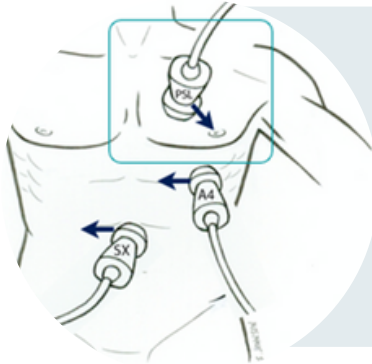


CARDIAC ULTRASOUND

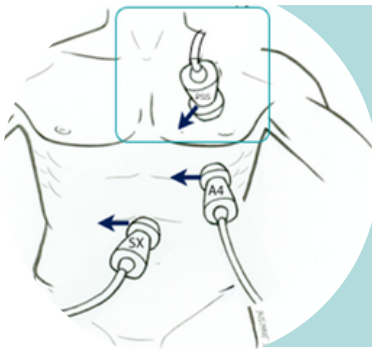
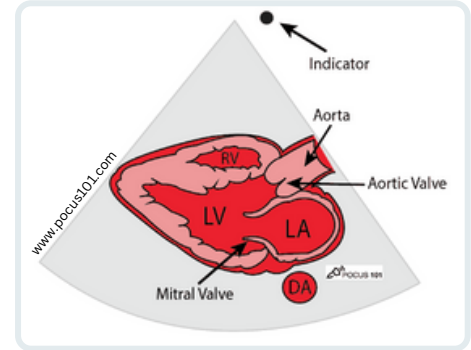
Introduction to Cardiac Views



Parasternal Long

- Start at sternum
- Translate probe left a few inches
- Point indicator towards 4 o'clock

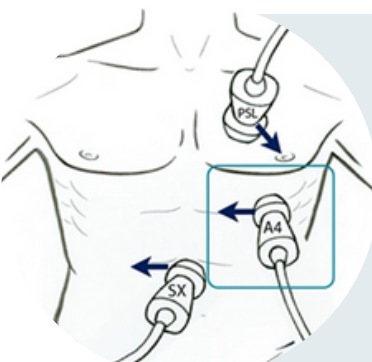
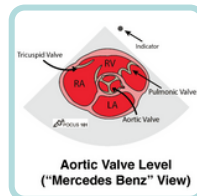
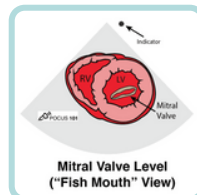
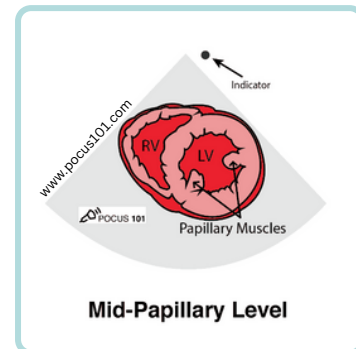
Good view for estimating ejection fraction, ascending aorta, and mitral and aortic valves



Parasternal Short

- Start at parasternal long
- Rotate probe 90° clockwise (7 o'clock)
- Fan until level of papillary muscles

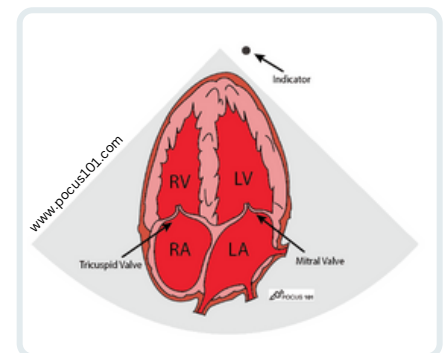
Good view for pericardial effusions, ejection fraction, acute right ventricular strain



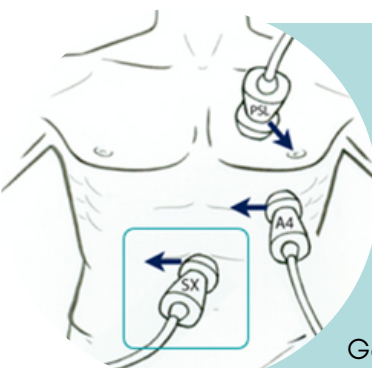
Apical 4 Chamber

- Start at inframammary fold
- Point indicator towards 9 o'clock

Good view for right ventricular free wall, left ventricular ejection fraction, assessment of atrial size, and mitral and tricuspid valves



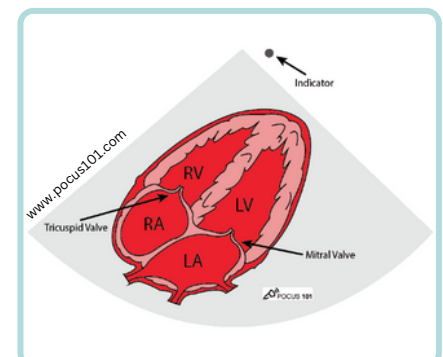
*Tip: Left lateral decubitus



Subxiphoid

- Locate sternum, then xiphoid process (lowest part of rib cage, in the middle)
- Point indicator towards 9 o'clock
- Rotate to 12 o'clock to visualize inferior vena cava

Good view for pericardial effusions, inferior vena cava



*Tip: Use liver as acoustic window

The 5 E's

to look for when looking at the heart in point-of-care ultrasound

1

Effusion

Seen in any view; can start with **PSLA** and confirm with other views



Small < 1cm, medium/moderate = 1-2cm, large > 2cm
(largest pocket of fluid measured in diastole)

2

Ejection fraction

Need multiple views to confirm, specifically **PSSA**



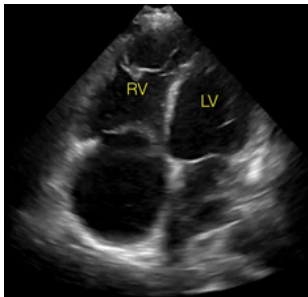
Normal > 50%, moderately depressed = 30-50%,
severely depressed < 30%
EPSS: Normal EF < 7mm, Low EF > 10 mm

3

Equality

Equal chambers

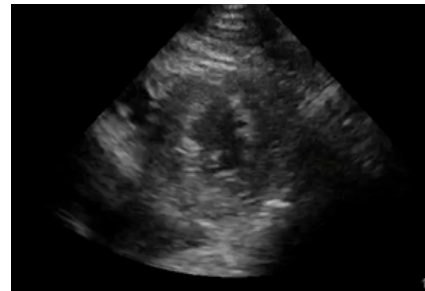
Best view: **AP4C**



Normal RV : LV ratio = 0.6 : 1.0
(RV is about half the size of LV)
Normal RV free wall thickness > 0.5cm

Regional Wall Motion Abnormality

Best view: **AP4C** or **PSSA** at the level of the papillary muscles

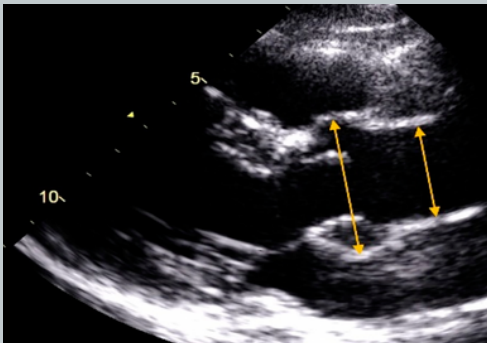


Abnormal: hypokinesis, dyskinesis,
akinesis of one or more LV segment(s)

4

Exit (aortic outflow)

Best view: **PSL**

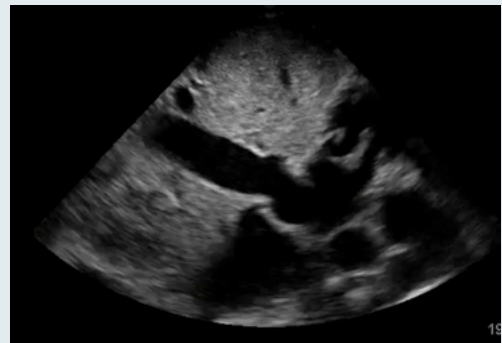


Normal RV : AOF : LA roughly the same size (1 : 1 : 1)
Normal AOR < 4cm in diastole

5

Entrance (IVC)

Best view: sagittal view of **subxiphoid**



Normal IVC < 2 cm, collapses with respiration