



GE Healthcare

Vivid™ Tutorial Series: Auto AVQ Tool

Automated Aortic Valve Quantification tool allowing users to perform computer assisted alignment of LVOT and Aortic root to provide metrics for the aortic annulus diameter and area.

- Available for 4D TOE AV images (mid oesophageal) in replay mode only
 - >12 FPS required
 - Ensure no significant reverberation or stitching artefacts (multibeat acquisition) are present
 - Ensure all of annulus, LVOT and root are visualised in image during acquisition.
1. Recall stored 4D view of AV
 2. Click on **Measure** tab
 3. Click on **Valve** folder, towards the bottom of the list
 4. Click on **4D Auto AVQ** to take you into the measurement tool
 5. Note image adjustment functions top right of screen, if required for image optimisation
 6. Start at **Align Views**.
 7. Select appropriate frame to perform measurement
 8. Notice the positions of the crop lines and their colours corresponding to the images displayed (90-degree rotated with respect to each other).
 9. To adjust the rotation of the image hover outside of the image to see a horseshoe shape, hold click and drag and drop into position. Notice how it changes the other images also.
 10. To adjust the position of the crop line by hovering on the middle of the line until a straight line with arrows icon appears, click, drag and drop into position.
 11. The green line aims to be at the annulus, the white and yellow lines through the centre of the LVOT and these lines should cross in the centre of the short axis view.
 12. Once completed select the next stage **LVOT Segmentation**
 13. LVOT will be automatically segmented and the result is presented in the mid systolic frame (defined as 15% of the R-R interval)
 14. Segmentation can be checked in all views by moving your cursor (blue-dashed line) through the top left long axis view whilst watching the interactive views also.
 15. You can 'lock Views' by right clicking with the mouse at a point in the frame that an adjustment is needed, then click on **Lock View** this produces a padlock on the image and then you can click to where you want to move the segmentation line to. Click on **Lock View** again to unlock the image and allow it to move again.
 16. If you wish to remove a point, double click on it and the segmentation will be updated
 17. Once satisfied with the segmentation tracking click on the next section **Measurements**
 18. Measurements taken in mid-systole are now displayed, the green line shows the measurement frame.
 19. You can drag and move the red image if desired and two different layout choices can be viewed via the **layout** tab
 20. **Store** tab, top left, will store a screen shot and can be used at any time
 21. To store the measurements select **Approve and Exit** alternatively select **Cancel**.

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