



Interpreting Chest X-rays...

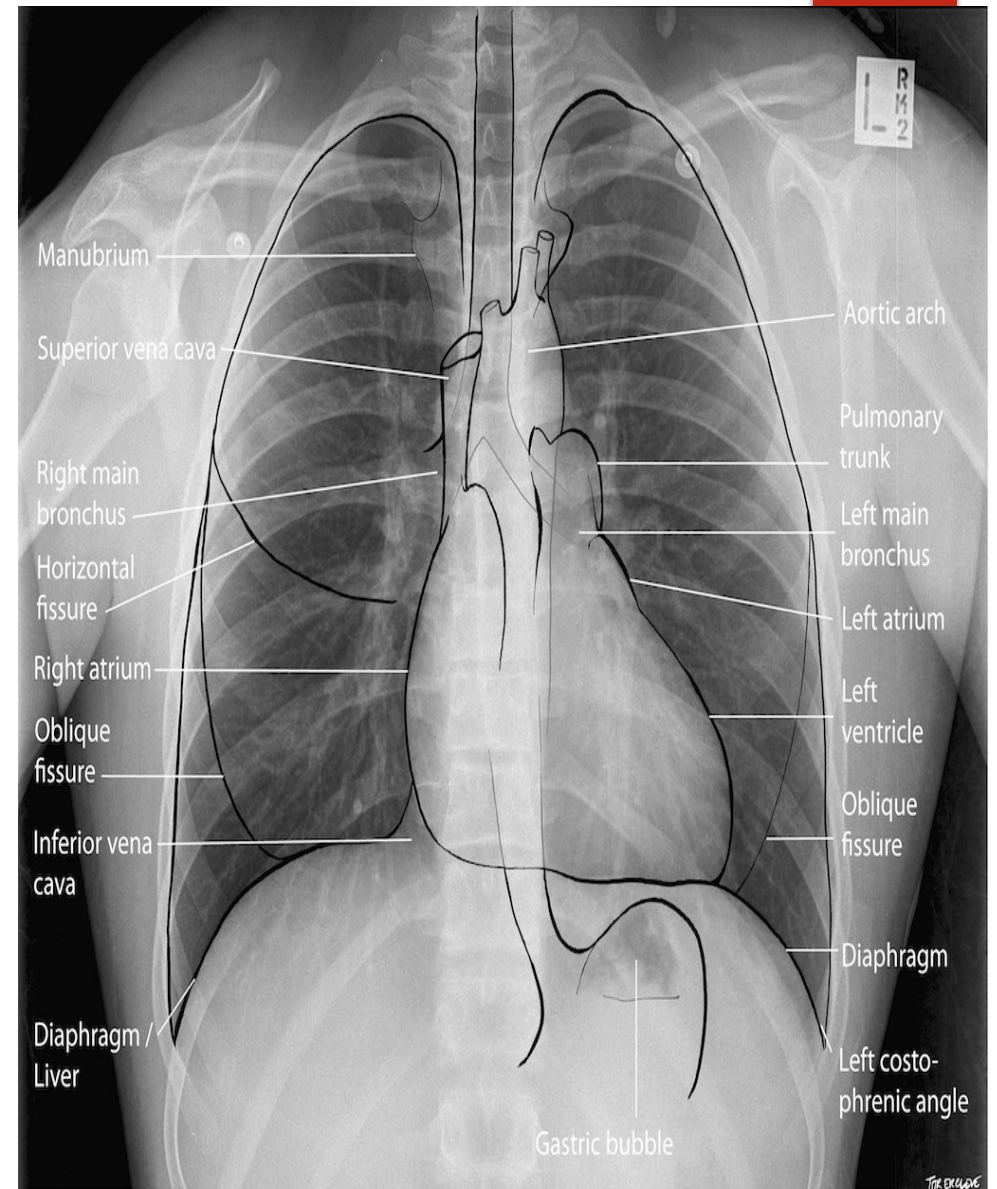
BASICS FOR THE NURSE PRACTITIONER

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Why might a nurse practitioner order a chest X-ray?

- ▶ Signs and symptoms of pneumonia/follow up exams
- ▶ Recent trauma
- ▶ Heart Failure
- ▶ Chest pain
- ▶ Cancer
- ▶ Post procedural
- ▶ Obstructive disease

Chest X-rays are best interpreted using a systemic approach. Using a systemic approach aids in identifying a “normal” versus an “abnormal” finding.



The Basics:

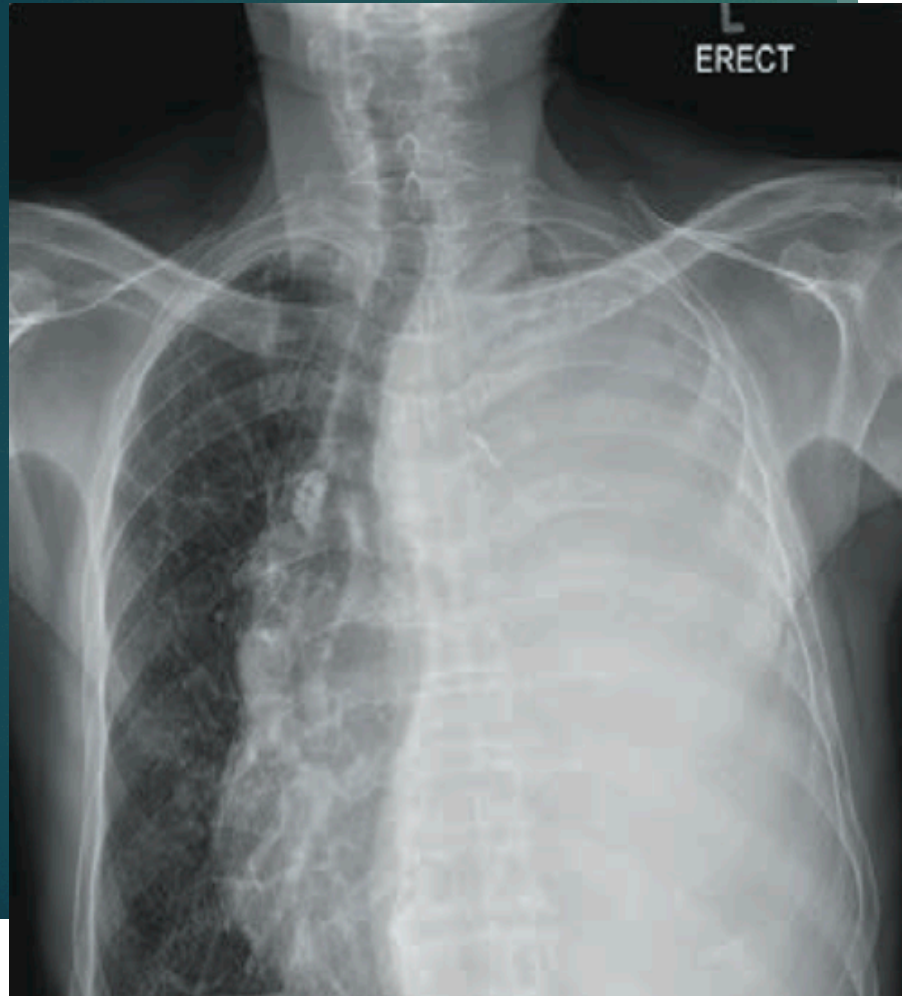
- ▶ Outpatient practice: PA view is most common. Penetrates through the back of the patient.
- ▶ Inpatient AP (Ribs are closer to the patient) and lateral views are more common. Penetrates through the front of the patient.
- ▶ Different views allow for different degrees of penetration.
- ▶ In the hospital the AP view is the most common.

Systemic Approach: Using the ABCDE method

- ▶ A: Trache-A or Airway
- ▶ B. Bones
- ▶ C. Cardiac
- ▶ D. Diaphragm
- ▶ E. Equal lung fields

A: Trache-A or Airway

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Normal

- ▶ Air in the trachea will appear dark grey to black.
- ▶ Trachea should be midline
- ▶ Right and left mainstem bronchus should be visible

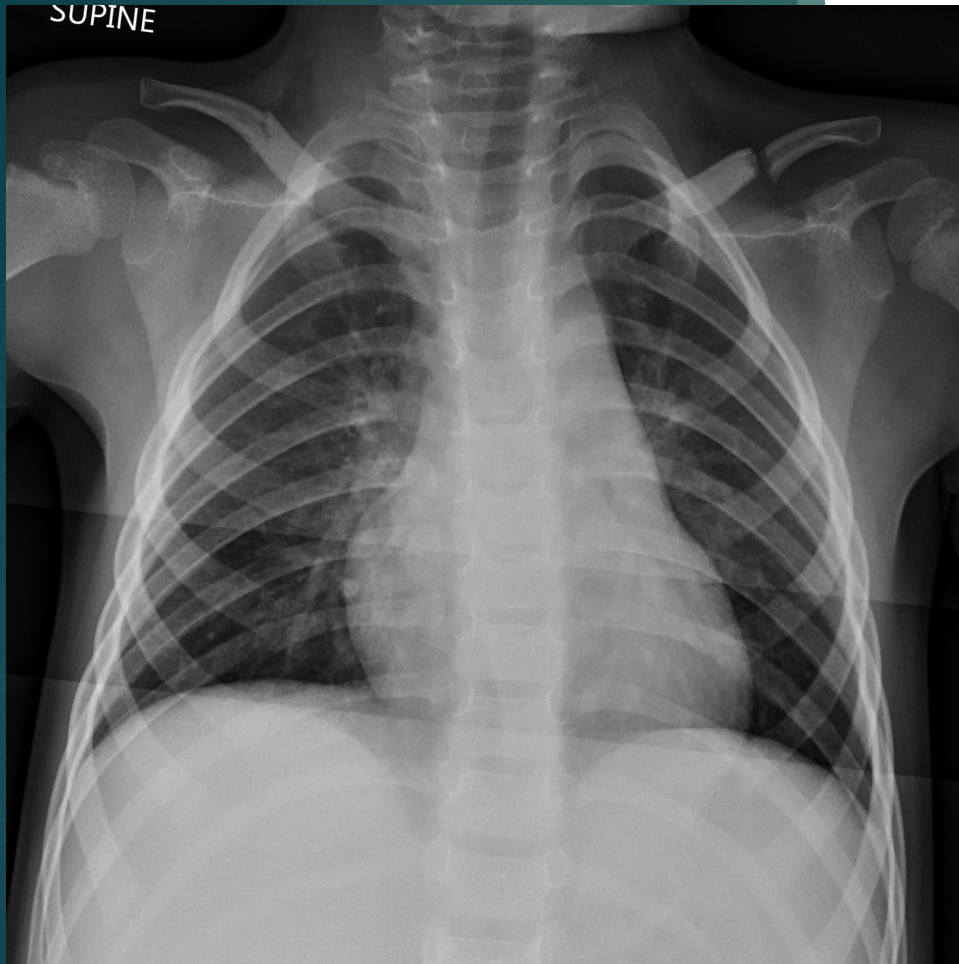
Abnormal

- ▶ The trachea is not midline, the trachea may be pulled towards atelectasis
- ▶ The trachea may be “pushed away” or displaced due to a pleural effusion or a significant pneumothorax

What's happening here?

B- Bones:

Image credit: radiopaedia.org

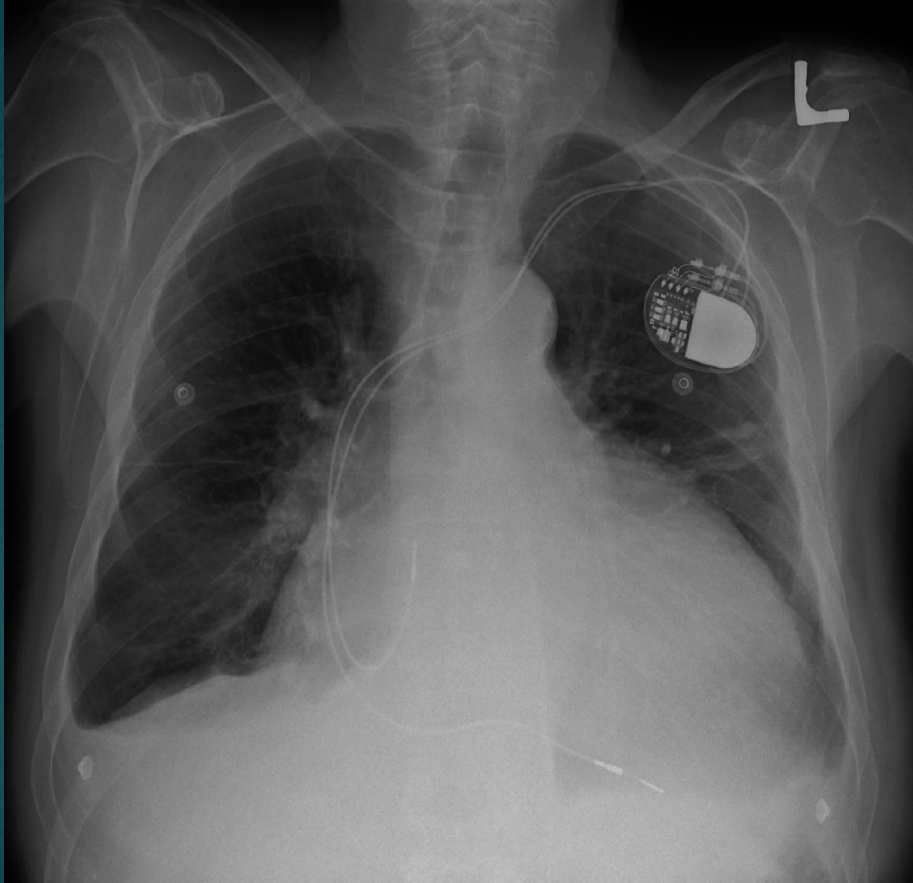


Exam the anterior and posterior ribs. Exam the clavicle. Look for symmetry. Normally you should be able to count down to at least the 5-6th anterior rib, there are normally at least 10 visible posterior ribs.

Look for Fractures?

Fractures may be clues to other abnormal findings as well!

C- Cardiac



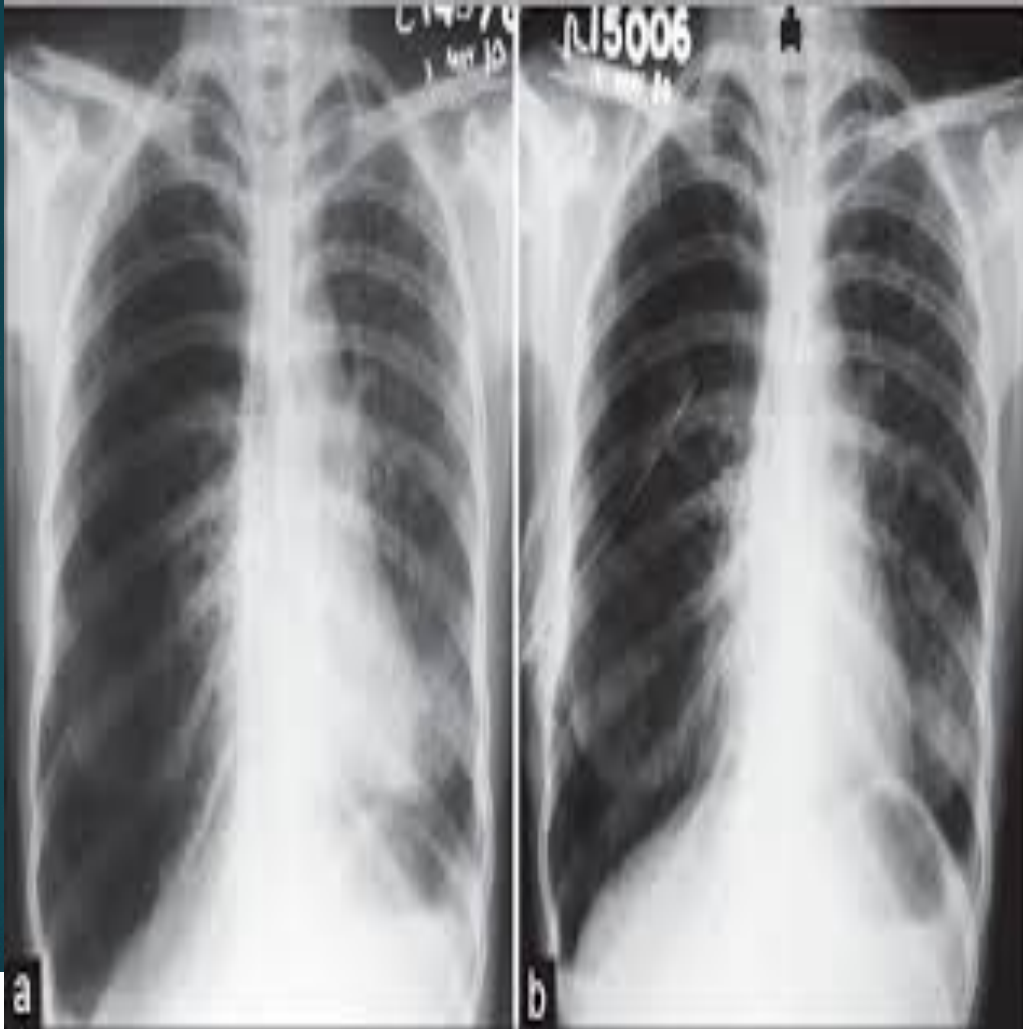
- ▶ You should see sharp cardiac borders.
- ▶ The cardiac silhouette will equal half the distance of the thoracic cavity. Greater than half the diameter would suggest cardiomegaly.
- ▶ What is seen here?

D-Diaphragm

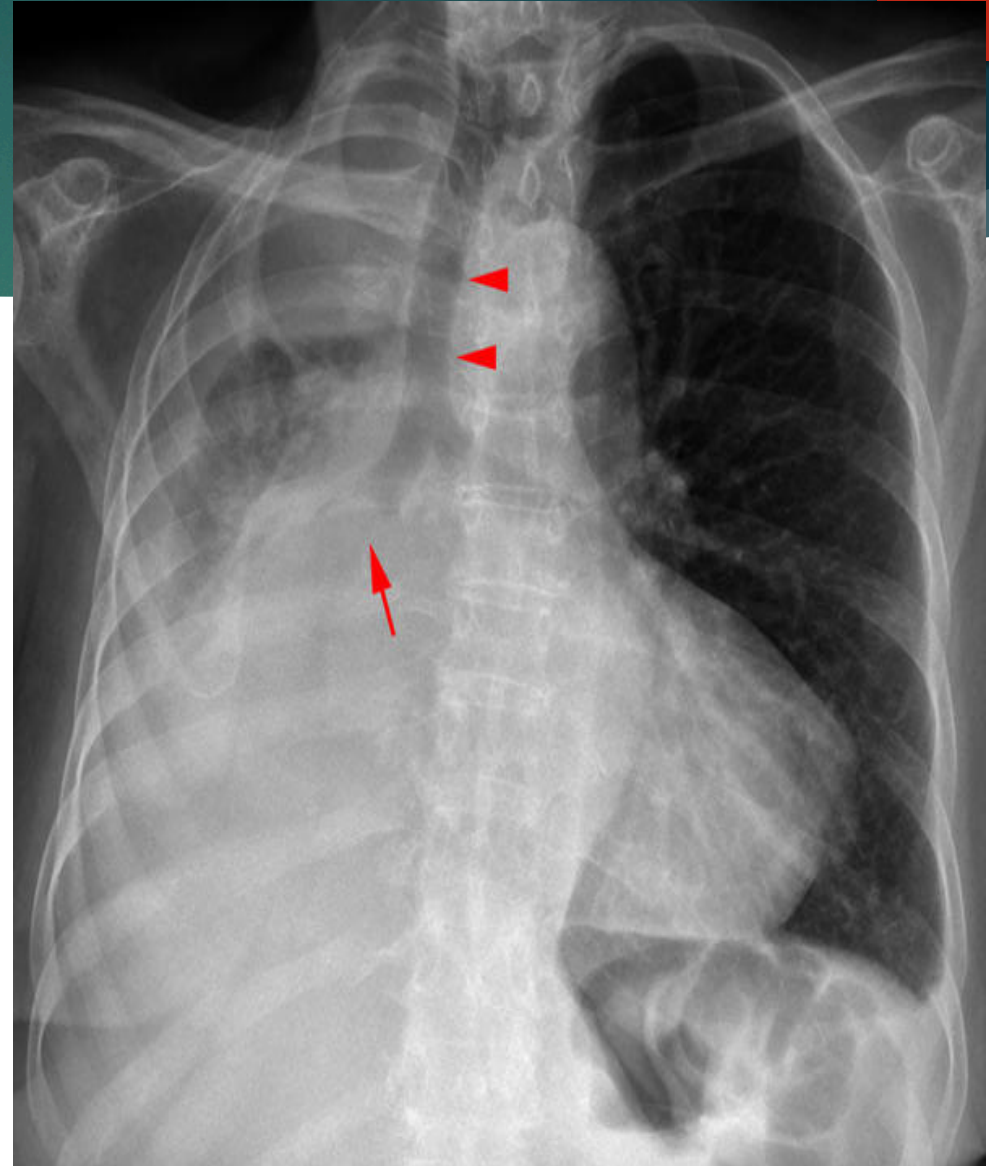
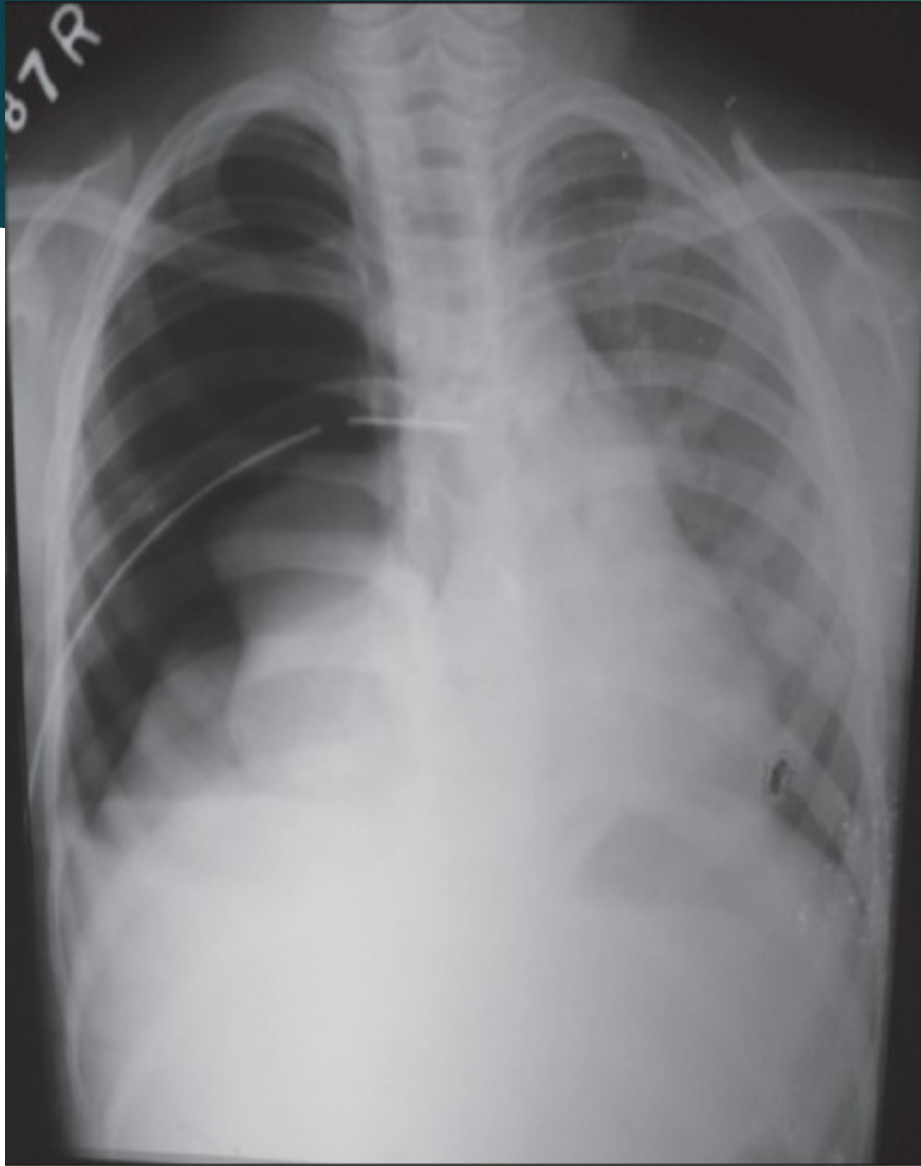


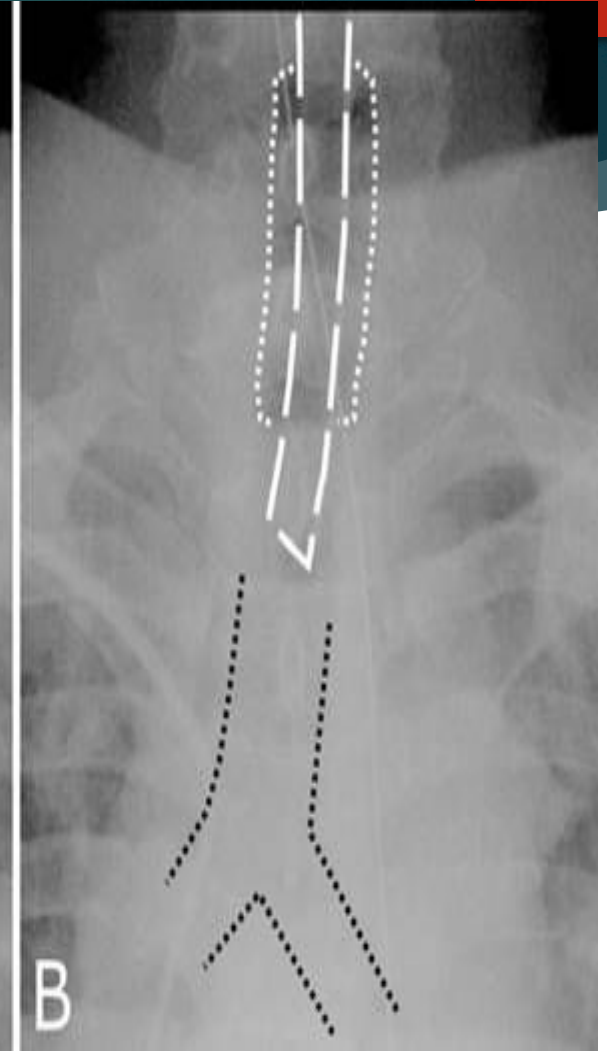
- ▶ You should be able to see the diaphragm clearly.
- ▶ If not this may suggest, pneumonia, or pleural effusion, or other abnormal findings.
- ▶ Right hemidiaphragm is typically higher than the left
- ▶ What do you see here?
- ▶ Sometimes an ultrasound or even a CT may indicated to better differentiate abnormal findings...

E-Equal lung fields

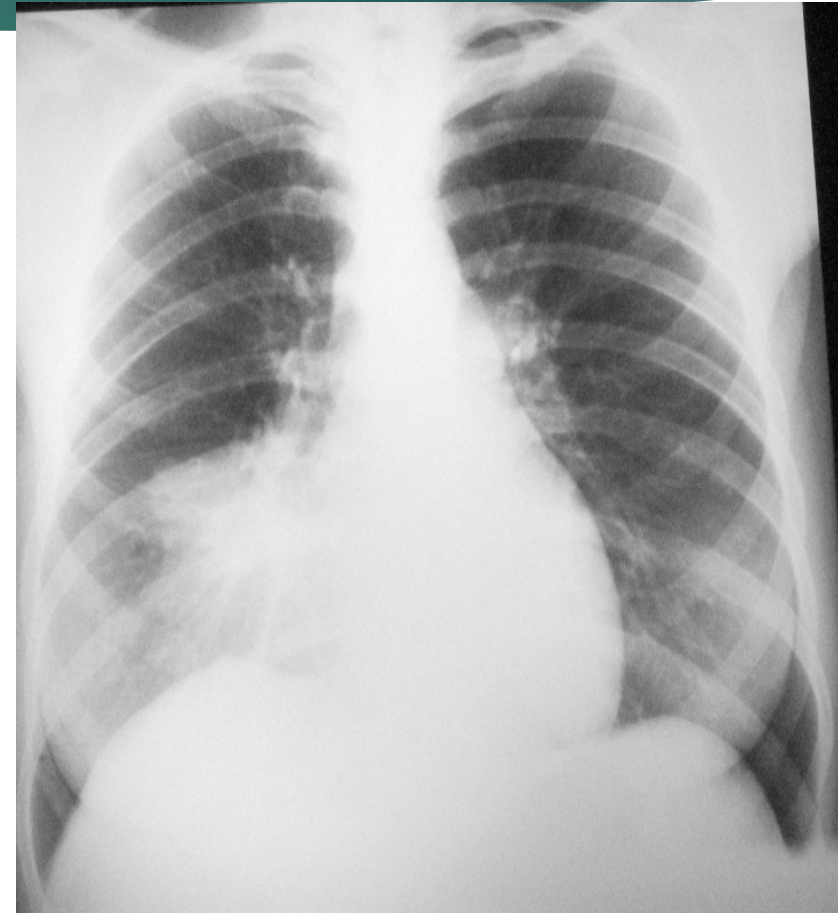
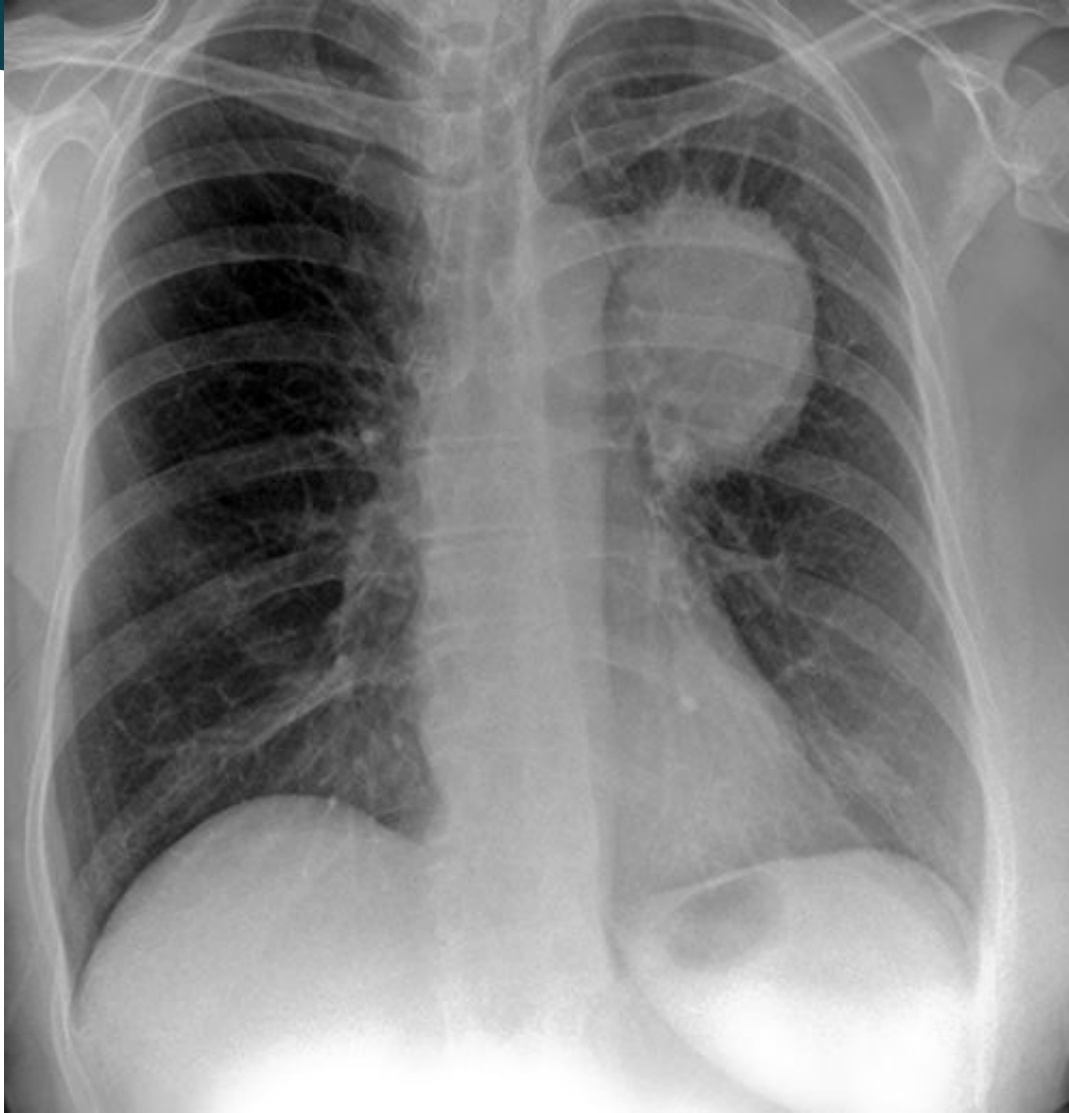


- ▶ Look for equal lung fields! Remember if there is a fracture nearby there may also be a pneumothorax!
- ▶ Remember to follow the ABCDE method, so you don't miss anything!



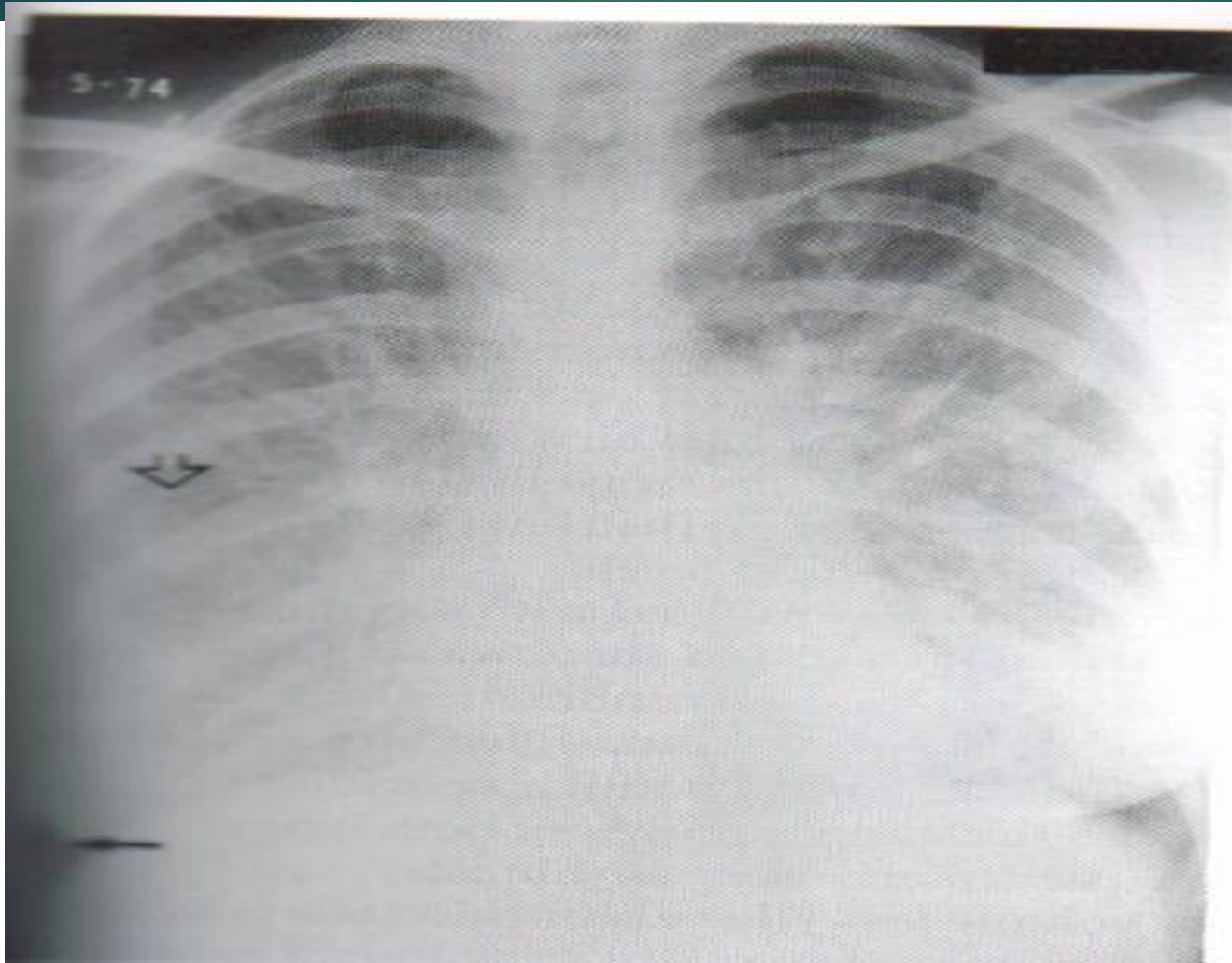


What is seen here?



And here...

(cardiothoracicblogspot.com)



Here...

