University of Florida Critical Care Medicine Ultrasound Curriculum (Pleural Ultrasound Competencies)

Technical (image acquisition) and cognitive (image interpretation) elements required for competence in pleural ultrasonography (based on Mayo, Paul et al. American College of Chest Physicians Statement on Competence in Critical Care Ultrasonography. Chest/135/4 April 2009)

- ☐ Identification of a relatively hypoechoic or echo-free space surrounded by typical anatomic boundaries: diaphragm, chest wall, ribs, visceral pleura, normal/consolidated/atelectatic lung
- ☐ Identification of liver and ascites, spleen, kidney, heart, pericardium and pericardial effusion, spinal column, aorta, inferior vena cava
- ☐ Identification of characteristic dynamic findings of pleural fluid, such as diaphragmatic motion, floating lung, dynamic fluid motion, respirophasic shape change
- ☐ Characterization of fluid: anechoic; echogenicity (using liver/spleen as reference); homogeneous or heterogeneous; presence of strands/debris/septations
- ☐ Performance of semi quantitative assessment of fluid volume
- ☐ Identification of miscellaneous findings, such as pleural based masses or thickening
- ☐ Recognition of specific limitations of ultrasonography to identify pleural fluid, such as inadequate image quality due to technical limitations, subcutaneous emphysema, hemothorax, echo-dense purulent fluid, mimics of effusion such as mesothelioma or pleural fibrosis
- ☐ Knowledge of the basic terminology of lung ultrasound: A lines, B lines, sliding lung, lung point
- ☐ Identification and characterization of consolidated lung: identification of tissue density lung, with or without air bronchograms
- ☐ Identification and characterization of air artifacts suggestive of the normal aeration pattern: A lines with sliding lung
- ☐ Identification and characterization of air artifacts suggestive of alveolar interstitial patter: number and location of B lines
- ☐ Knowledge of the limitations of not visualizing lung sliding/B lines
- ☐ Identification and characterization of air artifacts to rule out pneumothorax: presence of sliding lung, presence of B lines
- ☐ Identification and characterization of findings that rule in pneumothorax: presence of lung point (both by 2D mode and M-mode)