Segmentation Options

The segmentation options are provided in five tabs:

- Edge Strength
- Walls
- Subregion
- Semi-Automatic
- Manual

These five tabs provide access to all the segmentation tools in Segment. The segmentation tools within each tab will be discussed in this section.

Rendering

The render window provides an interactive 3D display of the segmented image data. For more information about the render window, refer to Display.

Slice

The orthogonal slice display windows provide an interactive 2D review tool of the slice data in the axial, coronal and sagittal planes. For more information about the slice display windows, refer to Display.

Display Control Tools

The Display Control tools allow users to control and customize the layout of the Segment display area. Some of these control options are unique to Segment.
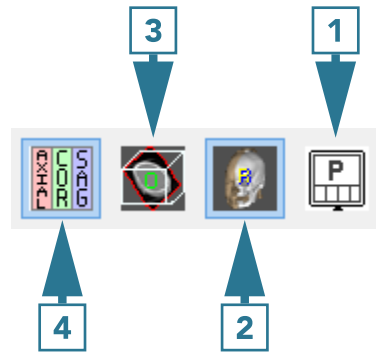
| 1 | Controls Layout |
2	Toggle Rendering
3	Toggle Oblique
4	Toggle All Orientations

Control Layout

This option allows users to control the layout of the display. Choose from Axial as Primary, Coronal as Primary, Sagittal as Primary, Render as Primary or No Primary image.
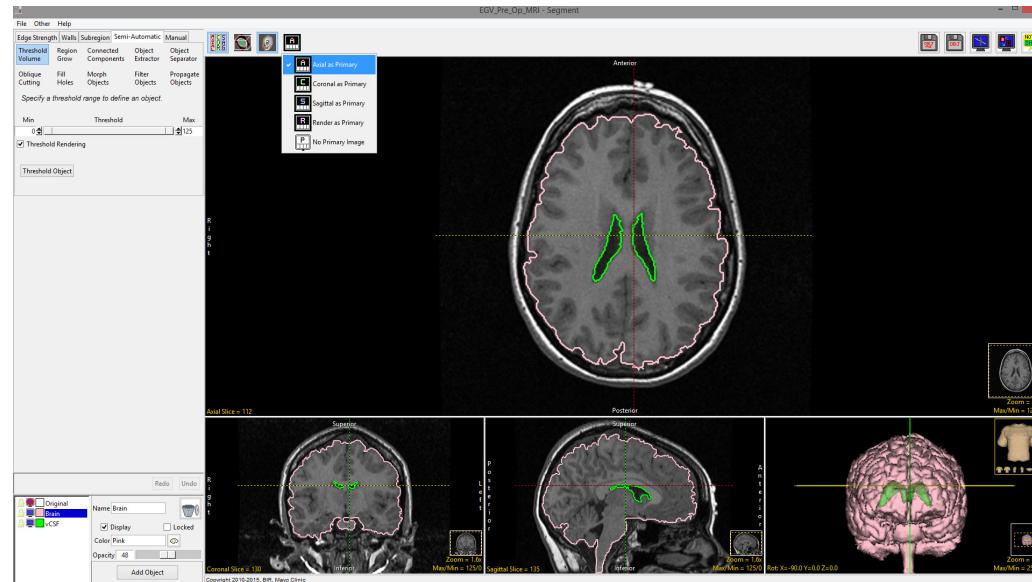
No Primary Image

This is the default selection. This option displays the rendering and three orthogonal views in four equally sized windows.
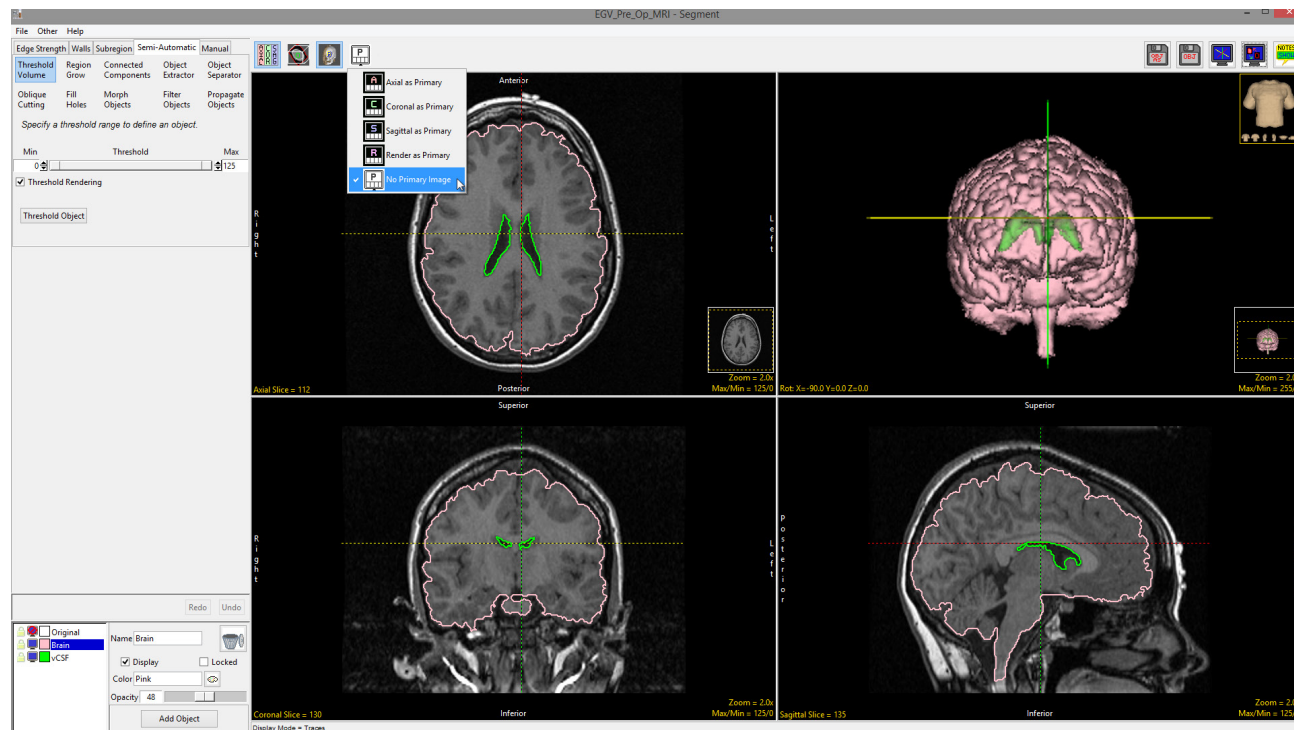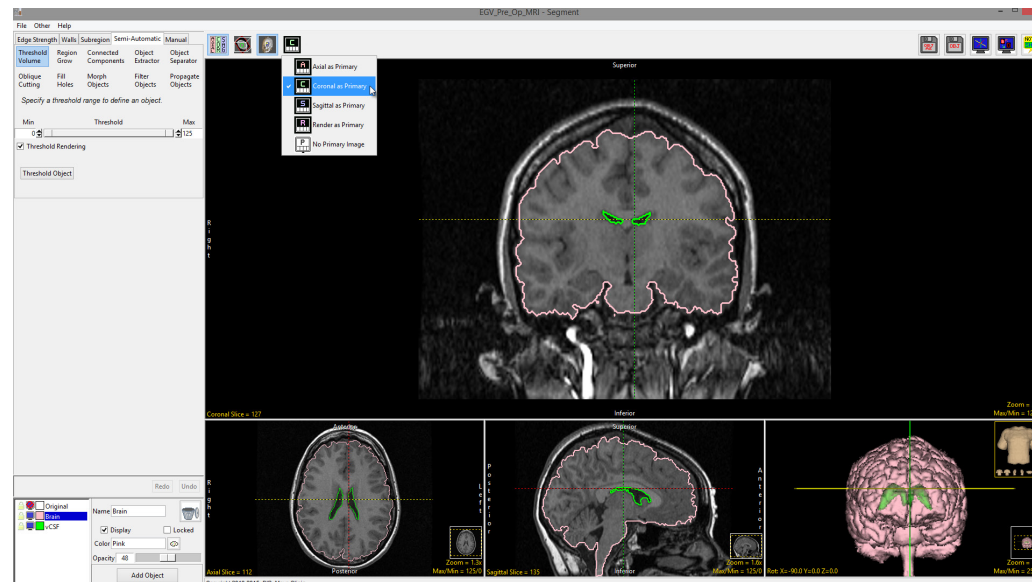
Axial as Primary

Focuses the display on the axial image. The coronal, sagittal and rendering windows are displayed below the axial window.

Coronal as Primary

Focuses the display on the coronal image. The axial, sagittal and rendering windows are displayed below the coronal window.
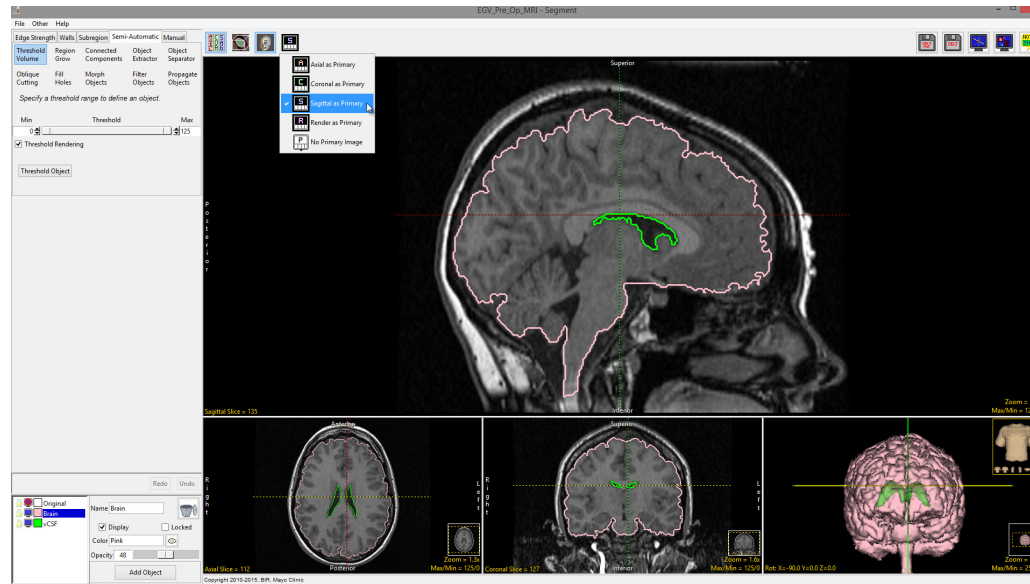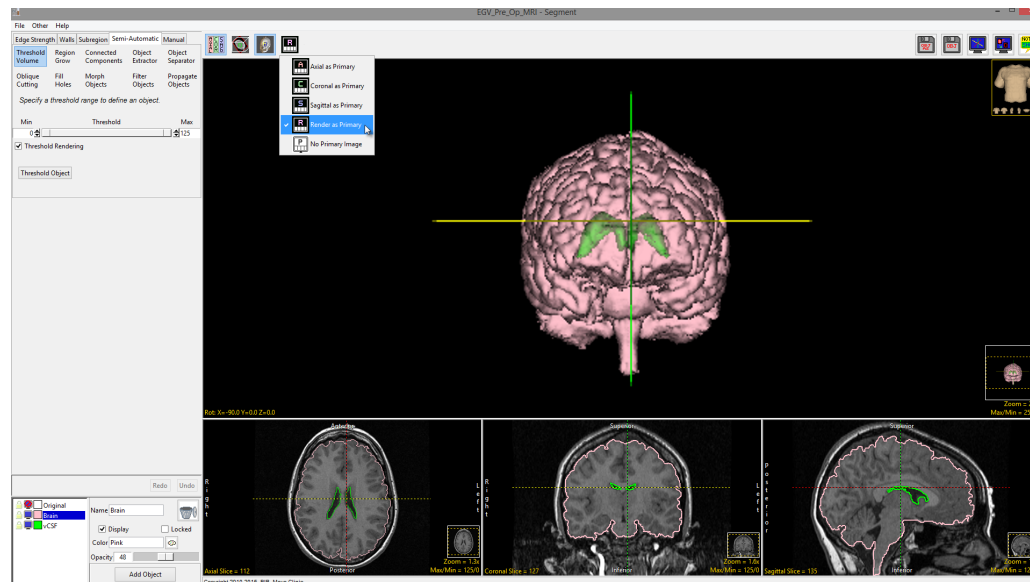
Sagittal as Primary

Focuses the display on the sagittal image. The axial, coronal and rendering windows are displayed below the sagittal window.
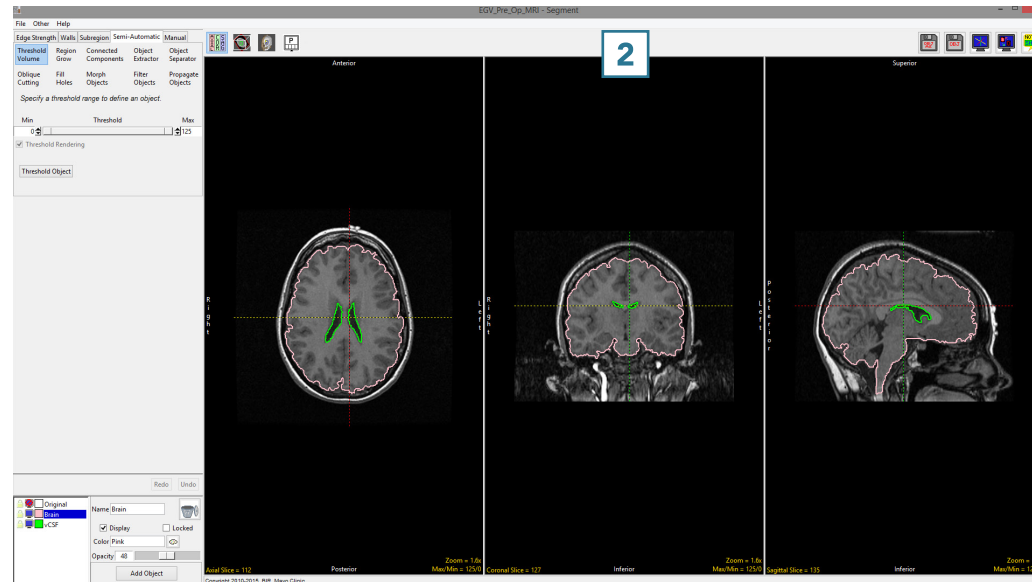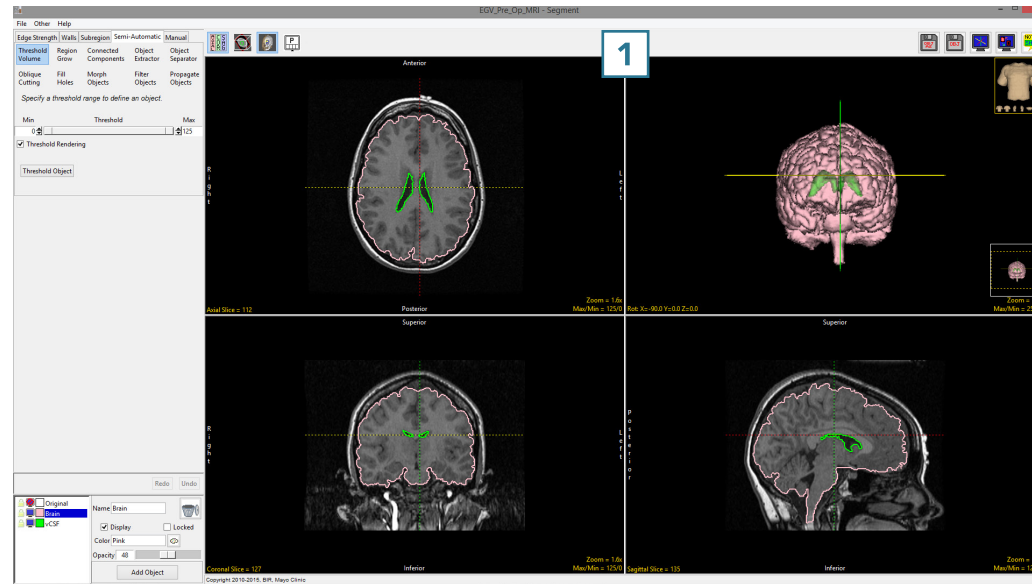

Render as Primary

Focuses the display on the rendering. The axial, coronal and sagittal windows are displayed below the rendering.
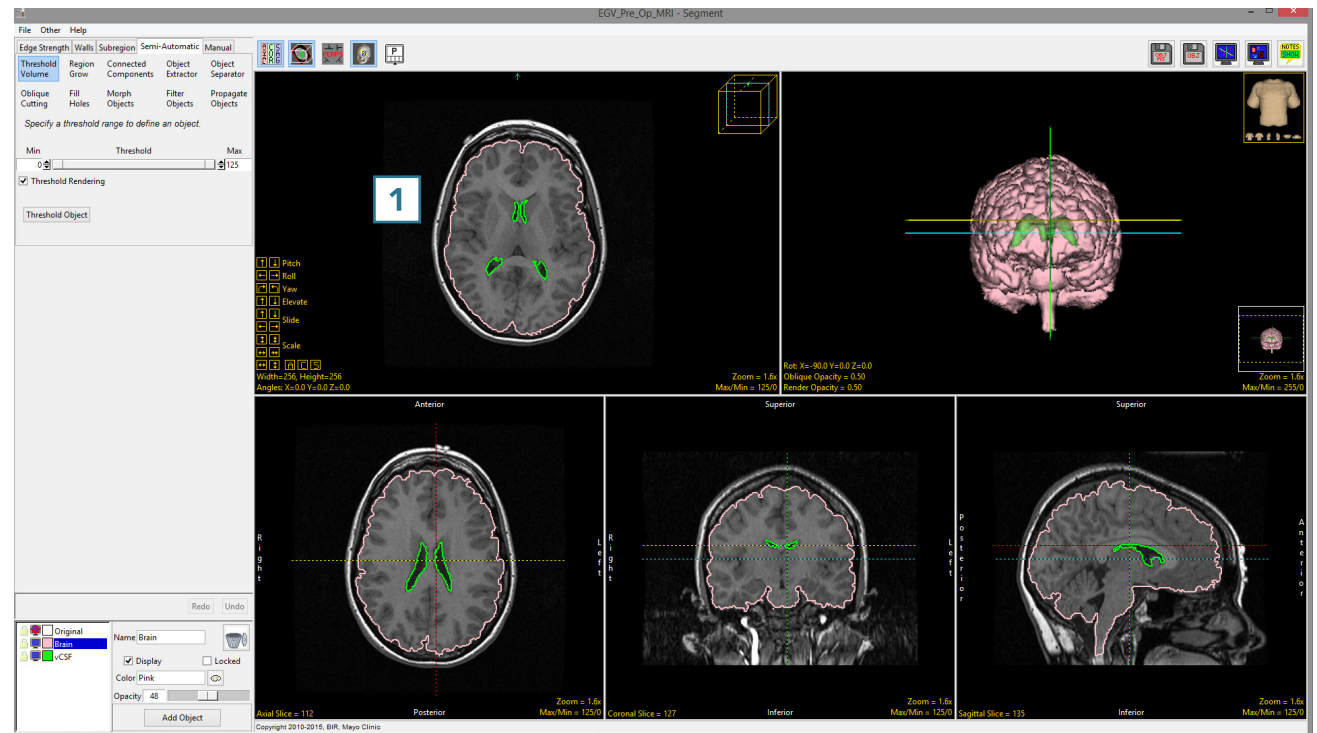
Toggle Rendering

The Toggle Rendering options allows users to switch the Render window on [1] and off. [2]
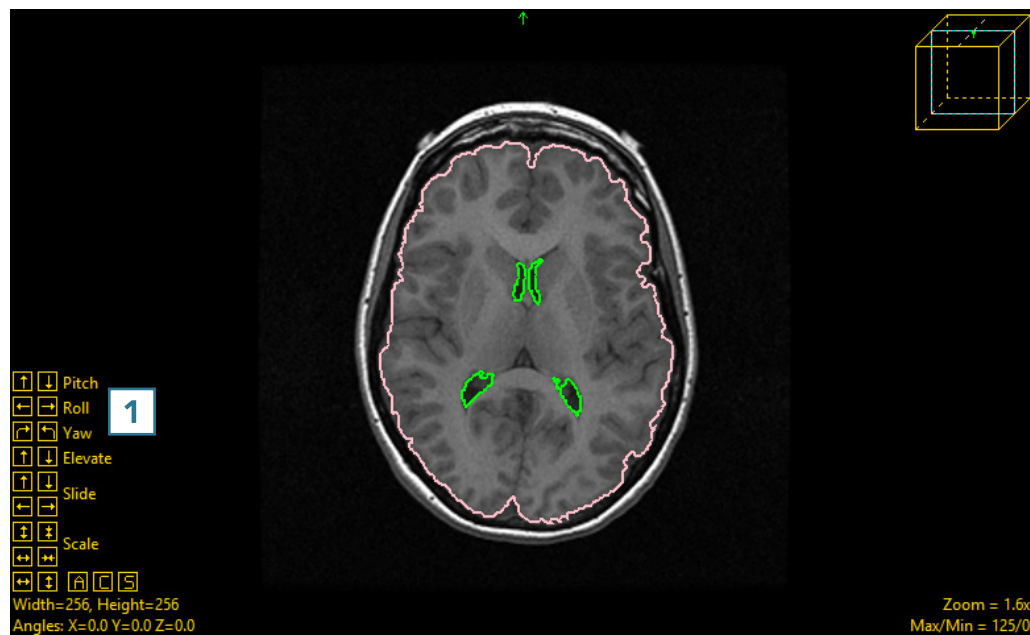
Toggle Oblique

The Toggle Oblique option allows users to switch the oblique display window **1** on and off.

The oblique window provides users with the ability to create any arbitrary oblique plane on the fly, using the control tools in the oblique window. 1

The oblique image can also be generated using the blue oblique reference line that appears in all of the other enabled windows. **2**

When the oblique image is enabled, an additional option becomes available: Toggle Perpendicular. **5**
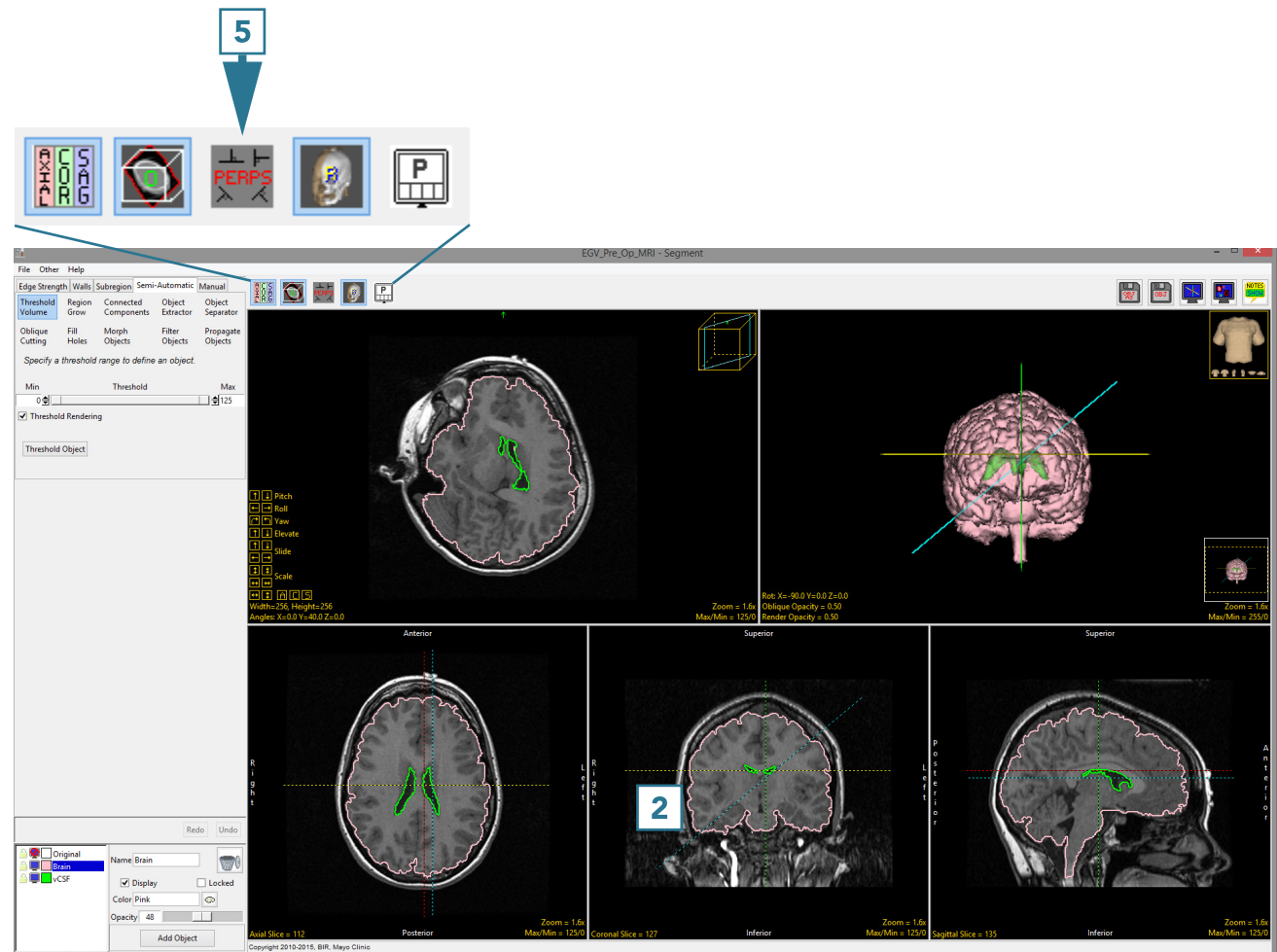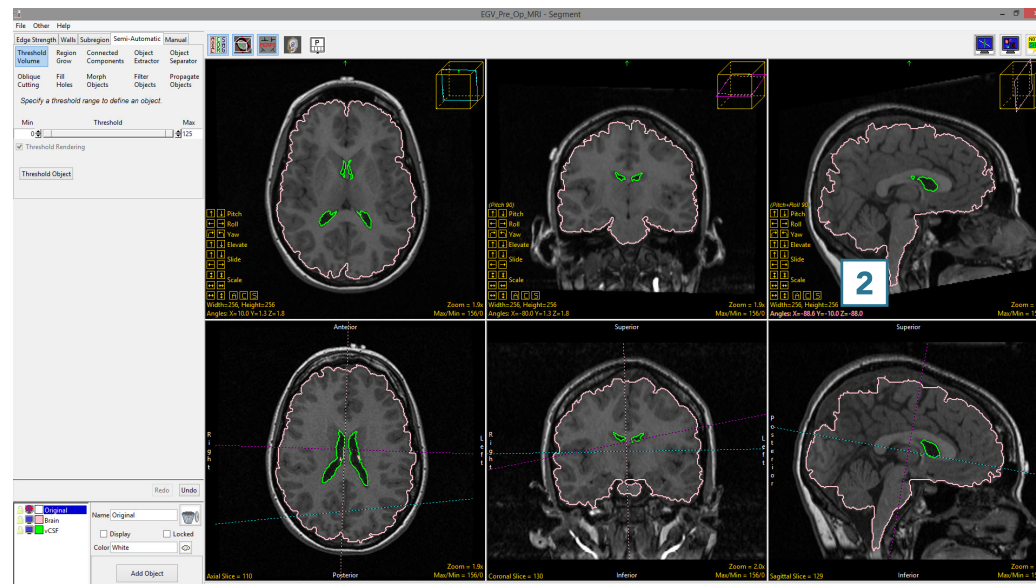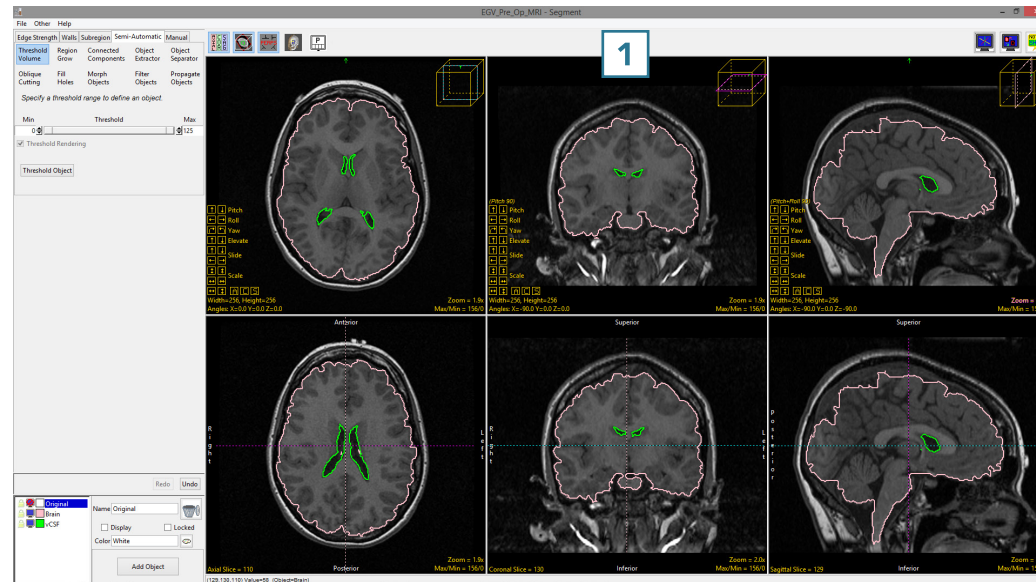
Toggle Perpendicular

The Toggle Perpendicular window provides an oblique control window for each orientation. **1**

The control tools **2** can be used to manipulate each orientation to aid users with the generation of the desired oblique plane.

When enabled, the perpendicular displays can be viewed with the Rendering toggled on. **3** While this option is up to the user, some users find the oblique reference lines displayed on the 3D rendering helpful when manipulating the oblique plane in 2D.

Users may also find it useful to switch off the linked cursor tool **4** when using the oblique reference lines.
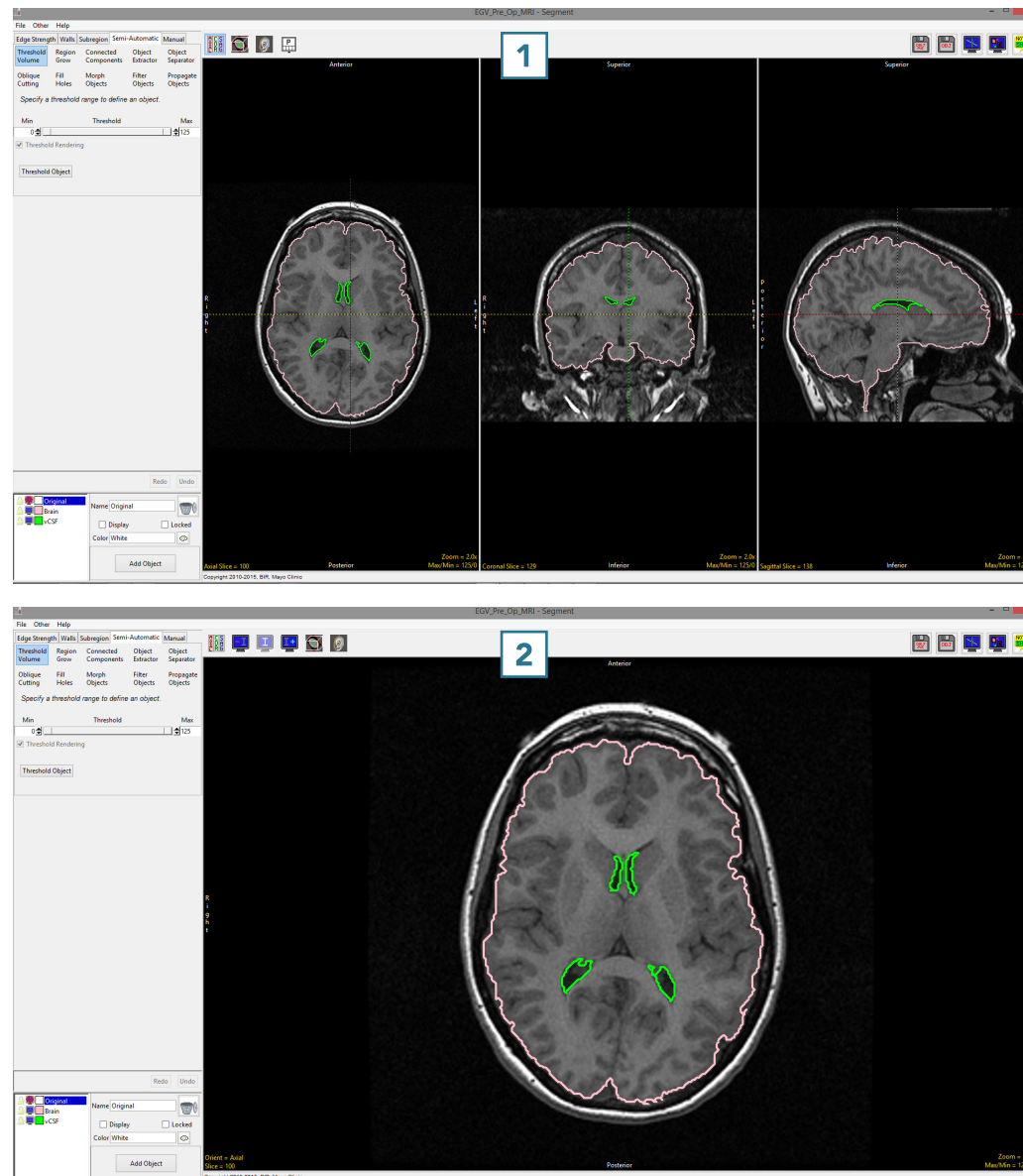
For more information about creating oblique planes, refer to the Apply Matrix exercise in the Transform section.
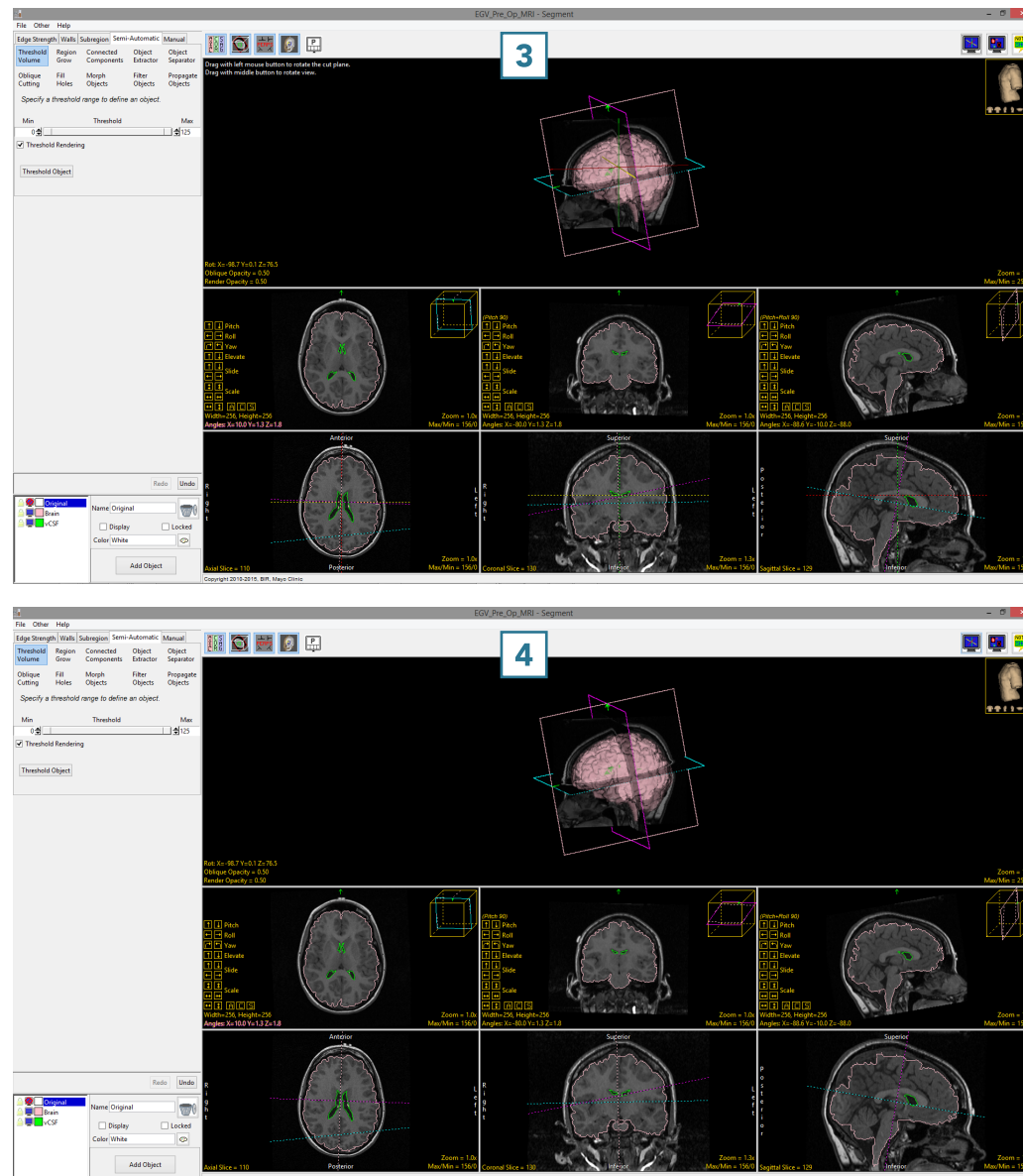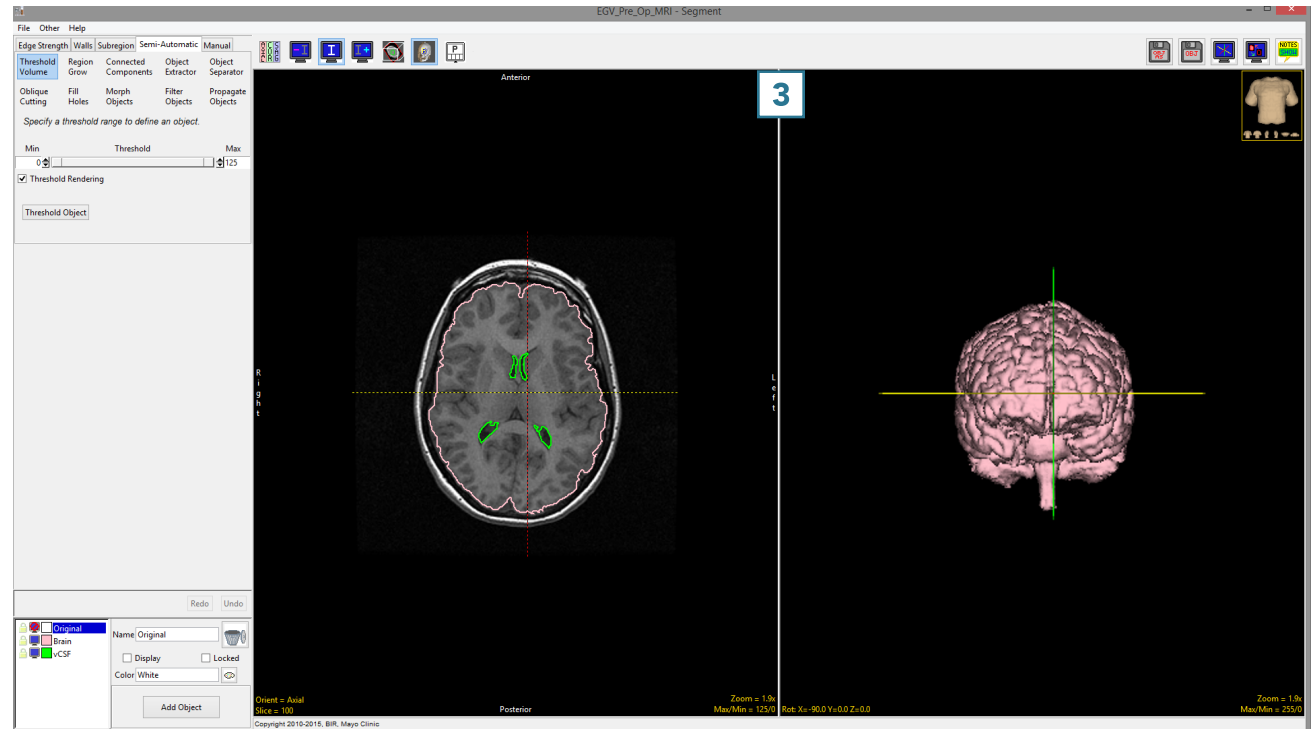
Toggle All Orientations

The Toggle All Orientations option allows users to switch between the display of the axial, coronal and sagittal 1 windows to a single image window. 2
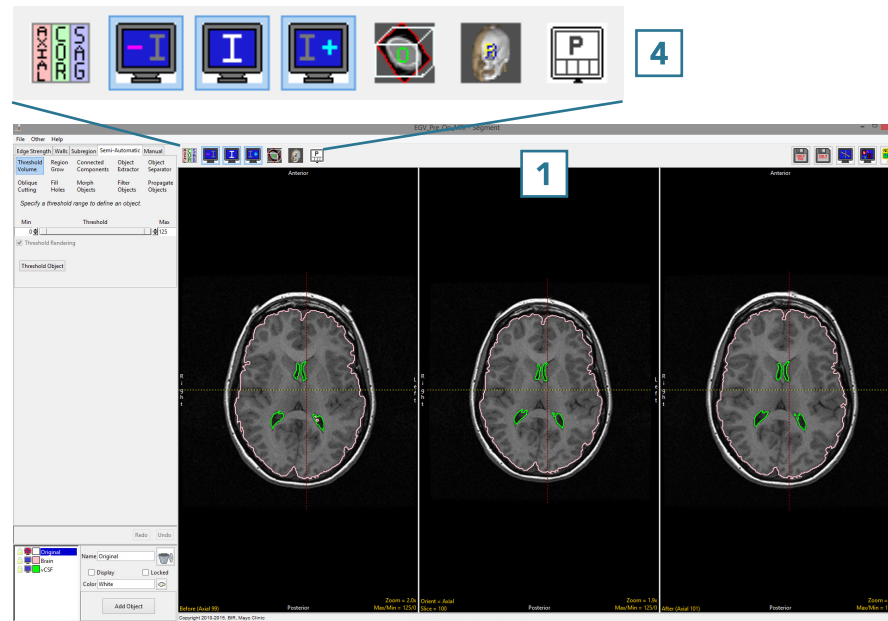
When the rendering is enabled, the 3D rendering will also be displayed. **3**

When display is toggled to single display mode, 1 additional display options are enabled. 4

The additional options allow users to display the image before [5] and after [6] the current slice. To display another orientation, click on the Orient text [7] to cycle through the orthogonal orientation displays.
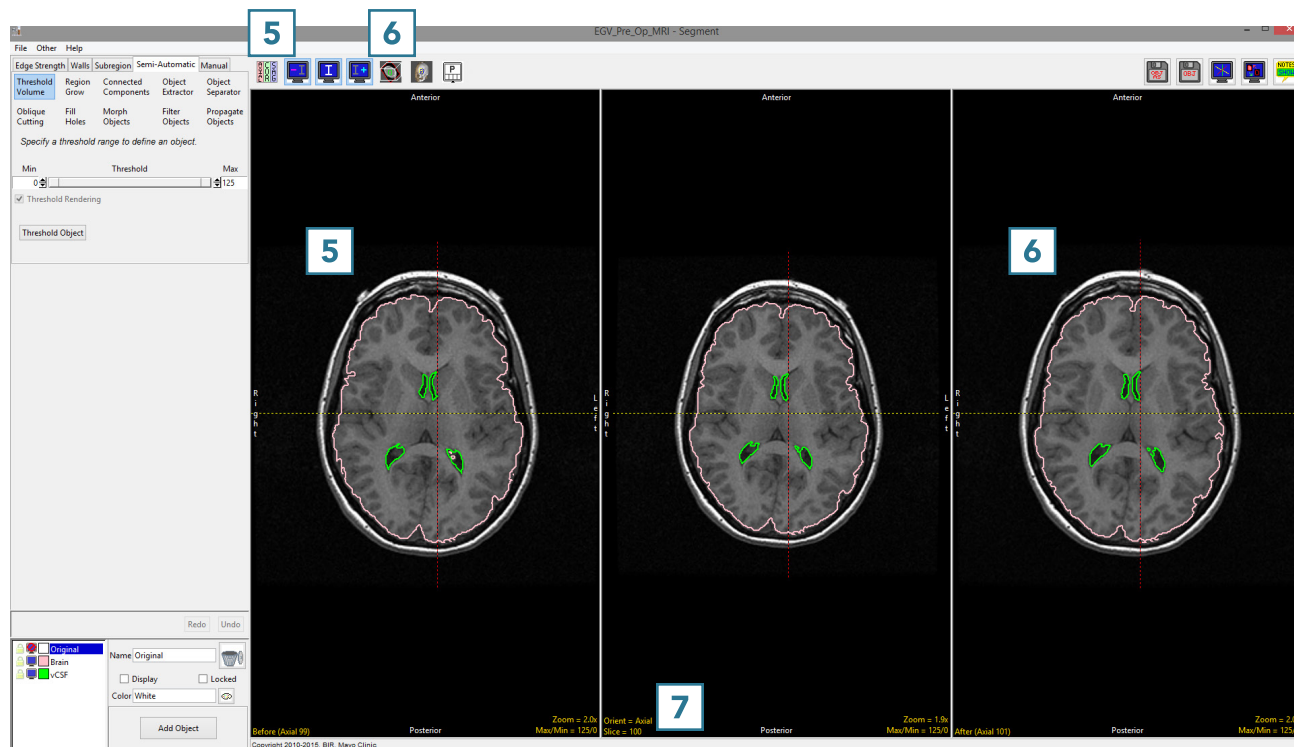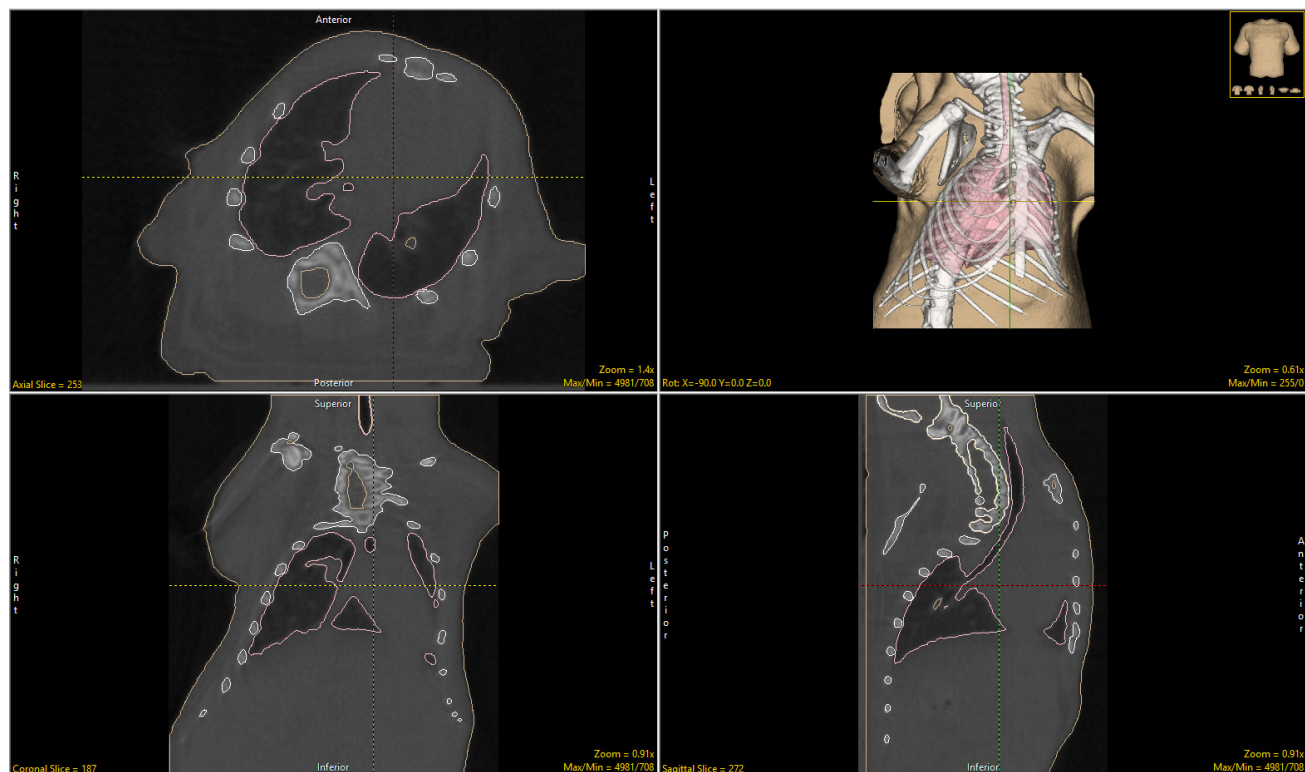
Cursor Link

The cursor link allows users to interactively navigate through the image data. The tool can be controlled from any of the 2D orientations or from the 3D rendering. Moving the tool will interactively update the corresponding slice displays.
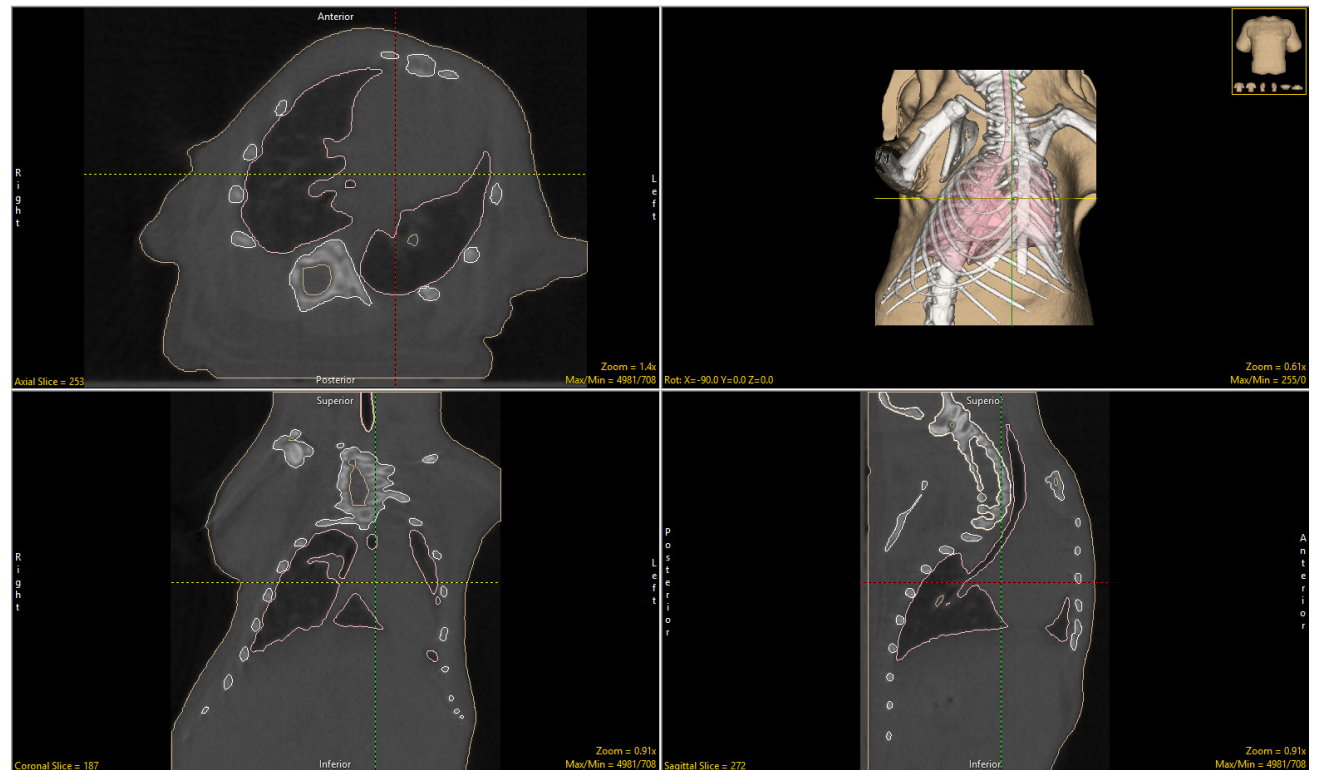
The linked cursor can be enabled or disabled using the Toggle Cursor Link button.
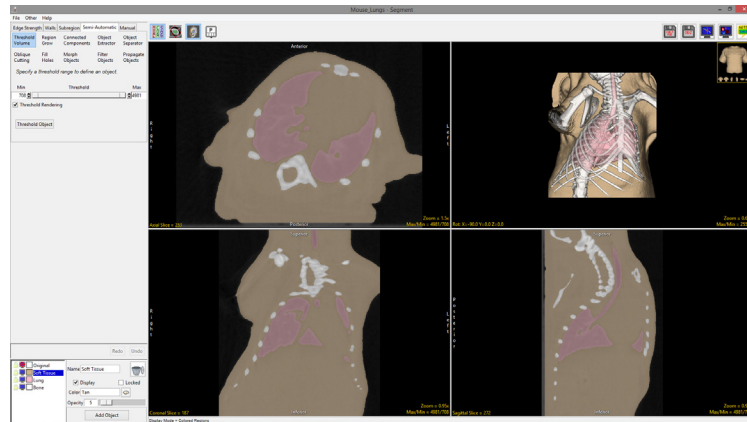
Toggle Region Display

Users have the option to change the display of objects on the 2D slices. Users can cycle through the various object display options using the Toggle Region Display button or using the t key.
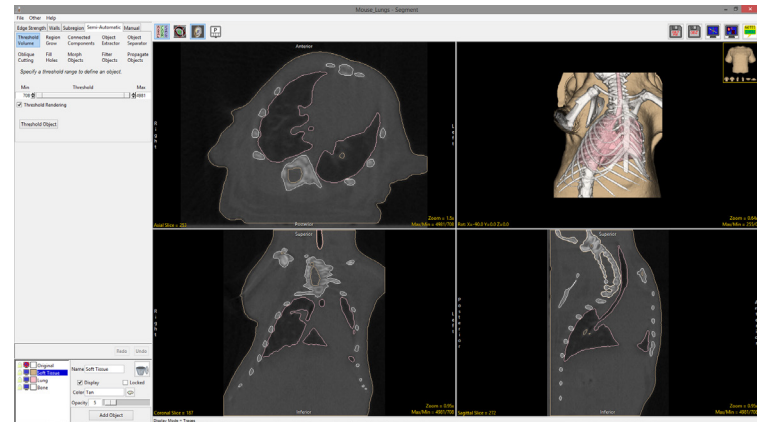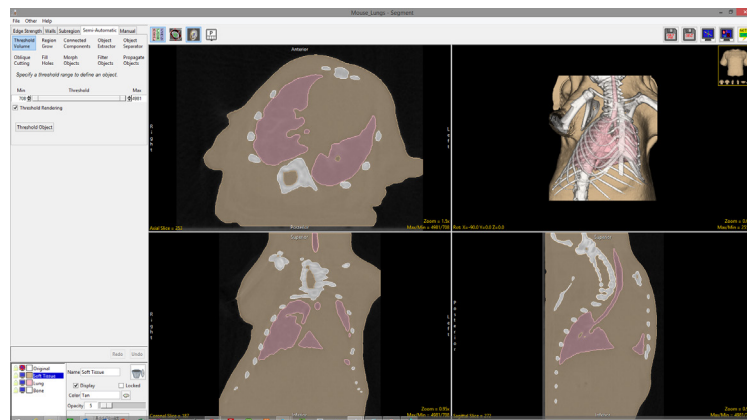
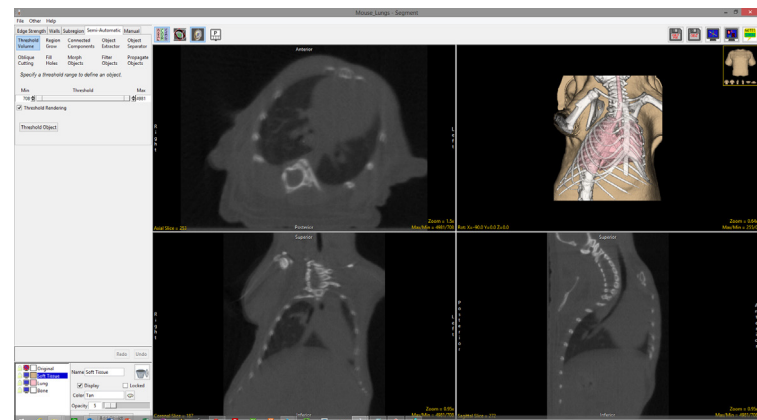# There are four object display options:

Filled Regions

Edges

Both

Off

Notes

The Notes tool in AnalyzePro allows users to annotate image data in 2D or 3D. Notes will be associated with the data set and can be loaded into other modules. Notes can be hidden or deleted at any time.
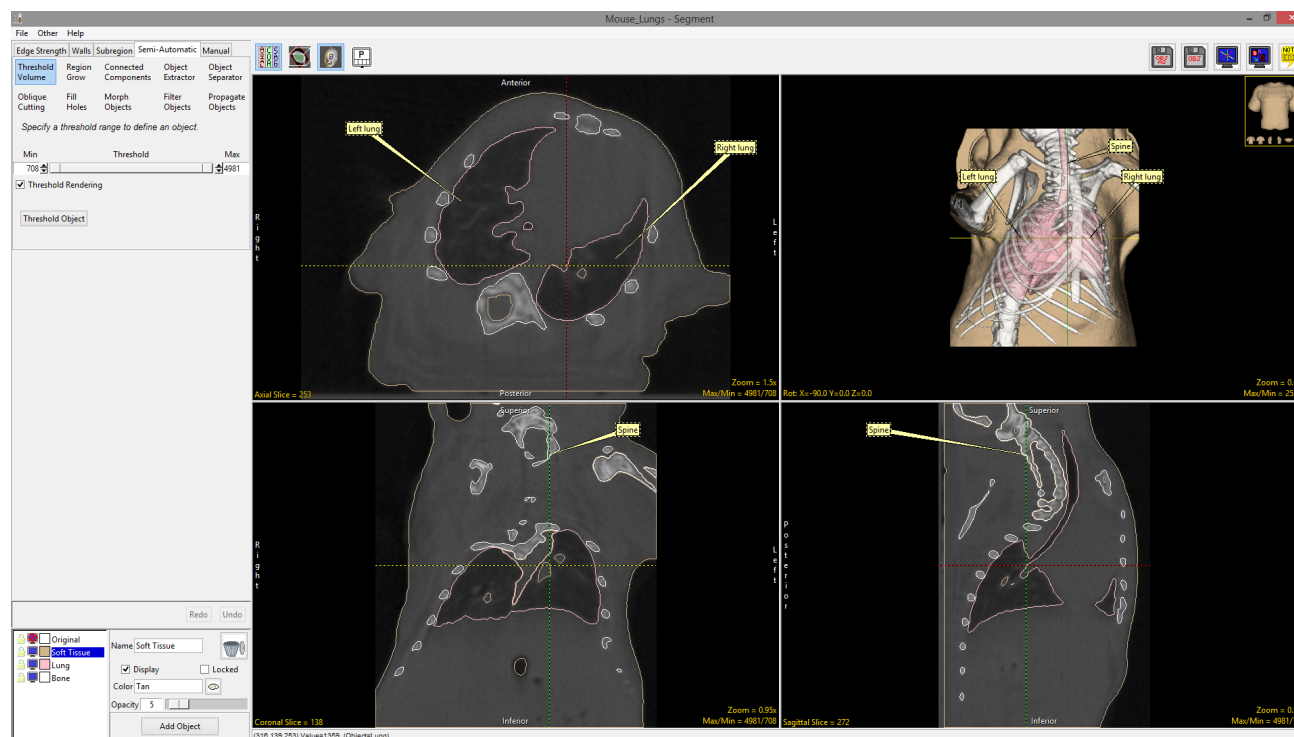

Shows notes (default).

Allows users to make and edit notes.

Hides notes.

To annotate a data set using notes click on the Notes button in the toolbar. (Note that the Edit mode will be activated.) Click on any 2D slice or the 3D rendering to create a note.

Save Object Map As

Allows users to save an object map as a new object map. This is helpful for creating copies of the original object map for editing.

Save Object Map

Allows users to quickly save edits made to the current object map. This option will overwrite the loaded object map. Use caution when using Save Object Map.

Object Controls

The AnalyzePro object controls allow users to edit object properties on the fly. The object control window allows users to edit the following object attributes:

The Name field [1] allows users to rename objects from the default assigned names.

The Color option [2] allows object color to be changed from the default color assigned to the object. The color can be edited by typing a color name in the text entry field or by selecting a color using the color picker, which can be reached by clicking the colored square next to the object name in the object list.

Object Display [3] can be switched on or off by checking or unchecking the Display checkbox or the monitor icon next to the object in the object list.

Object Lock [4] provides the ability to lock objects, which is a powerful segmentation technique. Locking an object protects objects from being written over. When an object is locked, the boundary of the object acts as a limit. This can be leveraged to help with the segmentation of objects that are spatially connected. Some semi-automatic tools do not observe locked objects. Before such a tool is used, a dialog box will appear notifying the user of this.

Opacity: [5] Right-clicking on the rendering and choosing Transparency allows the opacity of each object to be manipulated to enhance display of objects. Object opacity can be manipulated by using the opacity slider or by entering a value in the text field.
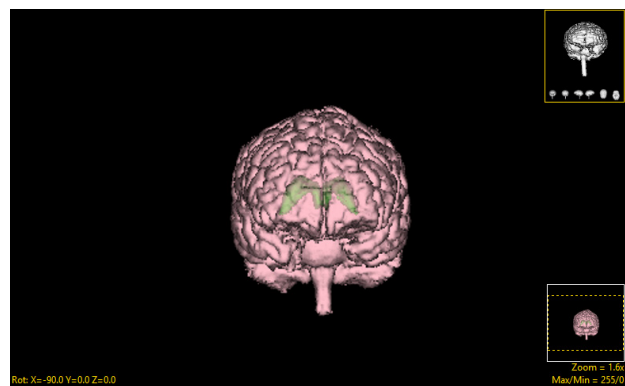
Delete [6] allows users to remove objects. Voxels assigned to an object that is deleted are reassigned back to the Original object.

Add Object [7] button allows users to add new objects to the object map.
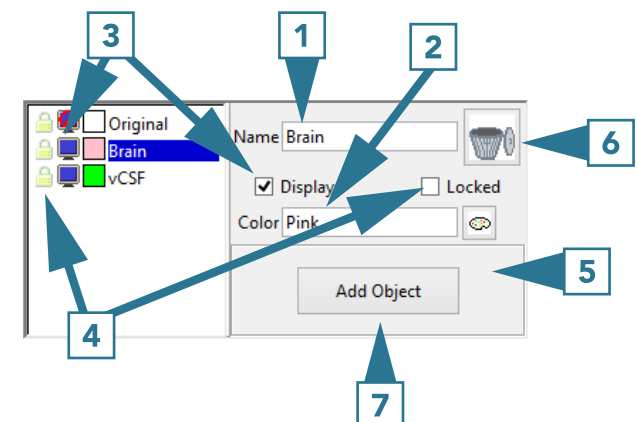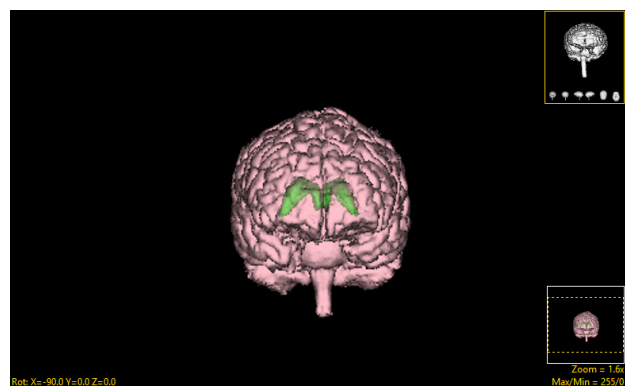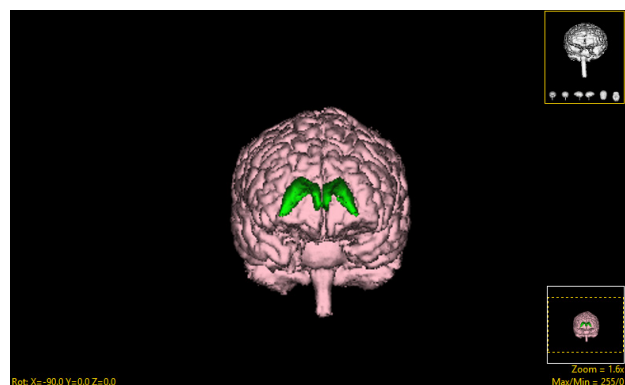
The effect of changing the opacity level of the brain parenchyma object.

70%

50%

5%