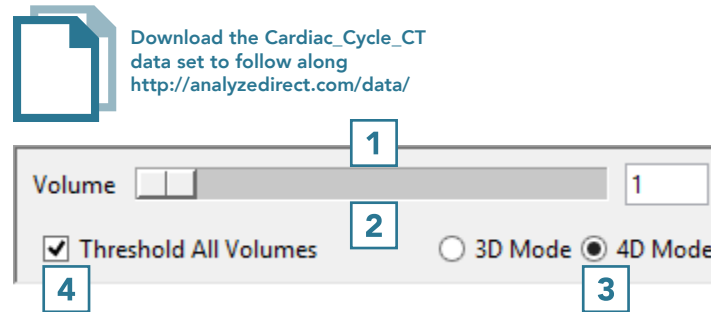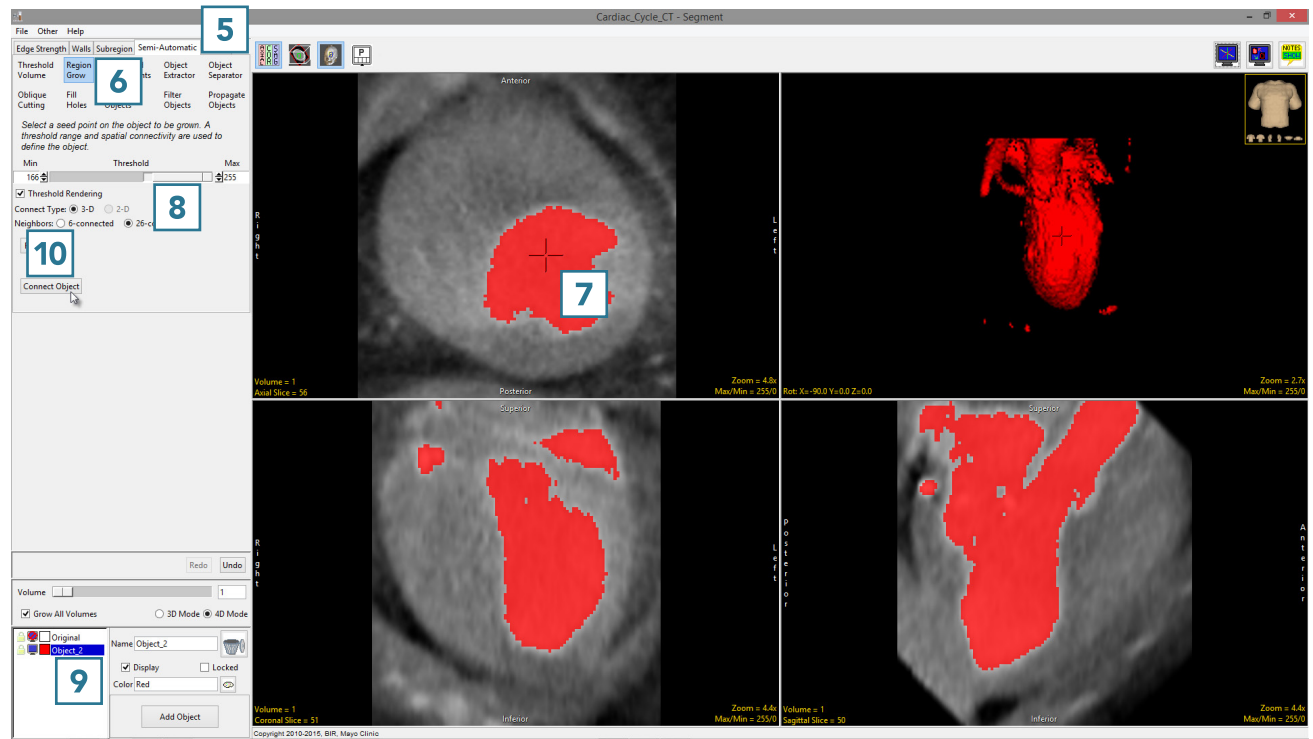# 4D Segmentation

Segment supports 4D multivolumes. Users can use all of the segmentation tools to derive 2D, 3D, or 4D regions of interest. Segmentation using many of the Semi-Automatic tools can be configured to automatically propagate to the next 3D volume in the 4D multivolume as soon as the first segmentation is complete.

- Load the Cardiac Cycle CT data set into AnalyzePro.
- Select the multivolume and open Segment.
- A Volume control window will be available above the object control window. **1**
- The slider **2** allows users to navigate through the 3D volumes in the multivolume.
- The window also provides the user with options to create a 3D or 4D object map **3** and to enable or disable the currently selected semi-automatic segmentation tool to be applied to all volumes in the multivolume. **4**

**Download the Cardiac_Cycle_CT data set to follow along**
**http://analyzedirect.com/data/**

**1**

Volume [====]                                              1

**2**

☑ Threshold All Volumes          ○ 3D Mode  ● 4D Mode

**4**                                                          **3**

- Select Semi-Automatic [5] and choose Region Grow. [6]
- Set a seed point in a blood pool [7] and set a threshold range to isolate the object of interest. [8]
- Confirm mode is set to 4D and the Grow All Volumes option is checked. [9] Click Connect Object. [10]

Segment will isolate the object from the first volume of the multivolume. After segmentation is complete, the parameters used to isolate the object from the first volume will be copied to the next volume and the blood pool will be segmented on the second volume. This will continue until all volumes have been processed. Use the volume slider to navigate through the multivolume to review the segmentation results.