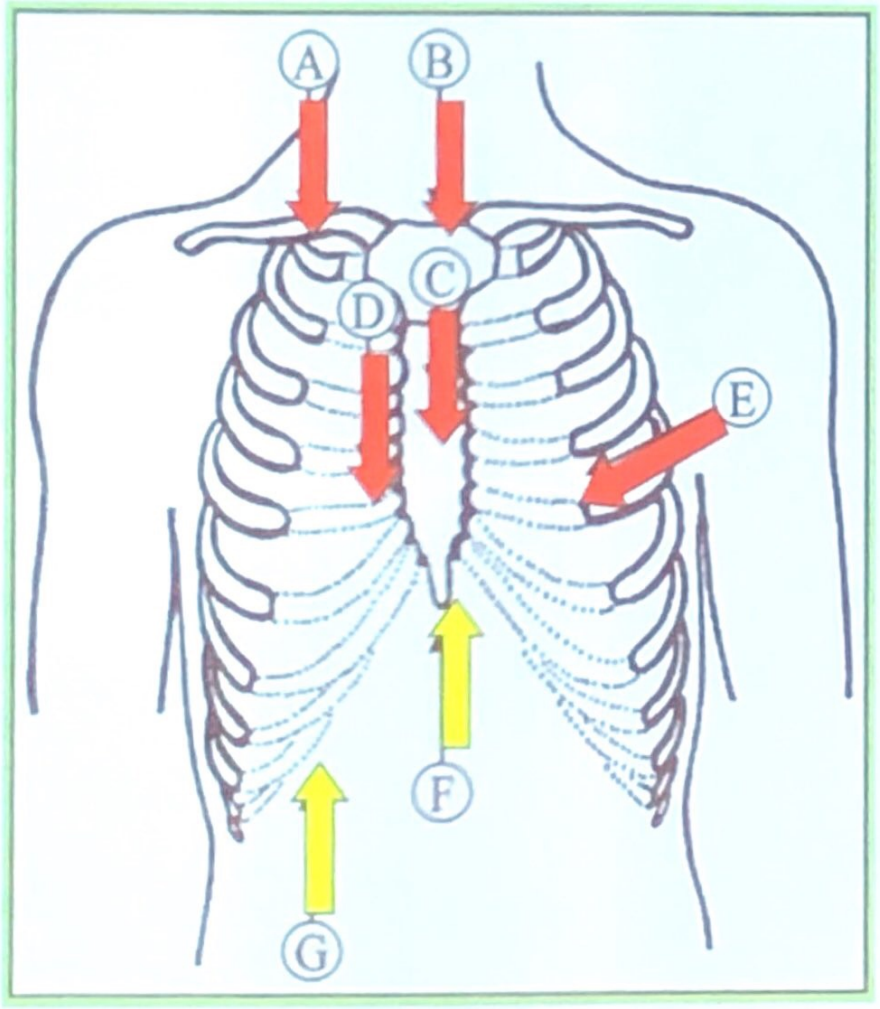
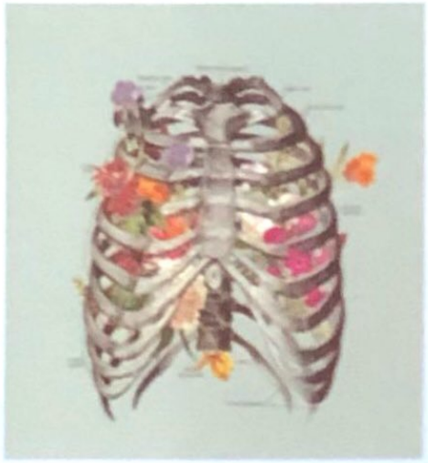
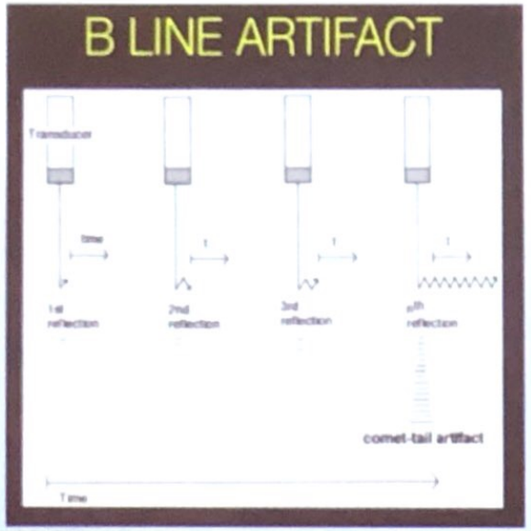
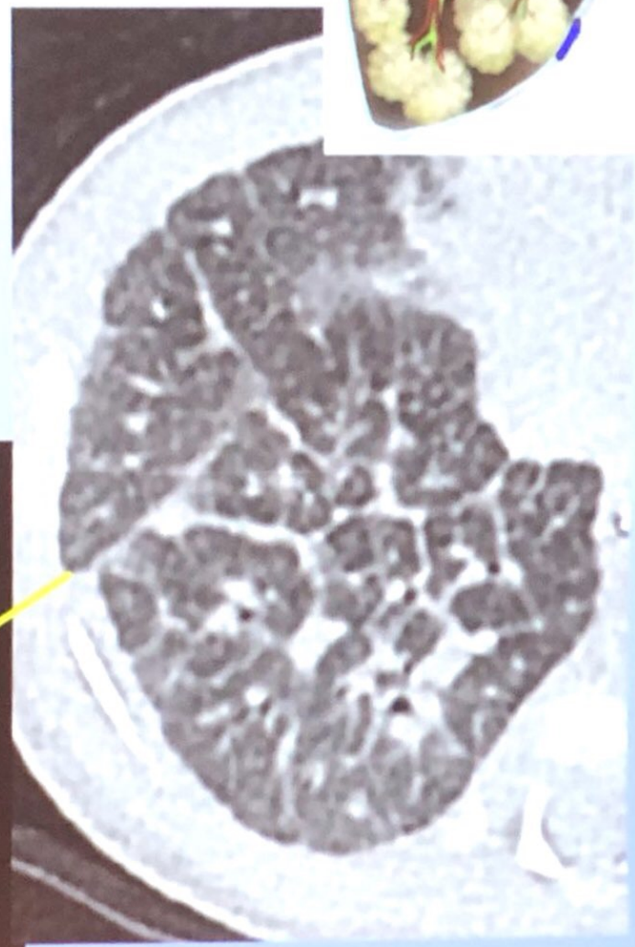
TECHNIQUE



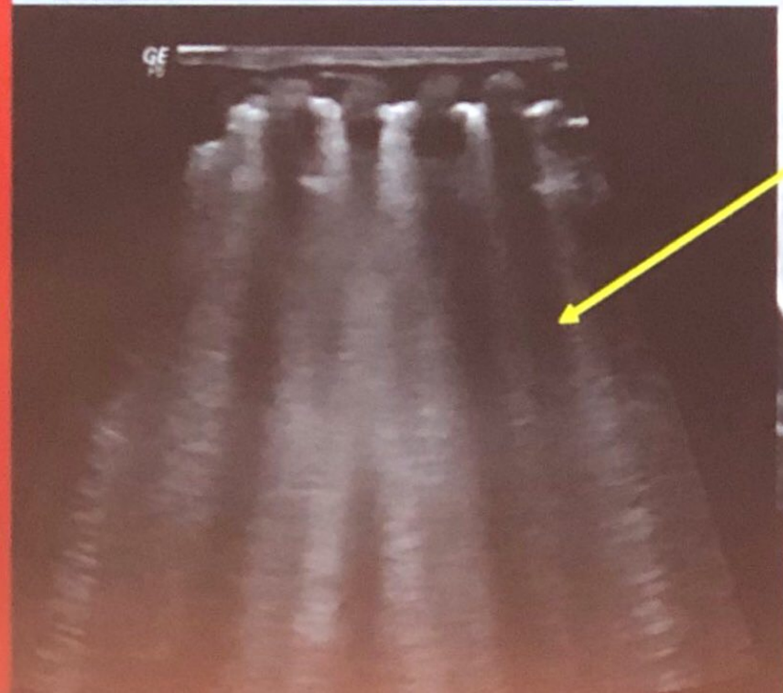
PATHOLOGICAL US PATTERNS
Interstitial syndrome - B lines

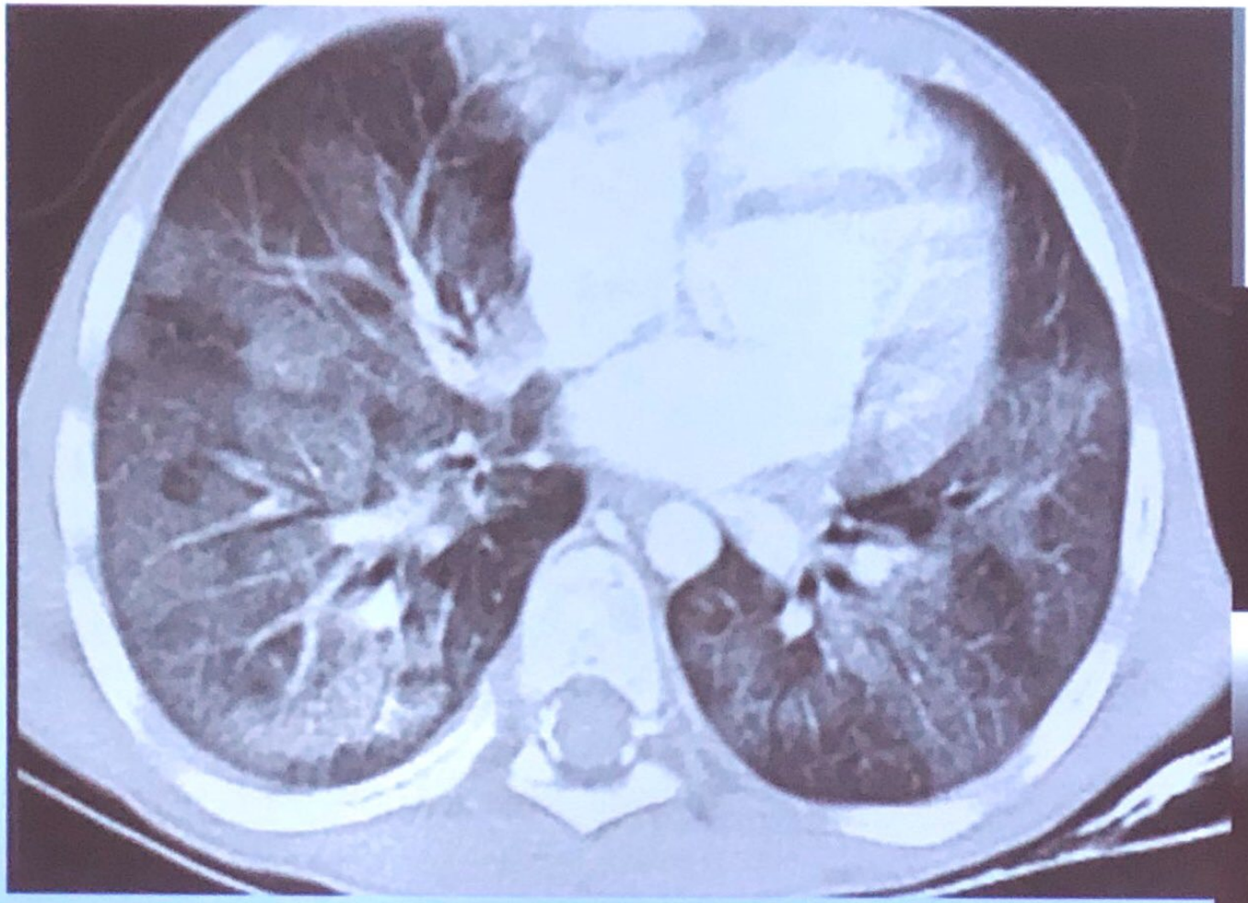




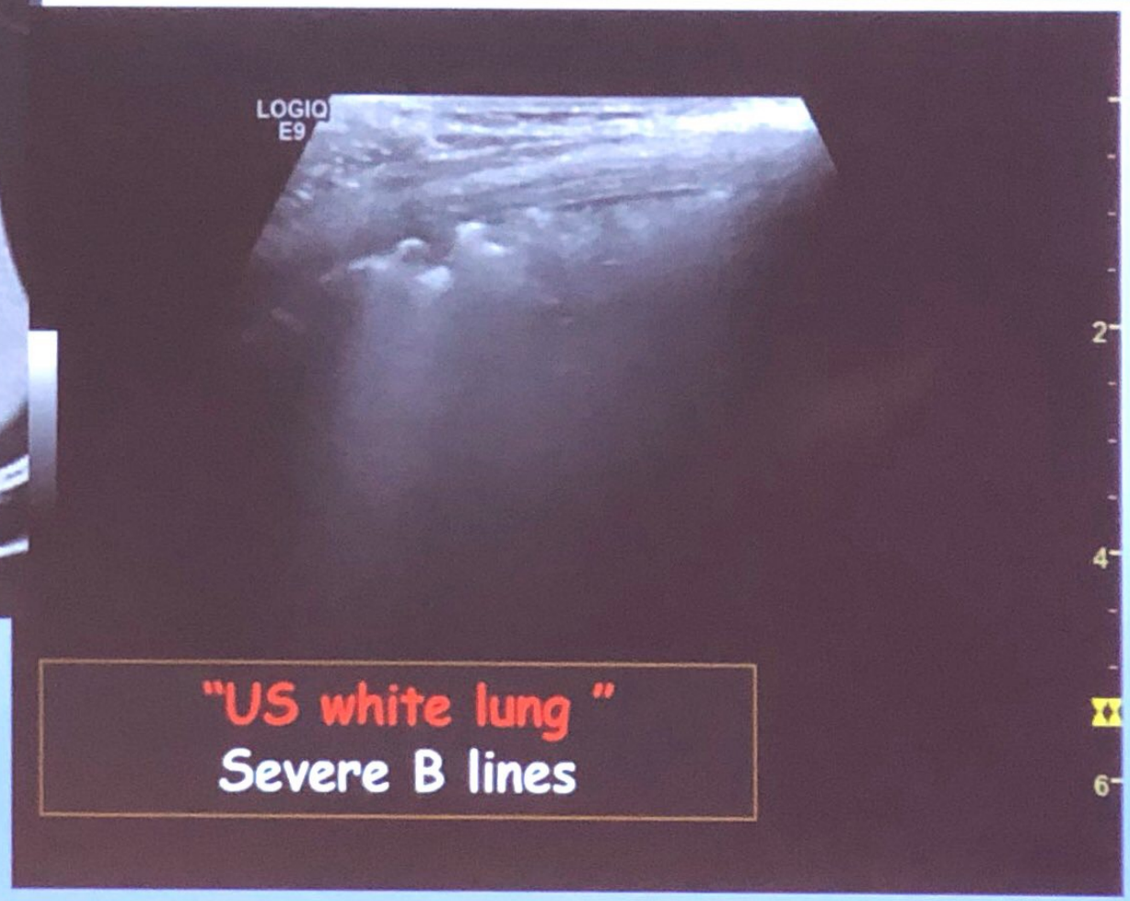


- Laser like vertical hyperechoic reverberation artifacts that arise from the pleural line, extent to the bottom of the screen and move synchronously with the respiration.
- US sign of subpleural interlobular septal thickening (edema or fibrosis)
- Absolute number is correlated with the entity of extravascular lung water





"small subpleural abnormalities"



"US white lung "
Severe B lines

Atypical pneumonia

ULTRASOUND GRADING OF PARAPNEUMONIC EFFUSIONS

Grade 1	Anechoic
Grade 2	Echoic fluid without septation
Grade 3	Septated effusion
Grade 4	Septations with solid appearing components comprising >1/3 of the effusion

TREATMENT OPTIONS

- Antibiotics alone
- Chest drain insertion - fibrinolytics
- Surgery (VATS or open thoracotomy)

Role of routine computed tomography in paediatric pleural empyema

A Jaffe,[1 2 3] A D Calder,[4] C M Owens,[4] S Stanojevic,[2] S Sonnappa[1 2]

Thorax

Pediatr Radiol (2009) 39:527–537
DOI 10.1007/s00247-008-1133-1

REVIEW

Imaging of parapneumonic pl usions and empyema in children

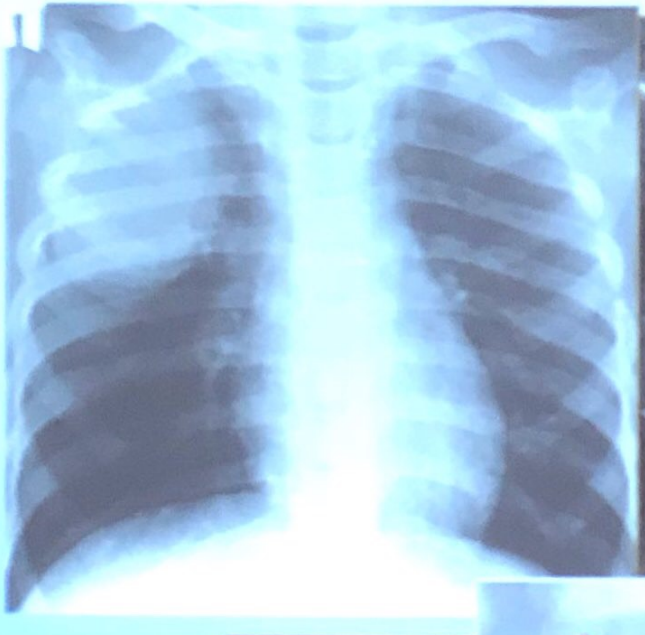
Alistair Calder · Catherine M. Owens

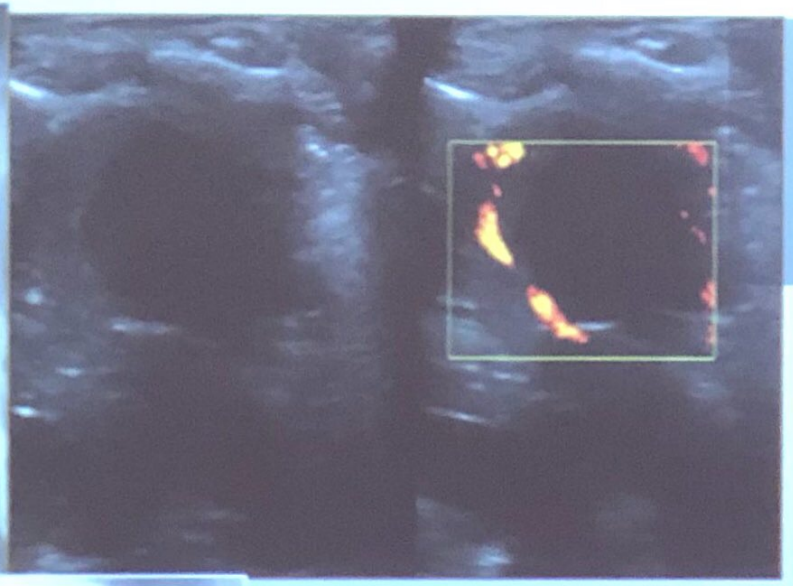
C. OWENS

E. SVEDSTRÖM

Septated effusion with solid appearing components

Grade 4

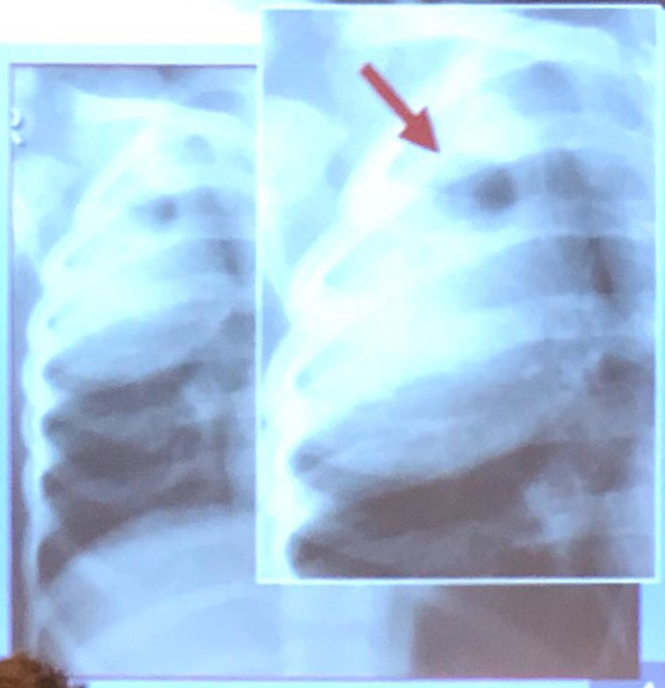




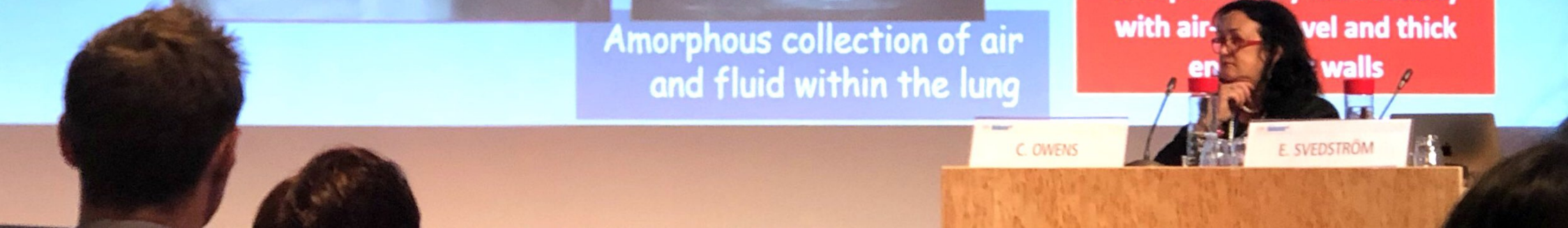
Rough contoured heterogeneously hypoechoic areas in the consolidated lung

Pulmonary abscess

Well – defined area of intrapulmonary fluid density with air- vel and thick en walls



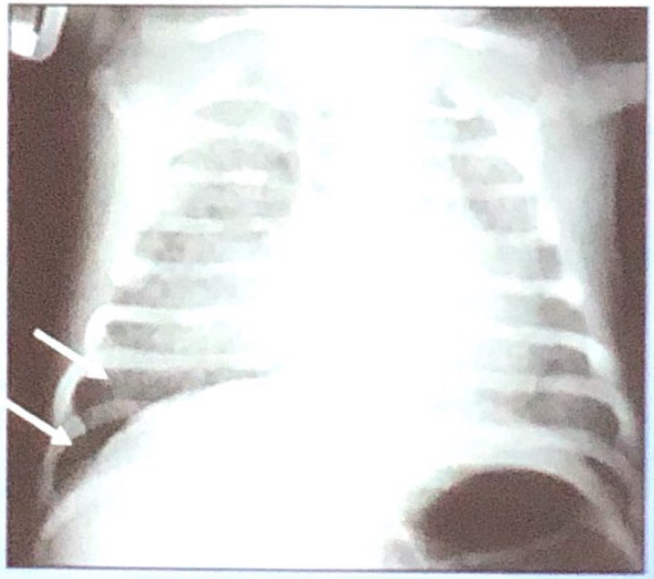
Amorphous collection of air and fluid within the lung



US can be used to:

- confirm the presence and estimate the amount of pleural fluid
- help to characterize the nature of a PPE
- help make therapeutic decisions and guide management

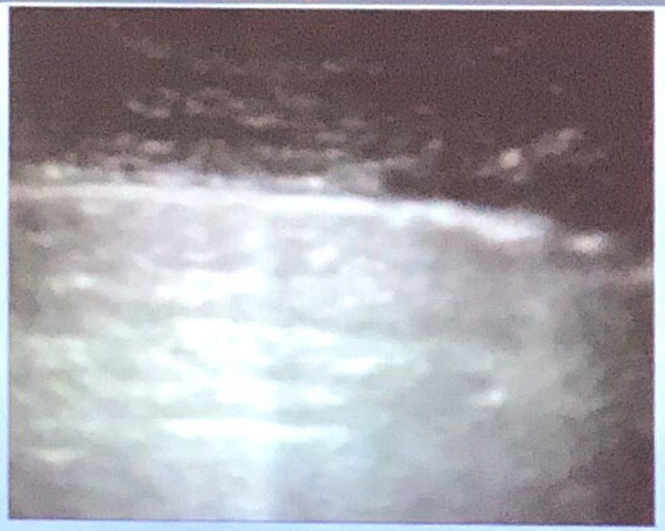
Air leak syndrome - Pneumothorax



Absence of sliding sign & reverberation artifacts

Normal

lung sliding sign - comet tails



Lung point

TEACHING POINTS

- LUS is an evolving imaging modality and to adopt this practice it's necessary to be aware of the semiology of lung sonography
- Complementary to x-ray in uncertain cases to refine diagnostic considerations
- Can predict poor clinical outcomes in cases with severe pneumonia
- Central investigation in the management of PPE
- Neonatal LUS is a useful tool with diagnostic and predictive value that helps reduce the number of x-rays