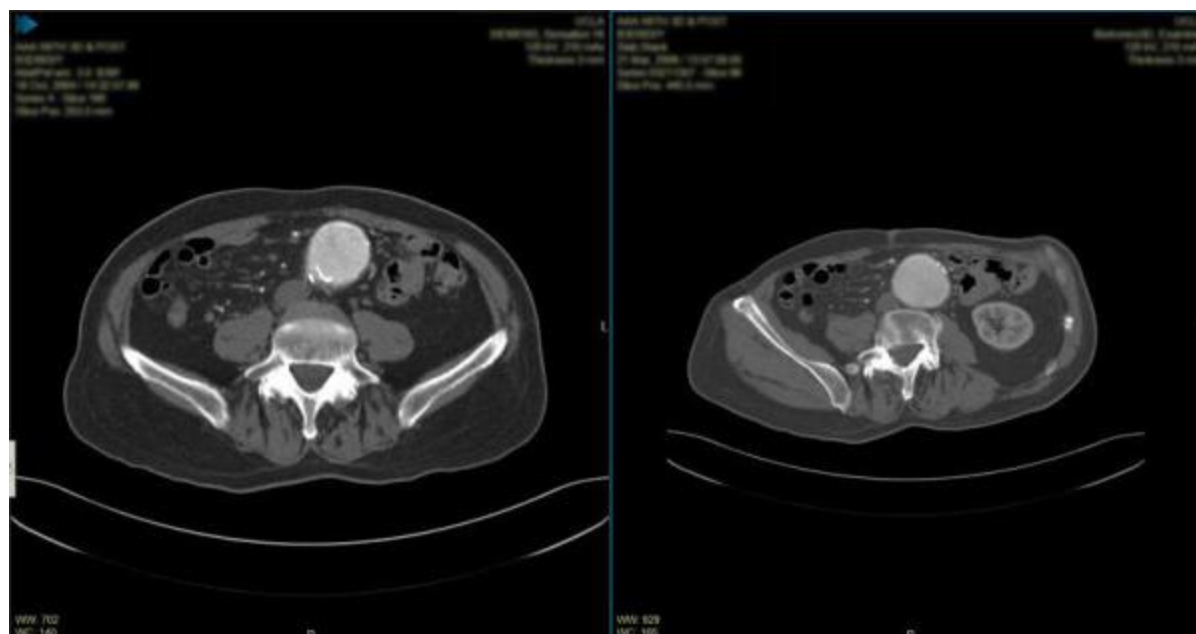


Sample layouts and views

The following examples show common ways to arrange images using study layouts and views. Available views depend on your NilRead implementation.

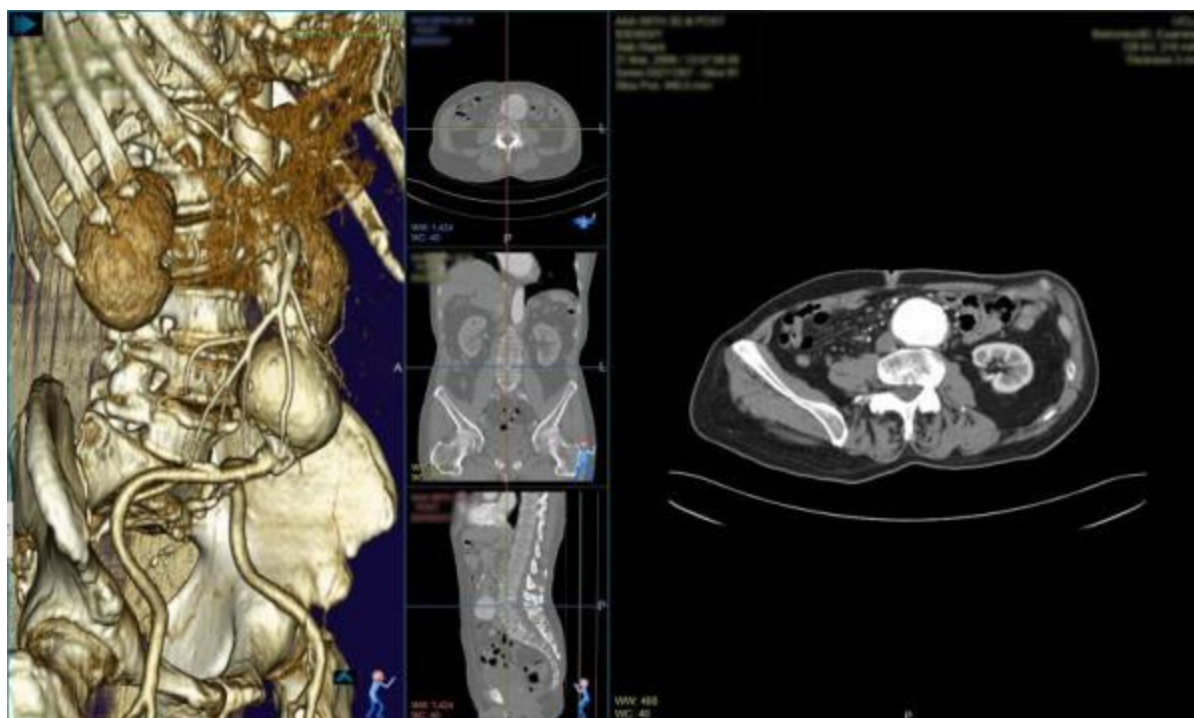
1x2 layout

The following example shows a 1x2 study layout. This creates two side-by-side screens with a different series in each screen.



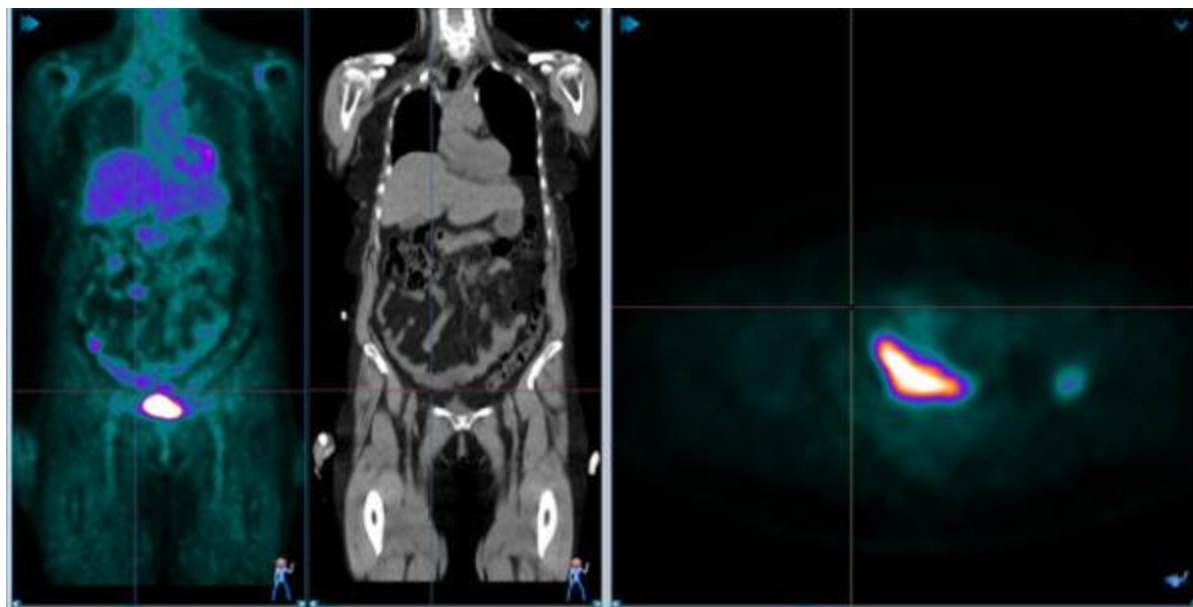
Multiple viewports

When a view is applied to a screen, the screen may be divided into multiple viewports. In the following example, the MPR 3D view has been applied to the first screen, dividing the screen into four viewports. Note that a different view (or the same view) could also be applied to the second screen.



Multiple monitors

Each monitor can have its own study layout. In the following example, the first monitor displays two coronal MPR views and the second monitor displays an axial MPR.

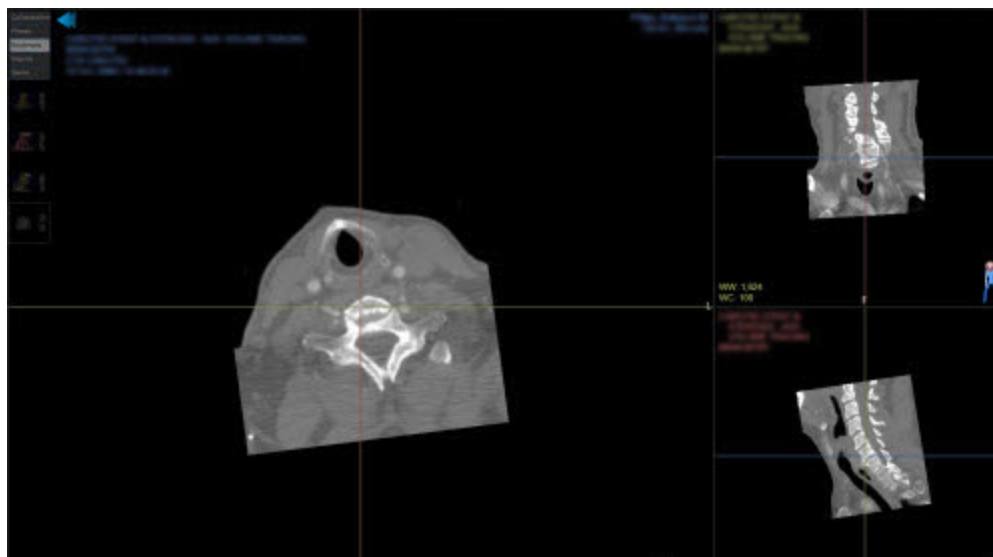


Side-by-side series comparison (study layout)

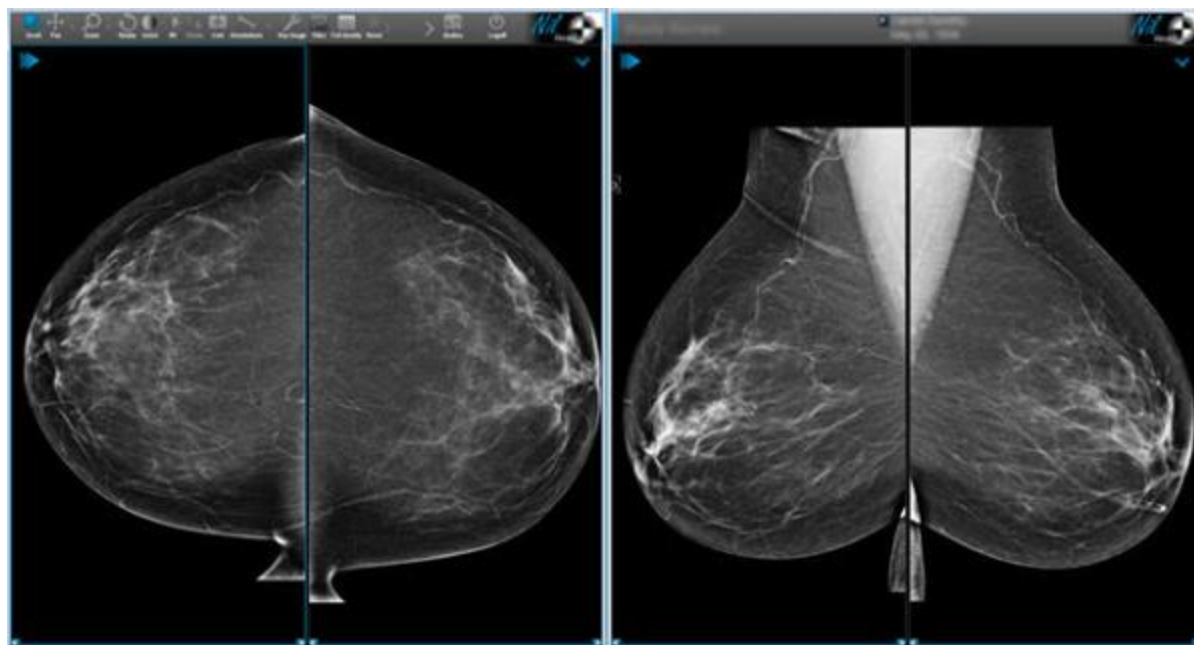


Figure 1 displays six PET/CT images arranged in a 2x3 grid. The top row shows grayscale PET/CT scans, and the bottom row shows corresponding PET/CT scans with red PET overlay. The left column shows a coronal view, the middle column shows an axial view, and the right column shows a sagittal view. Technical data for the PET scans is visible in the bottom-left corner of each image.

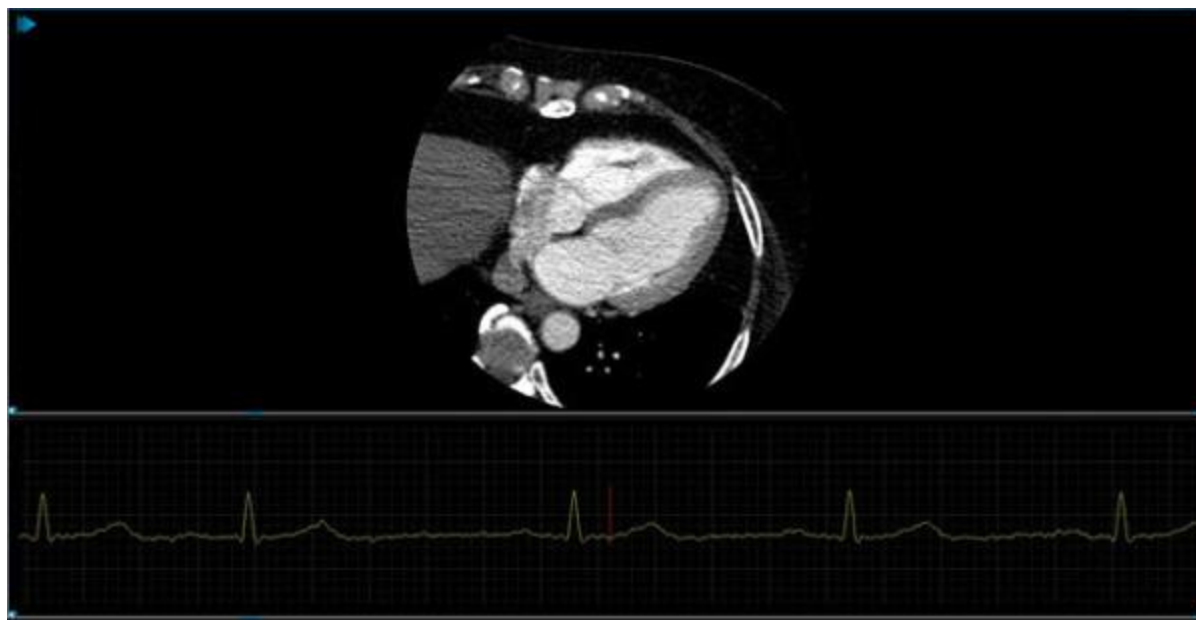
Slab view



Multi-monitor auto-aligned mammography hanging protocol

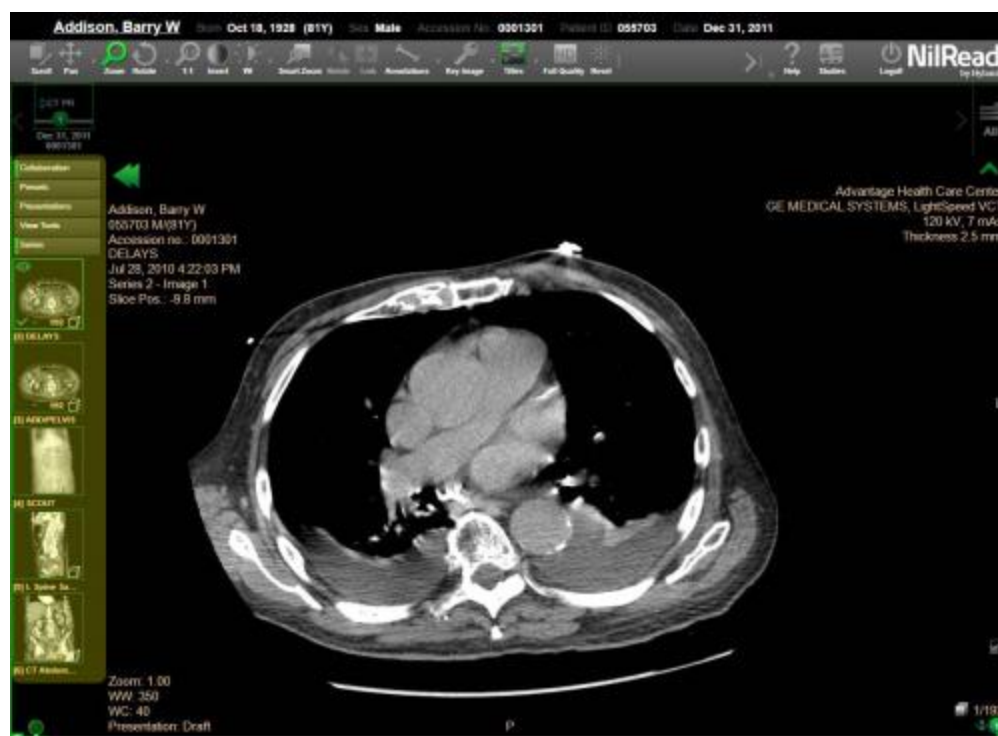


Non-symmetric 2x1-1/3 study layout with ECG view



View the side panel

The side panel provides quick access to NilRead features such as presentations and bookmarks. You also use the side panel to select a series.



Use the arrows to hide or view the side panel.




Select a series

You can view multiple series by dragging series into different viewports.

Note

For details on enabling multiple viewports, see [Arrange images](#).

1. Select **Series** (side panel). The series in the study are shown below the side panel. A filmstrip icon  is shown on series with a multiframe cine sequence.

2. Hover over a series thumbnail for information (series ID, image count, date, modality, description).
3. Select a series thumbnail to load the series in the viewer. The series is opened in all viewports.
or
Drag a series into a viewport.

Select hanging protocols

The purpose of a hanging protocol is to display the images in a study in a consistent manner. While the term originally referred to the arrangement of physical films in a film box, it now refers to the display of images on a computer monitor. When properly setup, the use of hanging protocols significantly improves reading quality and efficiency.

When opening a study, NilRead analyzes the DICOM attributes of the study and identifies matching hanging protocols. If any candidates are found, the best one is selected and applied automatically.

You can manually select a hanging protocol from the list of matched protocols. You can also create a new hanging protocol based on the current image viewing area.

Note

See the **Hanging Protocols Handbook** for more information about using hanging protocols.

Apply a hanging protocol

1. Select **Hang. Prot.** (toolbar). Available hanging protocols and the stages within each protocol are shown.
2. Select a stage within a hanging protocol. The image viewing area is updated.
3. Select **Prev H.P.** and **Next H.P.** (toolbar) to move through the stages in the hanging protocol.

Create a new hanging protocol

You can customize the study layout and presentation state (window level, zoom, etc.) while viewing a hanging protocol, then create a new hanging protocol using these settings. Presentation state is not captured for clinical hanging protocols.

1. Select **Hang. Prot.** (toolbar), then select **Capture**. The Hanging Protocol Editor appears.
2. Change the protocol name and any other customizable information. Customizable areas are underlined and are also highlighted when you hover over them. For details, see [Set up hanging protocols](#).
3. Select **Save**.

Edit a hanging protocol

You can edit the hanging protocol currently applied to the image viewing area. (You must have the appropriate user privileges to edit hanging protocols.)

1. Select **Hang. Prot.** (toolbar), then select **Edit**. The Hanging Protocol Editor appears.
2. Customizable areas are underlined and are highlighted when you hover over them. Click (or tap) a customizable area to edit it. For details, see [Set up hanging protocols](#).
3. Select **Save**.

Add a stage to a hanging protocol

While viewing a hanging protocol, you can add more stages. You can create a stage based on the current image viewing area or add a blank stage.

1. If desired, customize the image viewing area to use the settings you want for the new stage. For example, select a study layout and view, select the series to be viewed, and adjust the presentation state (window level, zoom, etc.). All of these settings will be automatically entered in the corresponding sections of the hanging protocol. Presentation state is not captured for clinical hanging protocols.
2. Select **Hang. Prot.** (toolbar), then select **Add Stage**. The Hanging Protocol Editor appears. A new stage is added, based on the current settings in the image viewing area.



Note

You can also select **<add stage>** to add a blank stage you can customize.

3. Customizable areas are underlined and are highlighted when you hover over them. Click (or tap) a customizable area to edit it. For details, see [Set up hanging protocols](#).
4. Select **Save**.

Use full screen view

You can view an image using the full screen. This hides the toolbar, side panel and other viewports. While in full screen, right-click (or touch and hold) the image to view a list of tools. You can also use keyboard shortcuts to select tools.

1. Select  on a viewport to display the image in full screen view.
2. Select  again to restore the original viewport layout.

Maximize a viewport

Double-click (or double-tap) a viewport to maximize it and hide other viewports. The toolbar and side panel are still available while the viewport is maximized. This can be useful for mobile devices with smaller screens. Double-click (or double-tap) again to restore the original viewport layout.

Use reference lines

Reference lines are shown on all series on the current screen that are in the same frame of reference. The intersection of the reference lines represents the corresponding position in all viewports.

View image details

Details about the study, series and image are shown on an image. The details shown depend on the view mode and image modality. You can hide this information by turning off the image titles (for details, see [Titles](#)).

2D Images

Modality	Top-Left	Top-Right	Bottom-Left
CT	Patient Name	Hospital Name	Window Center
	Patient Details	Equipment Name	Window Width
	Series	Voltage And Amperage	
	Description	Slice Thickness	
	Date and Time	Reconstruction Diameter	
	Series Number		
	Slice Location		
	Key Image Flag		

Modality	Top-Left	Top-Right	Bottom-Left
MR	Patient Name Patient Details Series Description Date and Time (Philips) Scan and Slice Number (Philips) Scan Technique (Philips) MR Echo Repetition (Philips) Flip Angle (Philips) Delay Time (Philips) B Factor Diffusion Direction (Philips) Trigger Delay Time (Philips) Temporal Position Id Slice Location Key Image Flag	Hospital Name Equipment Name Voltage And Amperage Slice Thickness Reconstruction Diameter	Protocol Name and Receiving Coil Window Center Window Width
NM	Patient Name Patient Details Series Description Date and Time Series Number Slice Location Key Image Flag	Hospital Name Equipment Name Voltage And Amperage Slice Thickness Reconstruction Diameter	Window Center Window Width

Modality	Top-Left	Top-Right	Bottom-Left
OP	Patient Name Series Description Date and Time Instance Number Columns Rows	Hospital Name Equipment Name Image Laterality	Enhancement Gamma Window Width Window Center Image Compression Presentation
OPT	Patient Name Patient Details Series Description Date And Time Series Instance Number Slice Location Key Image Note	Hospital Name Equipment Name Image Laterality	Enhancement Gamma Window Width Window Center Presentation
PT	Patient Name Patient Details Series Description Date and Time Series Number Slice Location Key Image Flag	Hospital Name Equipment Name Voltage And Amper- age Slice Thickness Reconstruction Dia- meter	Window Center Window Width

Modality	Top-Left	Top-Right	Bottom-Left
Others	Patient Name Patient Details Series Description Date and Time Series Number Slice Location Key Image Flag	Hospital Name Equipment Name Voltage And Amperage Slice Thickness Reconstruction Diameter	Window Center Window Width

Slab Images

Modality	Top-Left	Top-Right	Bottom-Left
CT	Patient Name Patient Details Series Description Date and Time Series and Instance Number Slice Location	Hospital Name Equipment Name Voltage And Amperage Slice Thickness Reconstruction Diameter	Window Center Window Width Rendering Preset Name

Modality	Top-Left	Top-Right	Bottom-Left
MR	Patient Name Patient Details Series Description Date and Time Series and Instance Number Slice Location	Hospital Name Equipment Name Voltage And Amperage Slice Thickness Reconstruction Diameter	Protocol Name and Receiving Coil Window Center Window Width Rendering Preset Name
NM	Patient Name Patient Details Series Description Date and Time Series Number Slice Location	Hospital Name Equipment Name Voltage And Amperage Slice Thickness Reconstruction Diameter	Window Center Window Width Rendering Preset Name
OPT	Patient Name Patient Details Series Description Date And Time Series Instance Number Slice Location Key Image Note	Hospital Name Equipment Name Image Laterality	Enhancement Gamma Window Width Window Center Presentation