

How to read a Chest X-Ray

Turn off stray lights, optimize room lighting, view images in order

Patient Data (name history #, age, sex, old films)

Routine Technique: AP/PA, exposure, rotation, supine or erect

Trachea: midline or deviated, caliber, mass

Lungs: abnormal shadowing or lucency

Pulmonary vessels: artery or vein enlargement

Hila: masses, lymphadenopathy

Heart: thorax: heart width $> 2:1$? Cardiac configuration?

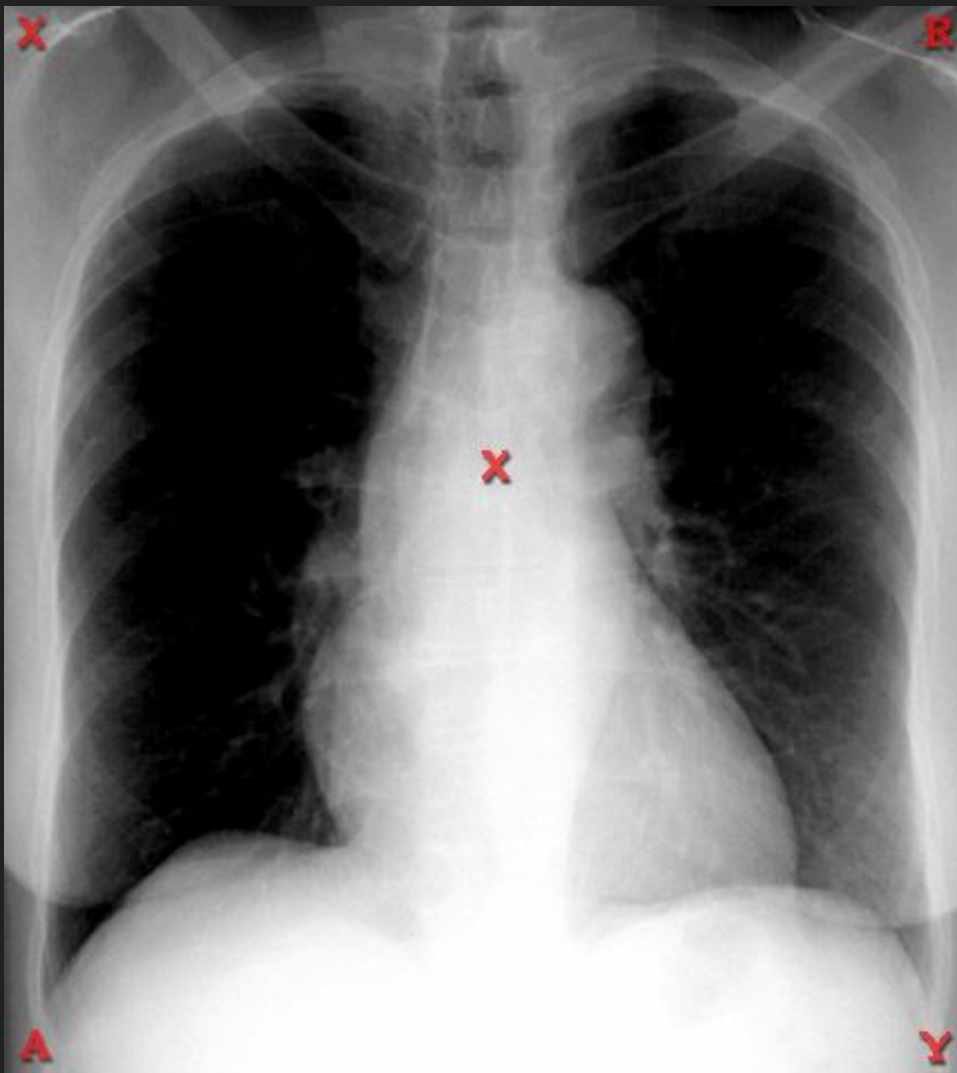
Mediastinal contour: width? mass?

Pleura: effusion, thickening, calcification

Bones: lesions or fractures

Soft tissues: don't miss a mastectomy

ICU Films: identify tubes first and look for pneumothorax



Looking for abnormalities



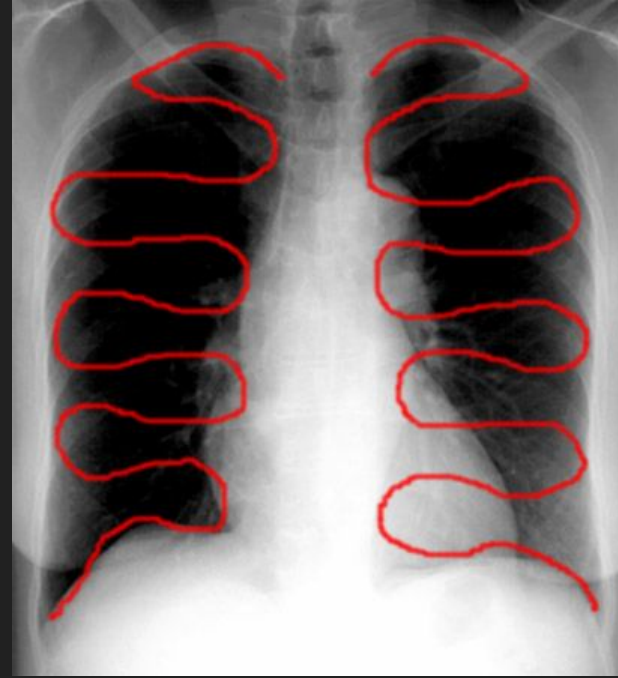
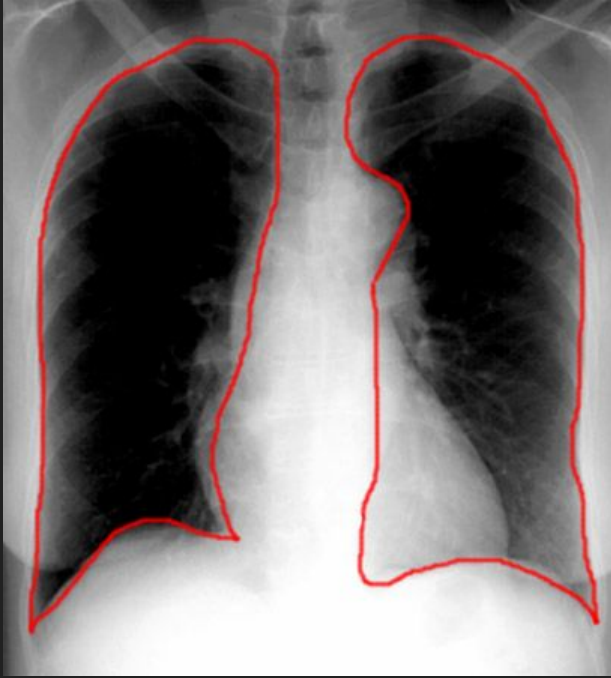
**YOU ONLY
SEE WHAT
YOU ARE
LOOKING
FOR!**

Your eye gaze should scan all portions of the film, following lung/mediastinal interfaces and look again carefully in areas where you know that mistakes are easily made, such as over the spine on the lateral view and in the apex on the PA view.

Always read together



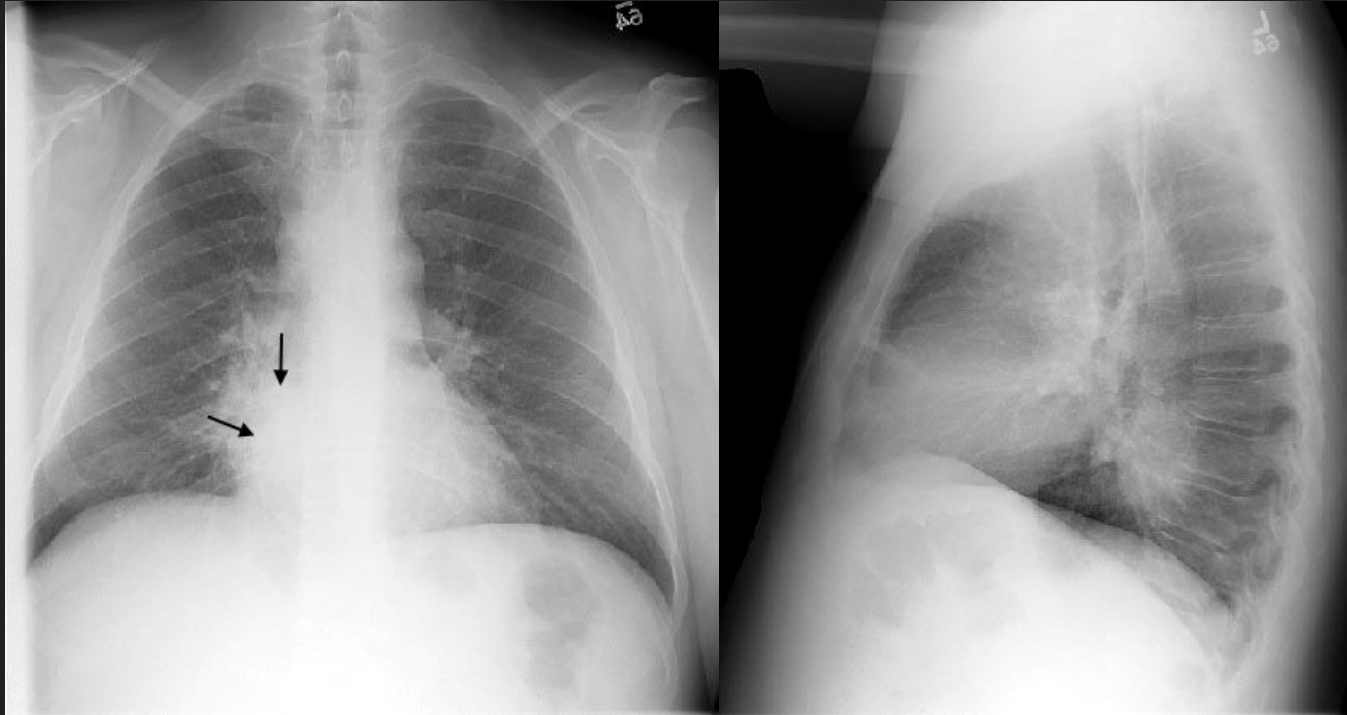
Looking for abnormalities



Looking for abnormalities



Cont.



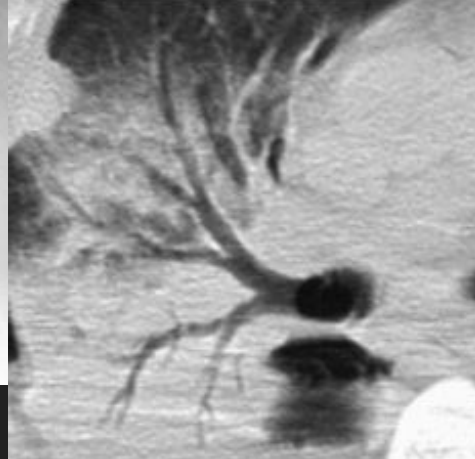
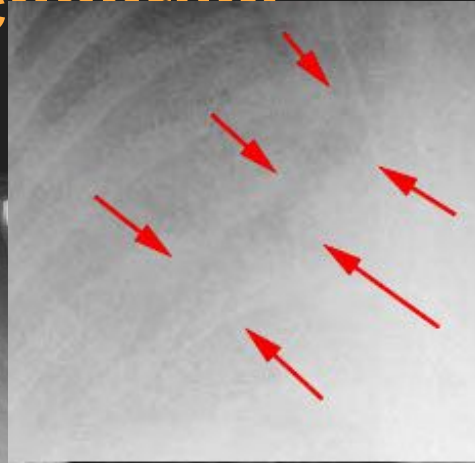
Silhouette



Silhouette sign



Air Bronchogram



Cases

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What is the Diagnosis?



Large Pleural effusion

Left upper lobe collapse

Complete lung consolidation

left sided hemothorax



Pathology Atelectasis

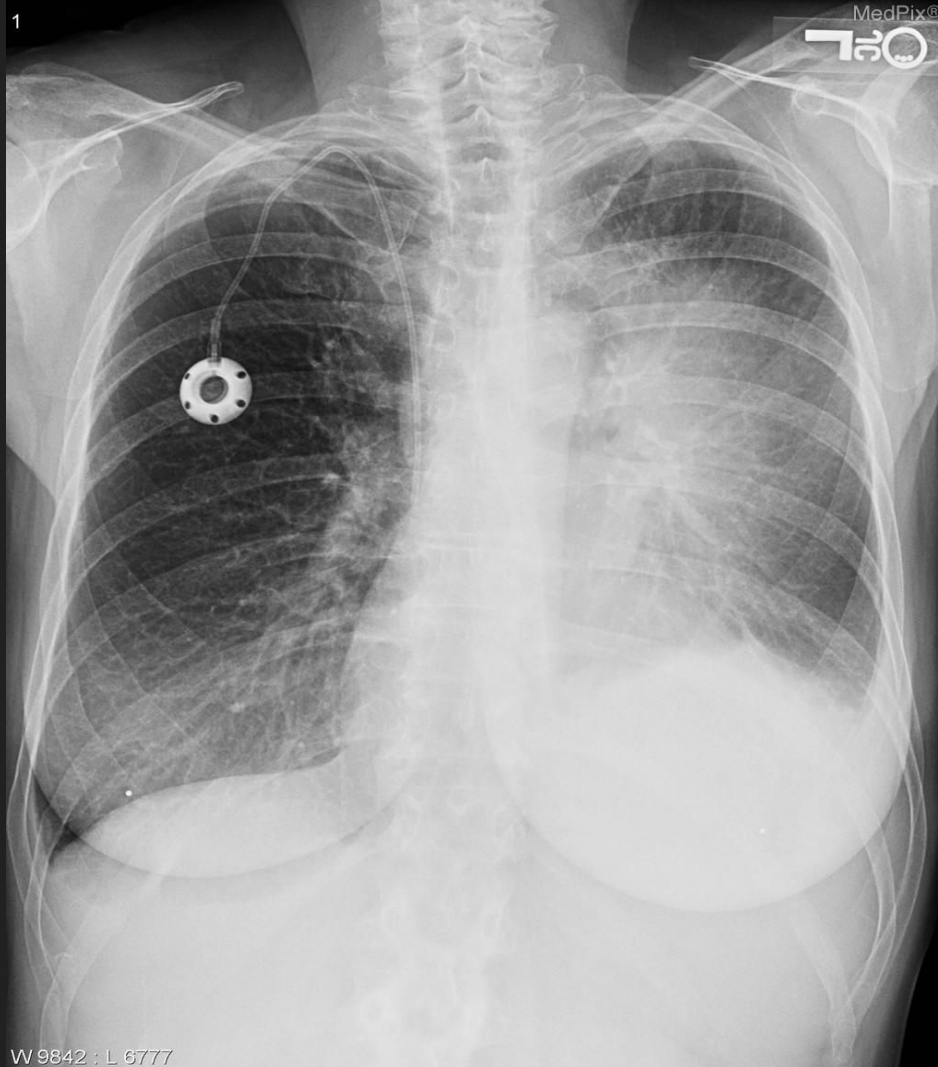


Luftsichel Sign

Luft = German word for air

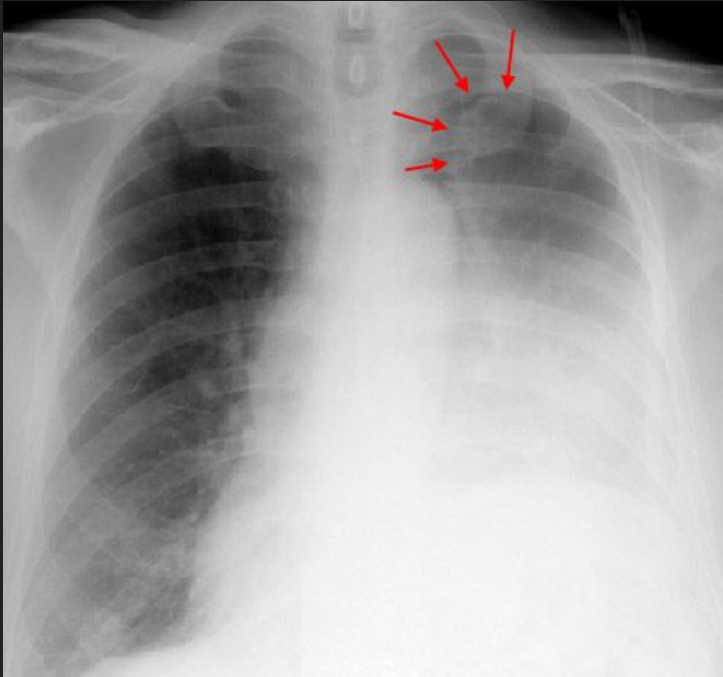
Sichel = Sickle





W 9842 : L 6777

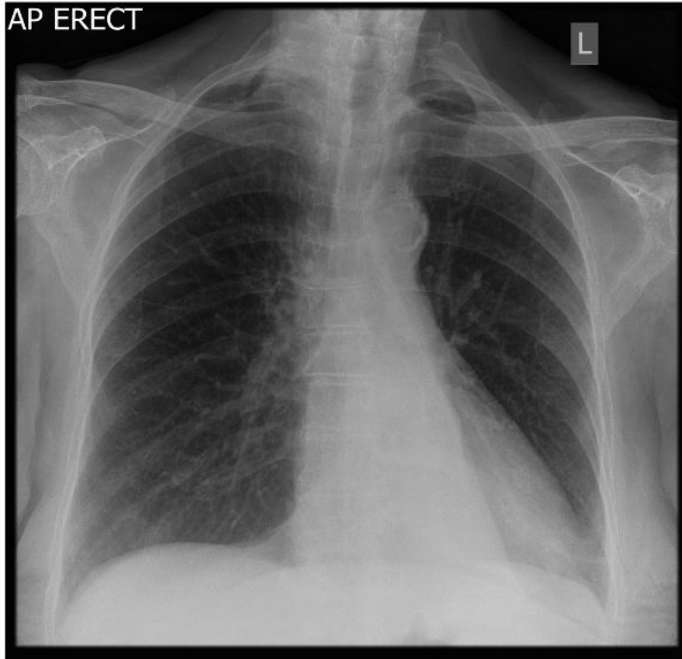
Pathology Atelectasis



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What is the diagnosis?



Mass

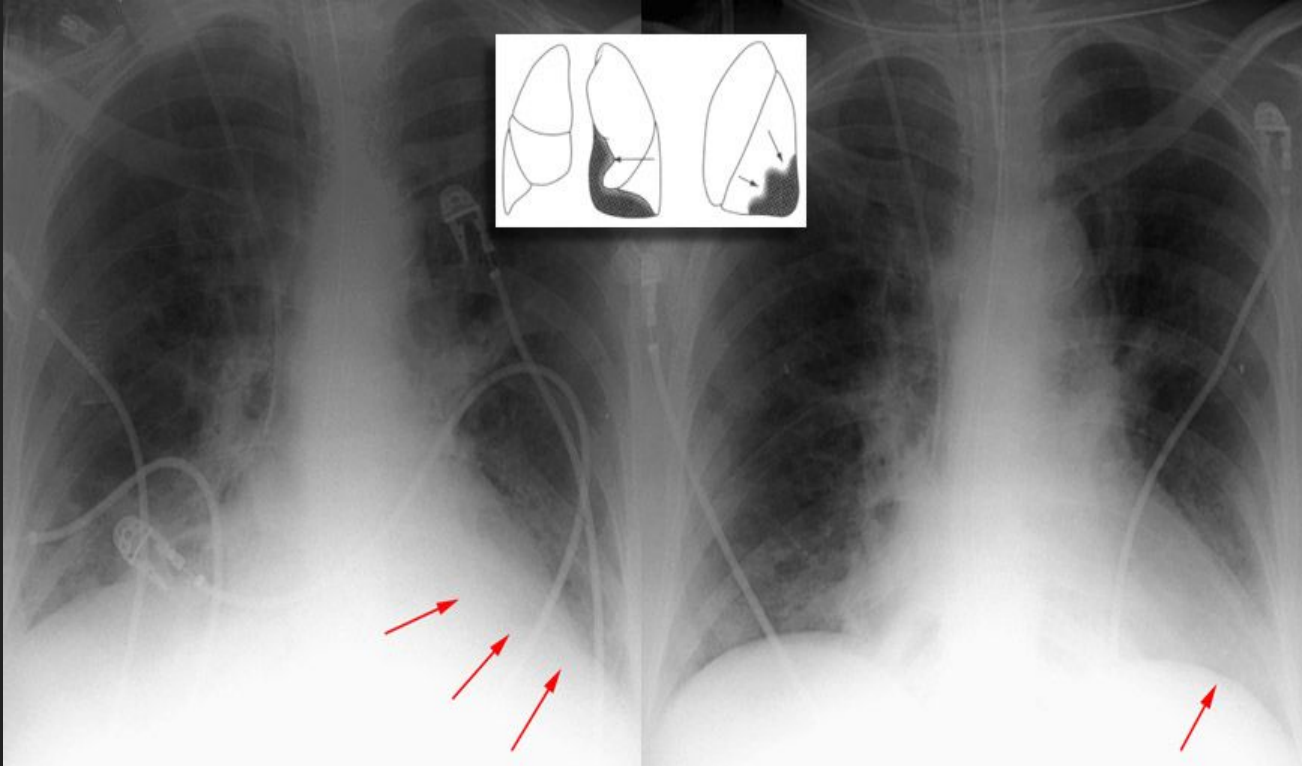
Hiatal hernia

Pneumonia

Collapse

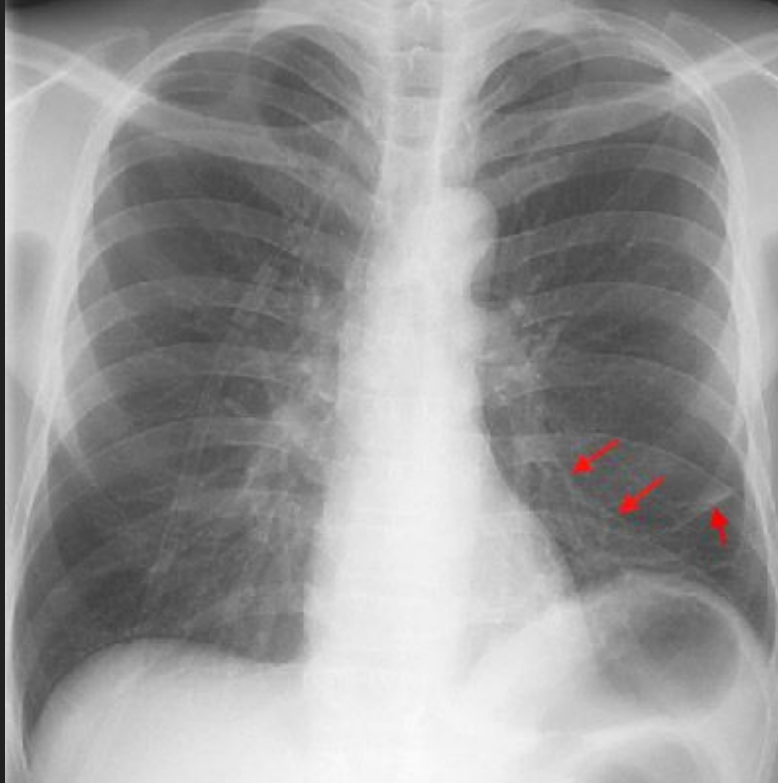


Pathology Atelectasis



left lower lobe atelectasis followed by partial resolution

Note the elevation of the left hemidiaphragm



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What is the Diagnosis?



Pancoast tumor

Apical Fibrosis

Right upper lobe collapse

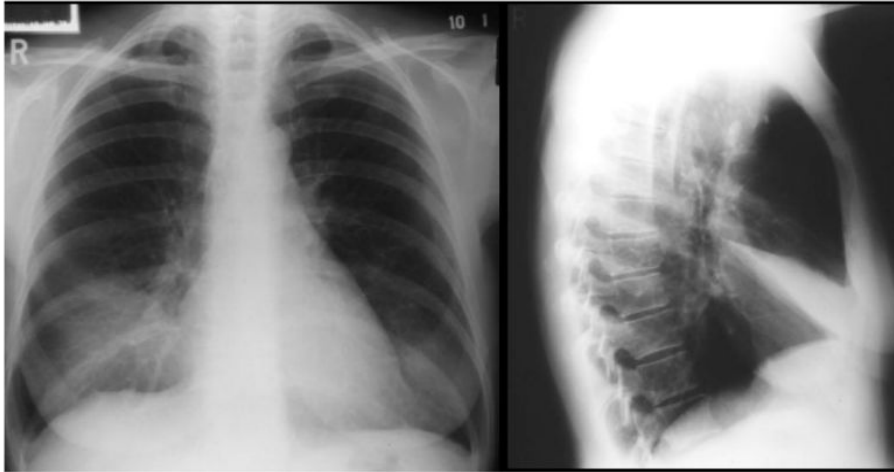
Pneumonia



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What is the Diagnosis ?



Pseudotumor

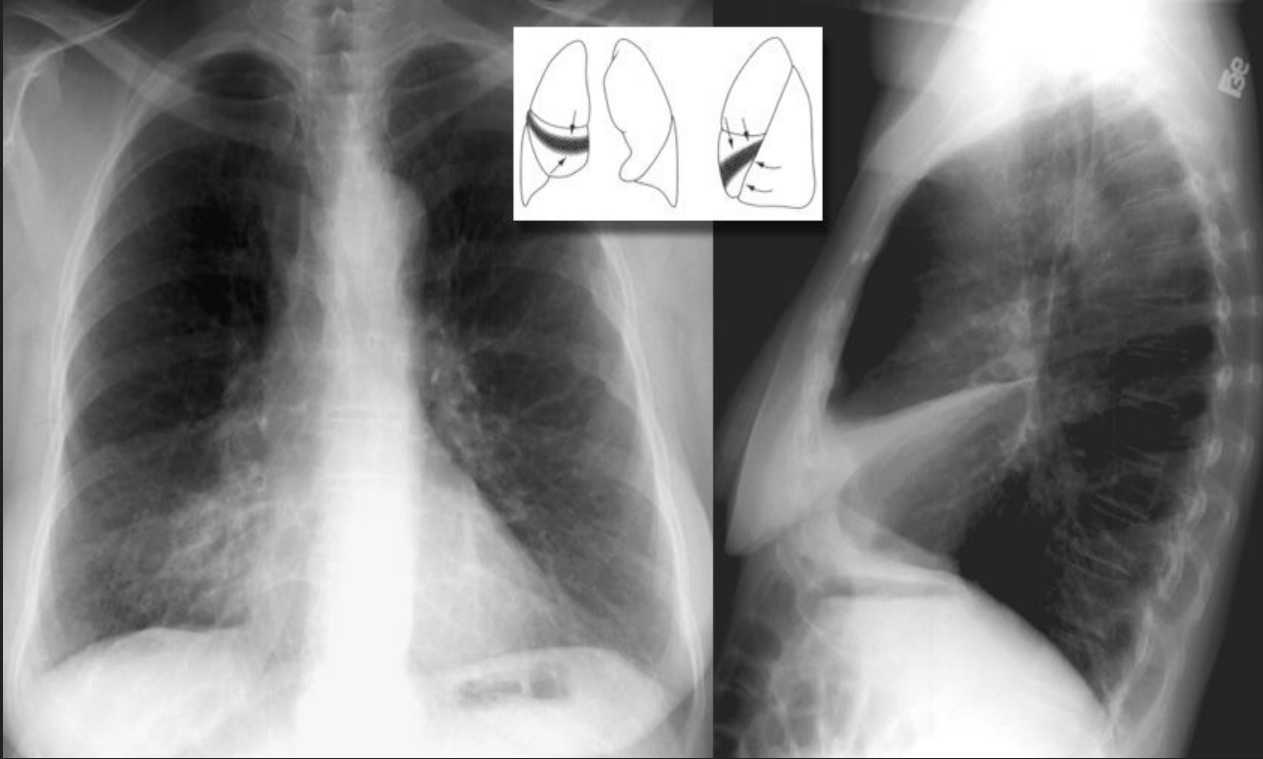
Pulmonary Contusion

Pleural Plaque

Right middle lobe collapse



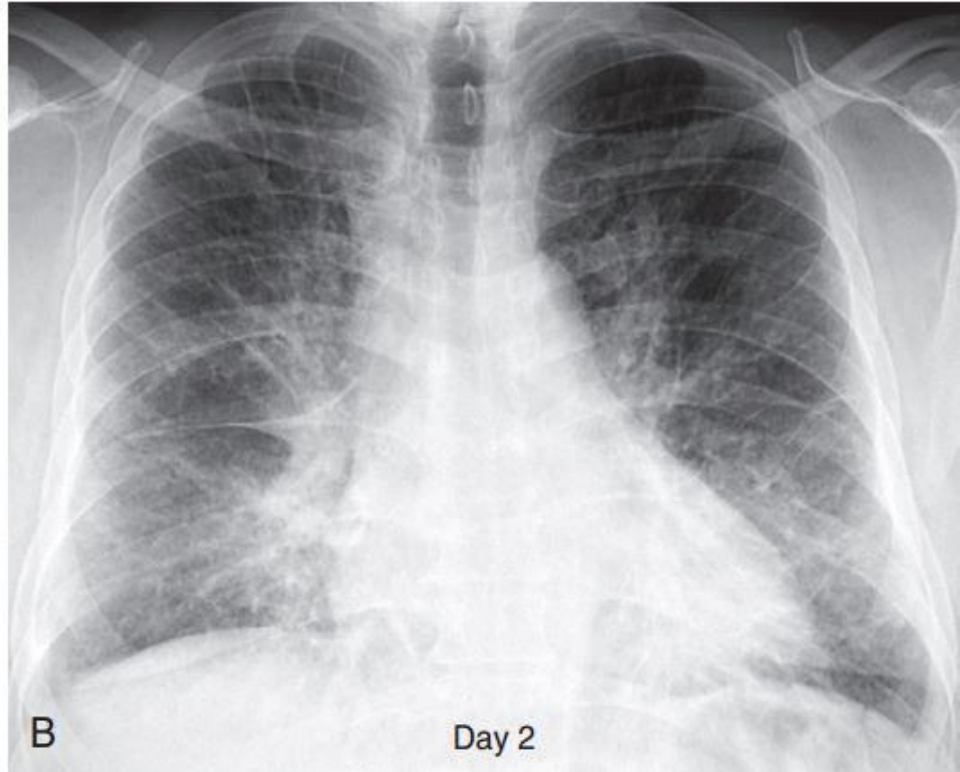
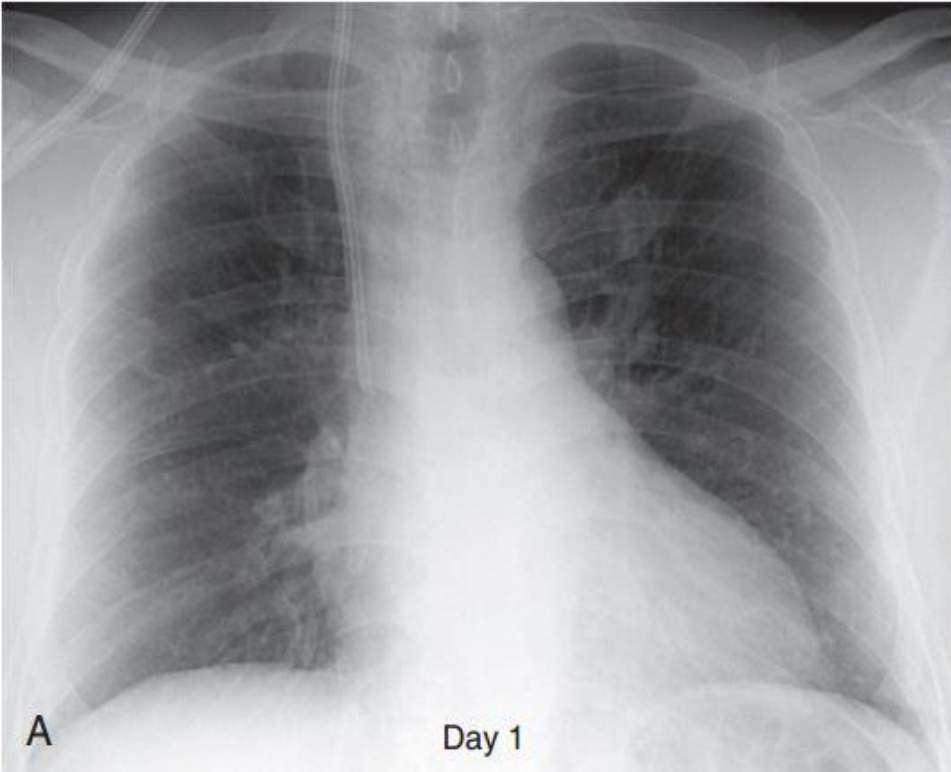
Pathology Atelectasis



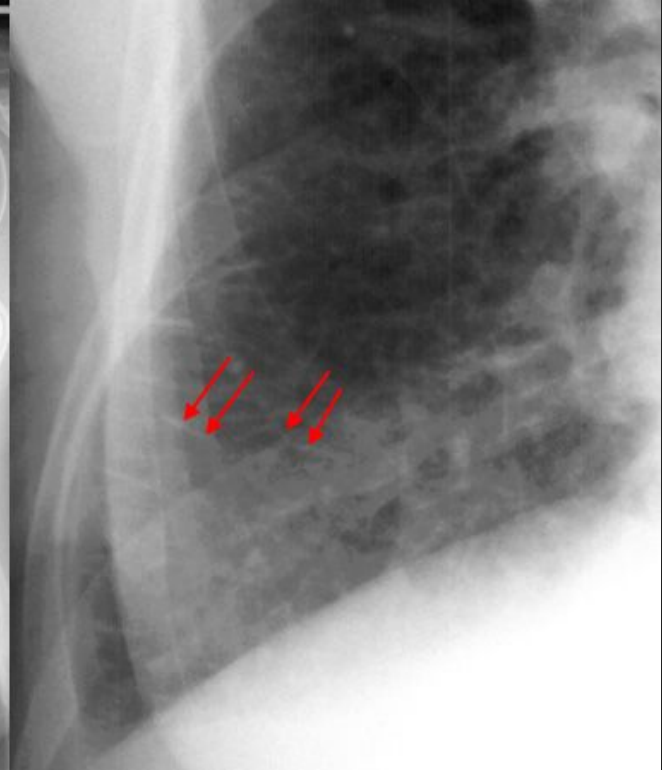
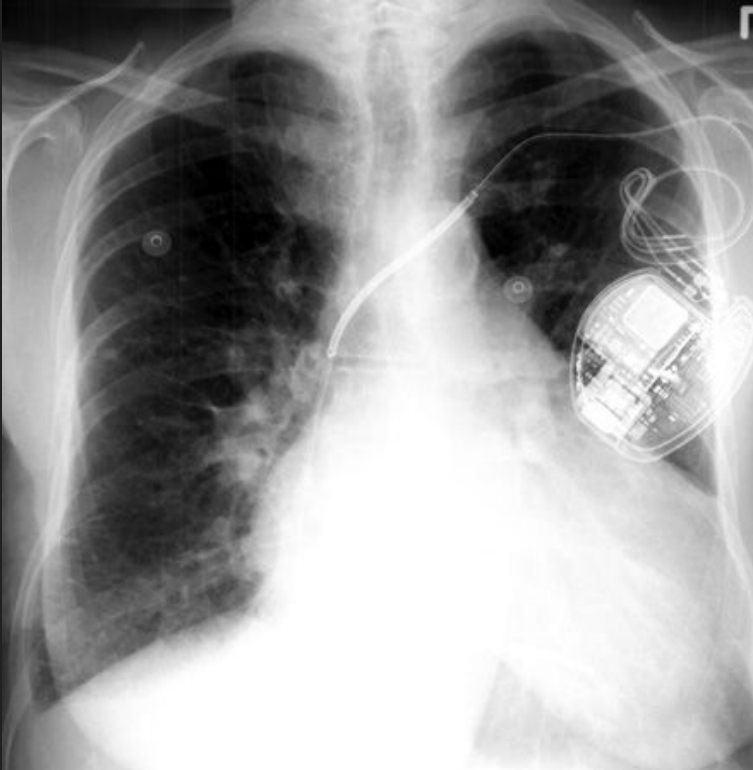
Mucus Plug

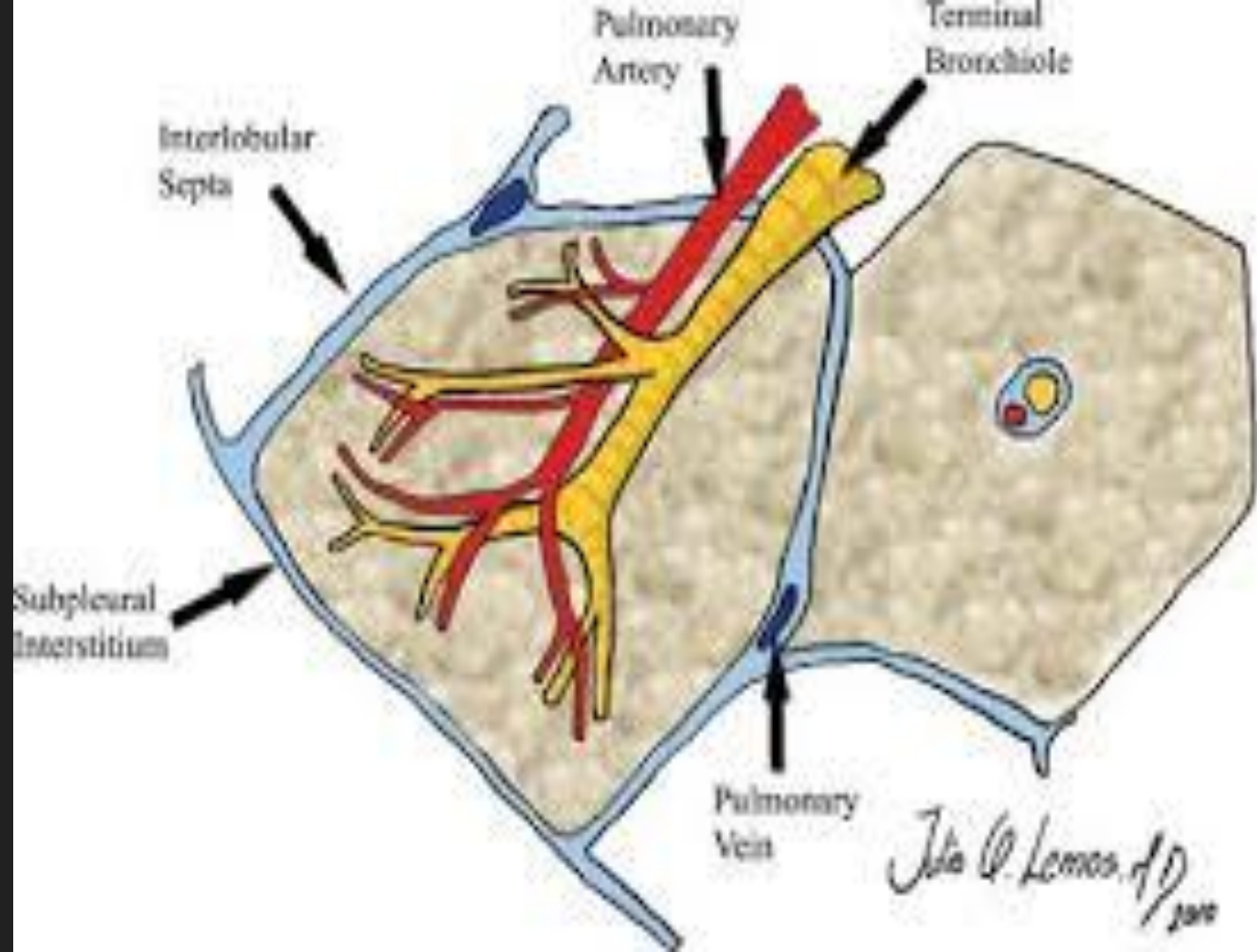


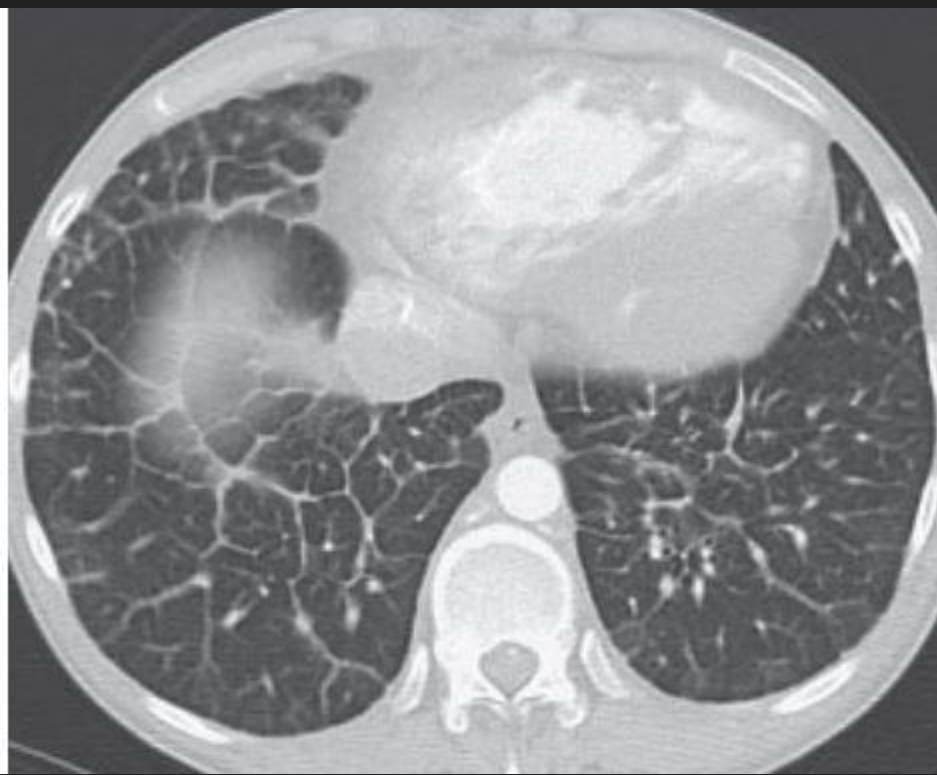
Pulmonary edema



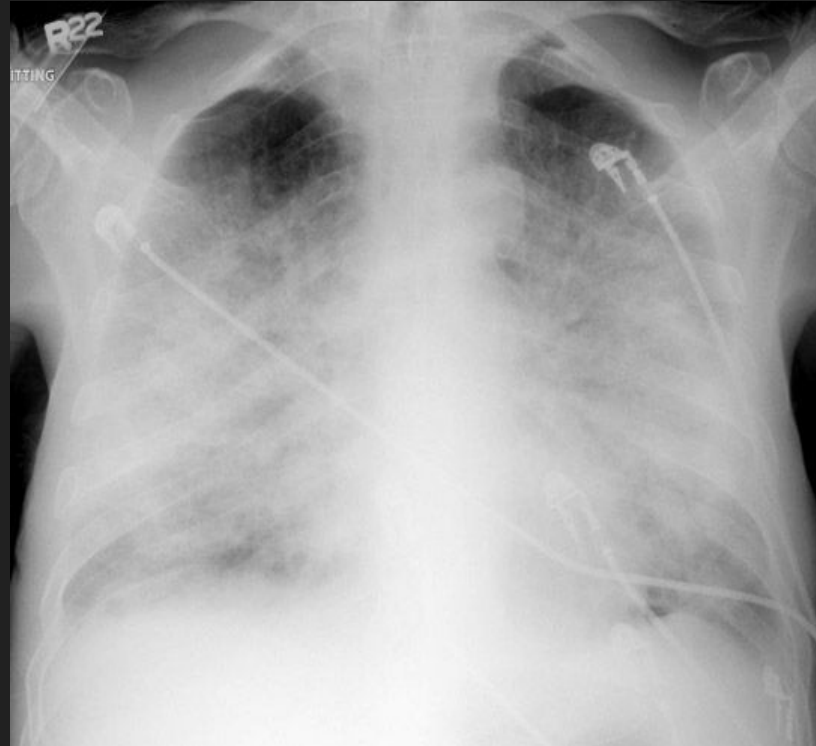
Kerley B lines



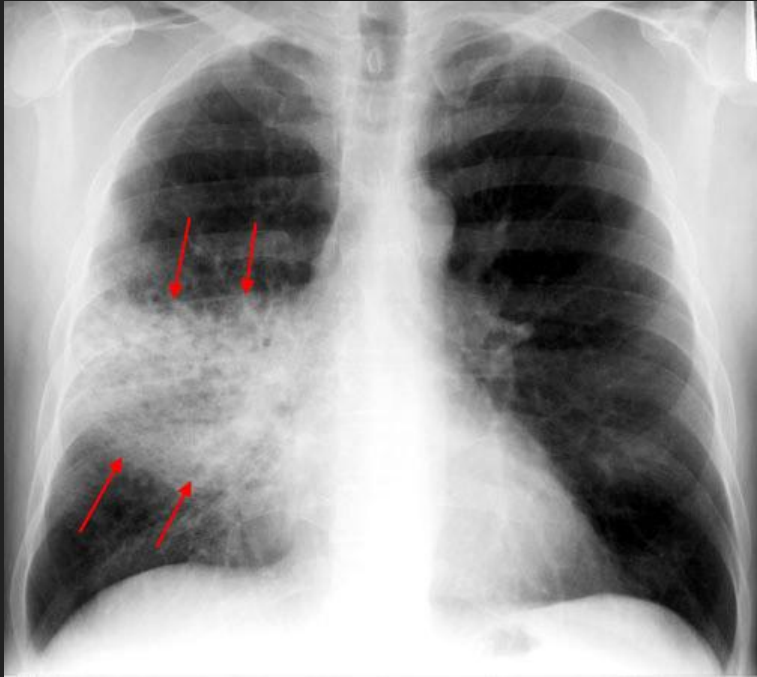


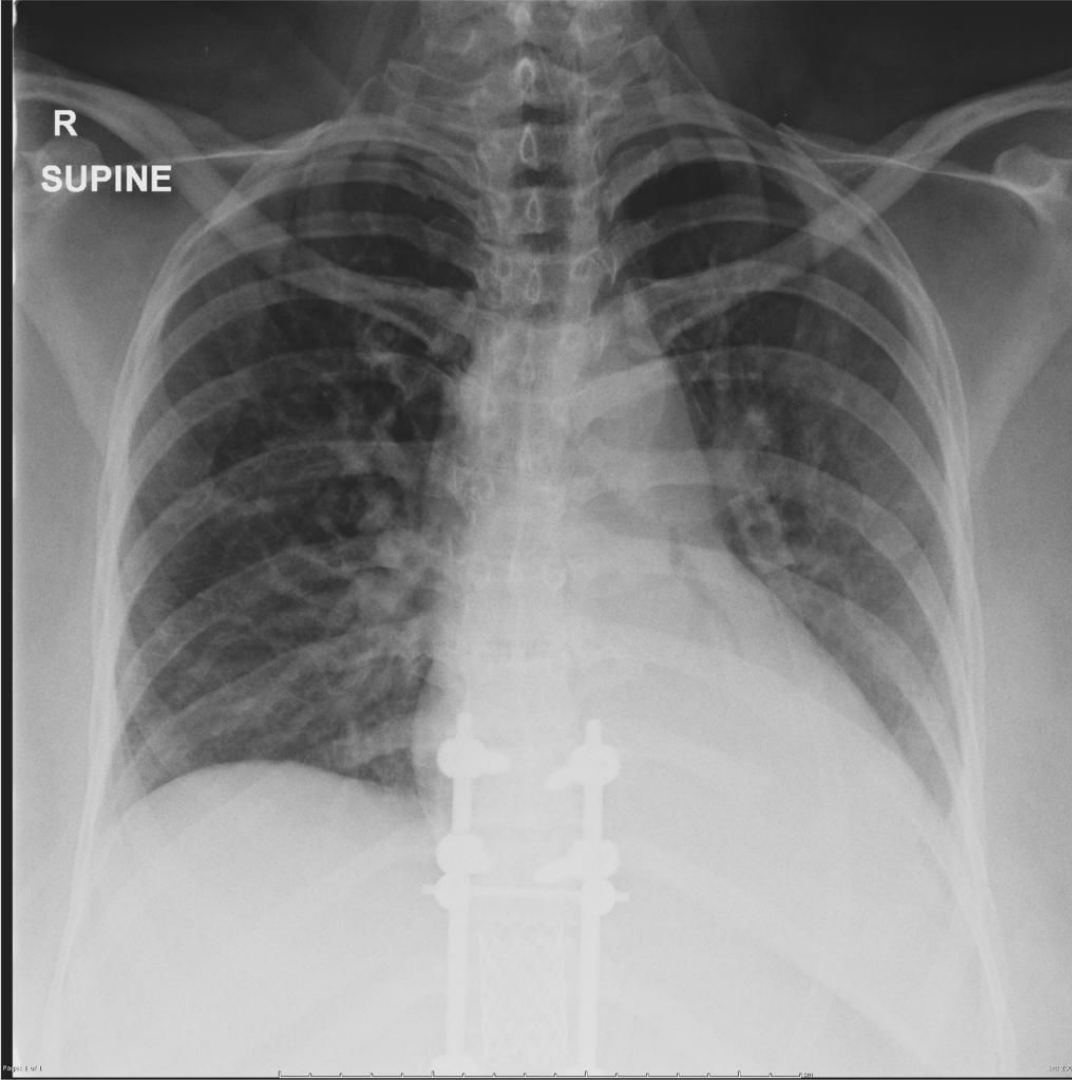


Pulmonary edema



Pneumonia





Atelectasis vs Pneumonia

Atelectasis

Volume Loss

Associated Ipsilateral Shift

Linear, Wedge-Shaped

Apex at Hilum

Pneumonia

Normal or Increased Volume

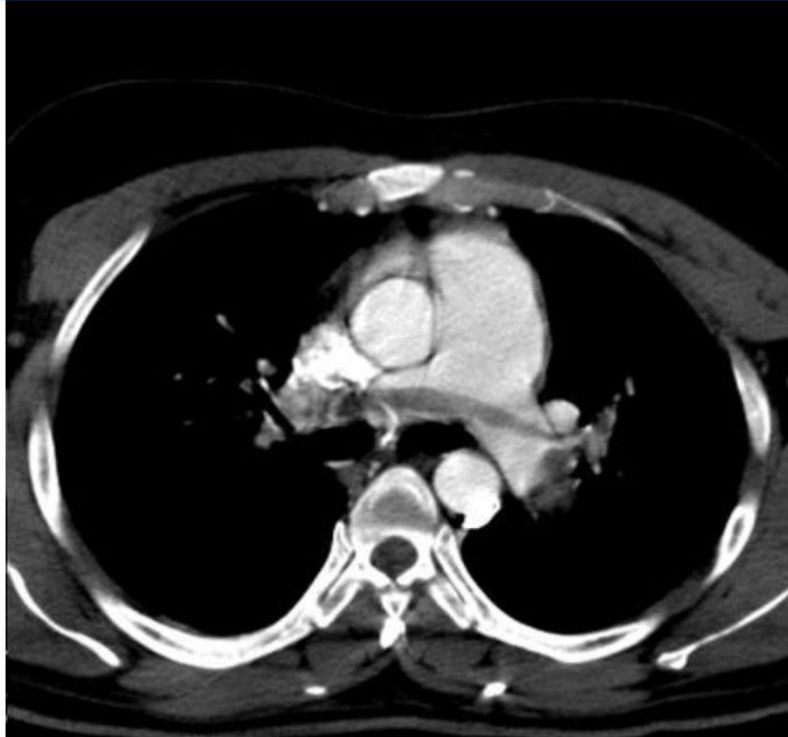
No Shift, or if Present Then
Contralateral

Consolidation, Air Space Process

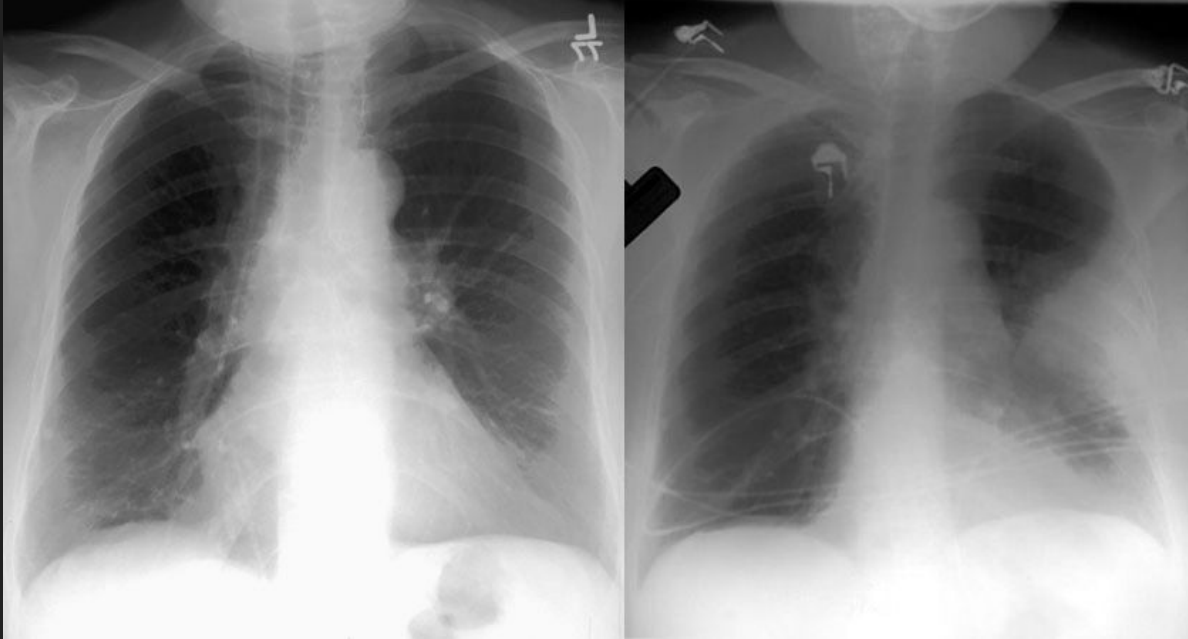
Not Centered at Hilum

Air bronchograms can occur in both.

40 years old male with acute chest pain and tachycardia, CLICK on the abnormality



Pulmonary embolism



Click on abnormality.



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Patient with septic shock and respiratory failure, what is the most likely diagnosis ?



Bronchopneumonia

Cardiogenic
pulmonary edema

ARDS

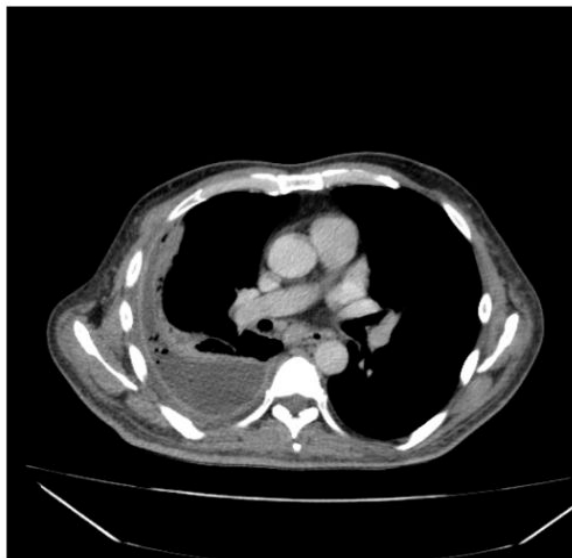
Acute interstitial
pneumonia



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Patient with fever and chest pain, what is the diagnosis ?



Pleural effusion

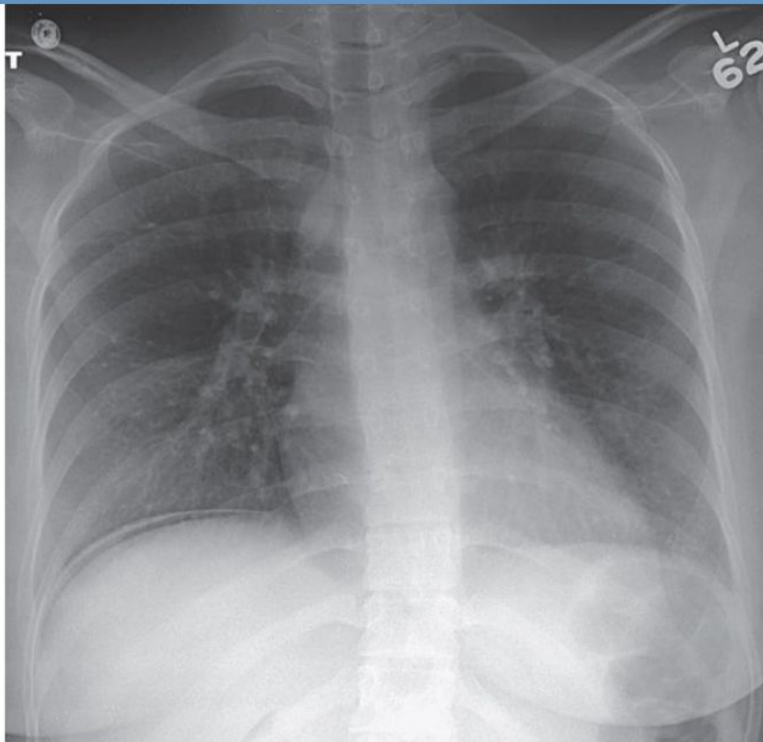
Pneumonia

Empyema

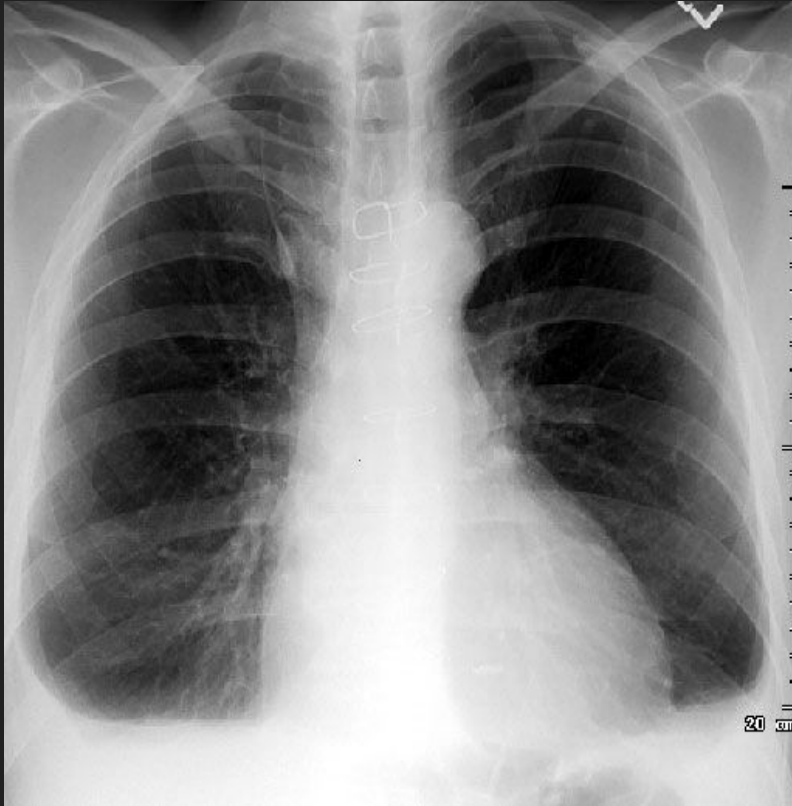
Hemothorax



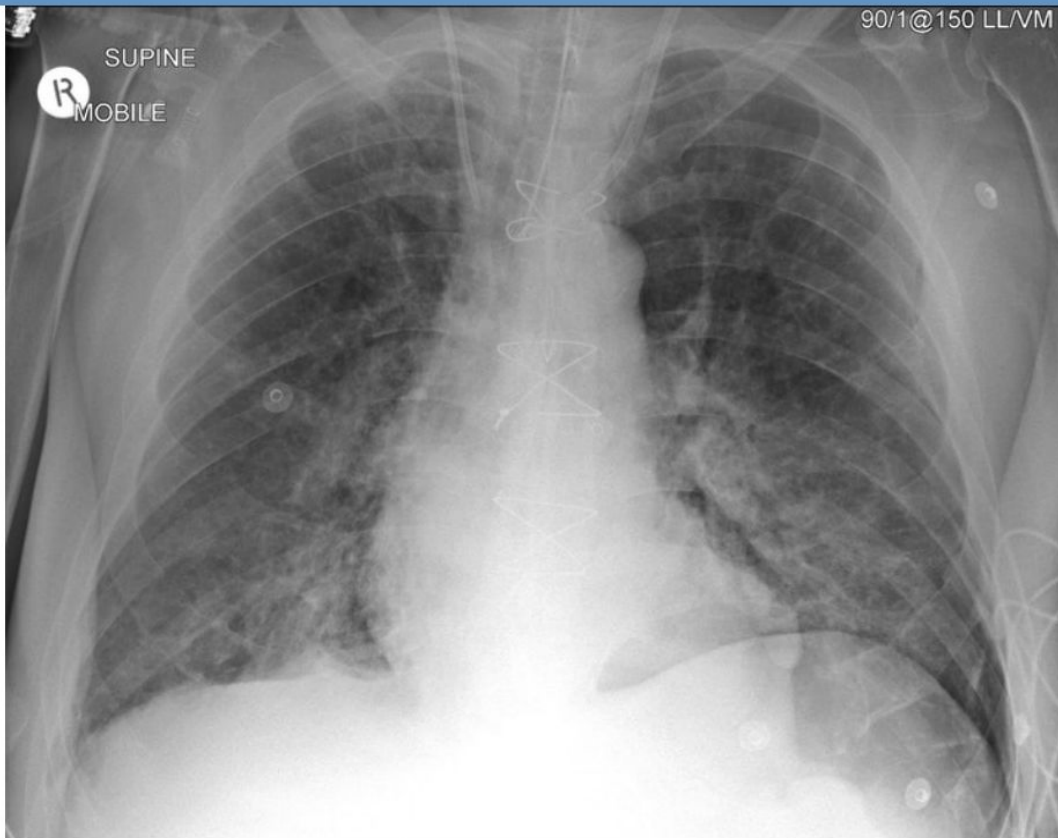
sudden onset of chest and shoulder pain, click on abnormality ?



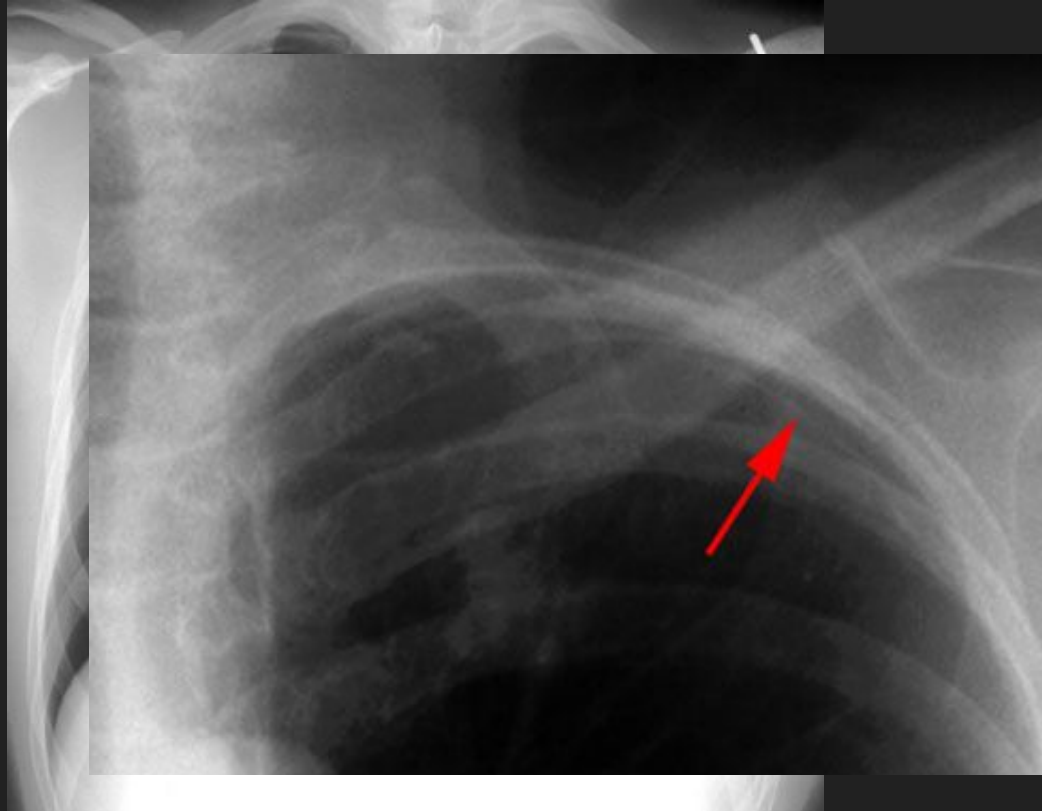
Pleural effusion



Click on abnormality?



Pneumothorax



Hydropneumothorax

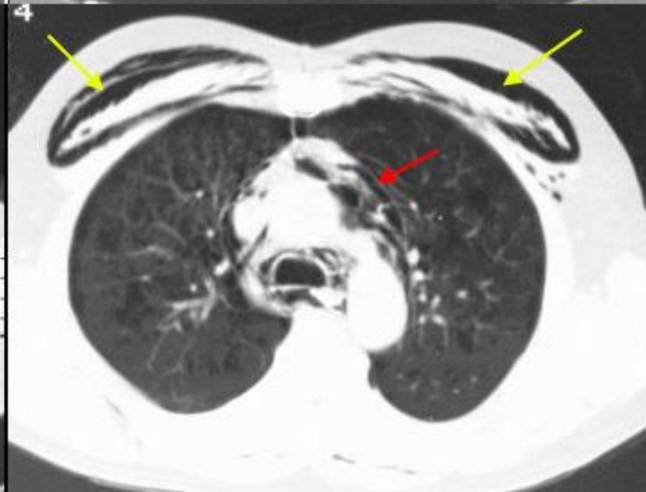
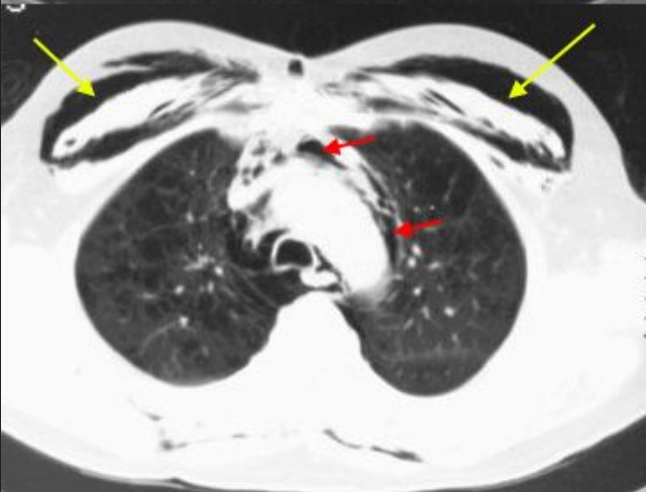
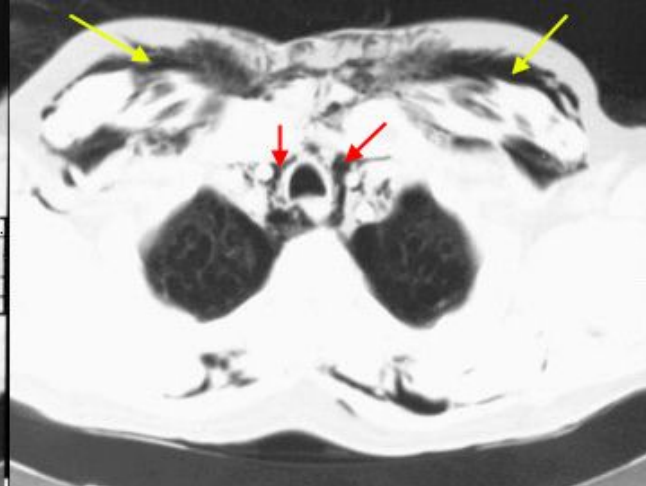
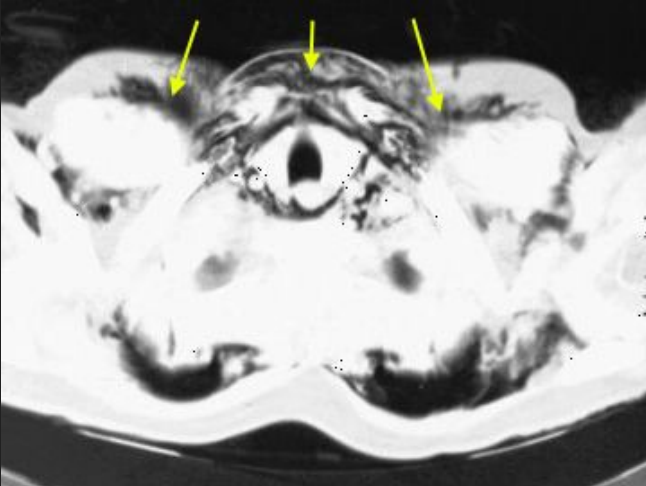


Emphysema



Pneumomediastinum







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Thanks !