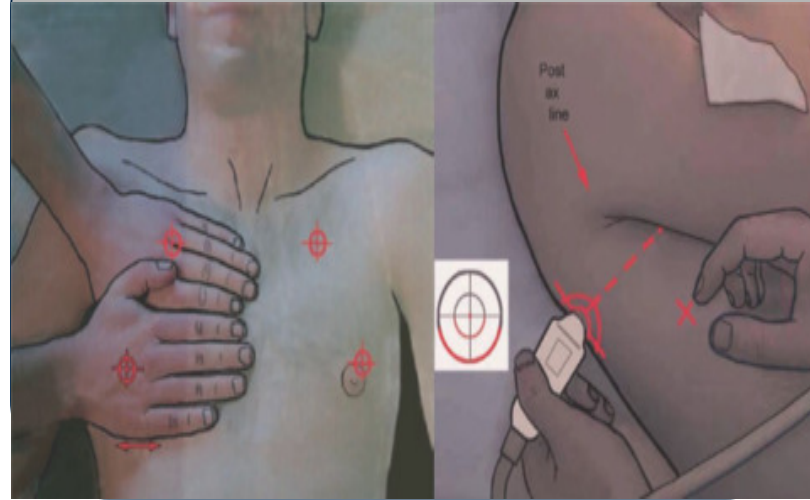


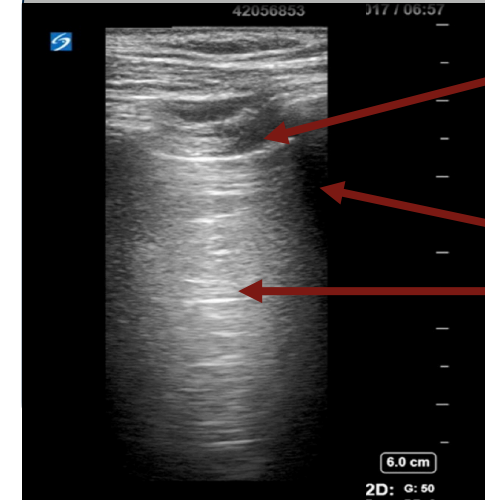
BACKGROUND

- Simplest equipment is suitable
- Gas and fluid are opposite – intermingling is pathologic and creates artifacts
- Standardized thoracic points
- Define the pleural line – all signs arise from there
- Lung ultrasound focuses specifically on artifacts

Standard thoracic imaging points



Pleura and A lines: Normal lung



Pleura: bright horizontal line, moves with normal respiration “Lung sliding”

Rib: creates shadow

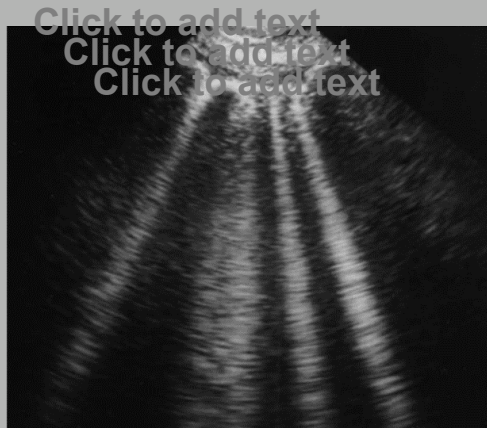
A-line: reverberation artifact, horizontal lines below pleura similar in distance as between probe and pleura

B lines: Normal Lung

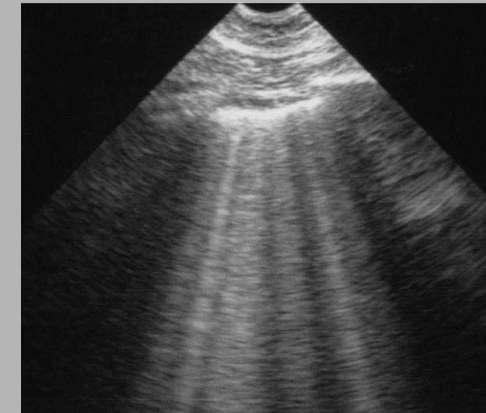
- Vertical artifact arising from and moving with the pleura
- Long hyperechoic lines extending through image erasing A lines
- 2 or less per field can be seen in normal lung
- > 3 associated with an interstitial process



Pathology



Multiple b lines: moderate pulmonary edema



Coalescing b lines: severe pulmonary edema



Pleural effusion, consolidated lung, bronchograms