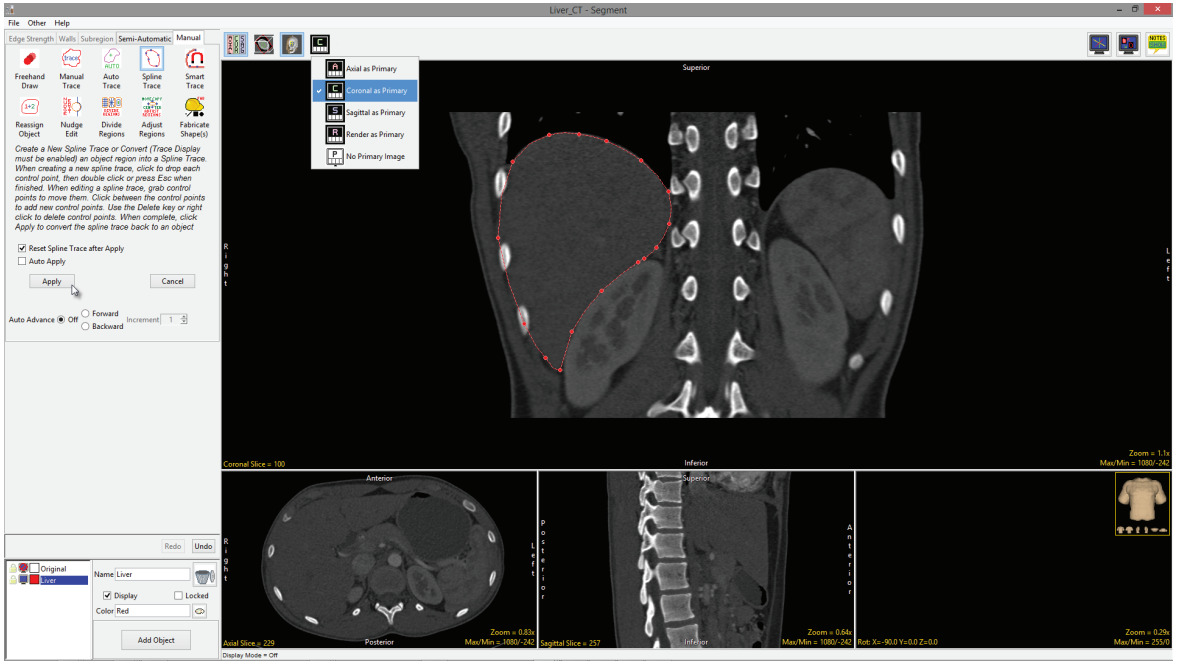
Propagate Objects

The Propagate Objects tool uses shape-based interpolation to extend the definition of a region to slices of the volume on which it was not defined. For example, if the user defines a region on every fifth slice, this tool could be used to fill in the region on the skipped slices. The user must specify the direction in which objects are propagated by choosing the orthogonal orientation in which they were defined. A smoothing option is available which filters the objects to produce a smoother segmentation result.



The following options are available:

Propagation Type: choose between propagating the current object (default) selected from the object list or all objects in the object list.

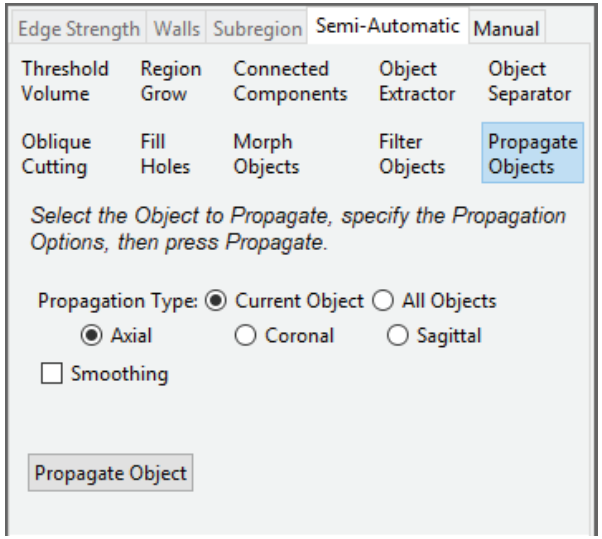
Axial: Select axial if the regions to propagate were defined in this orientation.

Coronal: Select coronal if the regions to propagate were defined in this orientation.

Sagittal: Select sagittal if the regions to propagate were defined in this orientation.

Smoothing: Enables a smoothing operation to be applied to the object(s) after propagation is completed.

Propagate Object: Initiates the region propagation process.

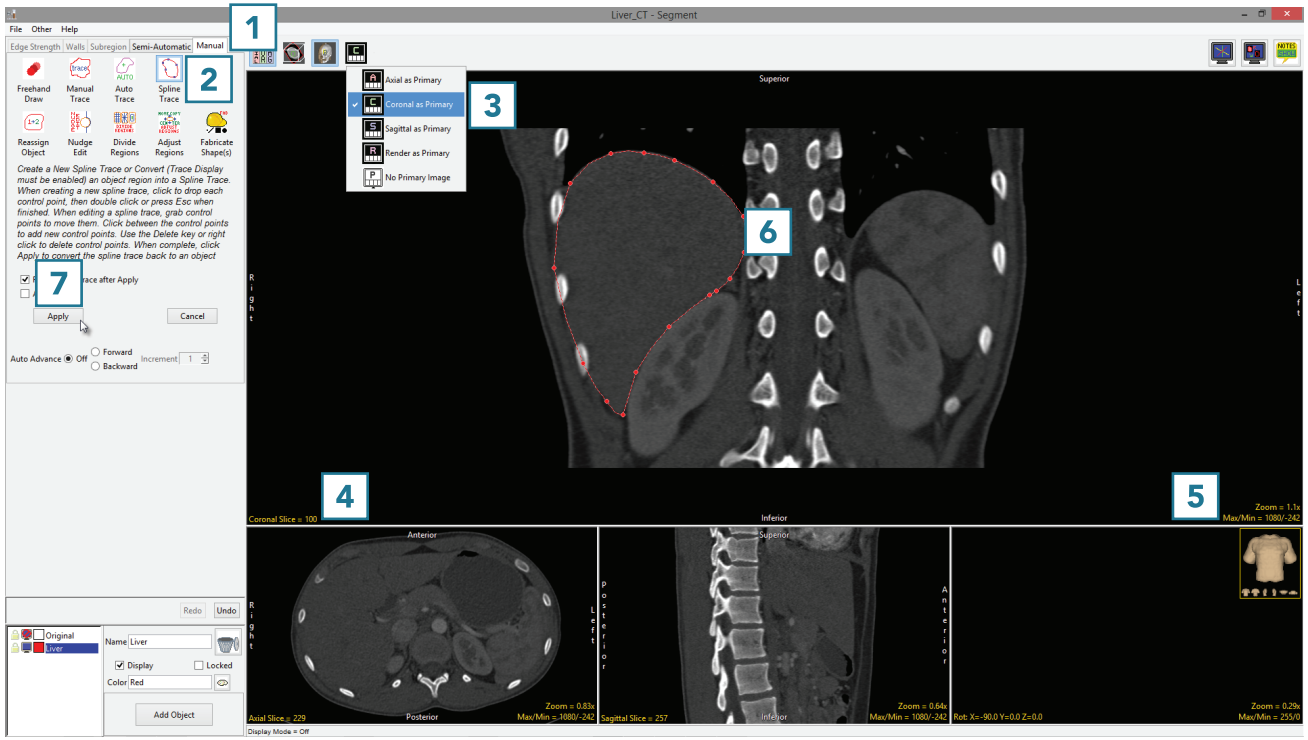


Using Propagate Objects

Here we will extend the definition of a region using Propagate Objects.

To follow along, download the data set CT_Liver from analyzedirect.com/data and load into Analyze using Input/Output.

- Select the data set and open Segment.
- Select Manual [1] and choose Spline [2].
- Set the primary display to Coronal [3] and double-click on Slice [4] to move to coronal slice 100.
- Adjust the display intensity, [5] if desired.
- Trace a spline around the liver [6] and select Apply [7].



Using Propagate Objects (continued)

- Move to coronal slice 125 and trace the liver [8].
- Repeat on coronal slices 150 [9] and 175 [10].

- Select Semi-Automatic [11] and Propagate Objects [12].
- Set the propagation orientation to Coronal [13] and click Propagate Object [14].
- After the object propagation process is complete, the liver object will be defined from slice 100 to slice 175. The object can be reviewed in each orientation and the 3D rendering.