Virtual Touch™ quantification (VTq) Workflow (Liver)

1. Position patient in the left lateral decubitus position with right arm in maximum abduction. The best approach is through the right intercostal spaces. The transducer should be parallel to the ribs to reduce rib shadowing. VTq measurement should be acquired on arrested respiration. Deep inspiration is to be avoided due to potential effect on liver stiffness.

2. Once the appropriate window is obtained, activate from the Virtual Touch menu.
3. Choose Liver Assessment to designate the site you are measuring and allow measurement data to be stored in the report.

4. Under the assessment menu choose either the site number or the liver segment.

5. Once an option is selected from the Liver Assessment drop-down, all subsequent measurements will be assigned the same label until either a new label is selected or a new patient VTq. As additional VTq measurements are taken, there will be a Total/Valid count indicator for the selected Liver Assessment label. **10 measurements per site are recommended to ensure statistical adequacy.** When moving on to a different site or Liver Segment, open the Liver Assessment menu and select the desired label.

VTq ROI is perpendicular to and approximately 2 cm below the liver capsule.
6. Cursor should be positioned at least 2 cm below and perpendicular to the liver capsule.

7. Once cursor is properly positioned instruct the patient to stop breathing and select **Update**. VTq measurement should be acquired on arrested respiration. Deep inspiration is to be avoided due to potential effect on liver stiffness. System will automatically freeze the image and acquire a shear wave value. The value is displayed in m/sec.

**NOTE:** Advise the patient to breathe normally and to momentarily stop breathing and then take measurements. Avoid taking measurements during deep inspiration and breath hold as the literature cites that this action increases central venous pressure. Elevated central venous pressure can artificially elevate shear wave velocity measurements.

8. During Virtual Touch quantification acquisition, shear wave measurements may occasionally display as "X.XX m/s" in the measured results. This result indicates measurement failure and is typically caused by a low shear wave signal-to-noise ratio (SNR).

B mode image is suboptimal, causing shear wave velocity measurement failure.
9. The system will display an onscreen progress bar that counts down time until transducer is cooled and ready to acquire again.

NOTE: Be sure to store data after each acquisition to ensure that the measurement is entered into the report.