Click (or tap) and drag to create the first line of the Cobb angle, then drag to create each additional line. When done adding lines, right-click (or touch and hold) the image. The angle between each set of lines is shown.

Color

Select the color to use for annotations.

Manage

Delete Last, Delete All

Remove the last change or all changes from the current image.

> **Note**
> Use **Reset** to remove changes from all images in the series.

Editing Annotations

You can edit annotations. For example, you can drag to change the annotation's position or size. You can also double-click (or touch and hold) the text in an arrow or text annotation to modify it.

Deleting Annotations

To remove an annotation, right-click (or touch and hold) the annotation, then select **Delete**.

Measurements for wide field ophthalmic photography images

NilRead calculates linear and area measurements on wide field ophthalmic photography images. The calculations are done using a 3D geometric model of the eye.

When you apply a linear measurement to a wide field ophthalmic photography image using the ruler tool, the measurement is calculated as the length of the curve representing the line on the 3D surface of the eye. Area measurements are performed on a 3D model of the eye by projecting the

2D shape (ellipse or ROI) from the image to the 3D model. The area measurement is calculated from the enclosed pixels on the 3D model.

If the distance or area cannot be measured, the measurement value will be ***. If you move a linear or area measurement to a different location on the image, the measurement will be recalculated based on the measurement's new location.

Key Image
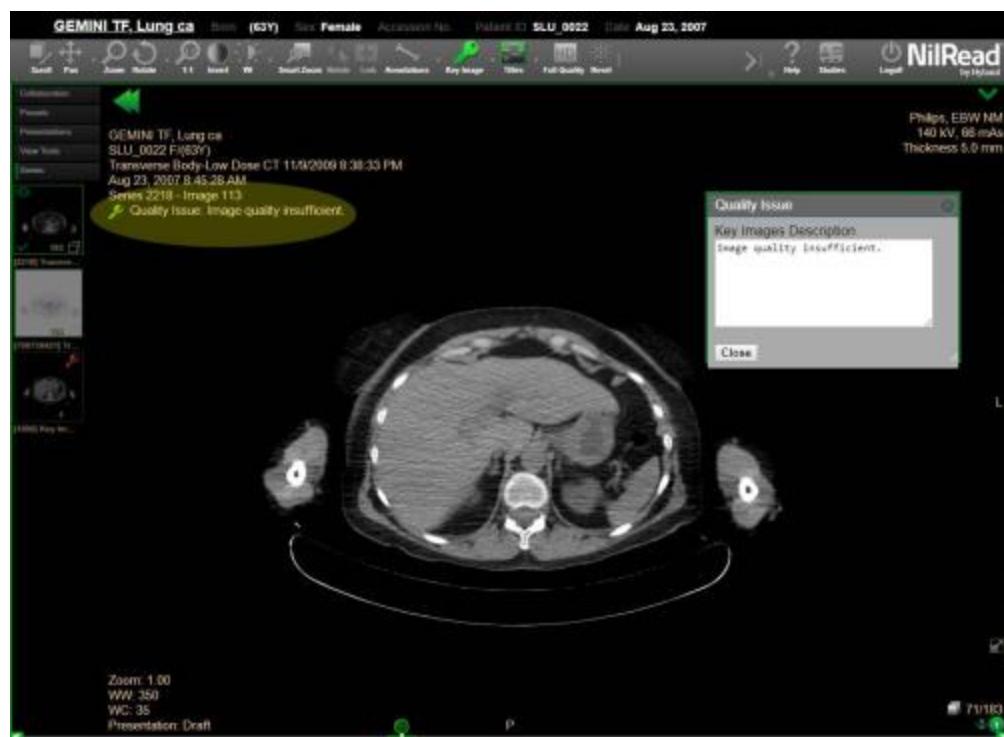
Available for 2D views only. Create a series of key images for a study. This allows you to quickly access important images within a large series of images.

To mark the current image as a key image:

1. Select **Key Image**.
2. Select the arrow beside **Key Image**, then select a label. If you do not select a label, the label selected for the last key image will be used.
3. (Optional) To add a note, select **Show KO description** window and enter your note.
4. Click (or tap) the image. A key icon, the label and your note are added to the top-left corner of the

image.

5. The image is added to the key images series.

6. You can keep the **Key Images Description** window open if you want to apply the same note to another key image. Select **Close** to close the window.

Titles

Show or hide information such as image details, image orientation and annotations. This affects all viewports.

To show or hide all information, select **Titles**. Use the arrow beside **Titles** to select specific information to show or hide.

- **Hide All** Show/hide all information.
- **Image Titles** Show/hide **image details**.
- **Image Orientation** Show/hide **image orientation information**.

- **Annotations** Show/hide **annotations**.

- **Dicom Overlays** Show/hide DICOM overlays.

- **Image Shutters** Show/hide image shutters.

- **Reference Lines** Show/hide **reference lines**.

- **CAD Overlay** Show/hide **CAD marks** on mammography studies.

- **Implant Masks** Show/hide implant masks.

- **Image Rulers** Show/hide image rulers. Rulers can only be displayed when the underlying meta-data provides known and consistent pixel spacing and image geometry is flat. To customize the ruler behaviour, see **Change modality preferences**.

Full Quality

View the original, uncompressed image.

Reset

Remove changes from all images in the series. Changes will only be removed from the current view.

Note
Use Annotations > Delete Last/Delete All to remove changes from the current image only.

Hanging Protocols

Use hanging protocols to customize the image viewing area (see **Select hanging protocols**).

Study Layout

Use study layouts to customize the image viewing area (see **Arrange images**).

View

Use views to customize the image viewing area (see **Arrange images**).

Rendering

Select the rendering mode for the study. Options are MIP (maximum intensity projection), volume rendering and average.

> **Note**
> Use **presets** (side panel) to apply common rendering settings.

Reference

Show or hide reference lines.

> **Note**
> Use **Relate** to change the position of the reference lines.

Thickness

Use the arrows to increase or decrease the plane thickness.

Clipper

Clippers are used to selectively remove portions of a study from a 3D rendering. This is generally used to expose a part of anatomy or a pathology. Several types of clippers are available: Plane, Box, Ellipsoid and Cylinder.

To use the clipper, select **View Tools** (side panel).

- **Plane** Front plane clipper. Click (or tap) on an image to enable the clipper. Drag to push the plane in and out.
- **Box** Rectangular clipper. Click (or tap) on an image to enable the clipper. Drag a handle on the corner of the box to change the box size. Drag the center of the box to move it.
- **Ellipsoid, Cylinder** Elliptical or cylindrical clipper. Click (or tap) on an image to enable the clipper. Drag the center of the shape to move it.
- **Clear** Remove all clipping from the image.
- **Reset** Reset the currently selected clipper to the default settings.
- **Pin, Unpin** Lock or unlock the clipping changes that have been made to an image. This allows you to retain the current clipping while working with an image (rotating, zooming, etc.). Further clipping cannot be performed until the image is unpinned. Pin is not available for the Plane clipper.

> **Note**
> You can perform other actions, such as rotating the image, while using a clipper. You can also save a clipped image as a bookmarked image (see **Share bookmarked images**).

Curved MPR

Curved MPR allows you to define a curve in the volumetric dataset and then view an image along this curve. This is useful for viewing structures such as blood vessels or the spine.

1. Select **View**.
2. Under **MPR Views**, select **Curved**. Three MPR views are shown on the left and a blank viewport is shown on the right.

3. Select **View Tools** (side panel). The curved reformat tools are shown.
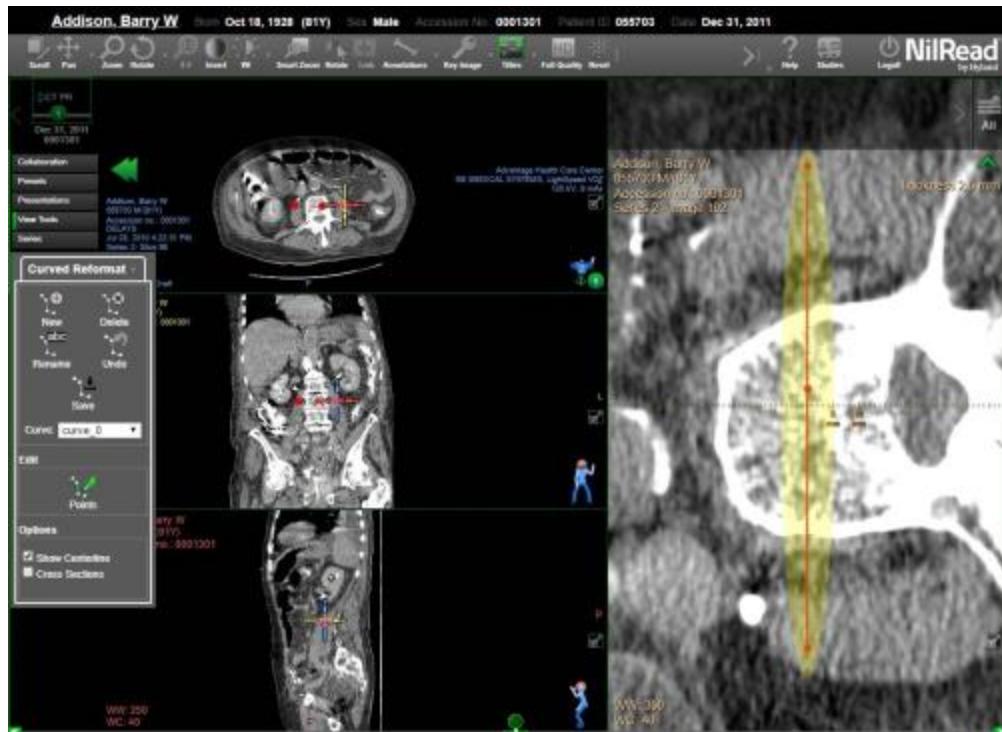
Create a curved reformat

1. Select **New**.

2. Click (or tap) to add points to the curve reformat. Once you have added at least two points, the curved reformat view is shown in the viewport on the right.

   For MPR images, points are shown as filled circles if the corresponding point is visible in the current MPR or curvilinear view.

   On planar slabs, points are shown as filled circles (when the point is on the reformat plane), ^ (when there is a control point on a plane located closer to the current view) or **v** (when there is a control point on a plane located further away from the current view). The centerline is not displayed on planar slabs.

3. To set the focus point, right-click a seed, then select **Focus to this Seed**.

4. When done adding points, select **Save**. The curved reformat will be saved in the local database and will be available when the study is reloaded.
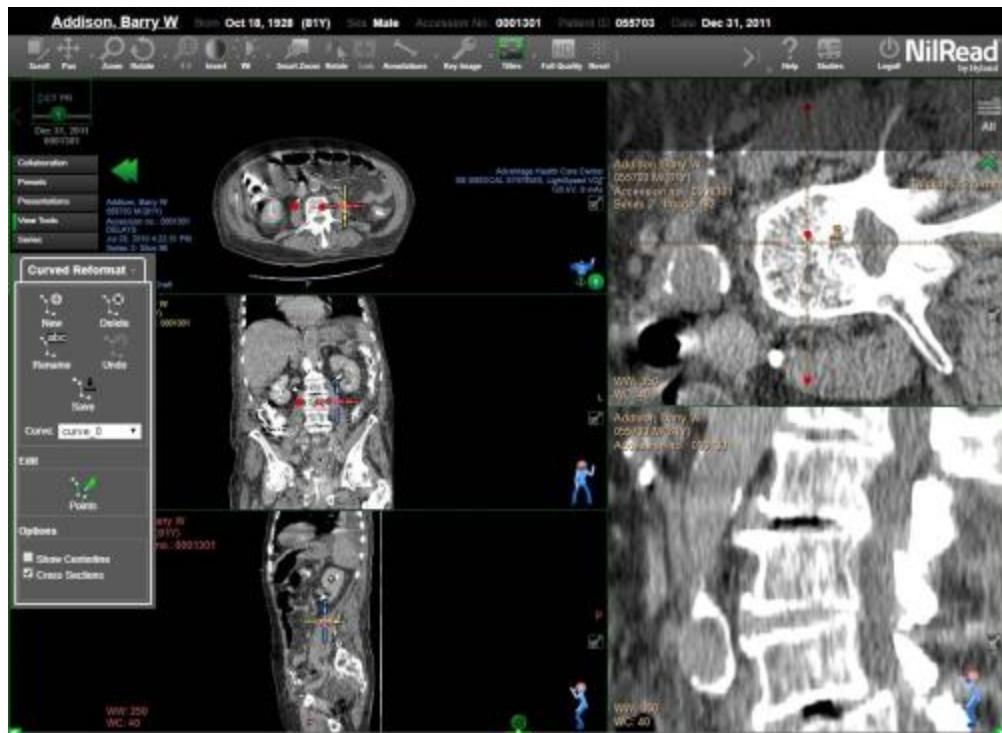
Show Centerline

Applies to the curved reformat view (right viewport). Select this option to view a polyline connecting all of the points created for the reformat.

Cross Sections

Select this option to view a cross-sectional reformatted view perpendicular to the centerline through the focus location. The cross-section is shown in the bottom-right viewport and is a reformat along the plane shown in the top-right viewport.

Edit a curved reformat

1. In the **Edit** area, select **Points**.

2. To edit a point, click (or tap) on the point, then drag the point to a new location. Select **Undo** to remove the last action you performed.

3. To move through the points, right-click a point, then select **Previous Seed Point** or **Next Seed Point**.

4. To delete a point, right-click the point, then select **Delete Seed Point**.

Rename a curved reformat

1. Select a curved reformat from the **Curve** list.

2. Select **Rename**. Enter a new name, then select **OK**.

View a saved curved reformat

To view a different curved reformat, select a curved reformat from the **Curve** list.

Delete a curved reformat

1. Select a curved reformat from the **Curve** list.
2. Select **Delete**. The curved reformat will be deleted from the local database.

Segment

Available for 3D views. Use to view and edit tissues.

> **Note**
>
> Changes made with the Segment tool are not saved when you close the study. However you can save a static screenshot using a secondary capture image (see **Share secondary capture images**).

To view a tissue:

1. Select a 3D view.
2. Select **Tissue** (side panel). The Tissue panel contains part segmentation results by tissue.
3. Select a tissue from the panel. You can select multiple tissues to view simultaneously.

To edit a tissue:

1. In the Tissue panel, select beside a tissue, then select **Segment**.

    The **Current Tissue** area shows the tissue you are currently editing. This area also contains rendering presets you can apply to the tissue.
2. You can use the **Segmentation** tool to edit the tissue. See the following section for details.
3. Select **Undo** to undo the last change made to the tissue.
4. Select **Reset** to remove all changes made to the tissue.

> **Note**
>
> If you do not select a tissue, any changes you make with the Segment tool will be saved as a new

tissue. You can also create a new tissue based on an existing tissue. If you edit an existing tissue then deselect the tissue in the Tissue panel, the edited tissue will be added as a new tissue. You can only create one new tissue.
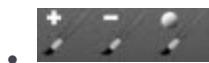
Segmentation Tools (Available on MPR viewports)

These tools select an area in close proximity to the tissue you select, then grow or shrink this area.

1. Select the type of tissue (**Tissue**, **Nodule**, **Lesion**, or **Vessel**).
2. To select an area, use of the following tools:

    - Hover over the area, then click (or tap) to select the area.

    - Drag to select the area. The tool will apply color to the area identified as part of the tissue.

NM Map

Assign a color map to nuclear medicine images.

Fusion Map

Assign a color map to fusion images.

Fusion Blend

Adjust the fusion blend level.

Cine

View the images in a study as a "movie". Use the Cine controls to:

- **Run** Play the cine.
- **Sync Run** Synchronized play of all viewports.
- **Pause** Pause the cine.
- **Speed** Change the desired playback speed. The actual playback speed is shown while the cine is playing.
- **Range** Select the range of images from the series to include in the cine, based on the current image. For example, selecting 40 will include the 20 images before the current image and the 20 images after the current image. You can also choose to include all images in the series.
- **Replay/Yoyo/Next** Replay the cine continuously, yoyo (play forwards then backwards), or select **Next** to autoplay multiple cine runs (when the current cine run is finished, the next cine run will begin automatically).

> **Important**
> Users should pay attention to the screen while the cine is playing automatically.

> **Note**
> Cine **Replay/Yoyo/Next** settings can be specified in hanging protocols. For details, see **Set up hanging protocols**.

RT Template

Apply a radiation therapy (RT) template to a study. For details, see **View radiation therapy (RT) plans**.

First, Previous, Next, Last

Scroll through the series in a study.

Use the image viewing area

Arrange images

When you open a study, the study is shown in the NilRead image viewing area. You can change the layout of the image viewing area using study layouts and views.

- **Study Layout** Apply a study layout to the image viewing area. This divides the area into multiple "screens". You can drag a different series into each screen, allowing you to view multiple series simultaneously.

- **View** Apply a view to a screen. A view is a predefined viewport arrangement specific to a clinical scenario. Some views display a single viewport while others display multiple viewports, each with a different type of visualization. You can apply different views to each screen or apply the same view to all screens.

For common uses of layouts and views, see **Sample layouts and views**.

Apply a study layout to the image viewing area

1. Select **Study Layout** (toolbar).
2. Select a study layout. The study layout is applied, dividing the image viewing area into multiple screens.

Apply a view to a screen

1. Click (or tap) a screen, then select **View** (toolbar).
2. To apply the same view to all screens, select **Apply View Mode to Whole Screen**.
3. Select a view. The view is applied to the selected screen (or all screens).

You can drag a different series into each viewport. You can also drag a study from the patient timeline into a viewport.