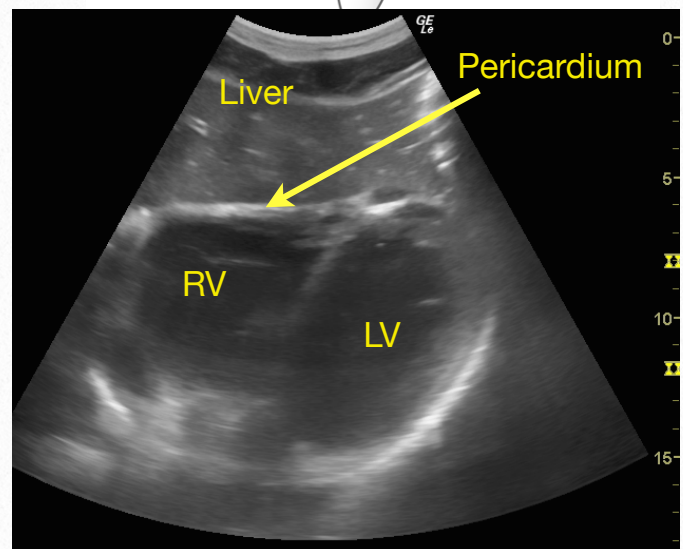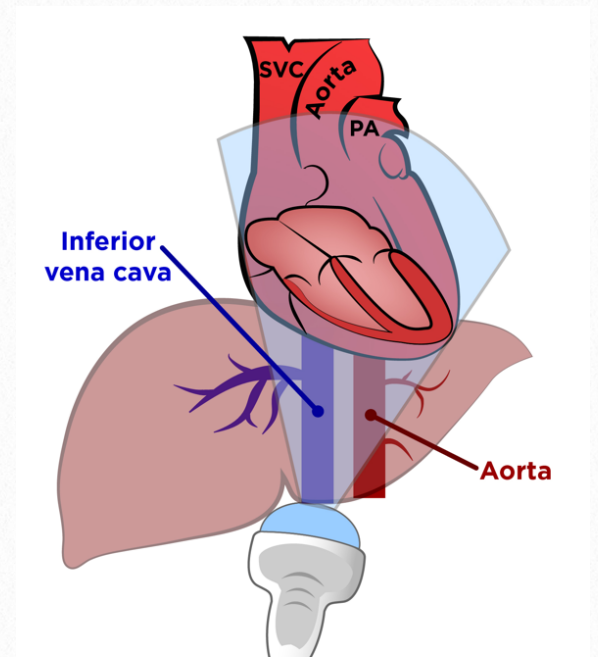# 12

Cardiac – How to Get Some Information Out of a Difficult Patient (Subxiphoid View)

Views Discussed So Far

1. Subxiphoid View to exam IVC collapsibility

2. Doppler of Carotid Artery VTI (velocity time integral) for Assessment of Volume Responsiveness

3. Parasternal Long Axis View (Left Ventricular End Diastolic Diameter, Atrial Size, E – Point Septal Separation)

4. Parasternal Short Axis View (Left Ventricular End Diastolic Area, Fractional Area change,)

5. Apical Four Chamber (LA size, Mitral and Tricuspid Valve Evaluation)

6. Apical Five Chamber (Aortic Valve Evaluation, LVOT VTI for Volume Responsiveness)

Review of Subxiphoid Pericardial View

- Probe (phased array or curved linear) placed under xiphoid, almost parallel with skin surface, indicator directed to the 3 o'clock position.

- Flexion of hips and knees reduces abdominal tension and aids in image acquisition.

- Imagine obtained via 90 degree clockwise rotation of the transducer from IVC view.

- Provides ideal view of anterior pericardium, which is the location of most pericardial effusions

- Consider pneumothorax when unable to obtain images of heart for no apparent reason

Tips for Subxiphoid View

- Use your liver as an acoustic window (without it you will get gas scatter).

- Have the patient take a deep breath and hold it.
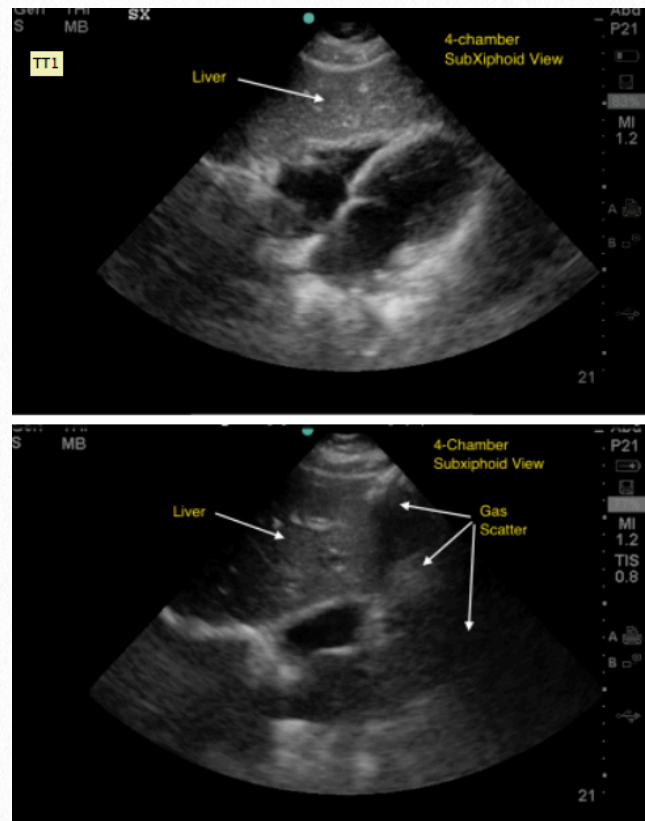
Adjustment from center subxiphoid space to the right (to have ultrasound transmit across the liver vs being reflected by gastric air.

How to Get Some Information from a BAD TTE Image

Image optimization

- Make sure you have the best window possible by moving the probe one rib space below and above the standard probe position. When manipulating the probe it is often best to work in circles around the target area to identify the best acoustic window.

- Remember to always optimize the patient's position

- If possible hold ventilation

- Apply more pressure and use adequate amount of ultrasound gel

- DO MORE EXAMS

Evaluate for markers of cardiac failure –

-When one cannot see the entire cardiac anatomy clearly try to gleam information regarding cardiac function from structures that you are able to see.

- Left Atrial Size (> 5cm = Heart Failure)

- E point Septal Separation (1.2cm = Systolic Failure)

- Use non-standard view

   - Subxiphoid window altered to get parasternal SAX "like view"