Fine Tuning the Basal Plane for Function

The **Surf-QA Screen** is a quality assurance (QA) screen providing the operator the opportunity to check LV surface estimates. If the file is gated for the estimation of LV volumes and ejection fractions, the user may adjust the location of the mitral valve plane on the end-diastolic (ED) and end-systolic (ES) VLA images. Adjusting the position of the basal plane will affect the calculated chamber volumes of the heart and the calculated ejection fractions of gated studies.

STEP 1: Select the Surf-QA Screen

Once the processing limits have been set on the **Setup** Screen and the data is processed (see the Setting the Processing Limits on the Setup Screen help sheet), the **Surf-QA** screen is displayed. If the **Surf-QA** screen is no longer displayed, select the Surf-QA button as highlighted and circled in red in Figure 1. This will present the ED and ES-ventricular vertical long-axis (VLA) images for step 2.

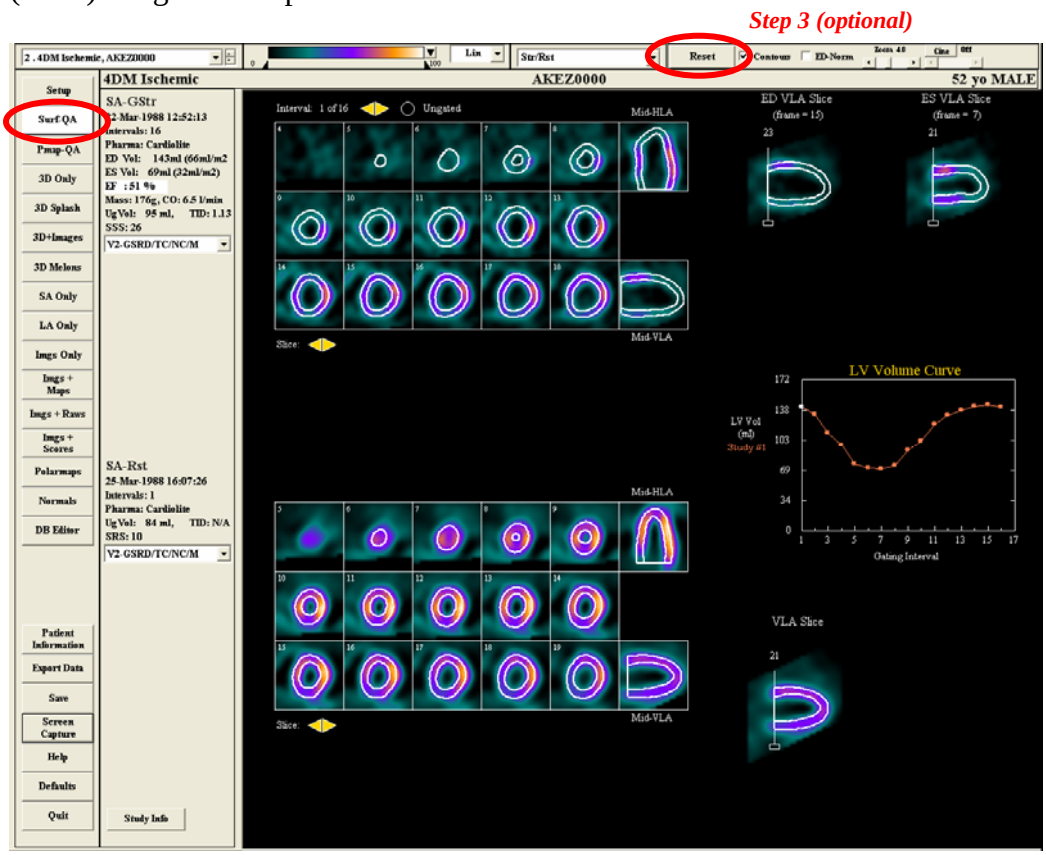

Figure 1. Surface QA (Surf-QA) screen in 4DM-SPECT application.

STEP 2: Verify the ED and ES Basal Limits

View the program-computed basal limits on the ED and ES VLA slices.

The optimal location is the position where the LV intensity falls to < 50% of the intensity as seen in the mid myocardium (anterior and lateral). Using the **ED-Norm** button will normalize the images either to the ED frame (toggle highlighted) or the ES frame (toggle unhighlighted).

If the valve plane locations are acceptable, proceed directly to the Pmap-QA screen (see the Fine Tuning the Basal Plane for Perfusion help sheet).

Figure 2 displays correctly positioned basal limits, i.e., the basal limit seen on the VLA slice pass through the center of the mitral valve plane.

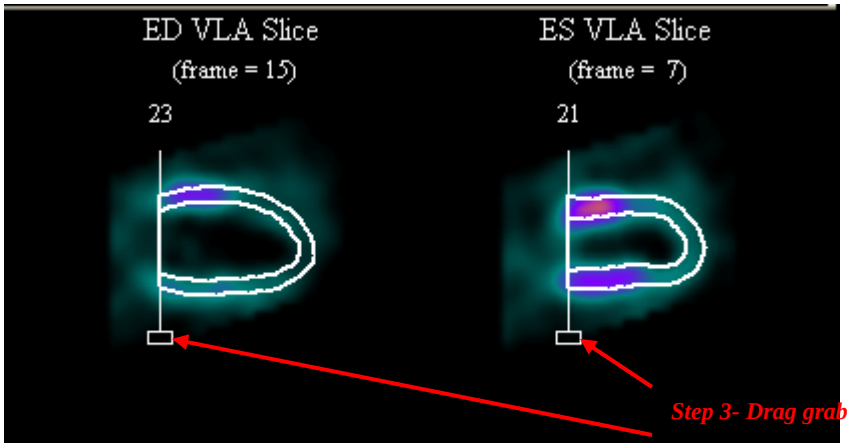

Figure 2. Proper positioning of basal plane for function on Surf-QA screen.

STEP 3: Adjusting the Basal Limits

If the limits are not acceptable, they can be modified. To adjust the position of the basal plane (on the ED VLA Slice or the ES VLA Slice):

- Place the mouse pointer over the handle on the basal limit grab bar.
- Hold down the left mouse button and drag the limit grab bar to the center of the mitral valve plane.
- Release the left mouse button.

Note: The basal limit grab bar may need to be adjusted on one or both of the displayed images.

Note: Any user modification(s) in the location(s) of the mitral valve plane may be restored to their original 4DM-SPECT values by left clicking the **Reset** button as shown in Figure 1.