

QUICK REFERENCE HOW TO USE SURF-QA

**Corridor4DM Version:**  
5.2



**Target Audience:**  
Technologists and Physicians (QA)

**Primary Workstation:**  
Processing and Reviewing

**Note:** If any basal limit adjustments are made on the **Surf-QA** screen, 4DM **automatically** updates the LVEF and TID values. Users do **NOT** need to return to the **Setup** screen and click **Process**.



**Note:** The basal limit should be placed at the center of the mitral valve plane. Optimal location is where the LV intensity falls to <50% of the mid-myocardial intensity, as seen in Figure 2 in the [Setting Processing Limits](#) Quick Reference Guide.



**WARNING!**

Users should always ensure that **ED Norm** is NOT selected prior to saving any 4DM result files because this will over-brighten the ES slices. **ED Norm** is meant for temporary use as a QA tool.



**Note:** Any user modifications to the basal limits can be restored to the original 4DM values by left-clicking on the **Reset** button at the top of the **Surf-QA** screen.



Clinical Importance

The **Surf-QA** screen (see Figure 1) in 4DM is a quality assurance tool that allows review (and modification if necessary) of the ED/ES basal plane limits and LV contours. The program uses these to calculate all **FUNCTIONAL** data such as: LV surface estimates, myocardial mass, LV chamber volumes, and the **LVEF**. Proper review (and modification if necessary) of **Surf-QA ensures that the values calculated for the LVEF of gated studies is accurate**. Although ungated studies do not produce LVEF calculations, users must still review the basal limits of the ungated datasets on the **Surf-QA** screen to ensure accurate calculation of **TID**, LV chamber volumes and surface estimates. Thus, is **always important** to review the **Surf-QA** screen after review of the processing limits on the **Setup** screen.

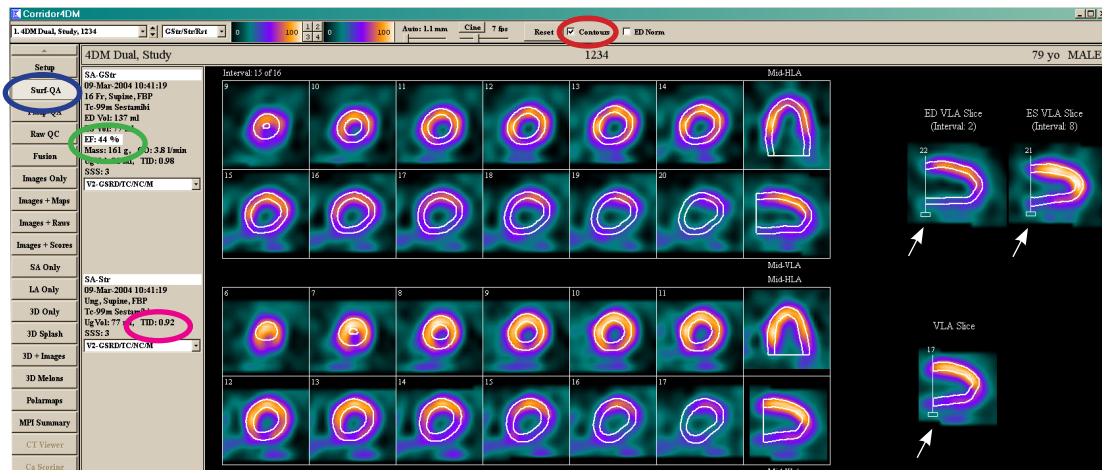


Figure 1: Shows the **Surf-QA** screen with properly positioned basal limits on both the ED and ES VLA slices. The white arrows are pointing to the ED/ES and ungated-Str VLA basal limit slider bars. Note that the **Contours** button is selected (circled in red) and 4DM has generated white contour overlays around the LV on all slices.

To access, review, and modify Surf-QA, follow these steps:

- Click on the **Surf-QA** button to access the screen (button is circled in blue in Figure 1).
- Visually confirm that the white contour overlays are properly tracking the LV surfaces. If the contours are not activated, click the **Contours** toggle checkbox (circled in red in Figure 1) and the white contour overlays will appear.
- Visually confirm that the basal limits on all VLA slices are correct. Users can better see the intensity drop-offs in the myocardium on the ED frame by deselecting **Contours** and selecting the **ED Norm** toggle checkbox (See Figure 2).
- If the basal limits need to be adjusted, left-click and drag the basal limit slider bar(s) to the desired location(s). Visually confirm that the calculated LVEF and TID values are accurate (see Figure 1: LVEF circled in green and TID circled in pink).
- Once the LV contours and basal limits are acceptable, proceed to the **Pmap-QA** screen.

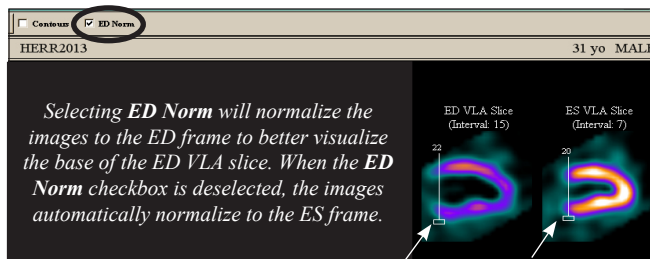


Figure 2: Shows ED/ES VLA slices with **ED Norm** selected and **Contours** deselected. The white arrows indicate proper placement of the basal limits.