

LUNG POCUS

Pulmonary Pathology	Ultrasound Findings
Pneumothorax	- Presence of lung point - Absence of lung sliding - Absence of B lines - Absence of lung pulse
Pleural Effusion	- Quad sign - Sinusoid sign
Pulmonary Edema	- B lines
Pneumonia	- Hypoechoic lung appearance - Dynamic air bronchograms - B lines - Pleural irregularity

Description of common lung sonographic signs

A-lines Echogenic, equidistant, parallel, horizontal lines located below the pleural line

B-lines Echogenic, vertical lines starting at the pleural line and extending to the edge of the screen without fading.

Z-lines Echogenic, small, vertical lines starting at the pleural line that do not obscure A-lines

Ring down artifact- Ring-down artefacts (RDA lines may appear as continuous or as successive stacks of short horizontal bands. The thickness of the horizontal bands and the distance between them (periodicity) is always constant, unlike in CTA.

Sliding lung sign Sliding of visceral pleura on parietal pleura during respiration. Lung sliding is the shimmering of the hyperechoic pleura due to the sliding of visceral pleura relative to the parietal pleura—is seen in healthy lungs

Alveolar-interstitial syndrome >3 B-lines in every examined area

White lung Compact B-lines in every examined area

Consolidation Hepatization of the subpleural lung tissue

Shred sign Irregular interface between relatively aerated lung and consolidated lung

Lung point Interface between lung sliding and lack of lung sliding. Lung point, normal pleural sliding is seen on one side of the interface and absence of sliding on the other, which is diagnostic for pneumothorax <https://cdn-links.lww.com/permalink/aln/b/aln_2019_05_30_fiza_aln-d-19-00370r1_sdc1.mp4>. In M-mode the bar code sign with a sandy beach appearance below is seen. With a pneumothorax a bar code is seen throughout the scan top to bottom i.e., no “sandy beach”. When the ultrasound beam is moved to the site with absent lung sliding, a linear pattern both above and below the pleura, the bar code sign, is noted.

Lung pulse Lack of lung sliding with appearance of pulsation of lung, synchronized with cardiac contraction

Double lung point sign Sharp cut-off point between aerated upper lung and coalescent B-lines (representing edema) in the lower lung

Pleural effusion Anechoic collection bordered by the diaphragm and pleura