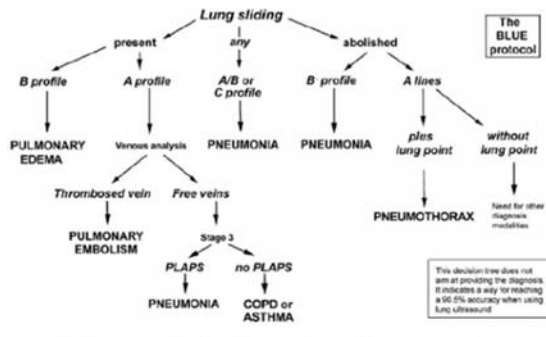


Using Ultrasound in Rapid Diagnosis of Acute Respiratory Failure

This station will review the basic elements of lung ultrasound, including the specific patterns created by air, interstitial and intra-alveolar fluid. These patterns can be used in the diagnosis of both acute respiratory failure and acute circulatory failure, and have also been proposed as a rapid, non-invasive means of assessing response to fluid resuscitation.

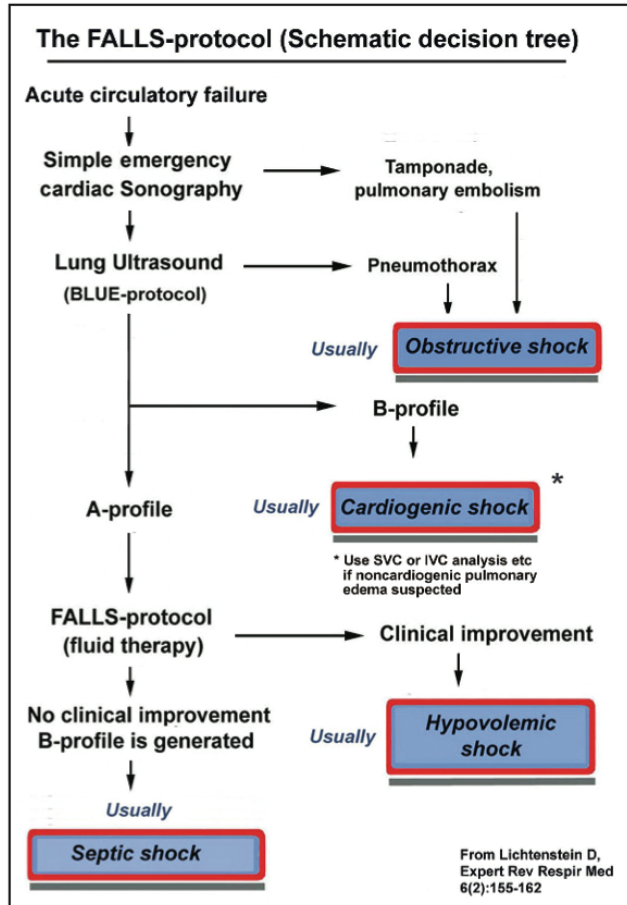
Using the Bedside Lung Ultrasound in Emergency (BLUE) protocol, distinct lung profiles, based on air and fluid distributions, can be rapidly identified and used to diagnose pneumothorax, pleural effusion, pulmonary embolism, and pulmonary edema.



A profile means predominantly A lines
 B profile means predominantly multiple anterior diffuse B lines
 A / B profile means predominant A lines on one side and predominant B lines on the other side.
 C profile means anterior alveolar consolidation(s)
 PLAPS means *posterolateral alveolar and/or pleural syndrome* detected on a lateral sub-posterior sonological examination.

From: Lichenstein et al Chest July 2008 134:117-125

Lung ultrasound can also be performed serially, as a non-invasive diagnostic tool in the setting of shock, and then as a means of assessing response to treatment. We will review the FALLS Protocol (Fluid Administration Limited by Lung Sonography), a non-invasive technique to guide resuscitation.



Through hands-on practice, participants in this session will learn to identify relevant anatomic landmarks and obtain the views required to complete the BLUE protocol. By the end of the session, participants will also be able to recognize the normal and pathologic ultrasound profiles necessary to operationalize the BLUE and FALLS protocols.