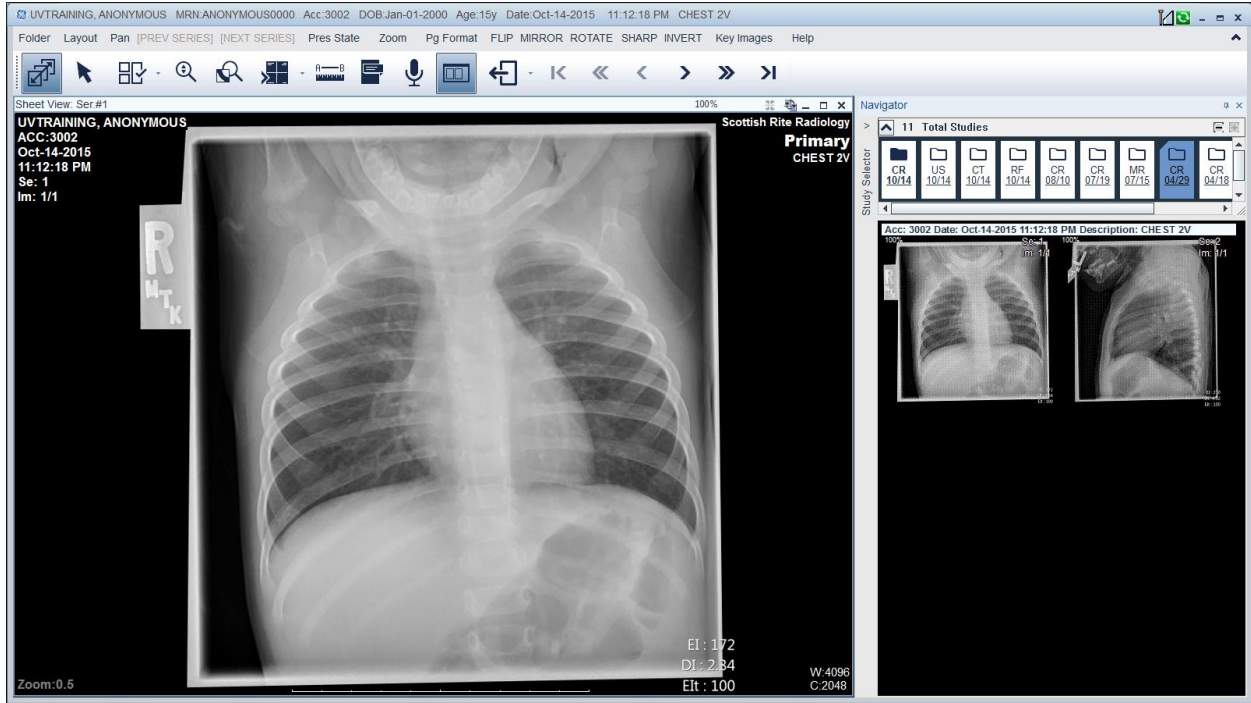
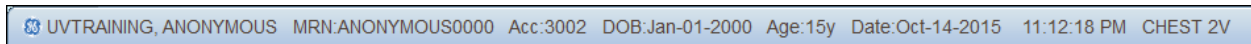


GE PACS UV (Universal Viewer) Image Viewer

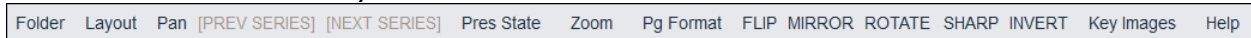
Once a study is loaded in the viewer, Universal Viewer provides tools to assist with viewing of the study. Frequently used tools are accessible through the image Viewer toolbar, or by right clicking to enable the floating menu. The menu bar at the top of the screen also provides access to many of the tools in Image Viewer.



The main screen of the viewer includes:



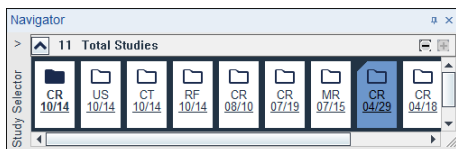
- **Title Bar:** Provides descriptive information for what is contained in a particular window. The viewer's title bar includes the Patient's Name, MRN, Accession Number, DOB, and additional secondary identifiers.



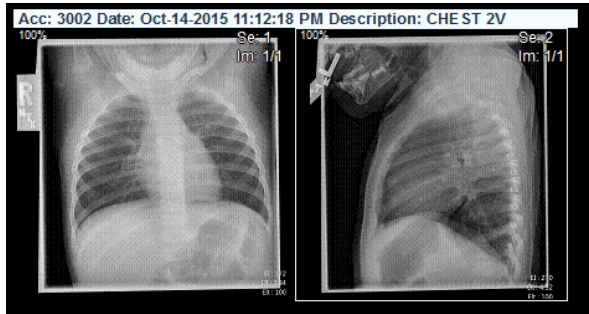
- **Menu Bar:** Access commands through the menu bar. You can change the way you view an image using menu bar features like flip, mirror, invert, etc.



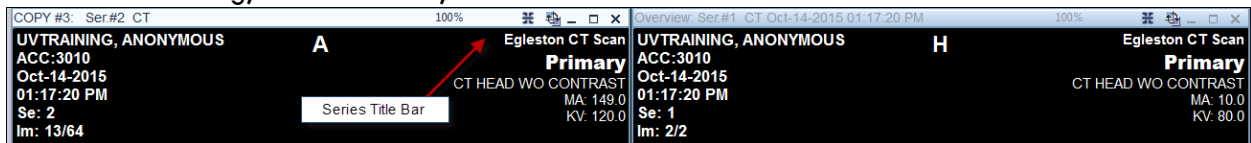
- **Image Viewer Toolbar:** Provides the most frequently accessed commands so that they can be executed with one click.



- Navigator: The navigator displays thumbnails of each series in the study along with basic information about the series.



- Series Windows: The series window displays each series in its own view. The window shows the image along with any other tools that have been applied to aid in overlays, cross referencing, measurements, etc.



- Series Title Bar: The series title bar holds descriptive information for that series (e.g. Series #3). The series title bar also holds the swap, minimize, expand, and close icons for the image series.

All image manipulation takes place in the image viewer. Image manipulation refers to the various means by which you view, position, measure, and work with the study.

Paging/Scrolling Through Images

The most basic features of viewing an image is the ability to paginate through the images/series.



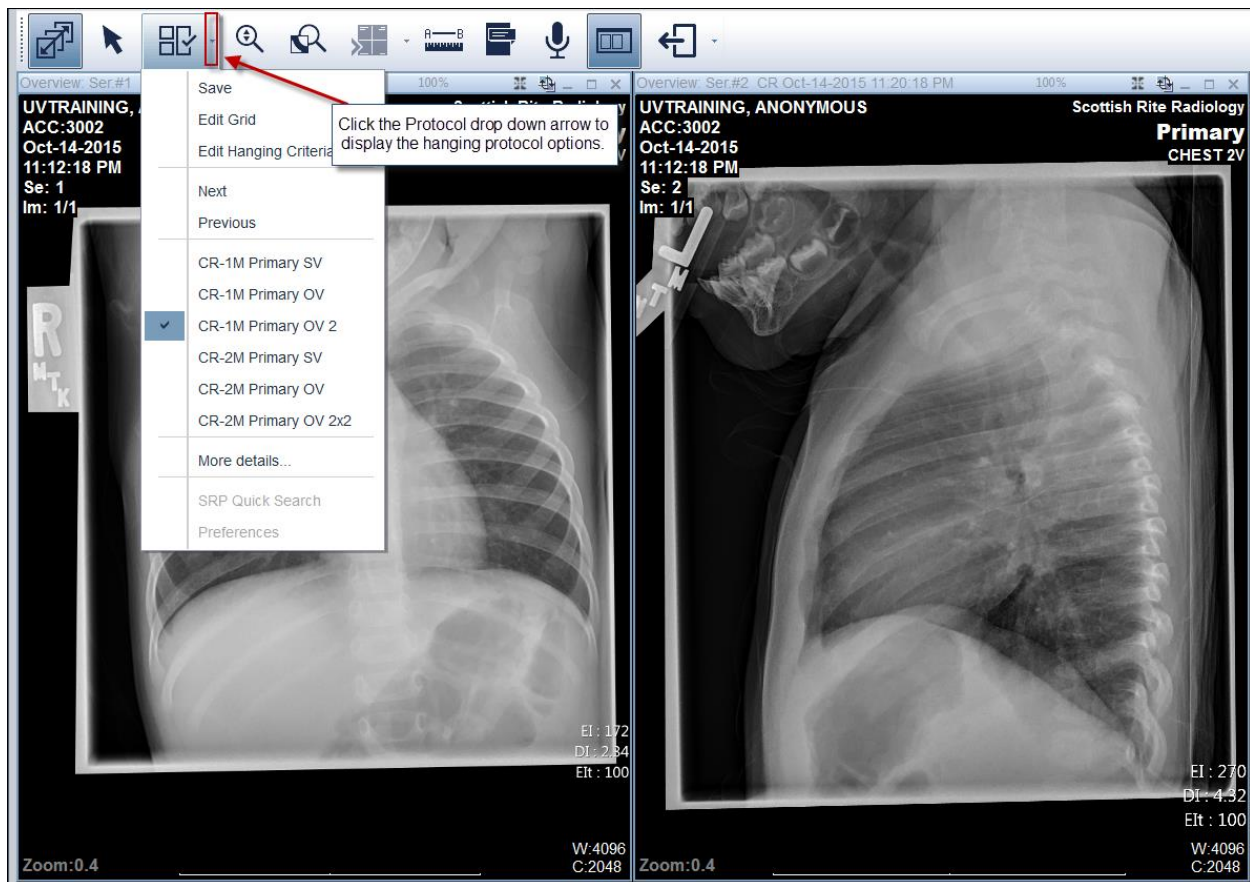
The Page/Scroll button on the Image Viewer toolbar appears to be pressed down when enabled. Depending upon the layout, studies open in an overview. The first icon is for the stacked view format.

In Stack View, each series opens in its own window, as though the images in that series were stacked in that window. To see the rest of the images in the stack, you page (scroll) through the images in the series.

Image Viewer presents several different ways to page through the stack, whether you use the mouse, the page forward toolbar buttons (using the forward pointing arrow: one page at a time or go to the end) or the keyboard page up or page down buttons.

Apply a New Hanging Protocol


You can quickly arrange stack windows in an orderly, even grid without having to redefine the layout of the images.



Anonymous Uvtraining has an X-Ray that has two images. Instead of paginating through each study, you want to view the images side by side. Access the Hanging Protocol drop down menu to change the view from one image to two images.

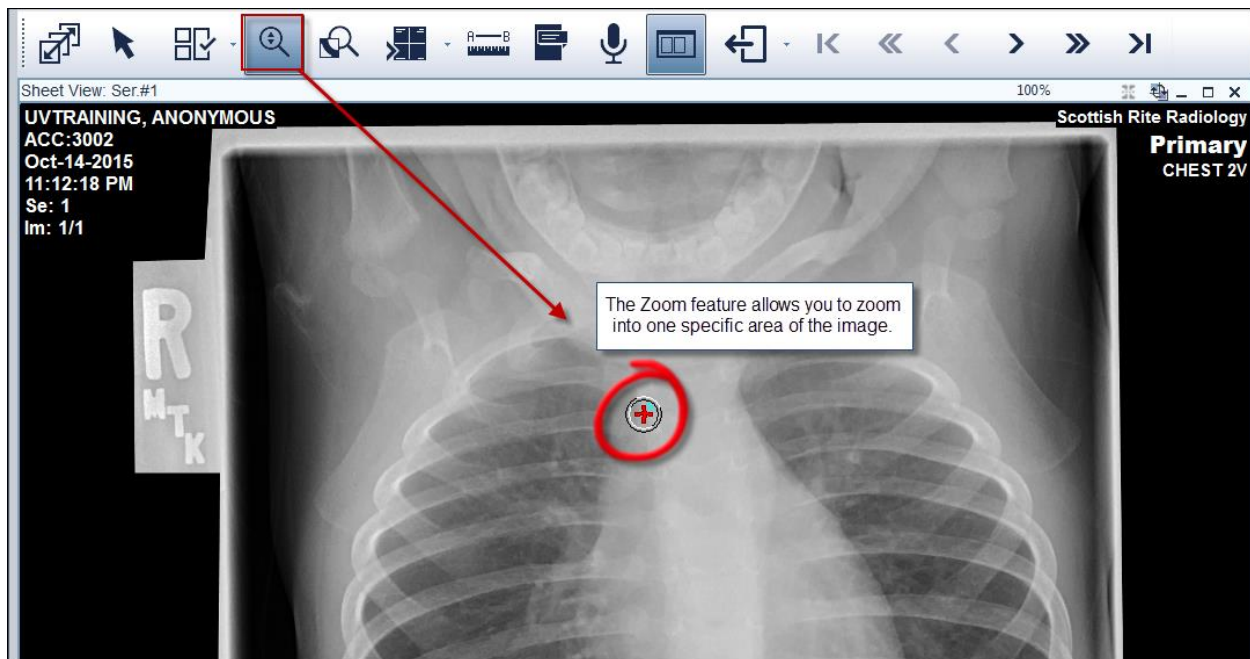
By default, X-Ray images display in a stack view, one image behind another. Generally you page from one image to the next. However, the hanging protocol tool provides the ability to see images side by side.

Complete the following steps to change from one view to multiple views of a study:

1. Open a study
2. Click the hanging protocol icon drop down arrow within the Image Viewer toolbar 
RESULT: A submenu displays
NOTE: The options for the hanging protocol will vary based on the type of study viewed
3. Select the preferred view (1, 2, 3, etc)
RESULT: A the images display based on the selected protocol

Zooming In and Out of an Image

The Zoom factor is the extent to which the image appears enlarged for the display.



There is a specific magnification that you prefer for the X-Ray image. Use the Zoom feature to increase the magnification of the image.

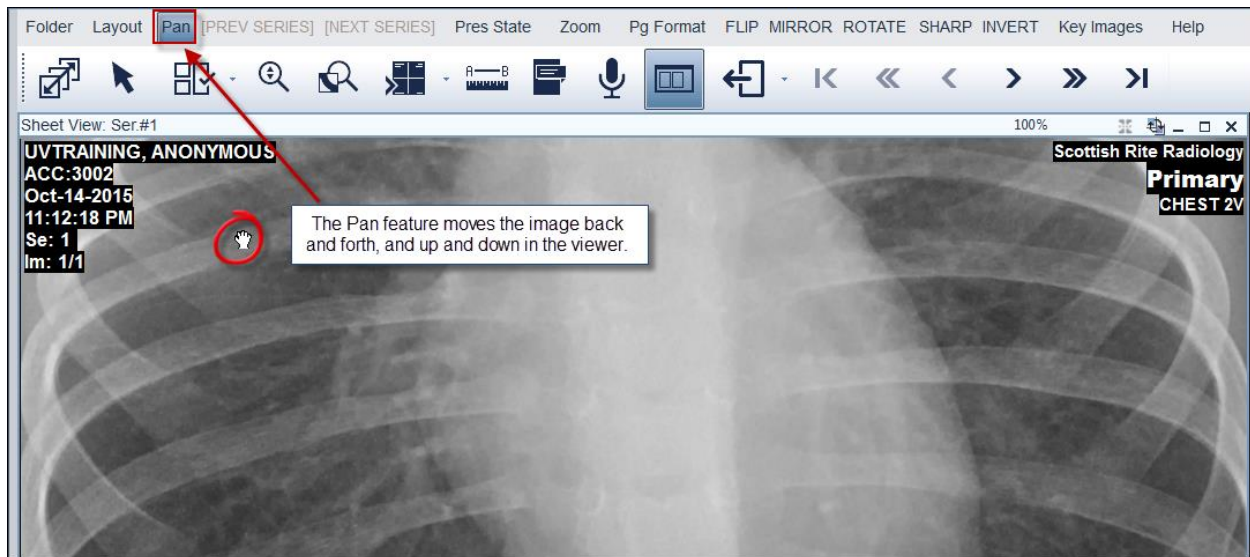
Zooming allows you to take a closer look at your image, to examine it for minute details. Note that using the zoom feature on an image may cause some of the image to be moved out of the visible area.

Complete the following steps to zoom within an image:

1. Select the image
2. Click the Zoom icon within the image viewer toolbar
RESULT: The mouse pointer changes shape to indicate that the zoom feature is enabled
3. Left click and drag the mouse up or right to increase the zoom factor
NOTE: The status change for the magnified view displays in the lower left zoom display. Release the mouse to display the image with the current zoom factor

Pan an Image

Panning allows you to move the image back and forth or up and down in the image viewer.



The Pan feature is particularly useful after using the zoom feature. When the image becomes larger than the display window, the pan feature allows you to go to a different area without decreasing the image size.



In the previous exercise, you magnified the image. You now need to move to the left or right of the image. Use the Pan feature to move to the left or right of the image.

Note that you may have a Pan icon within the image viewer toolbar:

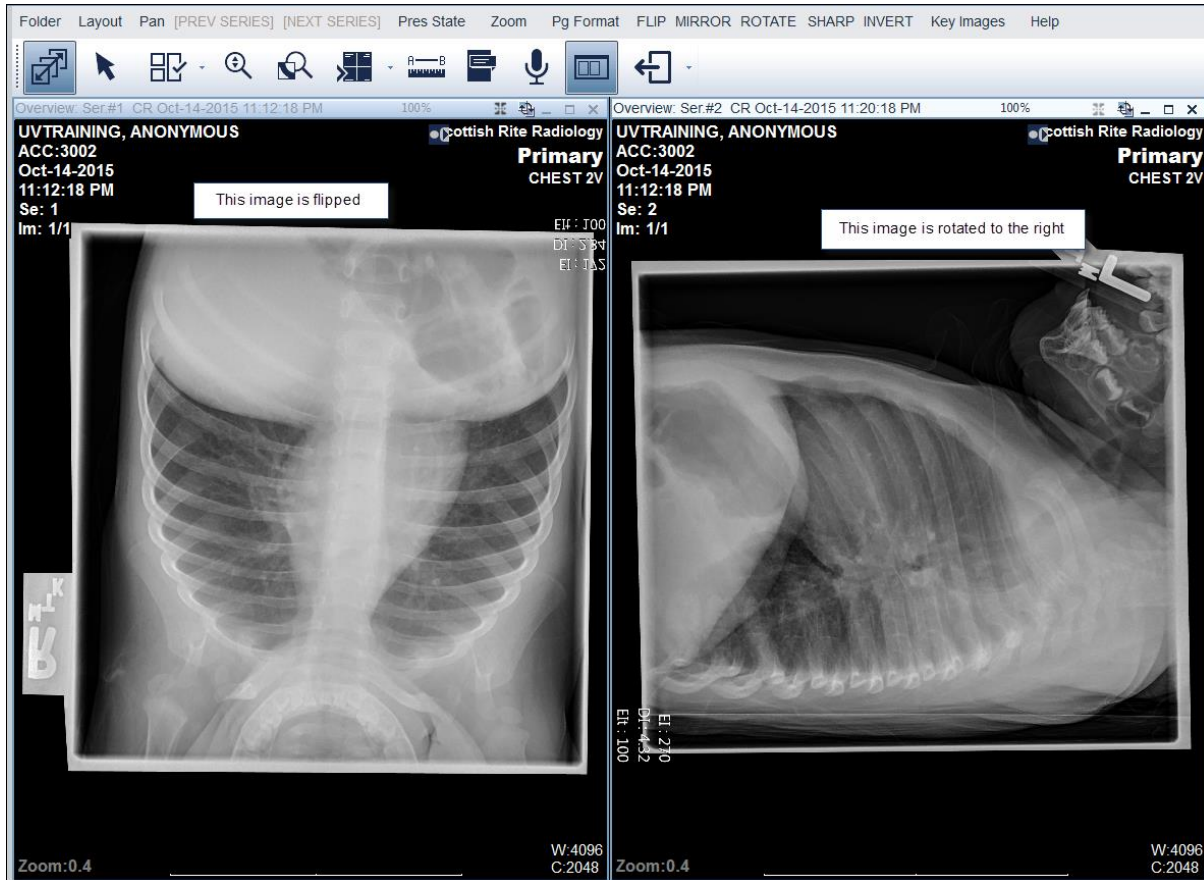


Complete the following steps to zoom within an image:

1. Select the image
2. Click the Zoom icon within the image viewer toolbar
RESULT: The mouse pointer changes shape to indicate that the zoom feature is enabled
3. Left click and drag the mouse up or right to increase the zoom factor
4. Select the Pan feature within the toolbar
RESULT: The hand displays within the image
5. Click and drag in any direction to move the image in the desired direction

Flip, Mirror, and Rotate

You can modify how an image hangs in the display. While the hanging protocol determines the number of images that display, it does not support the orientation of the image.



The image on the left needs to be flipped and the image on the right need to be rotated 180 degrees. Ensure that the appropriate pane is active before choosing the flip, mirror, or rotate feature.

There are two ways to access the flip, mirror and rotate features:

- By choosing the options within main toolbar
- By right clicking on an image

FLIP MIRROR ROTATE



Flip: The bottom of the image switches to the top

Mirror: The left side of the image switches to the right

Rotate: The Image rotates 90 degrees clockwise from its current position.

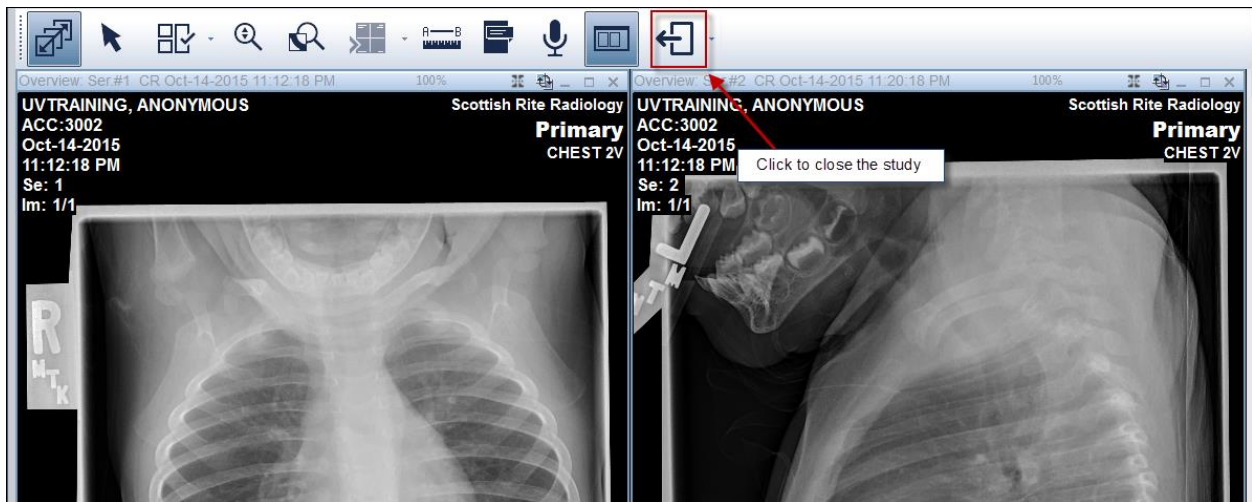
Complete the following steps to flip, mirror, or rotate an image:

1. Click the desired image to ensure it is the active image
2. Click the flip, mirror, or rotate option from the main toolbar

RESULT: You can also right click and choose from the menu

Close a Study

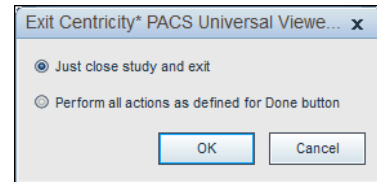
When you have completed work on a study, close the study to clear your screen.



You are done reviewing the chest X-Ray and need to go back to the study list to load another study. Close the X-Ray. Be sure to NOT close the UV application.

When a study is closed using the appropriate action via the Image Viewer toolbar, the study is closed but leaves open the Study List.

If the X in the upper right corner is selected, a popup for closing the study and Universal Viewer displays.



The default is to close the study and exit out of the application.

Simply clicking the close button will close the study and route you back to the study worklist.

Complete the following steps to close a study:

1. Click the Done action via the viewer toolbar

RESULT: The study is closed and you are routed back to the study work list

If you have questions or problems with PACS Universal Viewer, please contact Radiology Information Systems Support at x57456 or email at radiologysupport@choa.org.