

University of Florida Critical Care Medicine Ultrasound Curriculum (Basic Echocardiogram competencies)

Cognitive skills in recognition of clinical syndromes (based on Mayo, Paul et al. American College of Chest Physicians Statement on Competence in Critical Care Ultrasonography. Chest/135/4 April 2009)

- Echocardiographic patterns: parasternal long, parasternal short, apical, subcostal
- Global LV size and systolic function
- Homogeneous/heterogeneous LV contraction pattern
- Global RV size and systolic function
- Assessment for pericardial fluid/tamponade
- IVC size and respiratory variation
- Basic color Doppler assessment for severe valvular regurgitation (as screening method only)
- Severe hypovolemia: small, hyperdynamic ventricles; small IVC with wide respiratory variations
- LV failure: Global LV systolic dysfunction; heterogeneous contractility pattern suggest of myocardial ischemia; LV cavity dilation suggestive of chronic cardiac disease
- RV failure: Acute cor pulmonale: RV dilatation and paradoxical septal motion; isolated RV dilation suggestive of RV infarct; associated findings of dilated, no collapsible IVC
- Tamponade: Pericardial effusion (regardless of size); right atrial/RV diastolic collapse; associated findings of dilated, no collapsible IVC
- Acute massive left sided valvular regurgitation: normal LV cavity size (acute valvulopathy); normal/hyperdynamic LV systolic function (LV volume overload); massive color Doppler regurgitant flow
- Circulatory arrest during resuscitation: tamponade or acute cor pulmonale (from massive pulmonary embolism); LV systolic function (cardiac standstill vs severely depressed vs hyperdynamic); global LV systolic dysfunction
- After successful resuscitation: heterogeneous contractility pattern suggestive of myocardial ischemia