

QUICK REFERENCE

SETTING PROCESSING LIMITS

Clinical Importance

The **Setup** screen in 4DM is the starting point for the quantitative processing of cardiac studies. The program relies on these initial estimates to locate the surfaces of the heart. It is important that the operator ensure that the initial LV limits are correct.

Corridor4DM Version:
5.2



Target Audience:
Technologists

Primary Workstation:
Processing

Note: 4DM software will automatically determine the LV center and the axial limits of the LV. Users should only adjust the limits if they are visually unacceptable.



Tip: Use the **rotate/reorient** feature when SA data brought into 4DM is not rotated to meet physician's interpretation guidelines.



For more assistance using 4DM colorbar controls, see Chapter 2: 4DM Screens and Controls in the Corridor4DM User's Guide.



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|----------|--|
| 1 | Proper positioning of the LV center aligns the crosshairs in the center of the lumen. |
| 2 | Proper positioning of the apical and basal limits are at the center of the apical myocardium and the mitral valve plane. |

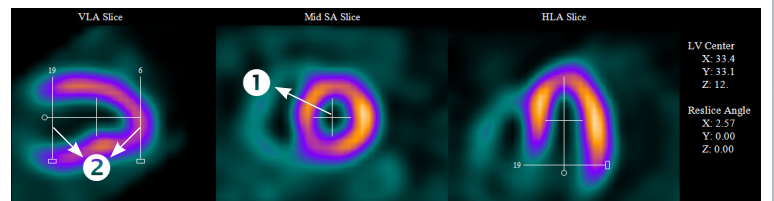


Figure 1: Examples of proper positioning on the Setup screen

If adjustments are necessary on the Setup screen, follow these steps:

- Launch 4DM with desired patient. On the **Setup** screen, **visually assess** the LV center, apical and basal limits, and orientation for accuracy.
- To **reposition LV center** (see **1** in Figure 1) left-click and drag the crosshairs on the SA image to the desired location.
- To **reposition the apical and basal limits**, left-click and drag the vertical sliders (see **2** in Figure 1). Ideal location for the apical limit is 1-2 pixels deep into the myocardium. Ideal location for the basal limit is where the intensity drops to <50% of the mid-ventricular intensity. To better distinguish the color intensity within the VLA or HLA when positioning the vertical sliders, change the colorbar. For example, the colorbar Step10 as seen in Figure 2.
- To **rotate (reorient) VLA and HLA images**, click and drag the circular rotation handle. Rotating the images in 4DM allows the user to rotate it within the program rather than exit and have to re-generate the reconstructions. The apex of the heart should be pointing towards three o'clock on the VLA slice and towards 12 o'clock on the HLA slice. See Figure 3 for another example of proper positioning.
- Click **Process** (at top of Setup screen) to apply 4DM algorithms using your new specified orientation and limits. The program will automatically proceed to the **Surf-QA** screen to check LV surface estimates.

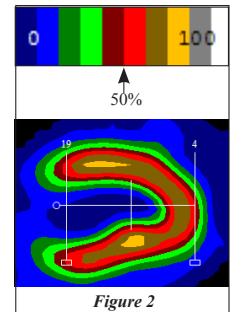


Figure 2

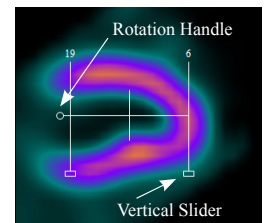


Figure 3

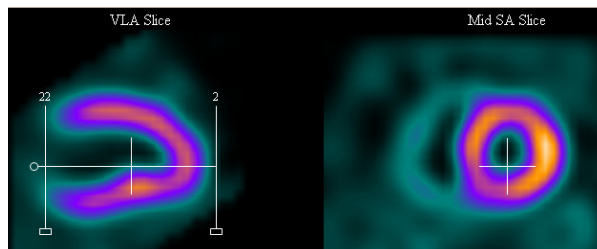


Figure 4: Shows an example of IMPROPER apical and basal limit positioning on the VLA slice, and IMPROPER LV center alignment on the Mid SA Slice.

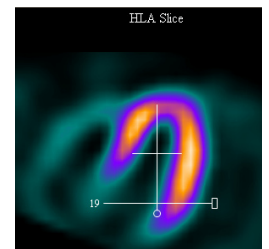


Figure 5: Shows IMPROPER image orientation on the HLA slice.