2...</b> <b>Analysis Information</b> <b>LV Volumetry - Absolute</b> ED mass 106.19 g (66-115) ED trab mass 0.00 g ES trab mass 0.00 g EDV 132.31 ml (96-174) ESV 66.57 ml (27-71) SV 65.74 ml (61-111) EF 49.69 % (54-74) CO 4.15 l/min <b>LV Volumetry - BSA Indexed</b> Mass/BSA 53.07 g/m <sup>2</sup> (37-67) EDV/BSA 66.13 ml/m <sup>2</sup> (56-100) ESV/BSA 33.27 ml/m <sup>2</sup> SV/BSA 32.86 ml/m <sup>2</sup> CO/BSA 2.08 l/(min*m <sup>2</sup> ) <b>LV Ejection/Filling Dynamics</b> PER 336.55 ml/s PER/EDV 2.54 EDV/s TPER 110.48 ms PRF 364.10 ml/s PRF/EDV 2.75 EDV/s TPRF 38.16 ms <b>LV Fractional Shortening</b> <b>Impressions</b> Extra-cardiac Findings Miscellaneous Comments Conclusions	<b>Viewer</b> Distance 1 73.9 mm Area 1 24.46 cm <sup>2</sup> Area 1 179.1 mm Area 2 20.80 cm <sup>2</sup> Area 2 171.1 mm  Snapshot 03                      Snapshot 04 <b>Volumetry (QMass #3, S7) CH4/*tfi2d1_19</b> Patient weight 83.3 kg                      BSA method Mosteller Patient height 173 cm                      BSA 2.00 m <sup>2</sup> <b>LV Volumetry - Absolute</b> ED mass 106.19 g (66-115) EDV 132.31 ml (96-174) ESV 66.57 ml (27-71) SV 65.74 ml (61-111) EF 49.69 % (54-74) CO 4.15 l/min

#### To show or hide a result from the report

- Click on the result name or any of the result values to toggle the visibility.

#### To show or hide a paragraph with all contained results from the report

- Click on the paragraph name to toggle the visibility.

#### To show or hide a section with all contained paragraphs and results from the report

- Click on the section name to toggle the visibility.

#### To hide all results from the report

- Click  in the toolbar.

### To print the report

- Click  in the toolbar.
- Select the target printer and click OK.

 Sections, paragraphs and results that are hidden in the report, are displayed in the **Results** pane with a grayed out and italic font.

 The **Results** pane is automatically activated when you activate the report.

 Your organization name and logo can be configured in the Medis Suite options. To open the options dialog, click  > **Options...** in the **Main Medis Suite** toolbar.

## 6.2 Textual Report

By default Medis Suite will show the report in a graphical layout. In addition, you can generate a textual report to allow copy-and-paste of results from Medis Suite to another application.

### To open the textual report

- Select  from the report toolbar

 The textual report only includes the results that are visible in the graphical report. To change the report content, modify the selections in the **Results** pane.

### To copy results from the textual report

1. Press CTRL+A or select **Select All** from the context menu.
2. Press CTRL+C or select **Copy** from the context menu.

The entire textual report content is copied to the clipboard.

Or,

1. Select a part of the textual report content.
2. Press CTRL+C or select **Copy** from the context menu.

The selection is copied to the clipboard.

## 7 Exporting

### 7.1 Select Results for Export

You can select the report, snapshots, images, and movies from the export list to mark them for export.



To include or exclude results for export

- Click on a thumbnail image to include or exclude the result for export

Or,

- Click  to include all results for export.

Or,

- Click  to exclude all results for export.

 Results that are included for export have a thumbnail that is visible in normal colors and is highlighted with a white border. Results that are excluded for export have a thumbnail that is grayed out and has no border.

### 7.2 Export Results

You can export all selected results in DICOM format to your repository or PACS for future review or reference.

 The export format of the report can be set in the Medis Suite options.

#### To export results

- Click  to export the selected results.
- In the Export dialog, select the export options to export to your PACS, to include the Medis Suite session, and to export result values (in XML format) and click OK.

## 7.3 Export to Common Image Format

Results can also be exported in common image formats.

#### To export a single result into a common image format:

- Right click on the result to export, and select Export...
- In the Export dialog, select the output format, specify a filename, and click OK.

#### To export a group of results into a common image format:

- Select or deselect the results in the group you would like to export.
- Right click on the header of the result group, and select Export selected...
- In the Export dialog, select the output format, specify a filename, and click OK.

## 8 Sessions

Status information of Medis Suite can be saved. The session can be reloaded to continue or review the image analyses performed by Medis Suite.

### To save a Medis Suite session

- Select  from the Main toolbar and click Save session

The name of the session is updated to indicated that it is saved.

Or,

- Select  from the Main toolbar and click Save session as...

Specify the name of the session and click OK.

The name of the session is updated to indicated that it is saved.

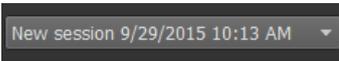
 Once a session is saved, its contents cannot be overwritten, modified or removed from Medis Suite.

### To reset a Medis Suite session

- Select  from the Main toolbar.

A new session is created.

### To select a Medis Suite session

- Open the session combobox in the Main toolbar  and select the Medis Suite session.

 When you switch or reset a session, all open Medis Suite apps will be closed and their results will be removed from Medis Suite. The Medis Suite apps that were contained in the newly activated session will be started and their results will be loaded in Medis Suite.

 Before Medis Suite closes a modified session, you will be asked if you want to save the session.

## 9 DICOM Connectivity

Medis Suite supports the following DICOM services:

- Echo SCU to test the DICOM connection with a remote DICOM node, such as a PACS.
- Store SCP to receive data from a remote DICOM node, such as a PACS;
- Store SCU to send data to a remote DICOM node, such as a PACS;
- Find SCU and Move SCU to query and retrieve data from a remote DICOM node, such as a PACS.

In order to create an efficient setup with DICOM connectivity, you can share the DICOM connectivity service on the Medis Suite server machine with one or more Medis Suite client machines.

 The Medis Suite server does not necessarily have to be installed on a Windows Server machine, any supported Windows operating will be sufficient.

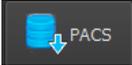
### To configure the DICOM connectivity of the Medis Suite server

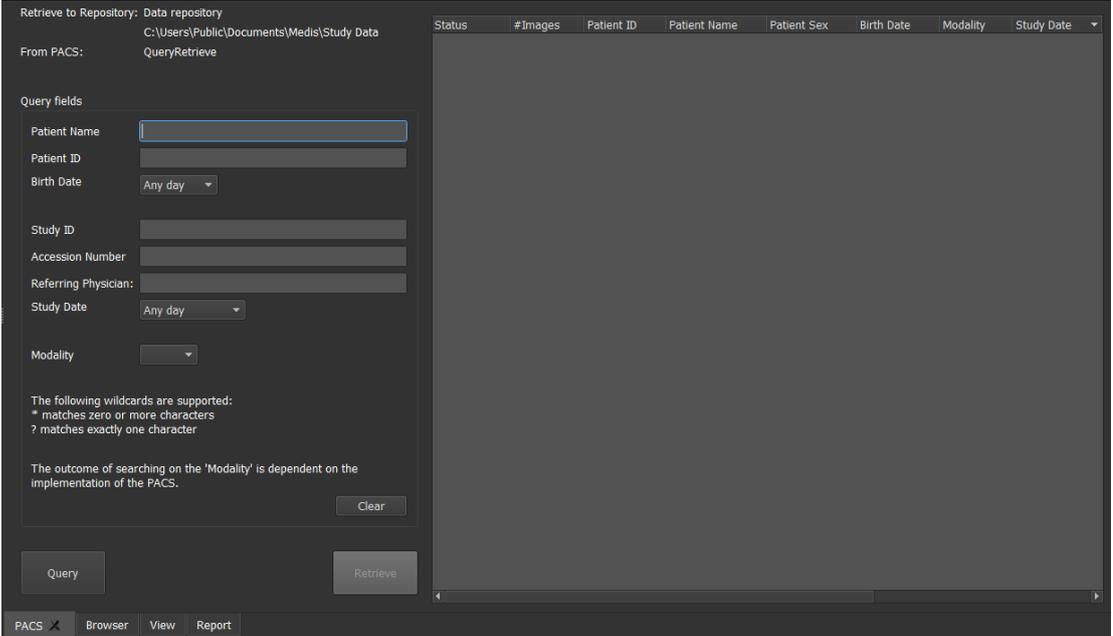
- Go to the machine that acts as a Medis Suite server and start Medis Suite.
- Click  > **Options...** in the **Main** Medis Suite toolbar to open the Options toolbar and open the DICOM connectivity section.

# 10 Query / Retrieve from PACS

Medis Suite supports both Query and Retrieve from a predefined PACS.

## To query and retrieve from a PACS

- Open the Browser tab, and click . The PACS tab will be opened.



Retrieve to Repository: Data repository  
C:\Users\Public\Documents\Medis\Study Data

From PACS: QueryRetrieve

Query fields

Patient Name

Patient ID

Birth Date

Study ID

Accession Number

Referring Physician:

Study Date

Modality

The following wildcards are supported:  
\* matches zero or more characters  
? matches exactly one character

The outcome of searching on the 'Modality' is dependent on the implementation of the PACS.

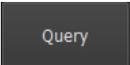
Status	#Images	Patient ID	Patient Name	Patient Sex	Birth Date	Modality	Study Date

PACS x Browser View Report

 The PACS button will be visible and enabled only when a DICOM node is configured for DICOM Query and Retrieve.

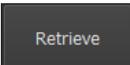
## Query a PACS

- Using the Query fields to define the search criteria.

- Click . Matching patient and study information will be displayed in the list.

## Retrieve from PACS

- Select an item from the list of patient and study information.

- Click . The patient/study will be retrieved and appended to the repository.

- Go to the Browser tab to confirm the patient data is appended to the repository, and load the data into the Viewer.

## 11 Audit Trail

Medis Suite supports audit trailing functionality to maintain a log of relevant actions performed by Medis Suite or any of the integrated apps.

In order to create an efficient setup with audit trailing, you can share the audit trailing service on the Medis Suite server machine with several Medis Suite client machines.

 The Medis Suite server does not necessarily have to be installed on a Windows Server machine, any supported Windows operating will be sufficient.

### To configure the audit trailing of the Medis Suite server

- Go to the machine that acts as a Medis Suite server and start Medis Suite.
- Click  > **Options...** in the **Main** Medis Suite toolbar to open the Options toolbar and open the Audit Trail section.