

# Approach to chest x ray surgical point of view

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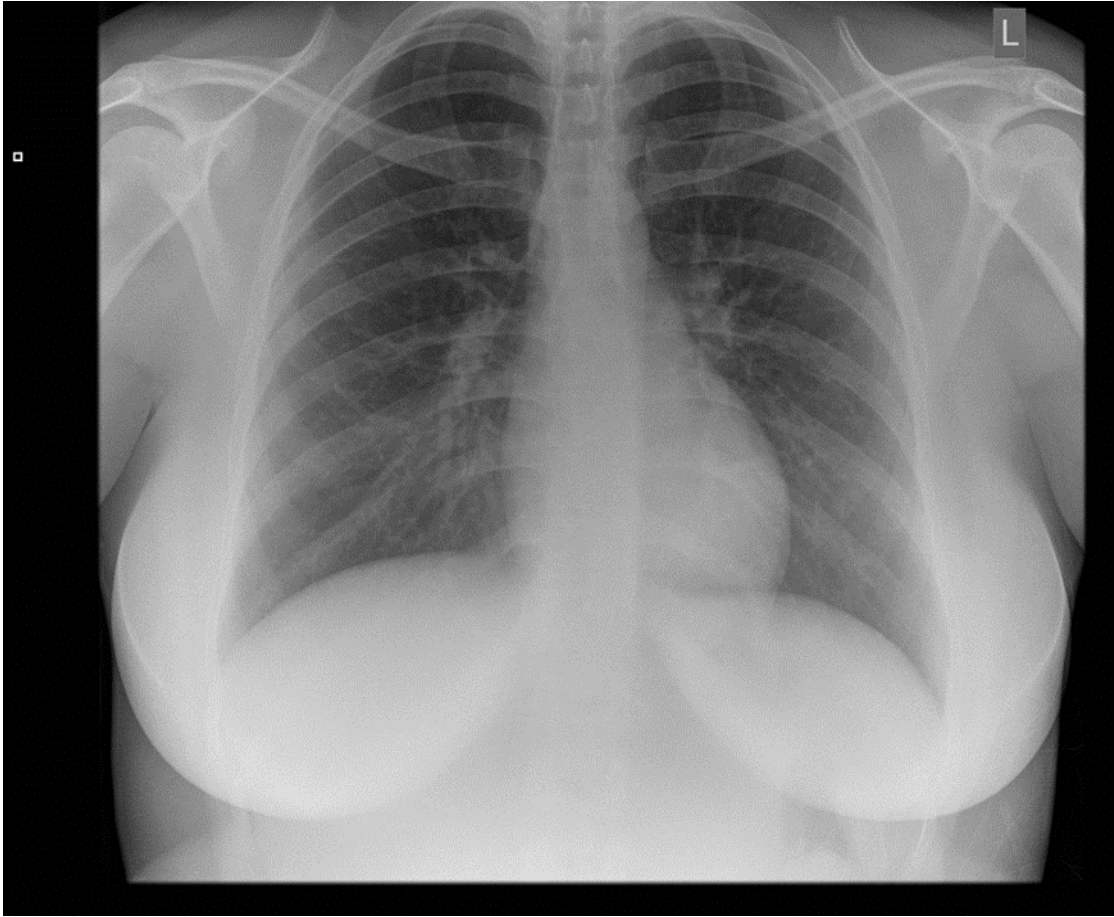
- Begin chest X-ray interpretation by checking the following details:
- Patient details: name, date of birth and unique identification number.
- Date and time the film was taken
- Previous imaging: useful for comparison

- Rotation
- The medial aspect of each clavicle should be equidistant from the spinous processes.
- The spinous processes should also be in vertically orientated against the vertebral bodies.



- Inspiration
- The 5-6 anterior ribs, lung apices, both costophrenic angles and the lateral rib edges should be visible.

- Projection
- Note if the film is AP or PA: if there is no label, then assume it's a PA film (if the scapulae are not projected within the chest, it's PA).
- Exposure
- The left hemidiaphragm should be visible to the spine and the vertebrae should be visible behind the heart.



- Data
- Exposure ( apics – diaphragmatic costal angle)
- Aligned ribs and clavicle
- Number of ribs lung occupies = 5-6 normally
- post-ant : scapula is away from ribs and vertebra

- ABCDE approach
- The ABCDE approach can be used to carry out a structured interpretation of a chest X-ray:
  - Airway: trachea, carina, bronchi and hilar structures.
  - Breathing: lungs and pleura.
  - Cardiac: heart size and borders.
  - Diaphragm: including assessment of costophrenic angles.
  - Everything else: mediastinal contours, bones, soft tissues, tubes, valves, pacemakers

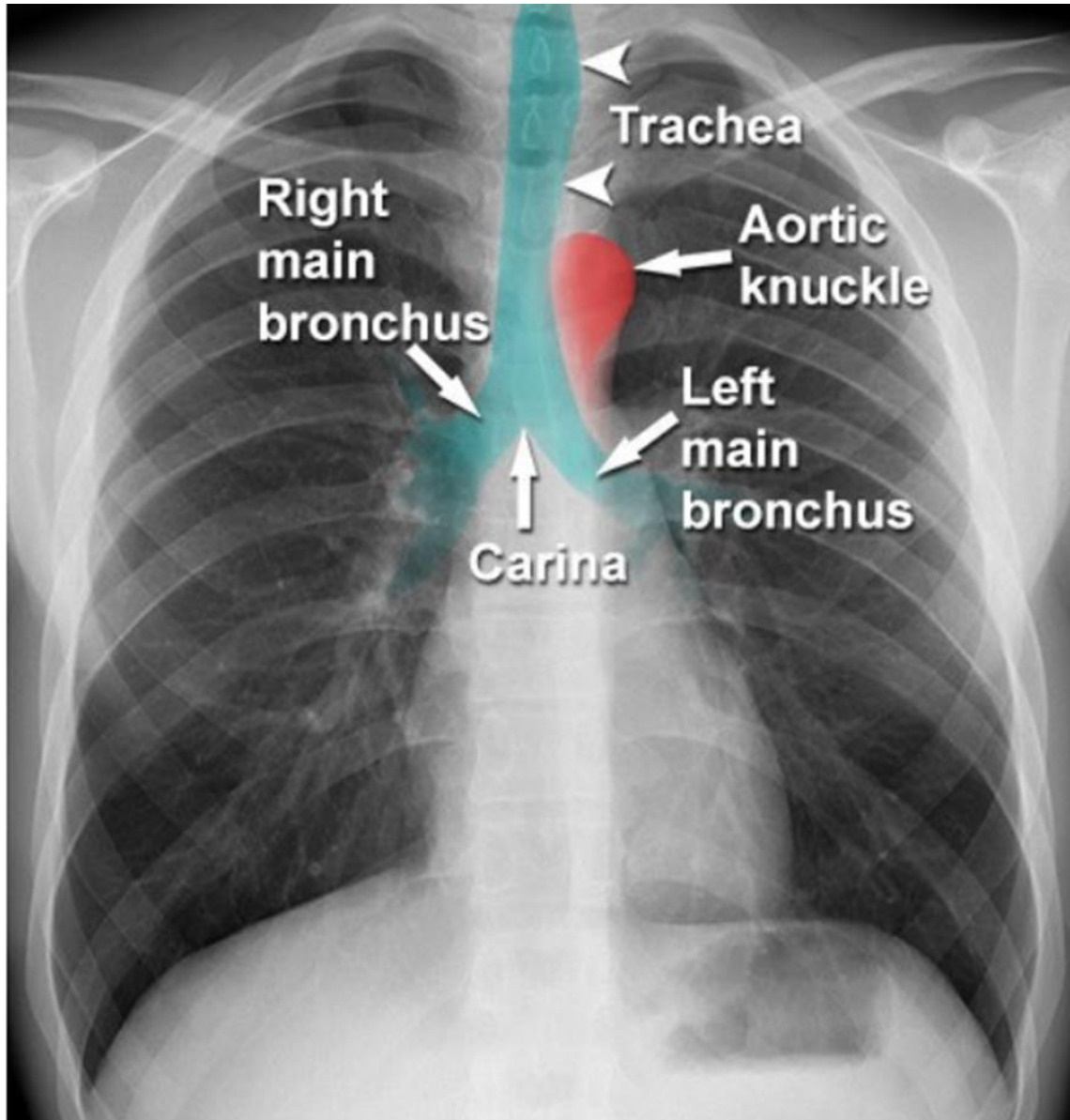
B ; lung markers reaches chest wall

Diaphragm = angle – air under diaphragm – both on the same level

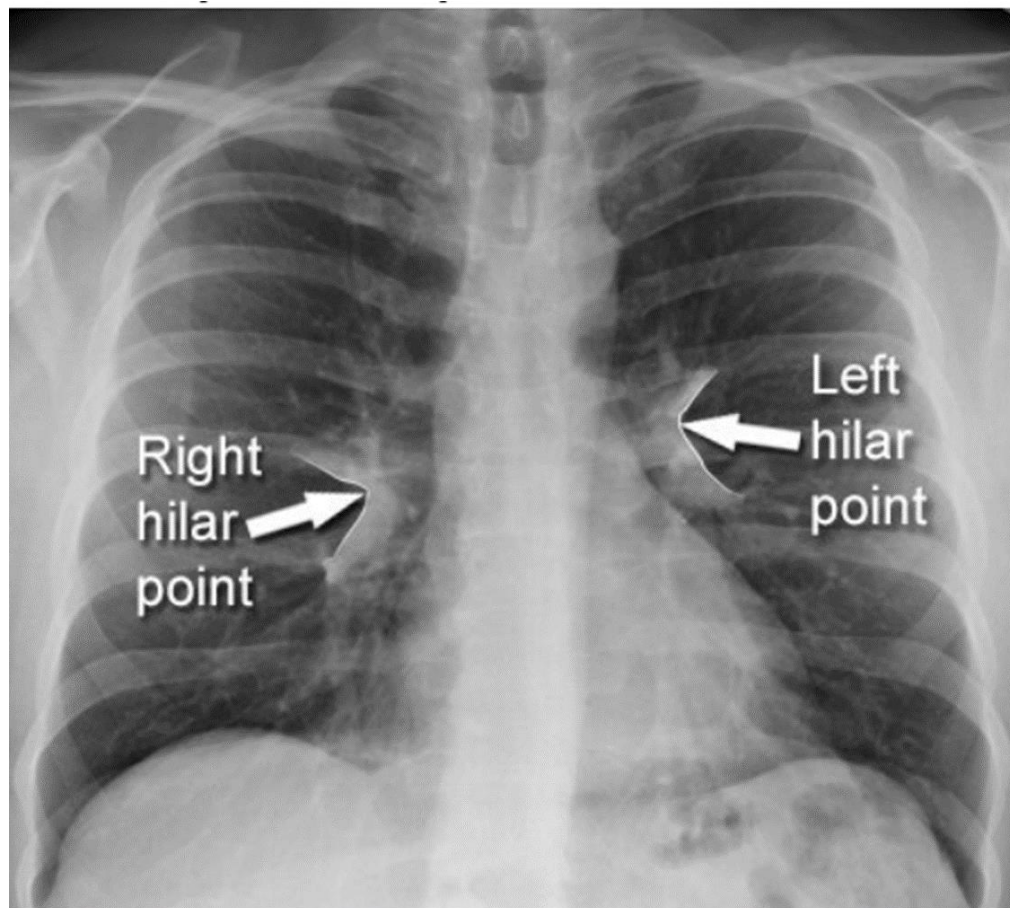
C ; heart size – aortic knuckle

A mediastinum





Trachea = black space ant to spines and should be aligned centrally  
Hilum = when vessels go in the lung At end of trachea, note any mass in there, prominent or not



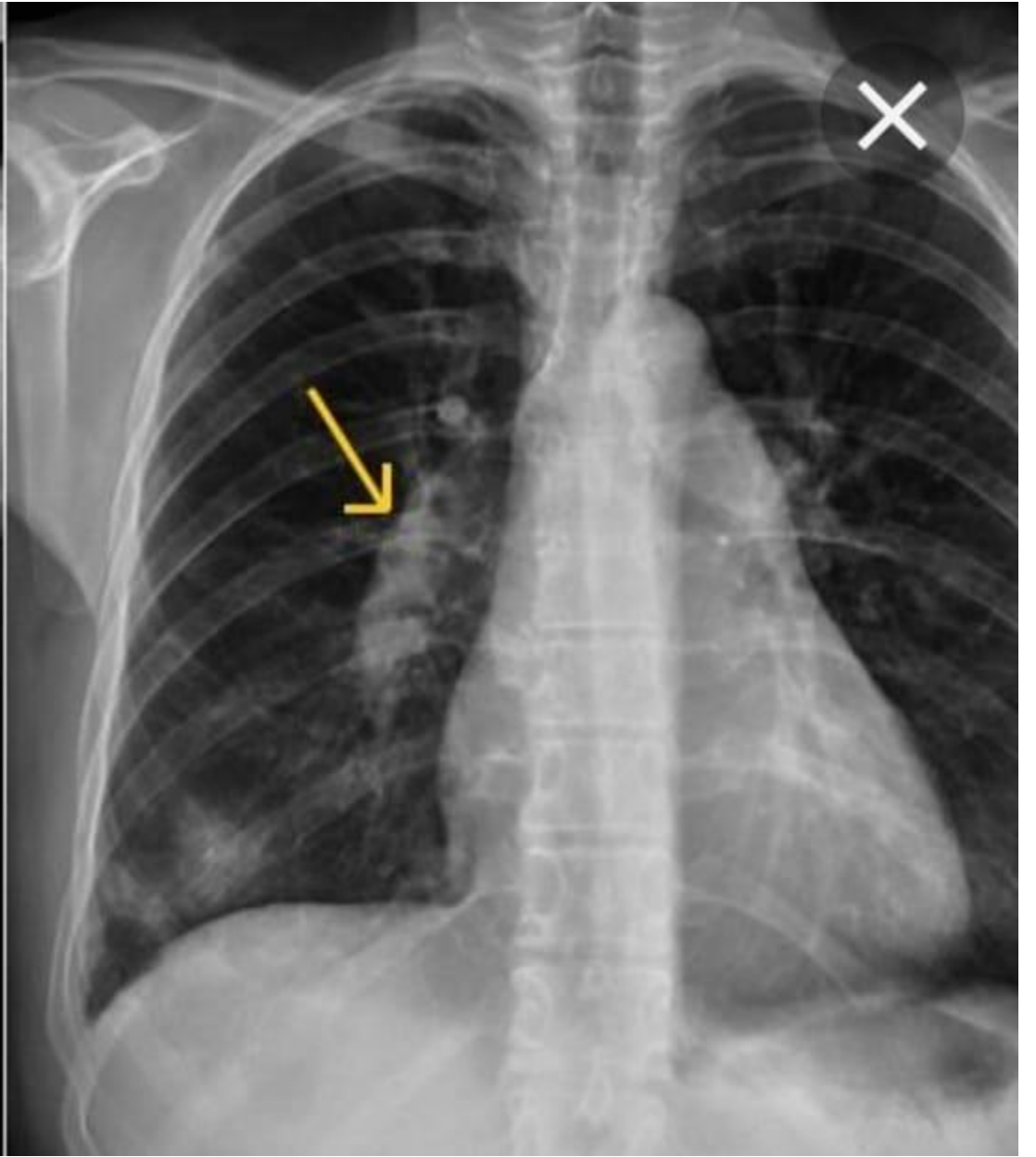
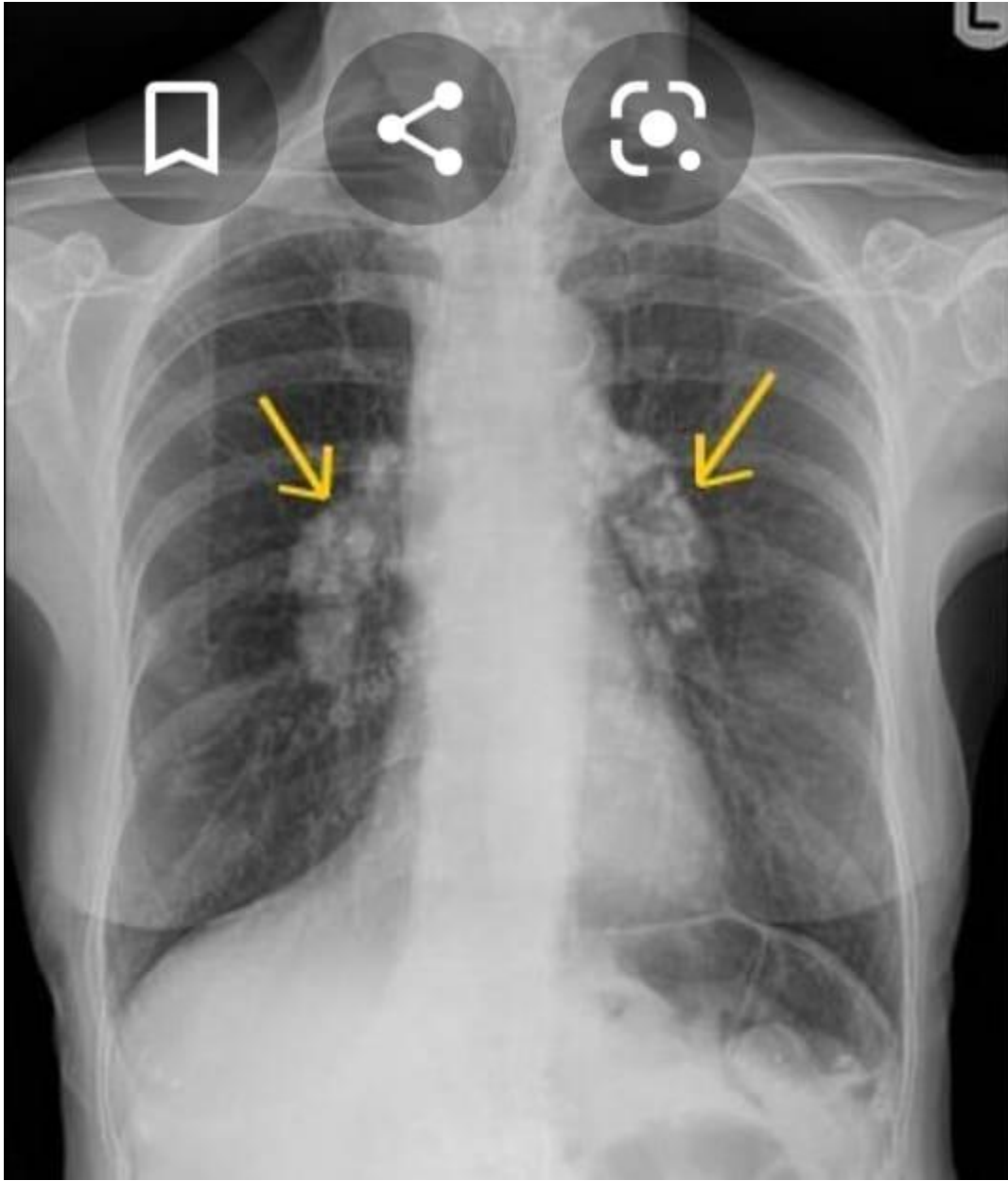
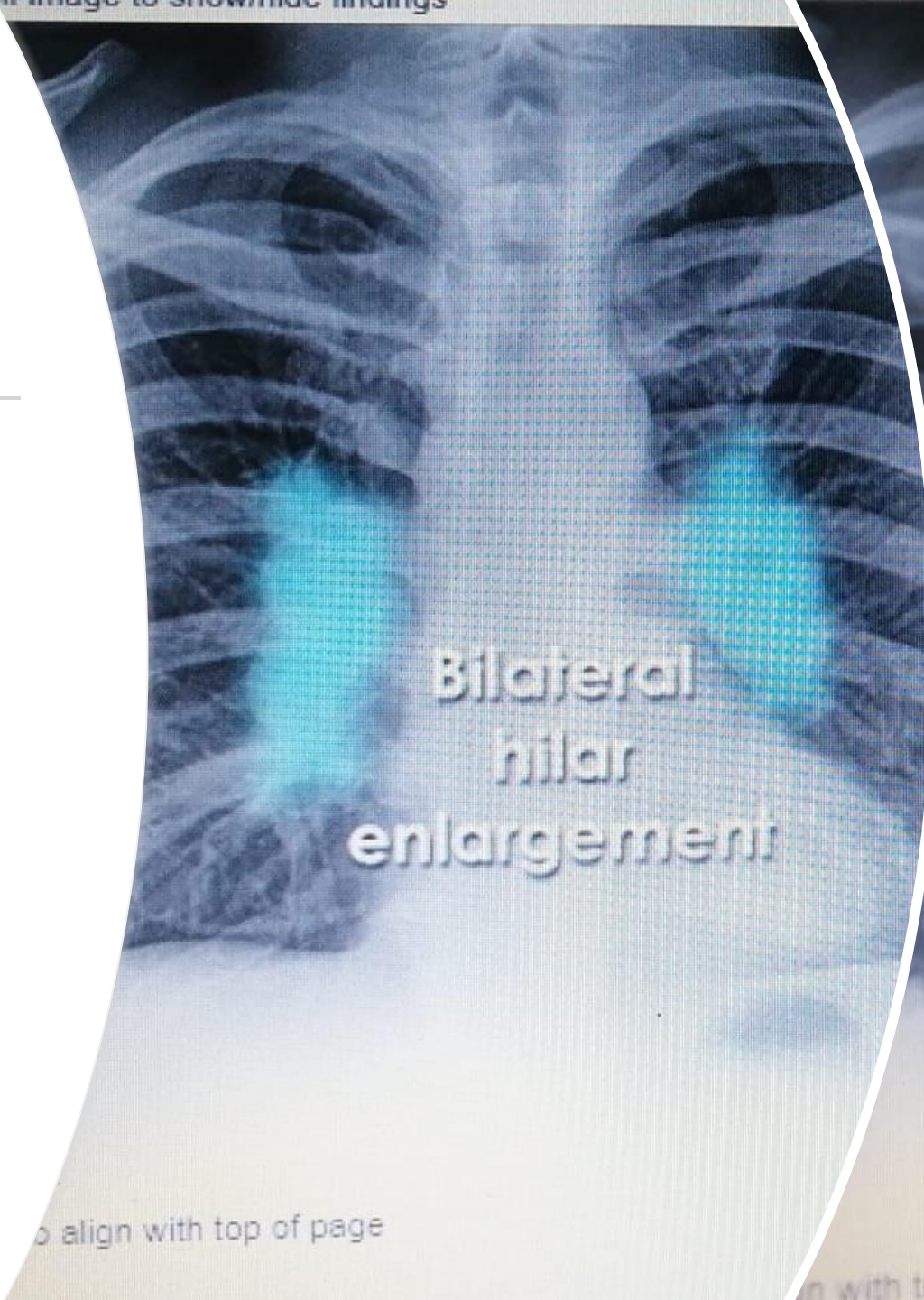
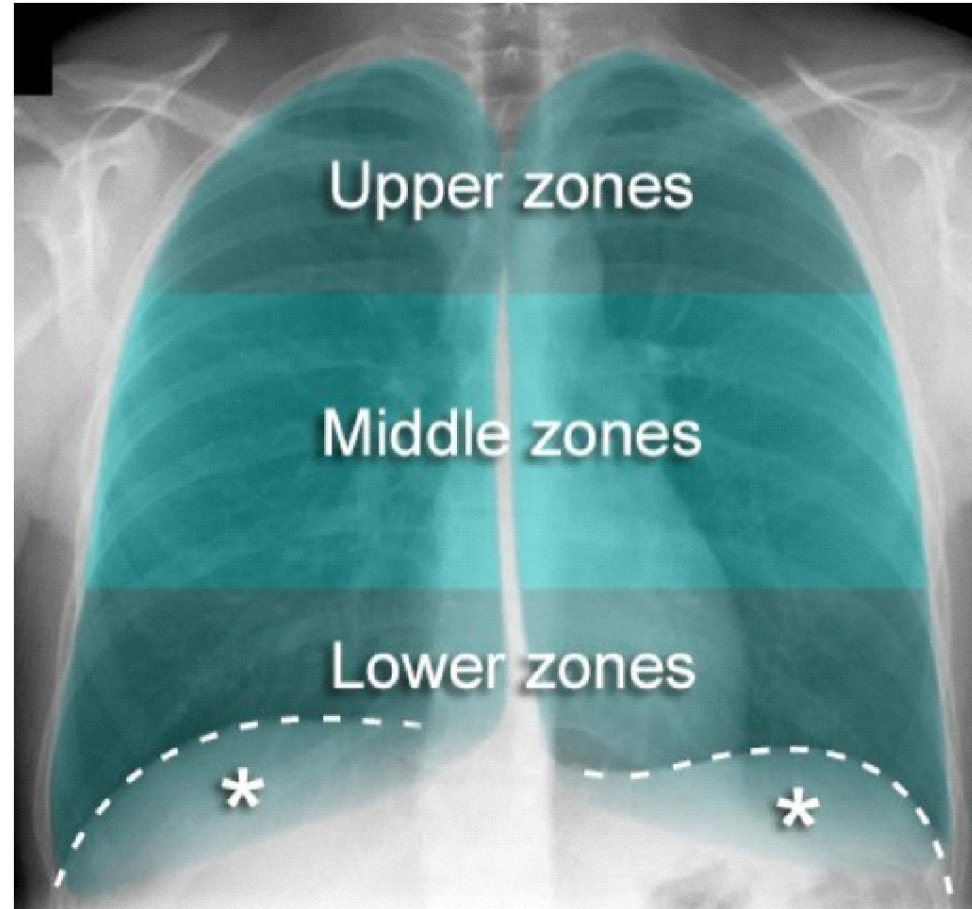
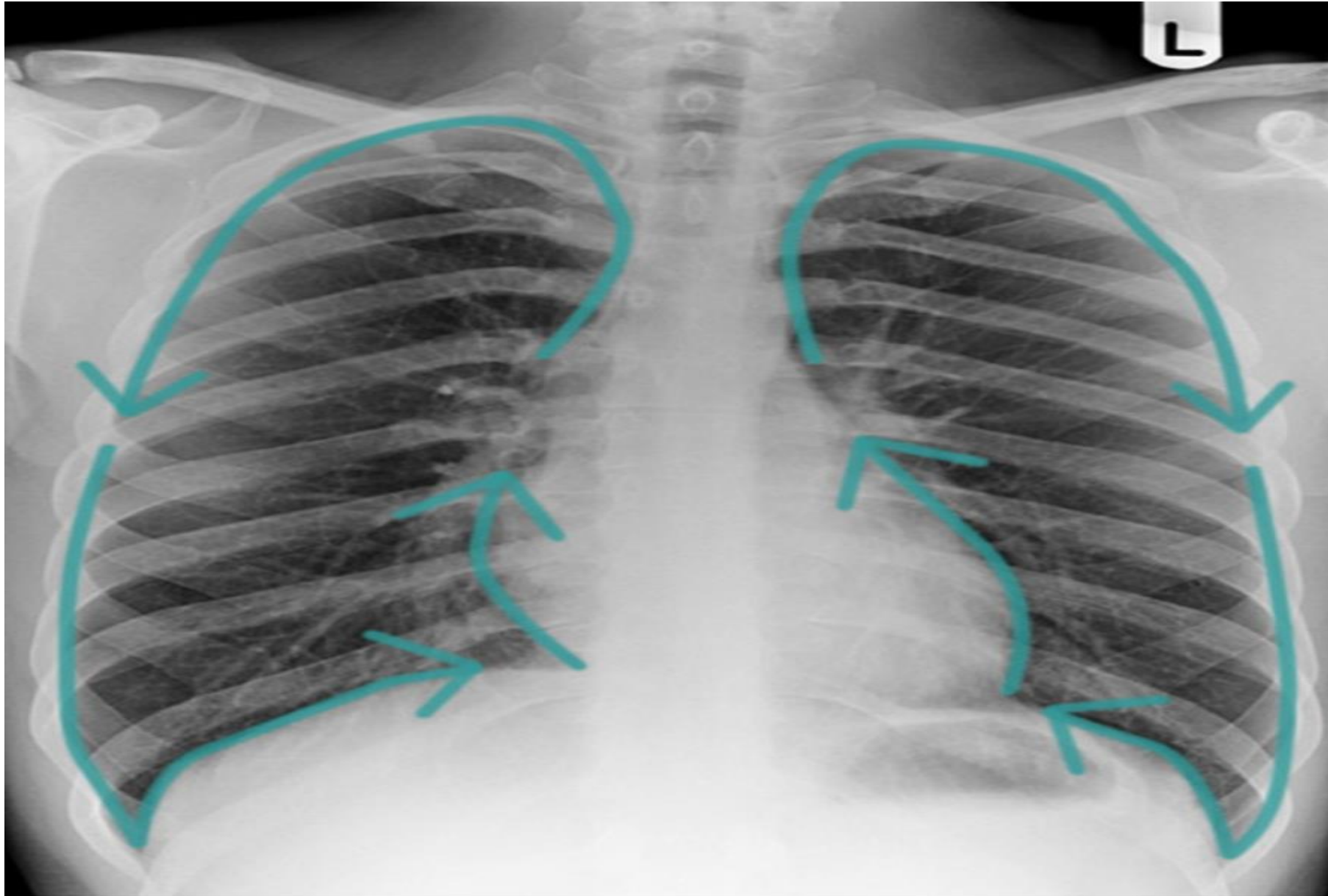


Image to show/make findings

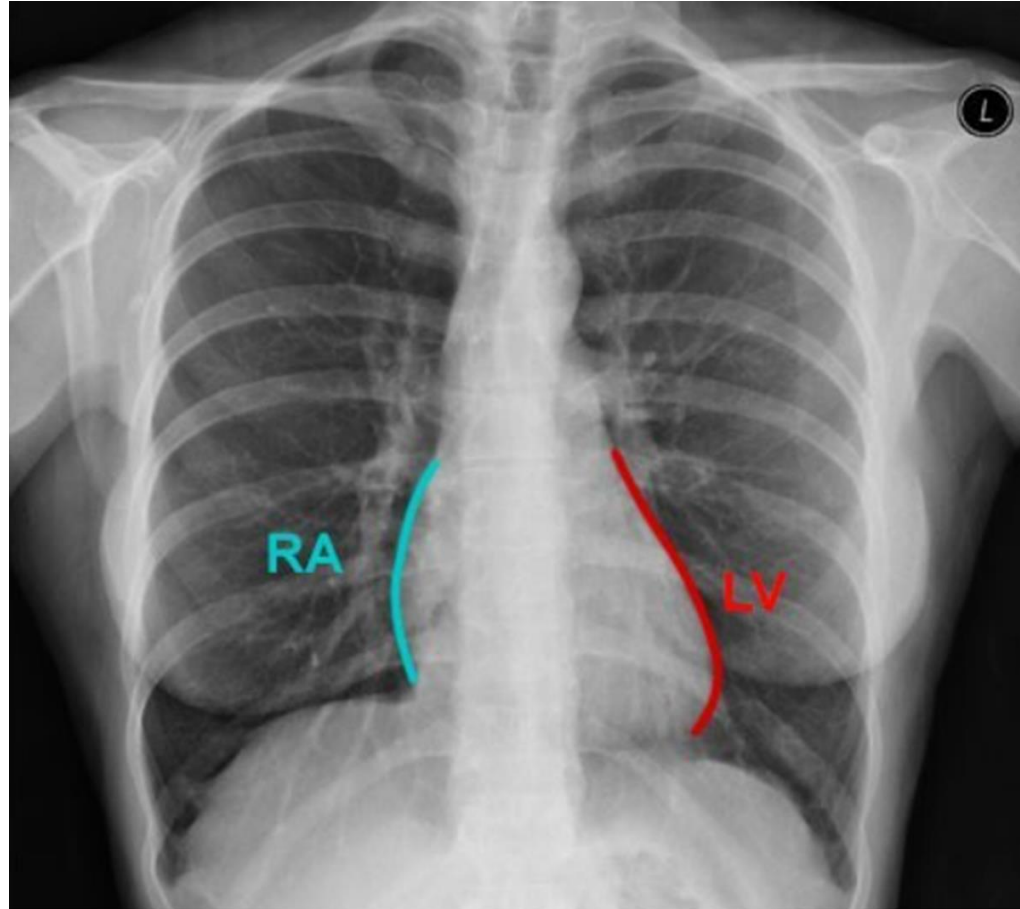
- History



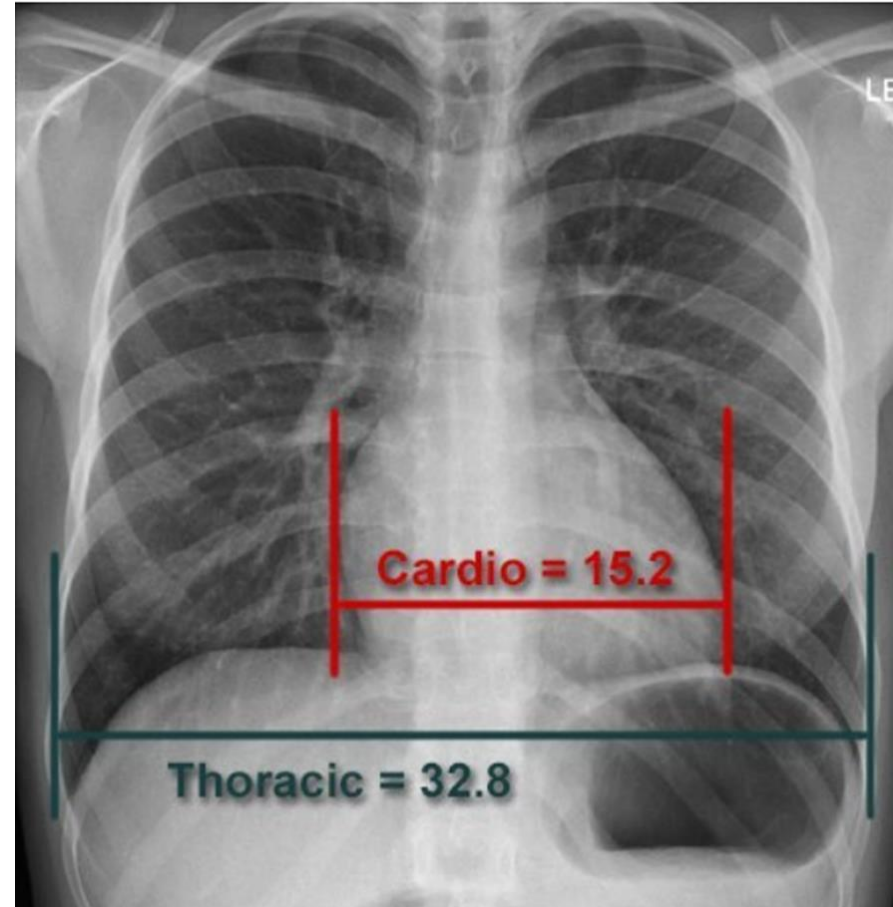




Vascular  
marking :  
should reach  
all borders of  
chest wall  
normally, if  
not  
pneumothorax  
or effusion

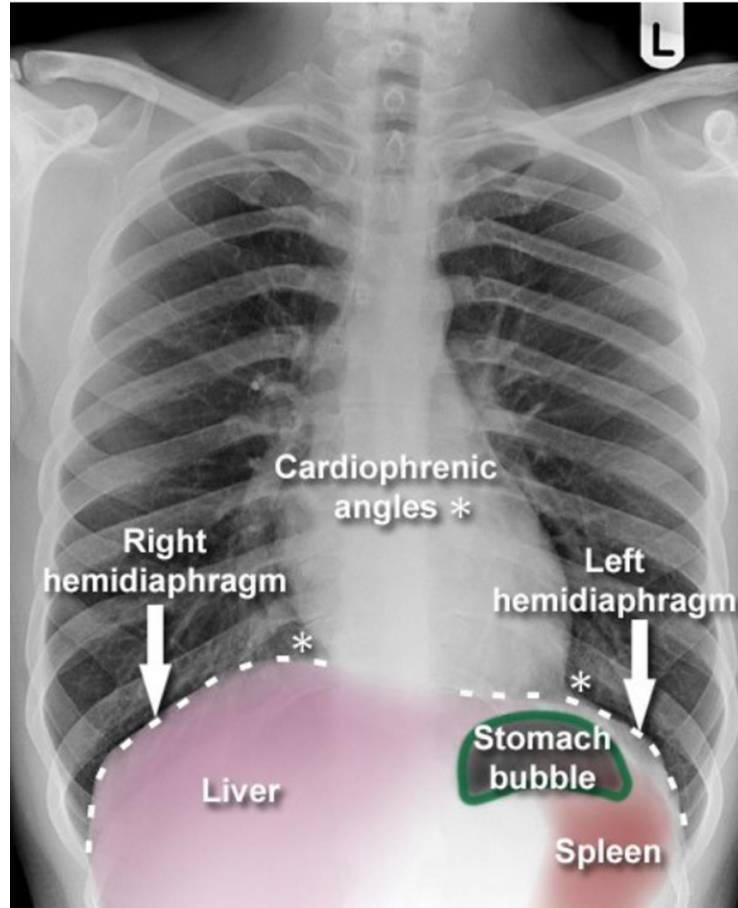


# Cardiovascular ratio 0.2-0.5 normally

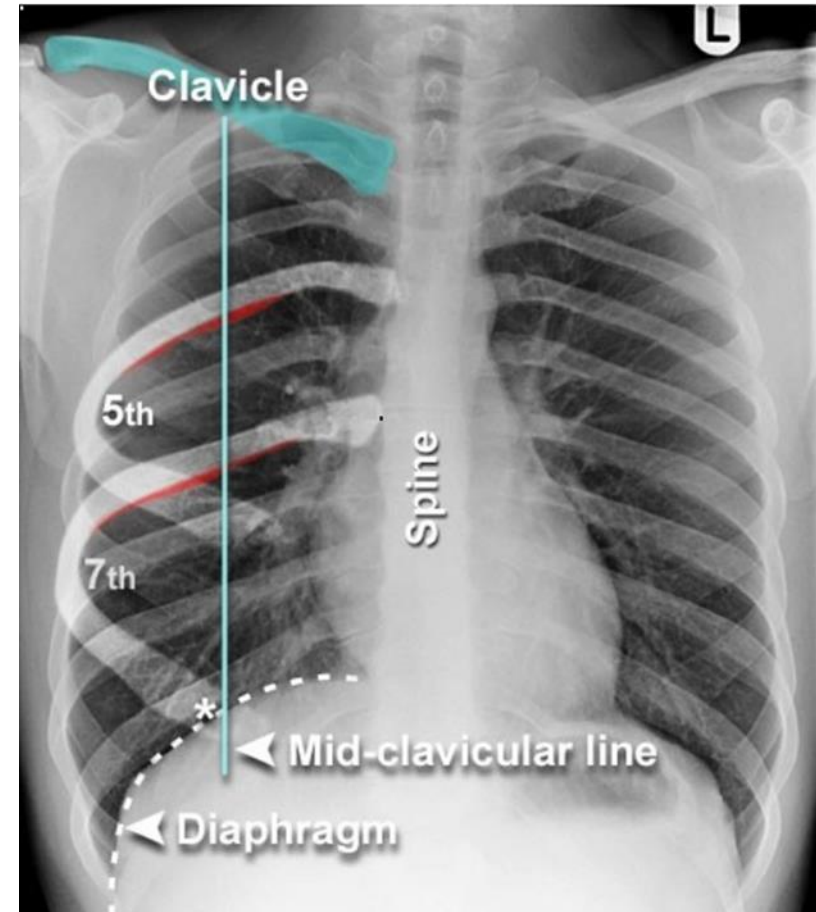
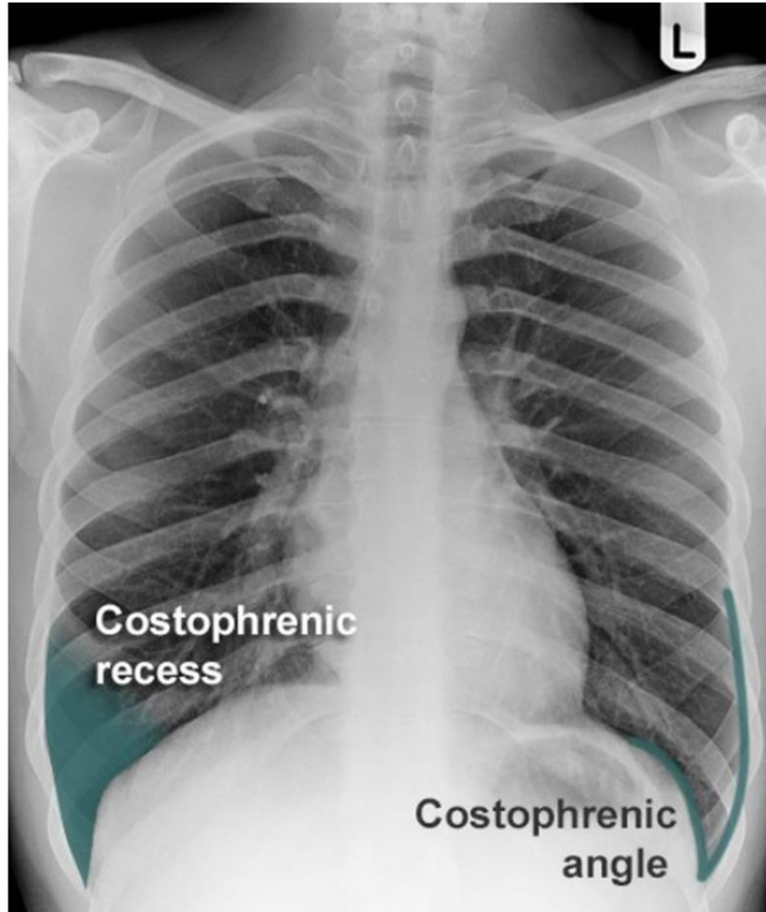


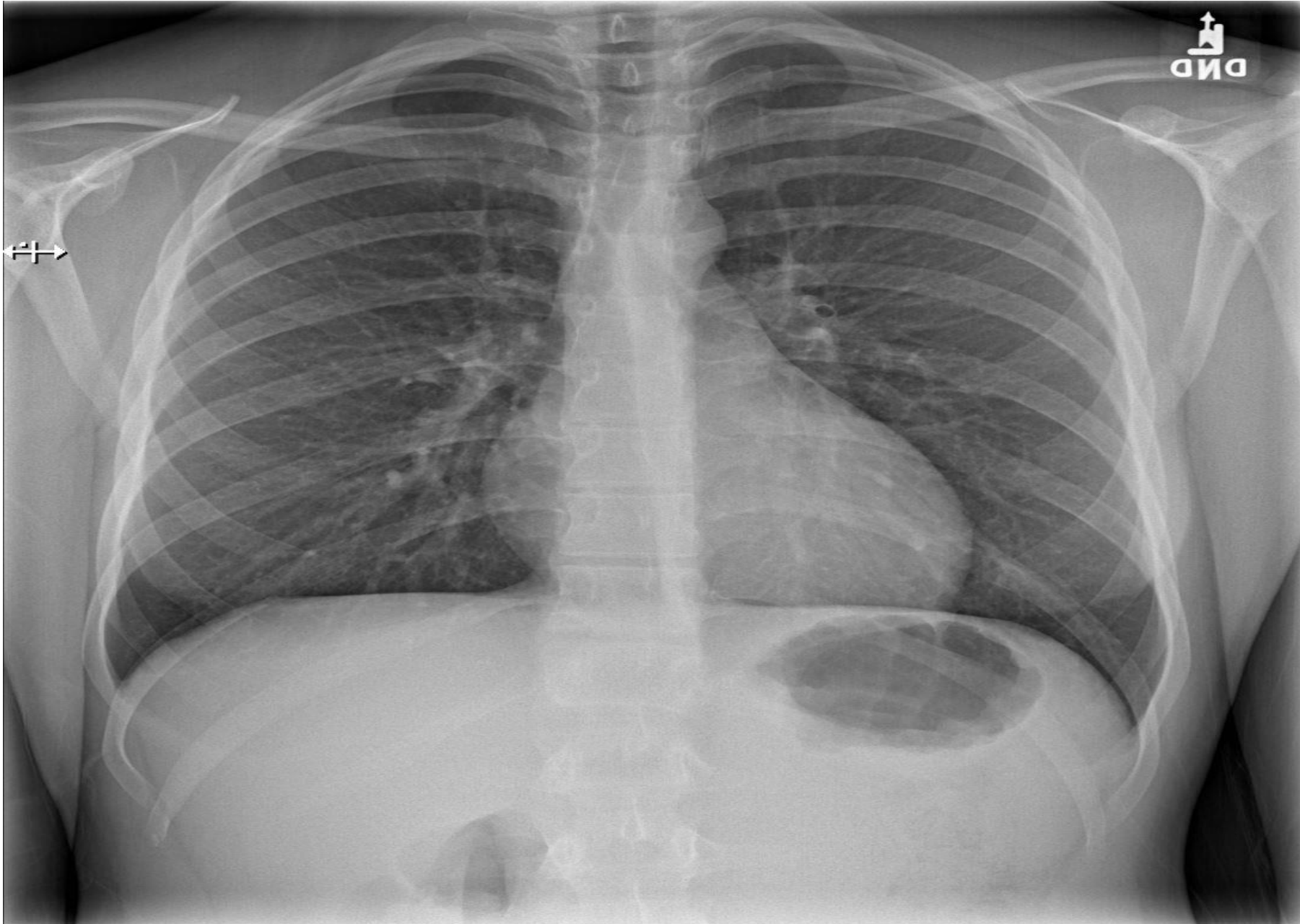


# Stomach funds = black



Costophrenic angle should be sharp such as wedges , if blunt = effusion  
Check diaphragm level or air under it



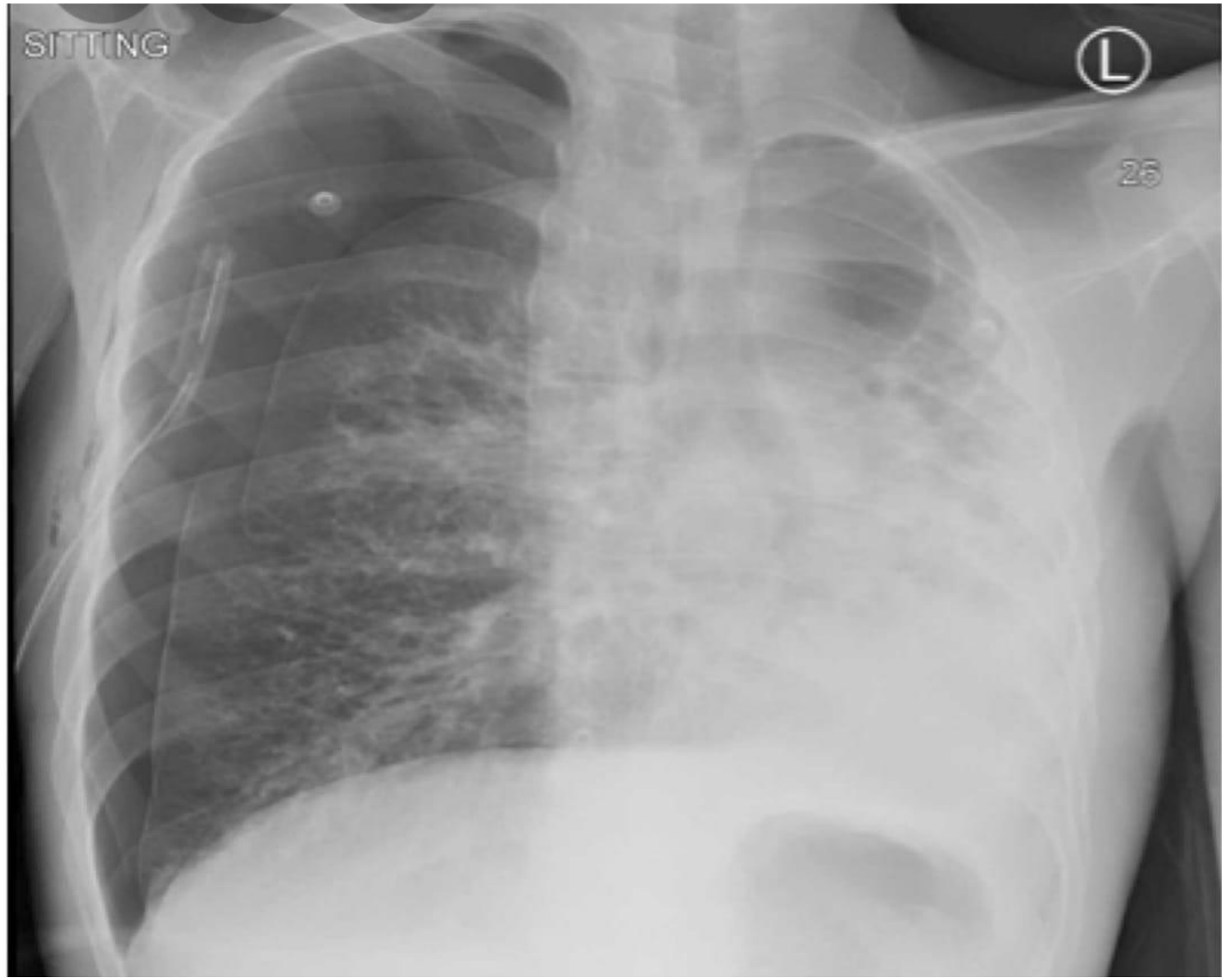


Slight deviation  
in trachea  
Prominent Hilum  
( vessels are  
prominent)  
Gastric bubble  
which is normal

SITTING

L

26





AP SEMI-ERECT ICU EM/G

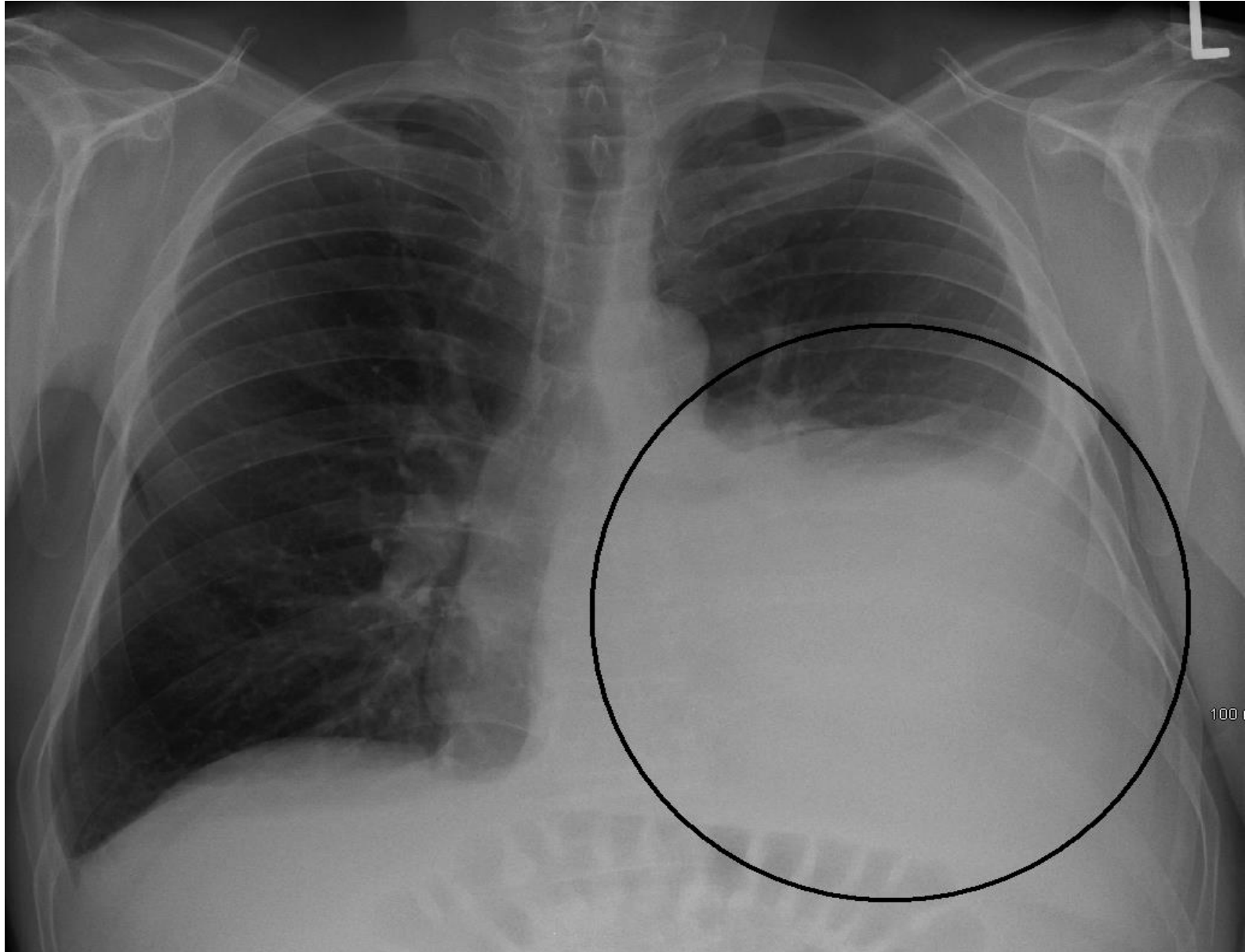
Exposure: 2mAs

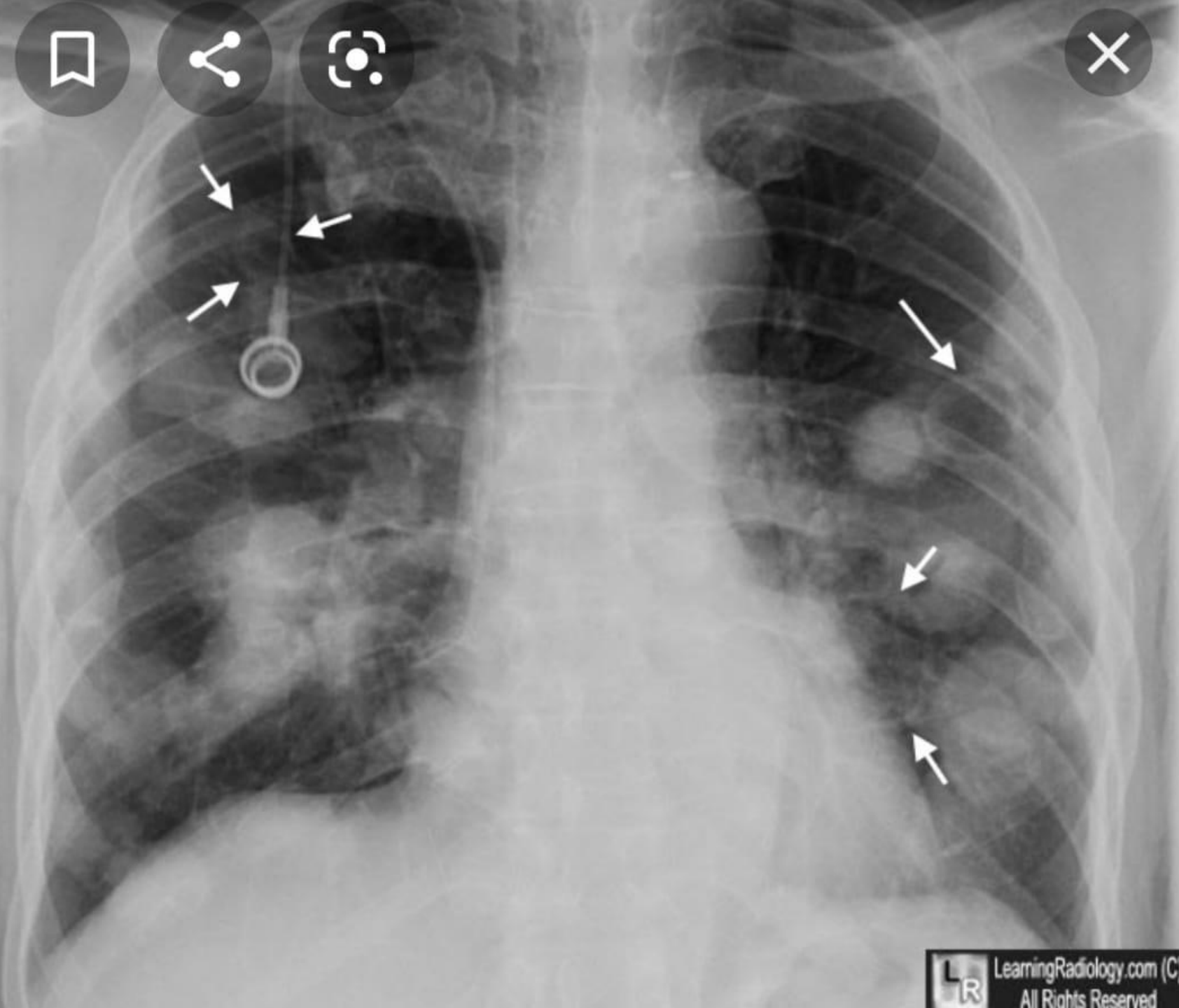
@: 14:28:31

KVP: 115kV

0cm

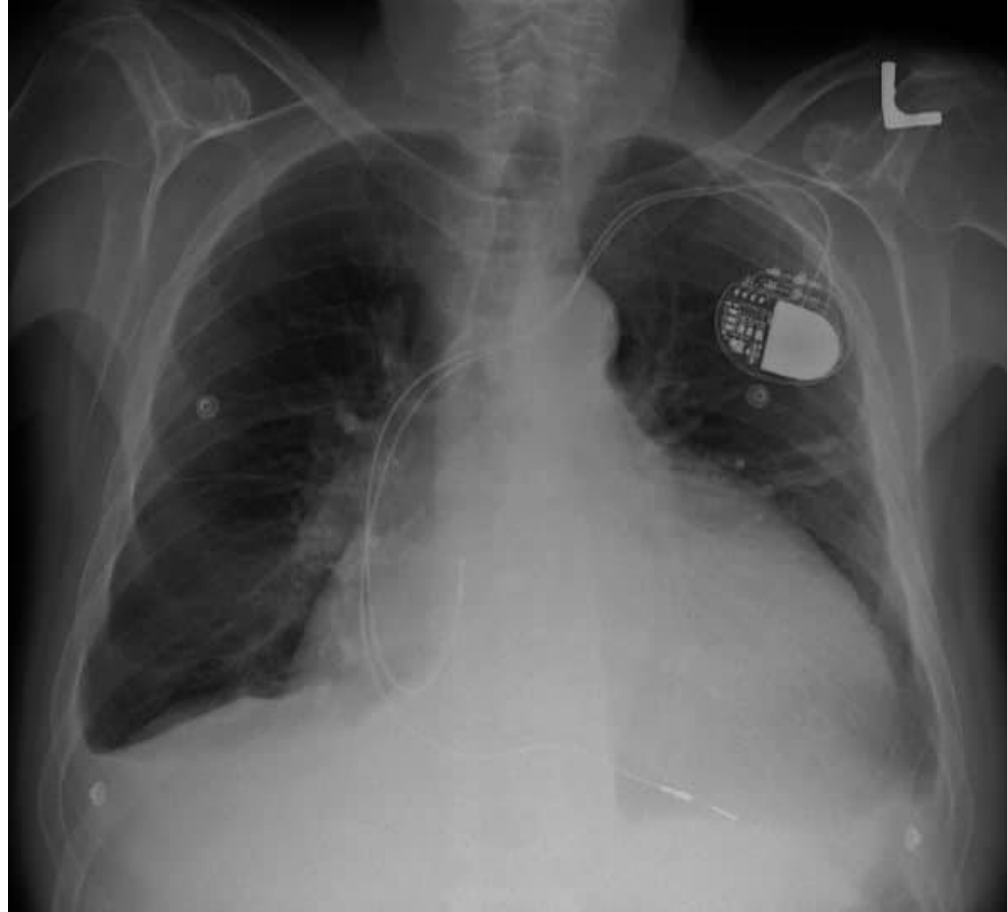
17cm



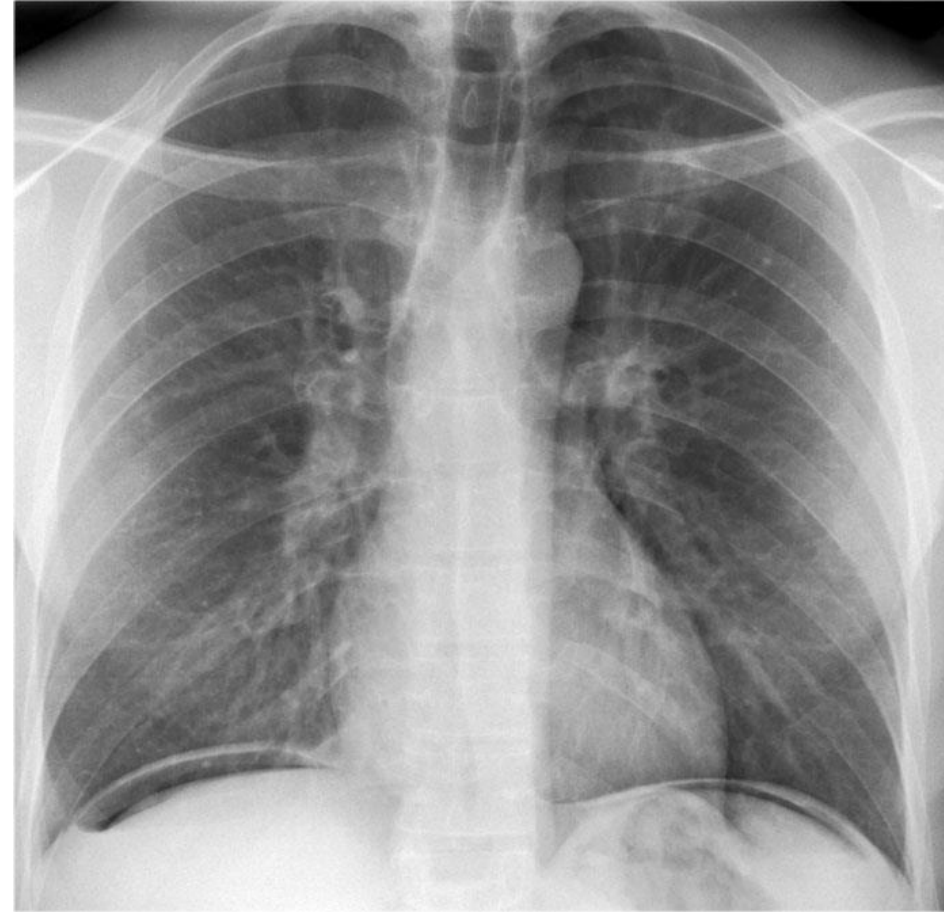


Port A catch =  
subcutaneous  
for chemo

Pacemaker  
Don't put him to MRI

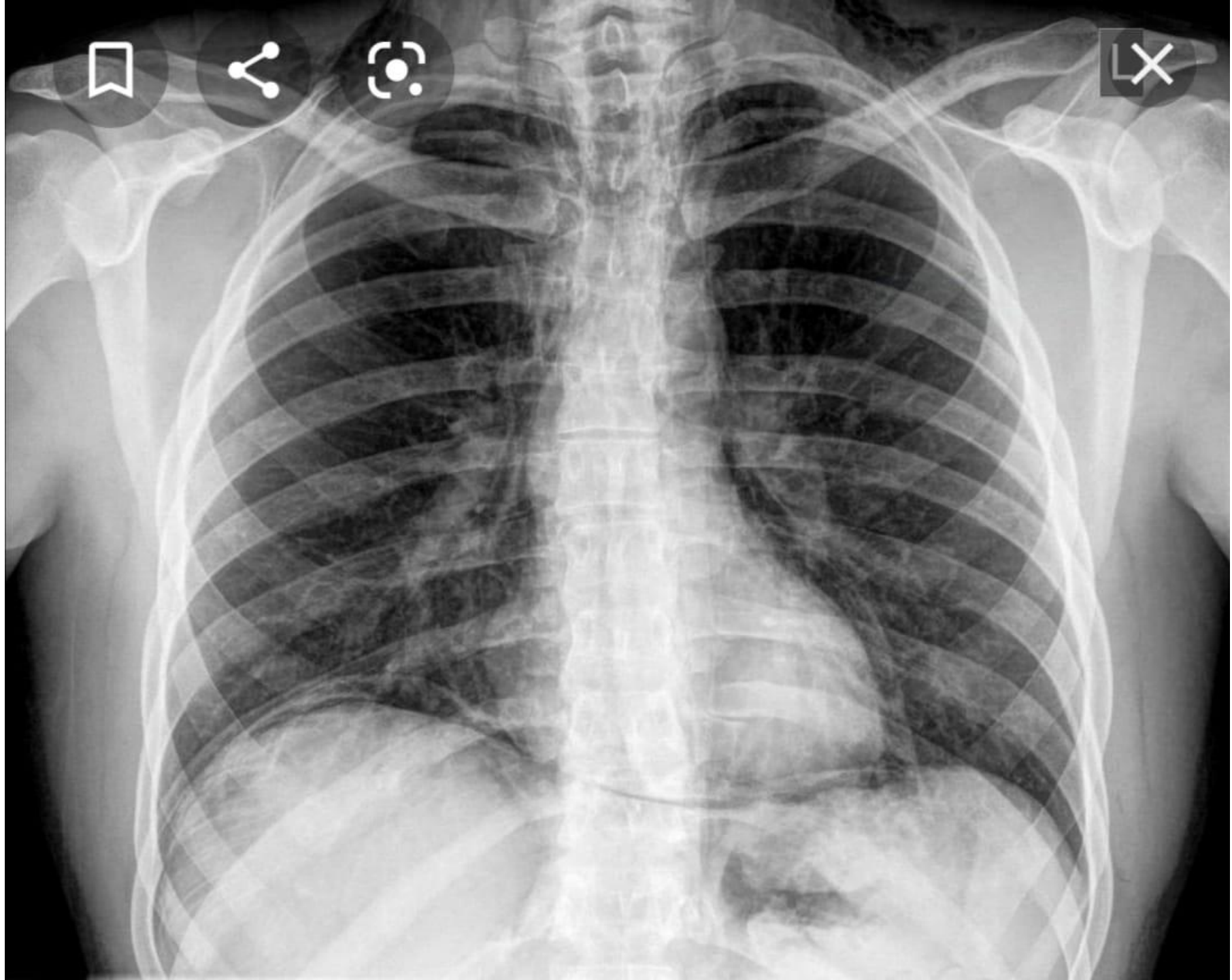


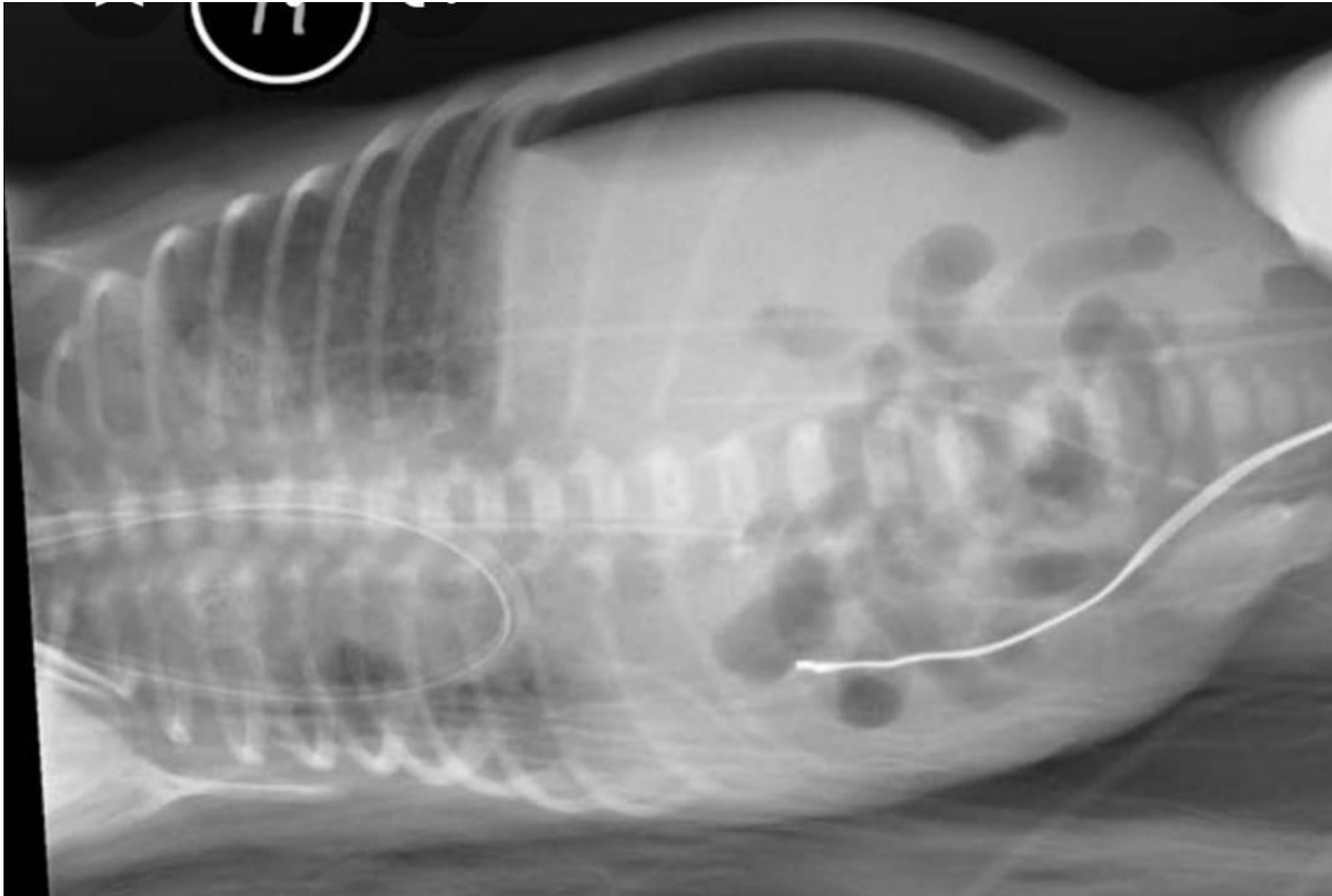






Air under  
diaphragm = post  
op or perforation

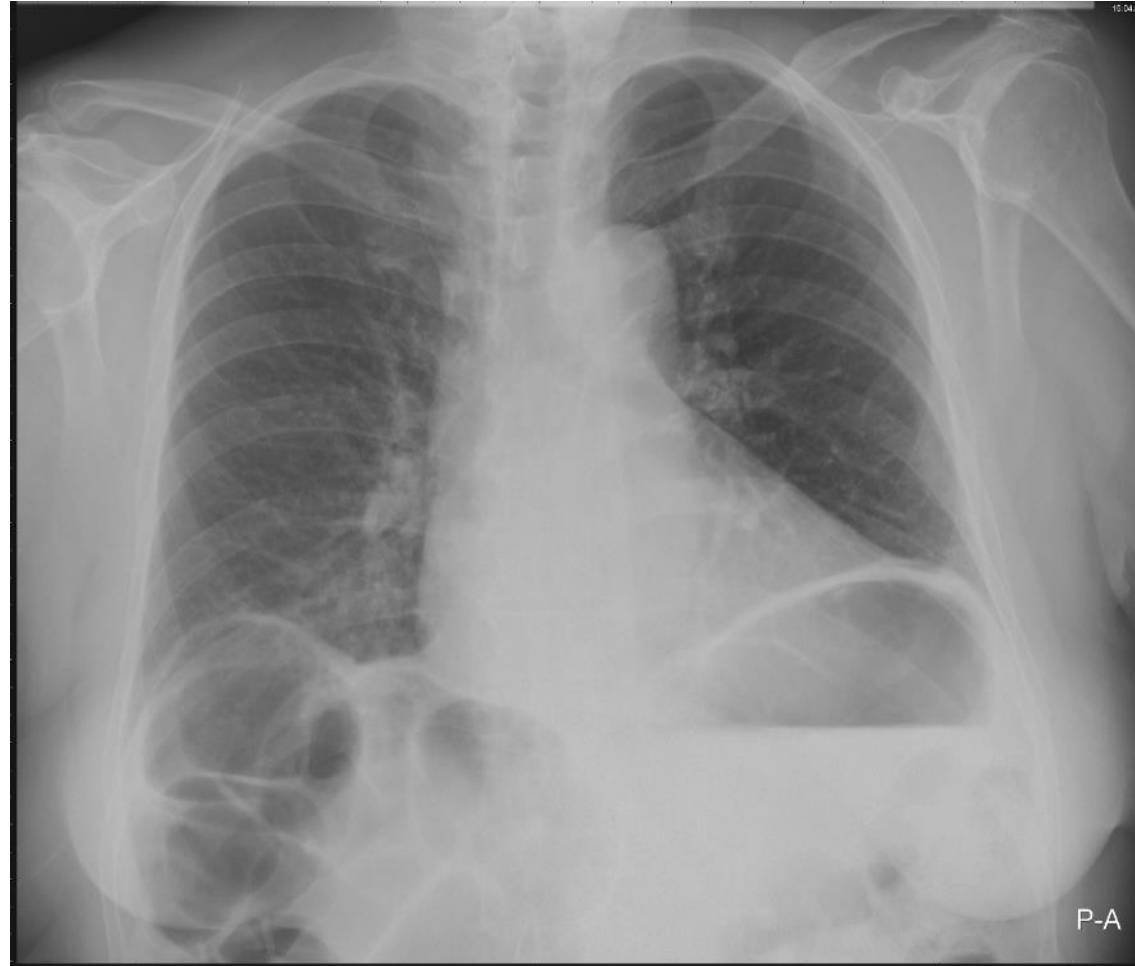




Lateral  
decubitus :  
detect air under  
diaphragm if x  
ray cant be  
done

Colon ant to liver

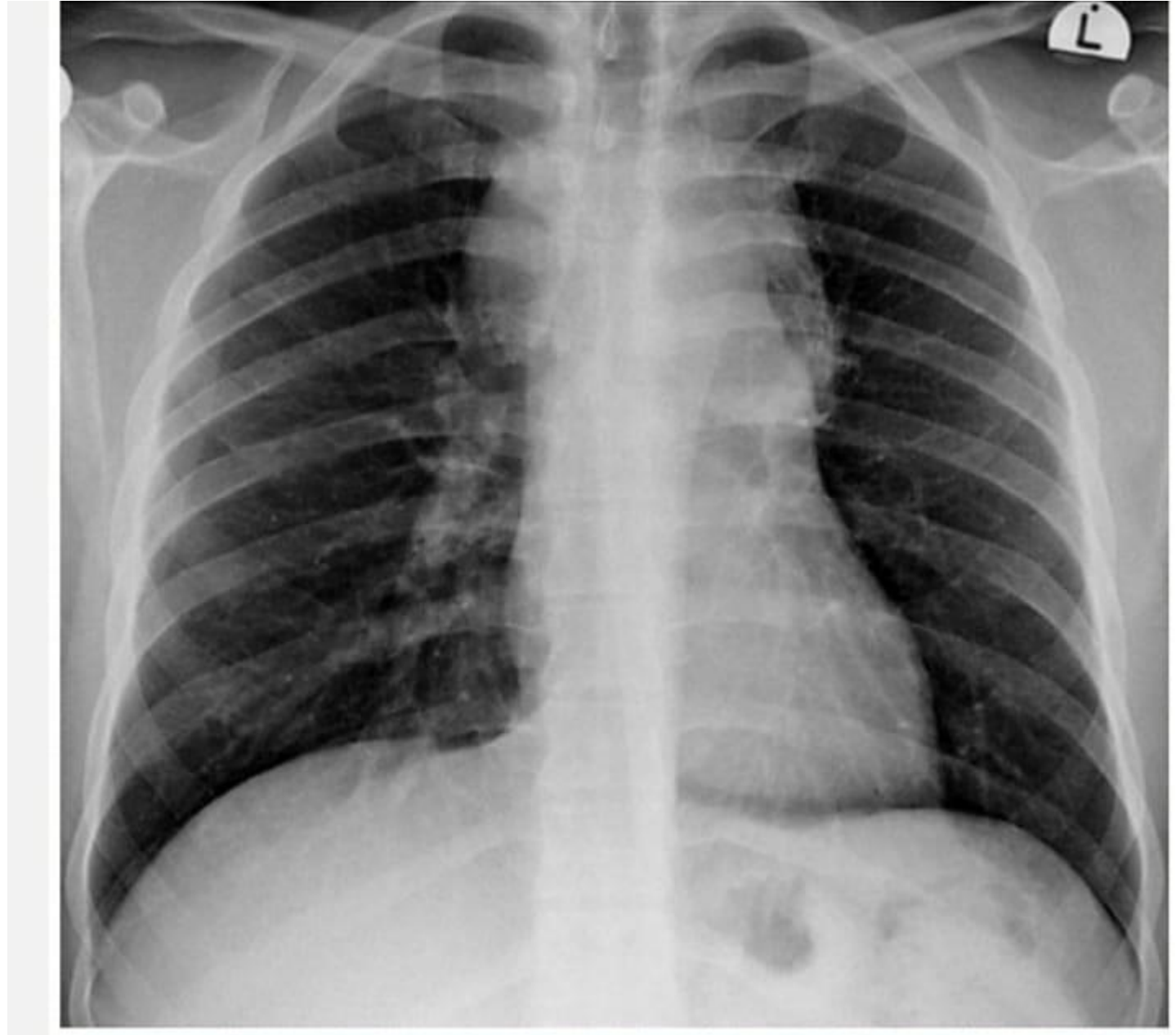
10 % of air under diaphragm can not be detected on x ray. If you suspect air under diaphragm but is not detected on x ray Do CT



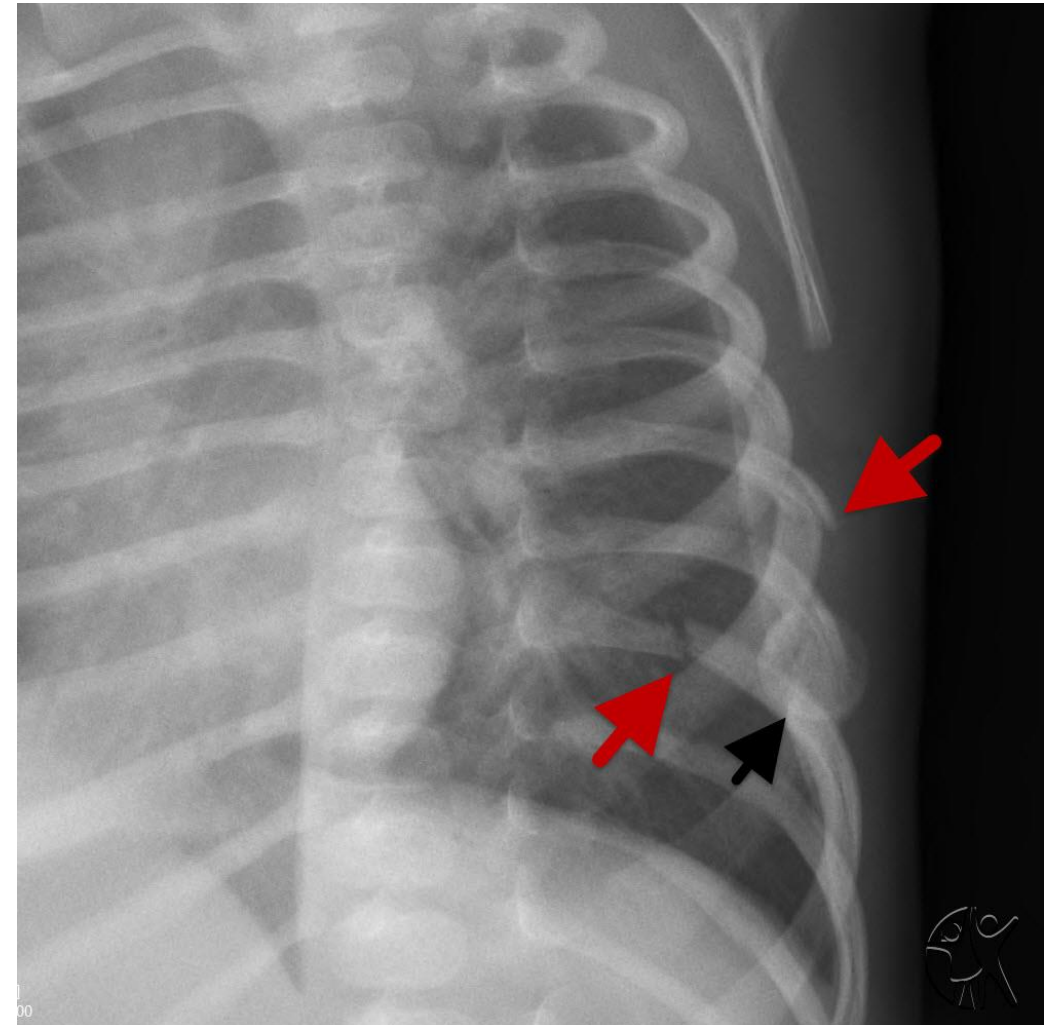
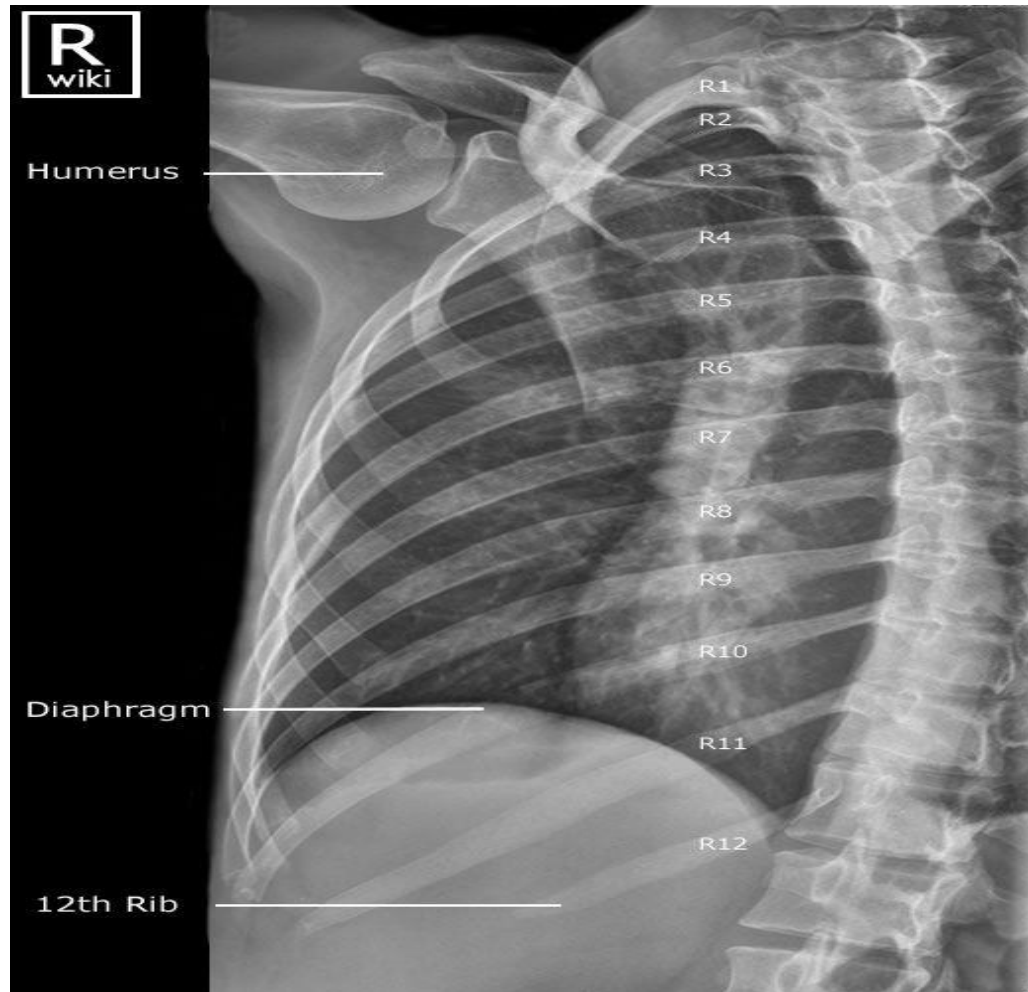
# Fracture



Mediastinum wide

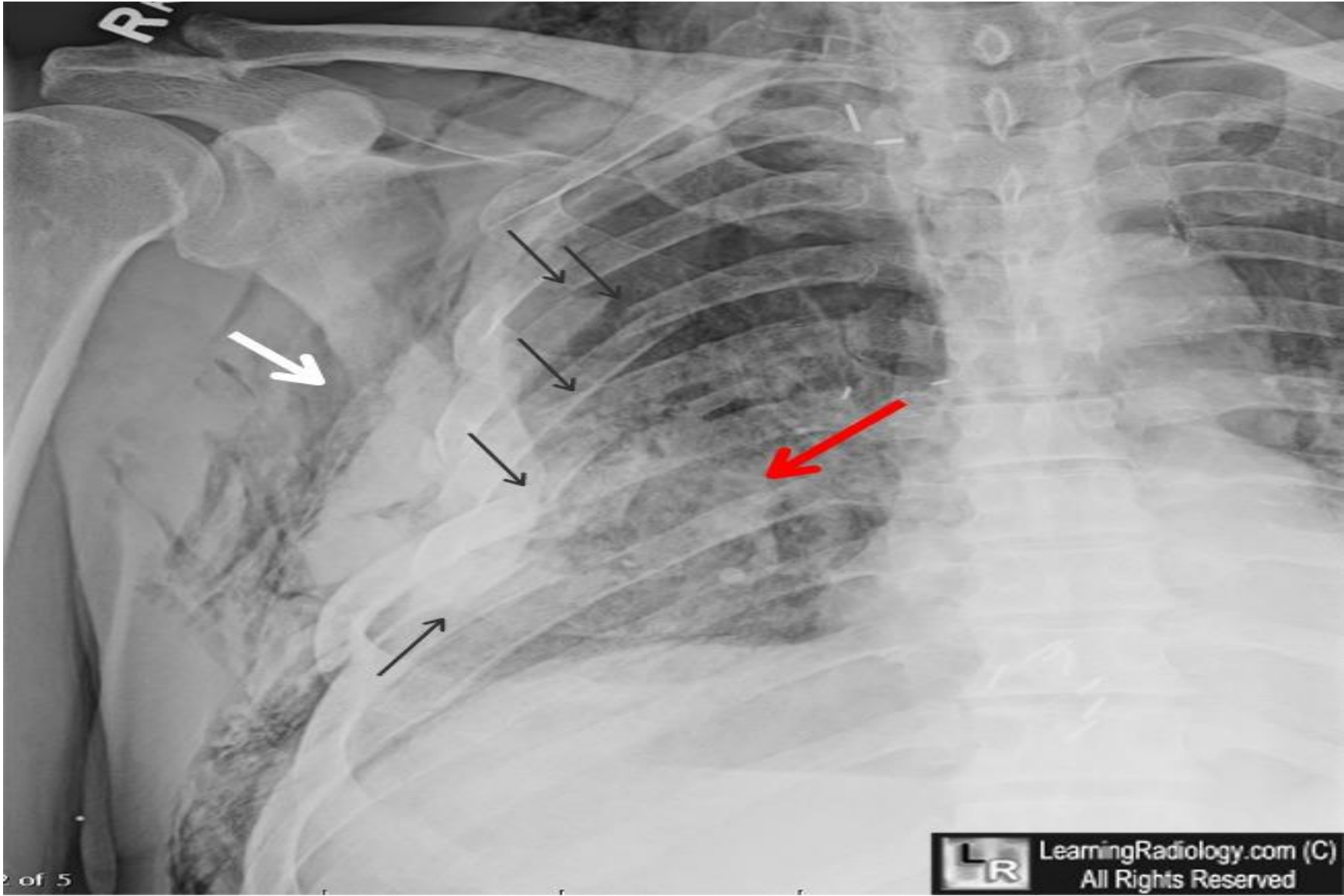


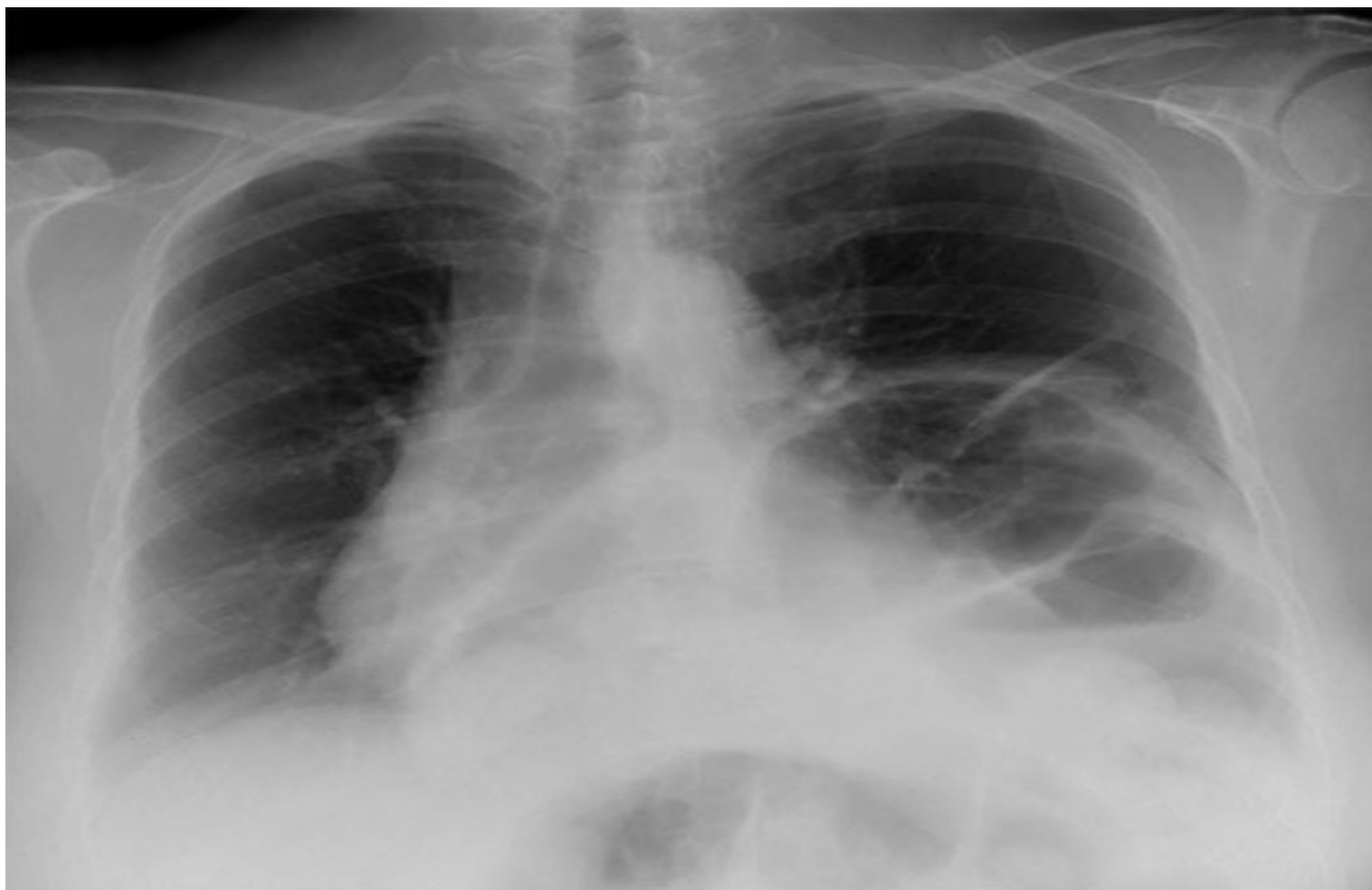
# Rip view = if you suspect rib fracture

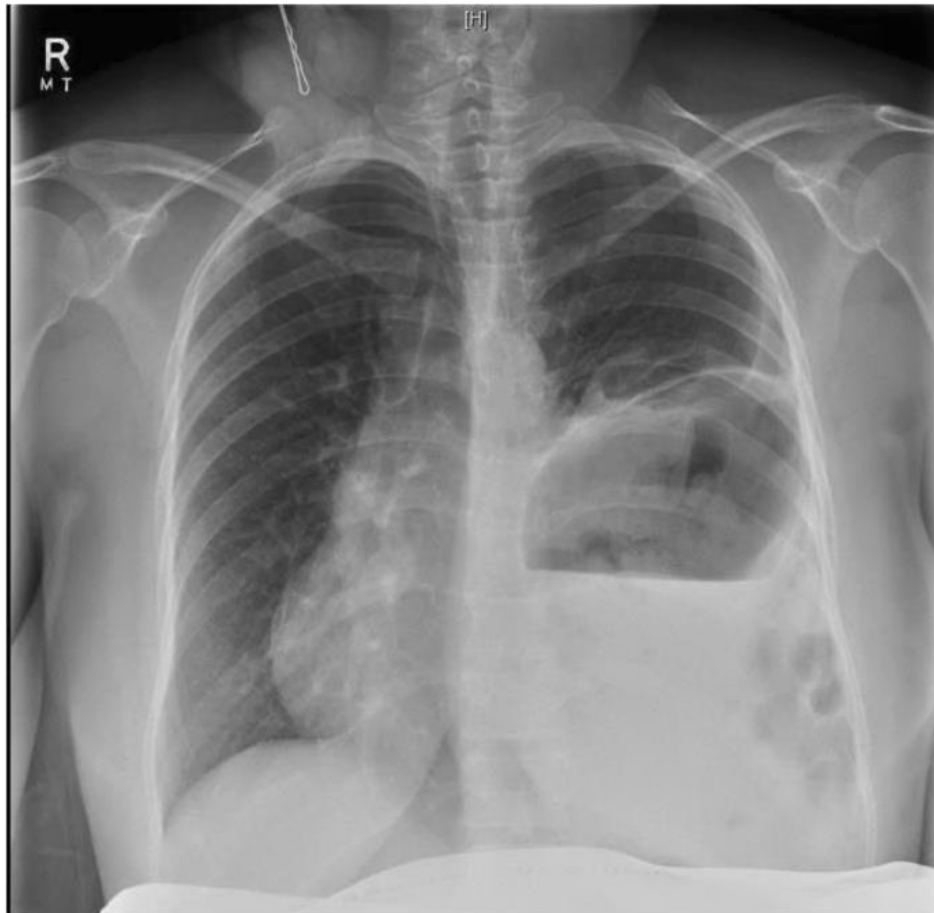




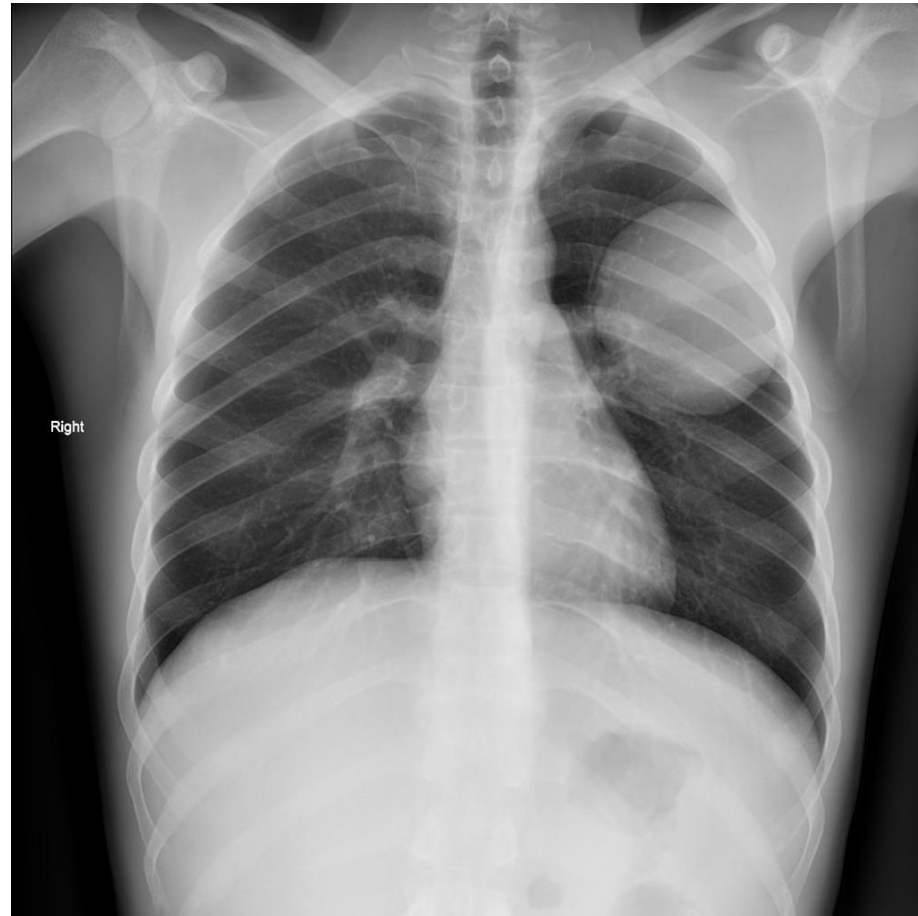
Friel segment : more than  
one rip fractured  
Those rips injured the  
lung



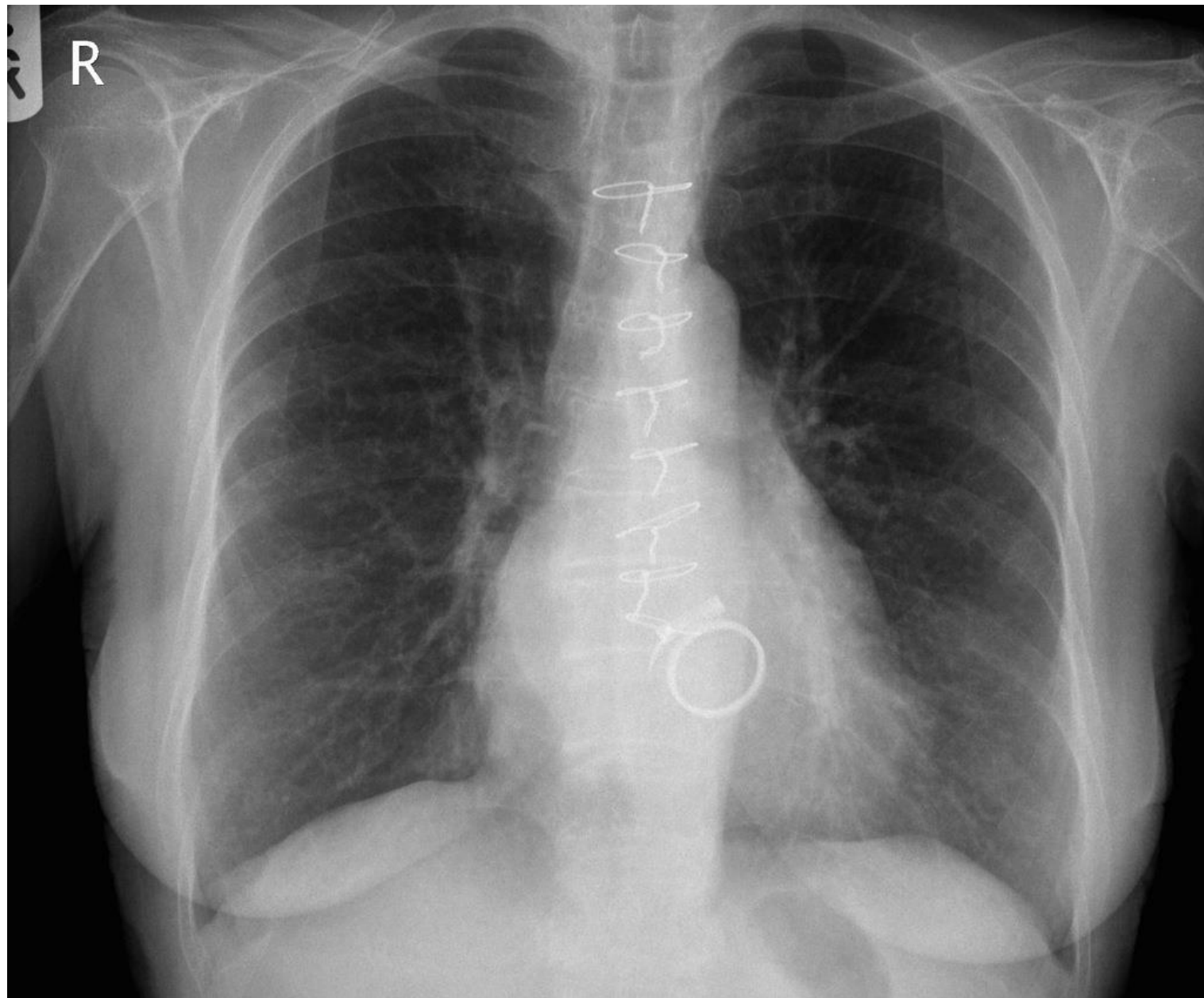


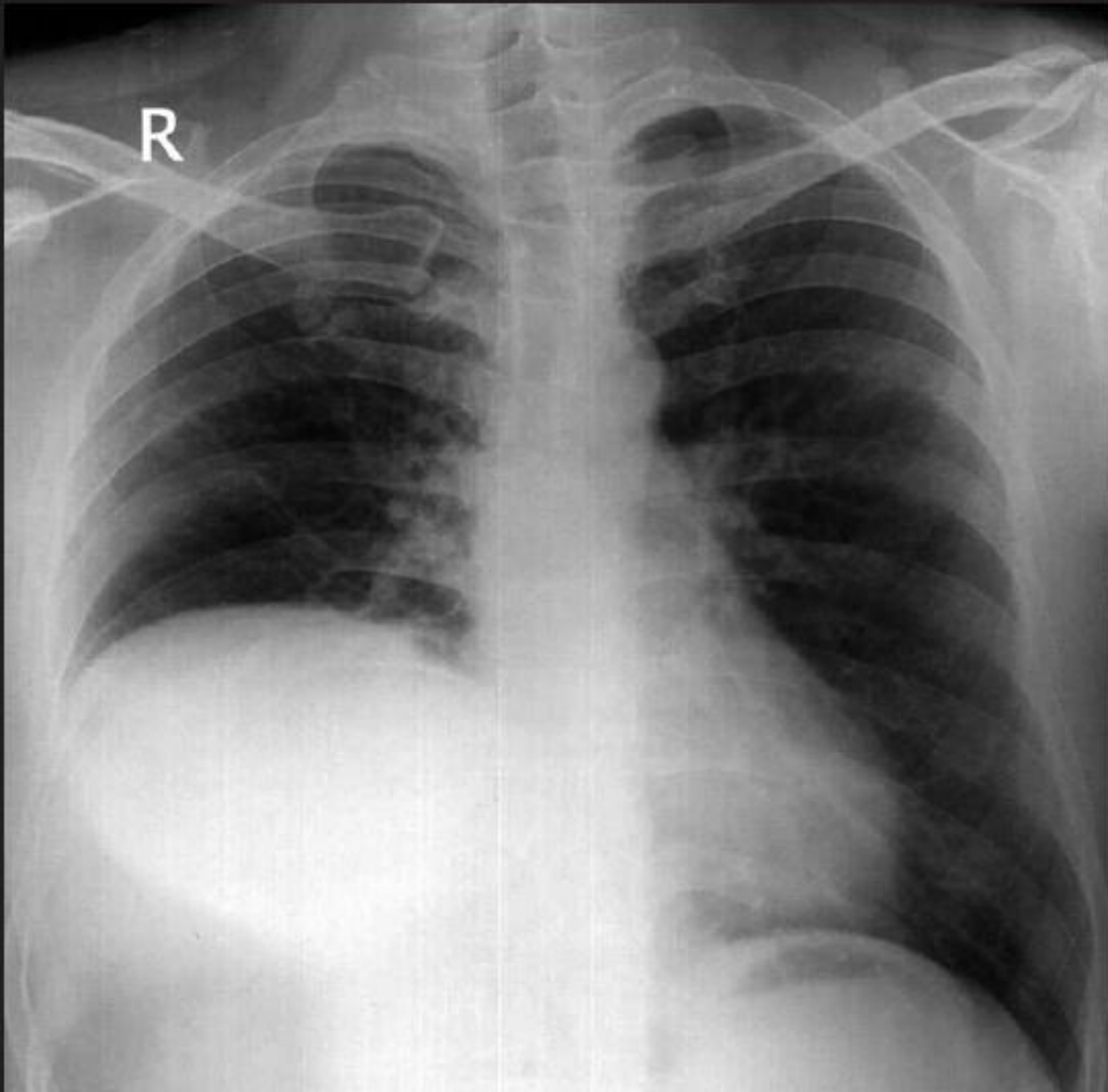


If half black half white = air fluid level,  
secondary to infection in Cyst



Open heart  
surgery





Phrenic nerve  
injury