

User Manual

P02952 Rev 1.8.0

SigViewer™

Image Management Software
www.signosticsmedical.com

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1. INTRODUCTION

About SigViewer

SigViewer securely links your **Signos** Personal Ultrasound with your PC and allows you to:

- ✓ View, store, enter and edit patient, exam and image information on your PC.
- ✓ [Synchronize information](#) between the PC and **Signos** (page 3).
- ✓ Display the **Signos** screen on the PC for magnification and projection (see [Remote display](#), page 13)

The **SigViewer** window has up to four *panes*, which display patient, exam and image information (Fig 1.1). Up to ten *tabs*, labeled by patient name, may be open at one time. The tab that is currently open is referred to as the *active tab*. A [Device tab](#) appears when a **Signos** is connected (page 5).

In this manual, text that appears on the PC screen within the **SigViewer** application is marked in bold.

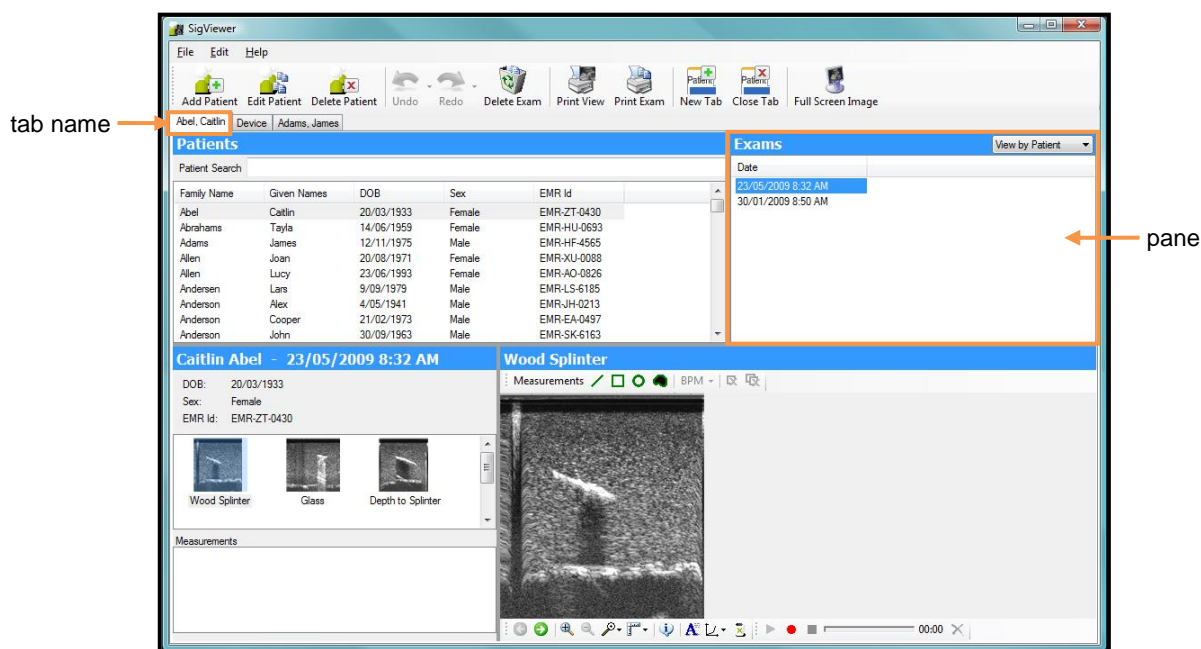


Fig 1.1 SigViewer screen

Installing SigViewer onto your PC

Compatibility

SigViewer is compatible with Windows XP (Service pack 2 or above); Windows Vista; and Windows 7.

Administrator privileges are required to install the software. You will need 50MB free space on your hard drive plus additional space for storing the patient and exam data.

Installation

Place the DVD with the **SigViewer** software into your DVD drive. A Wizard will launch automatically; if this does not occur, navigate to the **setup.exe** file in the **SigViewer** directory of the DVD.

Contact information

Australia



Signostics Limited
PO Box 736 Torrensville
Lot 1, 40-46 West Thebarton Road
Thebarton, SA 5031
Australia
Telephone +61 8 8152 9444
Fax +61 8 8152 9449
Freecall within Australia 1800 SIGNOS (1800 744 667)
Email support@signostics.com.au
Website www.signosticsmedical.com

United States headquarters

Signostics Inc
1717 Embarcadero Road
Palo Alto, CA 94303
USA
Telephone +1 650 327-4000
Fax +1 650 327-4002
Freecall within USA 8775 SIGNOS (8775 744 667)
Email support@signosticsmedical.com
Website www.signosticsmedical.com

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2. SYNCHRONIZING WITH YOUR SIGNOS

What is synchronizing?

Synchronizing describes the flow of data back and forth between your **Signos** and PC that ensures that both have the most recent version of any edited patients and exams.

Patient data is copied back and forth between your PC and your **Signos**. New patient data entered on your PC will be copied onto the **Signos**.

Information for new exams only moves in one direction, from your **Signos** to your PC. New exam data will not be pushed onto the **Signos**. Edits to existing exams will be updated during synchronization.

By default, patient and exam information is stored on your PC in your user profile. You may connect to [another location](#) at any time (page 13).

Connecting your Signos to a PC

Use the USB connection cable in your **Signos** kit to connect **Signos** to a USB port of your PC. If **Signos** is turned on, **SigViewer** will launch automatically. Launch **SigViewer** manually from your preferred shortcut.

How to synchronize

Do not disconnect your **Signos** from the PC during synchronization.

After connecting your **Signos** to a PC, you will be prompted to synchronize the device (Fig 2.1). You may bypass this step by selecting the [Automatic Synchronization](#) option from the **Device** tab (page 5).



Fig 2.1 New device connected

If your microSD card is password-protected, you will need to enter the user name and password each time **SigViewer** launches. Select the user name from the drop-down box and enter the password (Fig 2.2). If you disconnect, then re-connect, **Signos** to the PC without shutting down the **SigViewer** program, the password prompt will not re-appear.

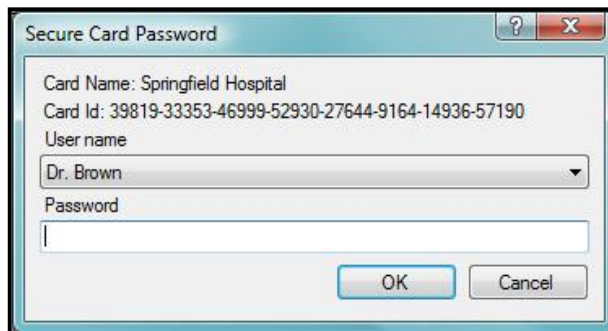


Fig 2.2 Password prompt

After synchronization is complete, you will be prompted to delete exam information from **Signos** (Fig 2.3). There is also the option of deleting patient information. You may bypass this step by selecting a [Delete After Synchronization](#) option from the **Device** tab (page 6).

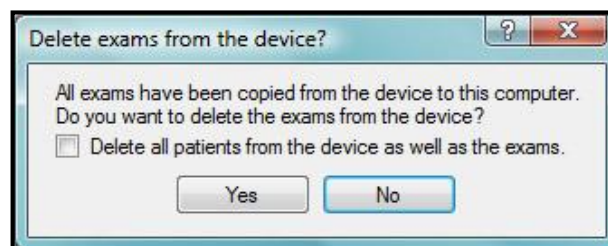


Fig 2.3 Delete after synchronization

The Device tab

A **Device** tab (Fig 2.4) appears whenever a **Signos** is connected to your PC. Only one **Signos** may be connected to **SigViewer** at a time.

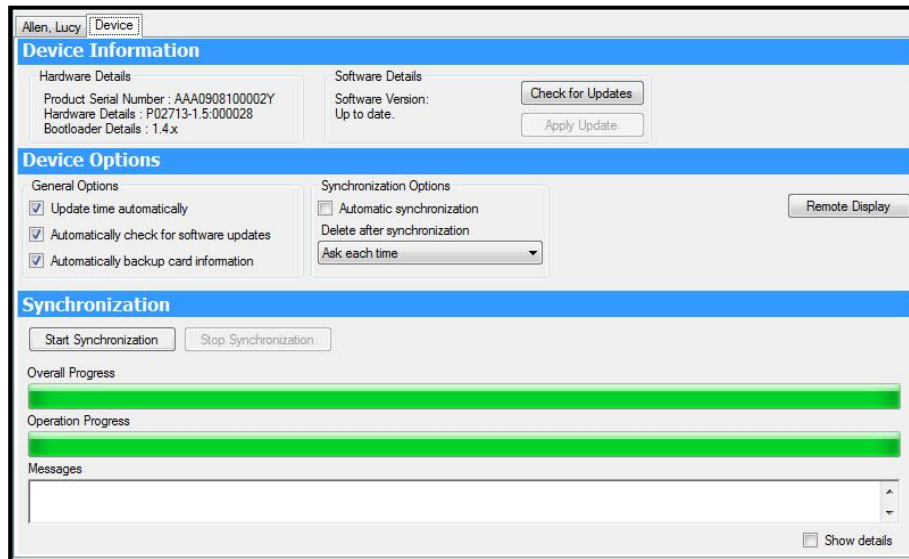


Fig 2.4 Device tab

Device Information

The **Device Information** pane gives information about the connected device:

- **Product Serial Number:** its unique serial number (also displayed on the back of the device).
- **Hardware Details:** the hardware version and serial number.
- **Bootloader Details:** the version of Bootloader software installed.
- **Software Version:** availability of [Signos software updates](#) (below).

Device Options

The **Device Options** pane allows you to set default updating options when **Signos** is connected to a PC.

- **Update Time Automatically**, if checked, will change **Signos** time to the local time on the PC.
- **Automatically check for Software Updates**, if checked, will ensure that your PC checks the Signostics website for **Signos** software updates. **SigViewer** can only check for updates when the PC running **SigViewer** is connected to the Internet and a **Signos** is connected to the PC.

If this option is selected, you will be prompted to download and update your software when updates are found. If not, you can manually check for software updates by pressing **Check for Updates**. If updates are available, install them by pressing **Apply Update**.

Do not disconnect your **Signos** while its software is being updated.

- **Automatically backup card information**, if checked, will back-up the security key used to encrypt data on your microSD card. If this file is lost or corrupted, then data on the card becomes inaccessible.

If a device with a corrupt card is connected, **SigViewer** offers to attempt to repair the card. Press **Yes** to proceed, then choose the user name and enter the password.

- **Automatic Synchronization**, if checked, will ensure that synchronization will begin without prompts when **Signos** is connected to the PC.

- **Delete after Synchronization** has four options for deleting information from the **Signos** after synchronization has occurred:
 - **Ask each time:** you will be asked whether you wish to delete exam and patient information.
 - **Delete Nothing:** no information is deleted.
 - **Delete Exams:** exam information is deleted.
 - **Delete Exams and Patients:** exam and patient information is deleted.

[Remote Display](#) will display the **Signos** screen on the connected PC (see page 13).

Synchronization

In the **Synchronization** pane are:

- Two buttons at the top:
 - **Start synchronization** allows you to synchronize **Signos** a second or subsequent time after connection.
 - **Stop synchronization** allows you to halt synchronization before it is complete.
- Two progress bars in the middle:
 - **Overall Progress** gives the current position within the complete synchronization process.
 - **Operation Progress** gives the current position within the current copying process (see below).
- The **Messages** box at the bottom:
 - The information in blue is always visible and gives you an indication of the current stage of the synchronization process; these are the stages referred to in the **Operation Progress** bar.
 - If **Show details** is checked, detailed information is displayed in black about each patient and exam that is synchronized.

Synchronization is complete when the **Overall Progress** bar reaches the end; or when the **Synchronization completed** message appears in the **Messages** box.

Synchronization conflicts

A conflict may occur during synchronization if the same patient or exam information has been edited on both **Signos** and **SigViewer** since you last synchronized. A message box will appear, giving options to resolve the conflict by asking which version, if any, to transfer.

If an error occurs during synchronization, then the details will be displayed in red text in the **Messages** box. An error may occur if a file cannot be copied.

Signostics recommends that you synchronize regularly with your **Signos** to avoid conflicts.

3. MANAGING EXAM AND PATIENT INFORMATION

The SigViewer screen

When you first launch **SigViewer**, a screen similar to Fig 3.1 will appear.

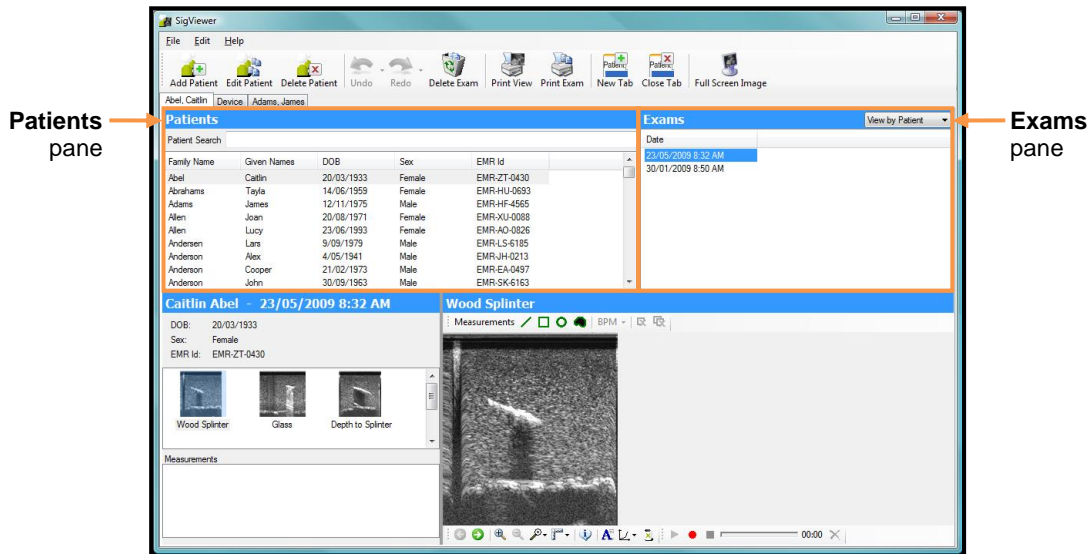




Fig 3.1 The SigViewer screen

To open a new tab, select  **New tab** from the tool bar at the top of the screen or **File>New Tab**. To close a tab, select  **Close tab** or **File>Close Tab**.

Exam information

Selecting exams

By patient

Select the desired patient in the **Patients** pane. Use the scrollbar to scroll up and down the list; alternatively, begin typing the patient's name in the **Patient Search** box to display names matching the typed text.

Selecting a patient will bring up a list of associated exams in the **Exams** pane. The exams are listed by date and time. Select an exam to view its images at the bottom of the screen.

By exam

Search through all exams by moving to the **View by Patient** drop-down box in the **Exams** pane, and select **View by Exam**. A list of all exams on the PC will appear in the top left pane, ordered by date. Select an exam to view its images.

Viewing images in the selected exam

When an exam is selected (Fig 3.2), the left pane at the bottom of the screen shows:

- The patient's date of birth, gender and EMR (electronic medical record) identifier.
- A thumbnail gallery of all images in the open exam. The selected image is shown in the right pane. Delete an image by selecting it and right-clicking **Delete Image**.
- The measurement values for any associated shapes.

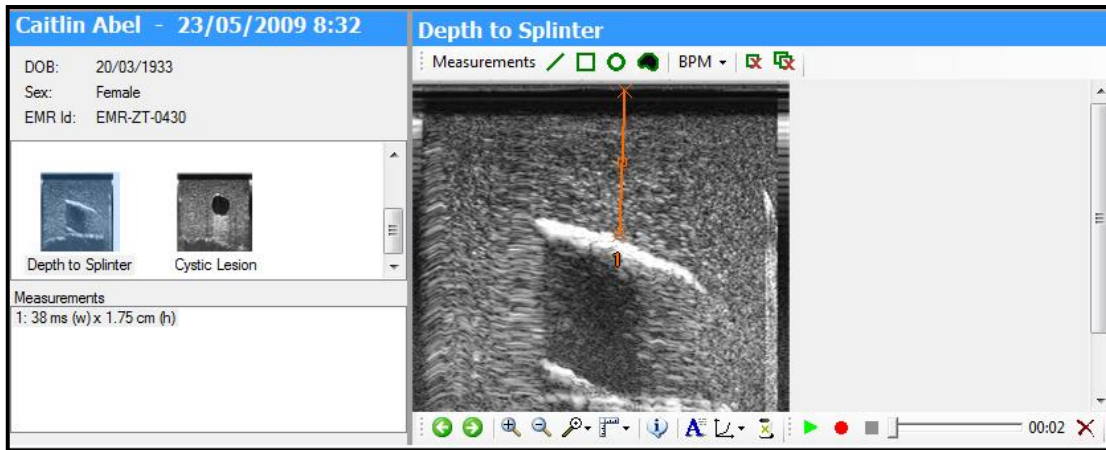


Fig 3.2 Viewing images

To maximize the image shown in the right pane, select  **Full Screen Image** from the tool bar. Select this icon again to revert to the normal view.

Editing images in the selected exam








Buttons at the top and bottom of the right pane can be used to edit exam images (Fig 3.2). If the **SigViewer** window is not large enough to display all the buttons, a drop-down arrow will appear; click this arrow to view all buttons or re-size the **SigViewer** window.

You will be prompted to confirm that you wish to edit exams; an exam in editing mode will show an asterisk after the tab name. Any changes you make to an exam in editing mode can be undone (or redone) using the

 **Undo** and  **Redo** icons in the tool bar.

Measurements tool bar









These icons allow you to add, edit and delete measurement shapes. Measurement information is displayed in the **Measurements** box in the bottom left corner of the **SigViewer** window. You will need to position each shape before a measurement value will appear.

-  **Insert a caliper measurement.**
-  **Insert a polygon measurement.**
-  **Insert an ellipse measurement.**
-  **Insert a bladder volume measurement** will add an outline bordering the bladder after you click on the image to indicate bladder position. Try to click as closely as possible to the centre of the dark, anechoic region.
- The  **Set format of M-mode calipers** drop-down box will give you four options for caliper measurement: **Standard**; **BPM — single cycle**; **BPM — two cycles**; **BPM — four cycles**.
-  **Delete the selected measurement.**
-  **Delete all measurements.**

Navigation and editing tool bar

These icons allow you to view and delete different images in the exam, and to pan and zoom around the selected image. You may also view image settings, overlay grids and rulers and edit text annotations.

-  **Previous Image** in the exam.

-  **Next Image** in the exam.
-  **Zoom in** will magnify the image. If the image is larger than the pane size, use the scrollbars at the right and bottom of the image to pan. Alternatively, click on the image and use the mouse wheel to zoom in and out, and click-drag to pan around it.
-  **Zoom out** will decrease the magnification.
-  **Zoom Axis** appears when an M-mode image is selected. Use options in the drop-down box to zoom along the  horizontal (time) axis; the  vertical (depth) axis; or both. Zooming in B-mode images automatically occurs along both axes.
- The  **Grid/Rulers** drop-down box allows you to overlay/remove a 1cm grid on the image, or to add/remove left, right, top and/or bottom 1cm rulers.
-  **Image Information** (Fig 3.3) displays information on:
 - **Image Properties** such as image name, size and resolution.
 - **Scan Settings** such as the preset and scan settings used to generate the image. The **Preset Frequency** shows the transducer frequency intended for that preset; the **Scan Frequency** shows the transducer frequency actually used to generate the image.

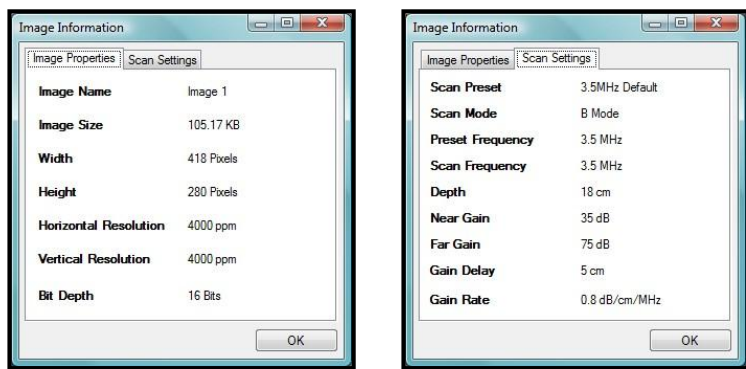









Fig 3.3 Image information tabs

-  **Text Annotation** launches an **Edit Text Annotation** window for editing the annotation/image name.
- The  **Transfer Curve** slider box allows you to adjust the image's grayscale characteristics. The range is -3 to 3: select a higher number to make the image darker.
-  **Delete Image**.

Voice annotation tool bar

These icons allow you to manipulate voice annotations for the selected image.

-  **Play** an existing recording.
-  **Record** a new annotation.
-  **Stop** playing or recording.
-  **Delete** an existing voice annotation.

Exporting images

Error! Bookmark not defined. To export one image from an exam, select the image in the thumbnail gallery and navigate **File>Export Exam-Current Image** or right-click **Export Image**. You may choose to export patient and exam information about the image (Fig 3.4). Any information selected will be displayed at the top or bottom of the image when the file is opened.

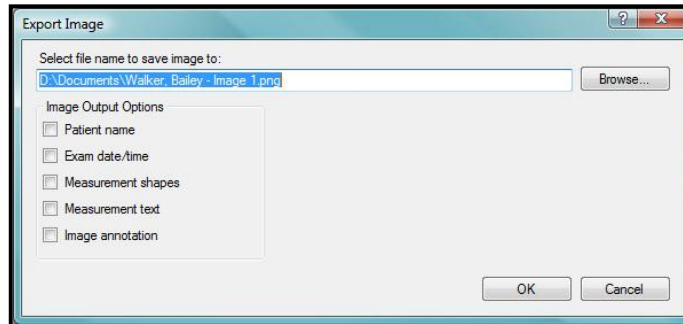


Fig 3.4 Export Image

Alternatively, highlight the image you wish to export and select **Edit>Copy Image** or right-click **Copy Image** to simply copy the image to the clipboard with the previously selected exam and patient information. Otherwise, simply drag the image to the required application.

To export multiple images, an **Export Images** page similar to Fig 3.4 appears; select the folder in which your images will be saved, and unique file names will automatically be generated..


- To export all images from an exam select **File>Export Exam-All Images** or right-click in the thumbnail gallery and select **Export All Images**.
- To export some images from an exam, select the desired images from the thumbnail gallery and right-click **Export Images**.

Deleting an exam

Select  **Delete Exam** from the tool bar or **Edit>Delete Exam** to delete the selected exam. You will be asked to confirm your delete request. This action cannot be undone.

Patient information

Adding new patients

Select  **Add Patient** from the tool bar or **Edit>Add Patient** to add a new patient (Fig 3.5). Use text to complete name and EMR (electronic medical record) information; type in or use the calendar drop-down box to complete date of birth information; and use the **Sex** drop-down box to complete gender information.

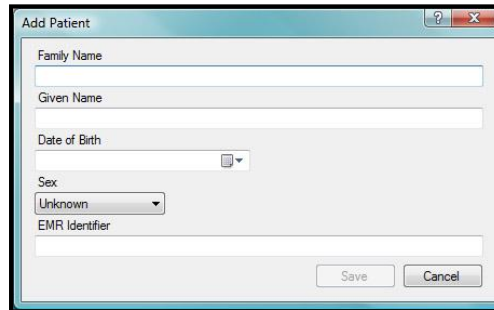

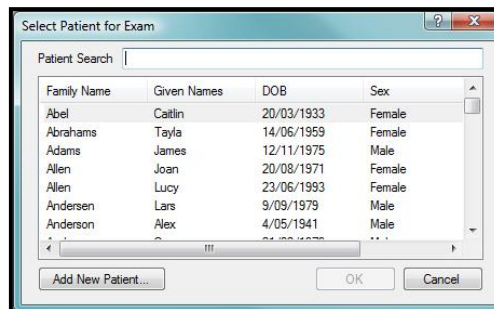


Fig 3.5 Add Patient

Editing existing patients

To edit details for an existing patient, first select the patient's name from the **Patients** pane. Double-click the patient's name or select  **Edit Patient** from the tool bar or **Edit>Edit patient** to open a window similar to Fig 3.5.


To assign exam information to a different patient, e.g., you have an exam with an **Unidentified** patient label that you wish to assign a name, select the exam, then select **Edit>Change Exam Patient**. The **Select Patient for Exam** window will open (Fig 3.6), where you may select from the existing patient list. This window also has an **Add New Patient...** button, which allows you to add information for a new patient (see Fig 3.5).



Family Name	Given Names	DOB	Sex
Abel	Caitlin	20/03/1933	Female
Abrahams	Tayla	14/06/1959	Female
Adams	James	12/11/1975	Male
Allen	Joan	20/08/1971	Female
Allen	Lucy	23/06/1993	Female
Andersen	Lars	9/09/1979	Male
Anderson	Alex	4/05/1941	Male


Fig 3.6 Select Patient for Exam


Deleting patient information

To delete a patient entry, first select the patient's name from the **Patients** pane. Select  **Delete Patient** from the tool bar or **Edit>Delete Patient** to delete patient information and all associated exams. You will be asked to confirm your delete request. This action cannot be undone.

4. OTHER FUNCTIONS

Printing

To print the current image, select  **Print View** from the tool bar or **File>Print View**. Patient and exam information will appear on the printed page.

To print all of the images in the open exam, select  **Print Exam** from the tool bar or **File>Print Exam**. A print preview screen will appear (Fig 4.1). Patient, exam and measurement shape information will appear on each printed page.

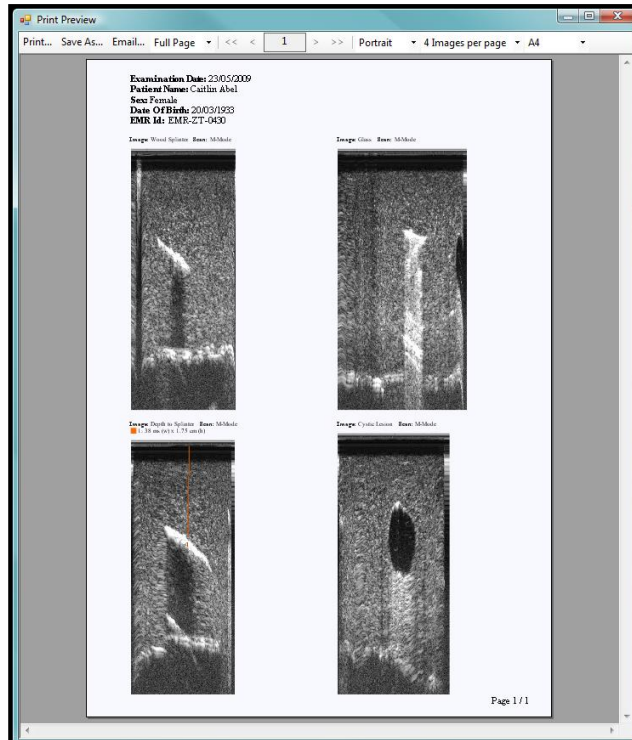


Fig 4.1 Print Preview

Use menu options to:

- Print the images to a printer, fax, or other output.
- Save the images to a PDF file.
- Email the images. The images are attached as a PDF file.
- Change magnification.
- Scroll through the images.
- Change page orientation.
- Select the number of images per page.
- Select paper size.

Remote display

It is possible to display information from **Signos** on your computer screen.

Connect your **Signos** to your computer via USB and press **Remote Display** on the **Select USB Function** screen. If not already open, **SigViewer** and the **Remote Display** window will launch automatically. Your **Signos** will not respond to any keyboard commands or mouse clicks made on your PC. Close the **Remote Display** window on the PC to return to the **Device** tab.

If a **Signos** is already connected to the PC, launch **Remote Display** by pressing the button on the right side of the [Device tab](#) (see Fig 2.4, page 5).

Options

Database location and **SigViewer** software updates

SigViewer displays information that is stored in a patient/exam database on the PC. You may have multiple databases on your PC, but **SigViewer** can only use one of these at a time. The current database is the one whose information is being displayed, and the one that will be updated in any synchronization process.

When creating a new database location, you should create a new folder. Any location may be selected; however, a warning will appear if the selected location cannot be encrypted.

Selecting **File>Options** allows you to specify the location of database you wish to use (Fig 4.2).

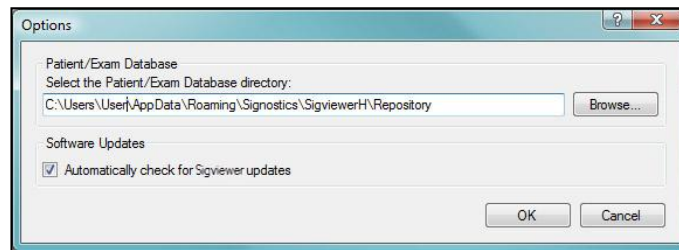


Fig 4.2 Connect to a different patient/exam database

If checked, **Automatically check for SigViewer updates** will periodically check the Signostics website and prompt you to update software when required.

Recovering information

Recovery mode

Your **Signos** will enter **Recovery Mode** if it cannot start correctly. A blue screen will appear asking you to connect the device to a PC loaded with **SigViewer** and connected to the Internet. When the **Signos** is connected, **SigViewer** will try to repair the software. If this does not work, you may need to [send an error report](#) (page 14).

Repairing databases

If the database your **SigViewer** is using has become corrupt and unusable, a message box will appear when you launch **SigViewer**. **SigViewer** can repair the database by regenerating the information, but any patient details for patients without linked exams will be lost. Patient details can be re-loaded by synchronizing a device with the relevant patient information with the repaired database.

For further information, please contact [Signostics Customer Support](#) (page 14).

Help

Help viewer

The first two options in the **Help** menu launch the standard Windows Help viewer, but with different search tabs.

- **Help>Contents** shows the list of Help content.
- **Help>Search** allows you to search Help pages for key terms.

Send error report

This utility should be used only when requested by your Customer Support representative. If you are experiencing problems, please obtain a valid case number by contacting Customer Support in your country.

Customer Support may request you to send through log files. If the problem is with your **Signos**, first plug it in to your PC and select **Help>Send Error Report**. Enter the case number given to you by Customer Support and press **Transmit**.

Data transmitted to Signostics will contain device-specific information and may contain patient information. No images are transmitted. All data received by Signostics will be treated in confidence with the sole purpose of resolving the device problem.

Signostics Customer Support

Free call within USA 8775 SIGNOS (8775 744 667)

Free call within Australia 1800 SIGNOS (1800 744 667)

For further details, see [Contact information](#) (page 2).

SigViewer software updates

You can manually check for **SigViewer** updates using the **Help>Check for SigViewer Updates**.

About

Help>About launches a window describing the **SigViewer** software. The **Details** button will launch the **Attributions Help** page.

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