

Chest X-ray interpretation

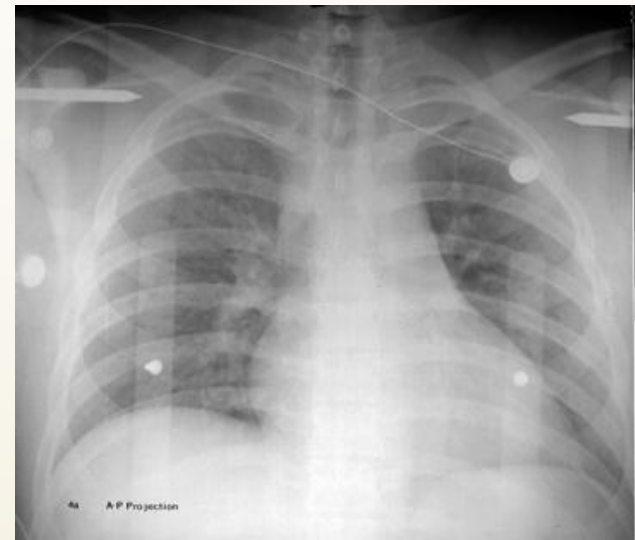
Essentials Before Getting Started

- Exposure
 - Overexposure
 - Underexposure
- Sex of Patient
 - Male
 - Female



Essentials Before Getting Started

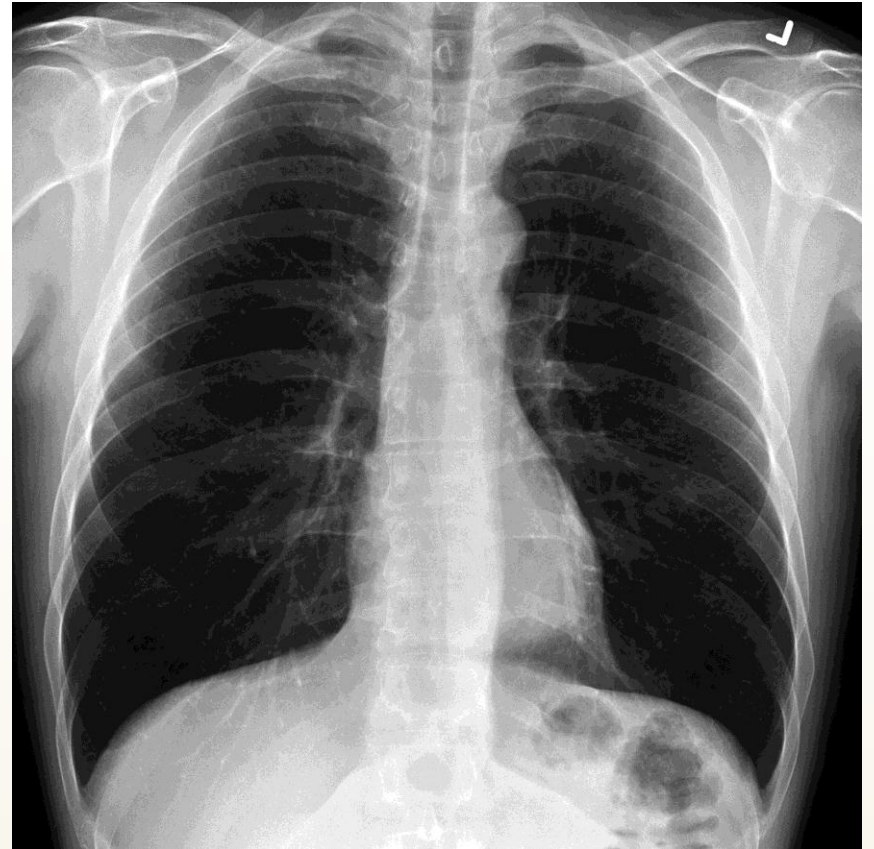
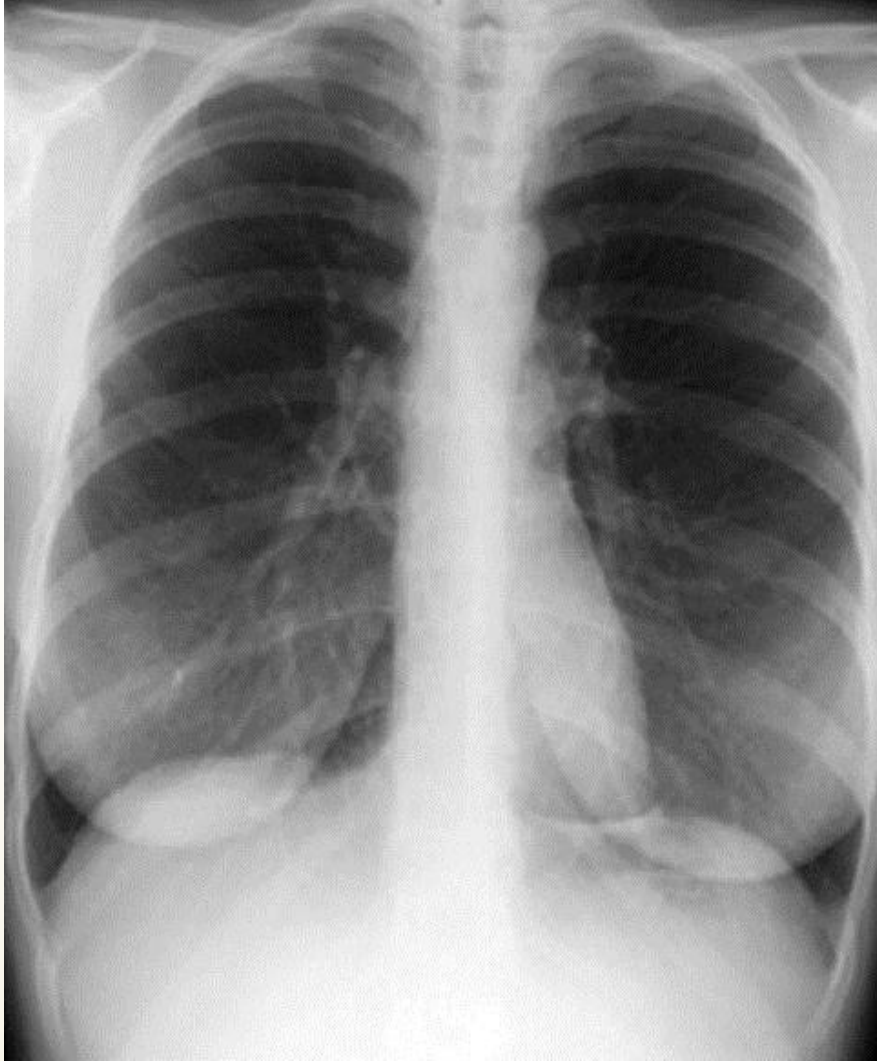
- Path of x-ray beam
 - PA
 - AP
- Patient Position
 - Upright
 - Supine



Female

PA CHEST

Male



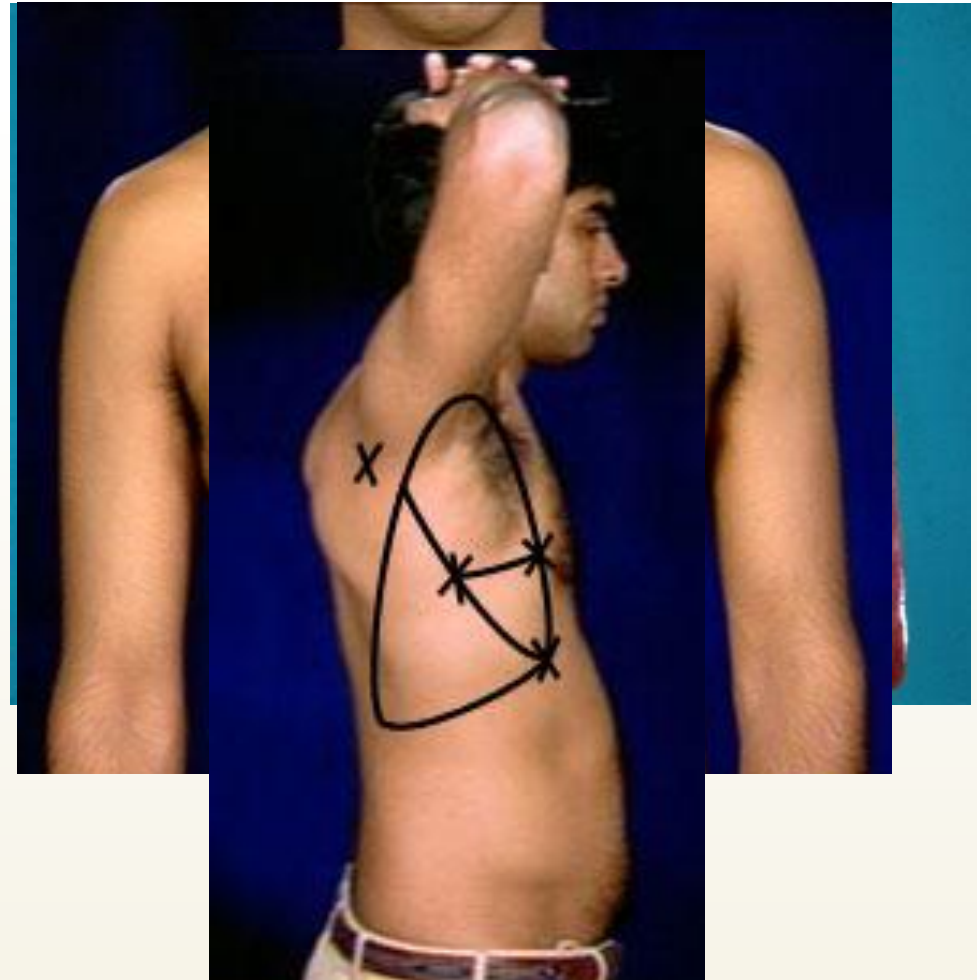
Systematic Approach

- Soft Tissues
 - Breast shadows
 - Supraclavicular areas
 - Axillae
 - Tissues along side of breasts



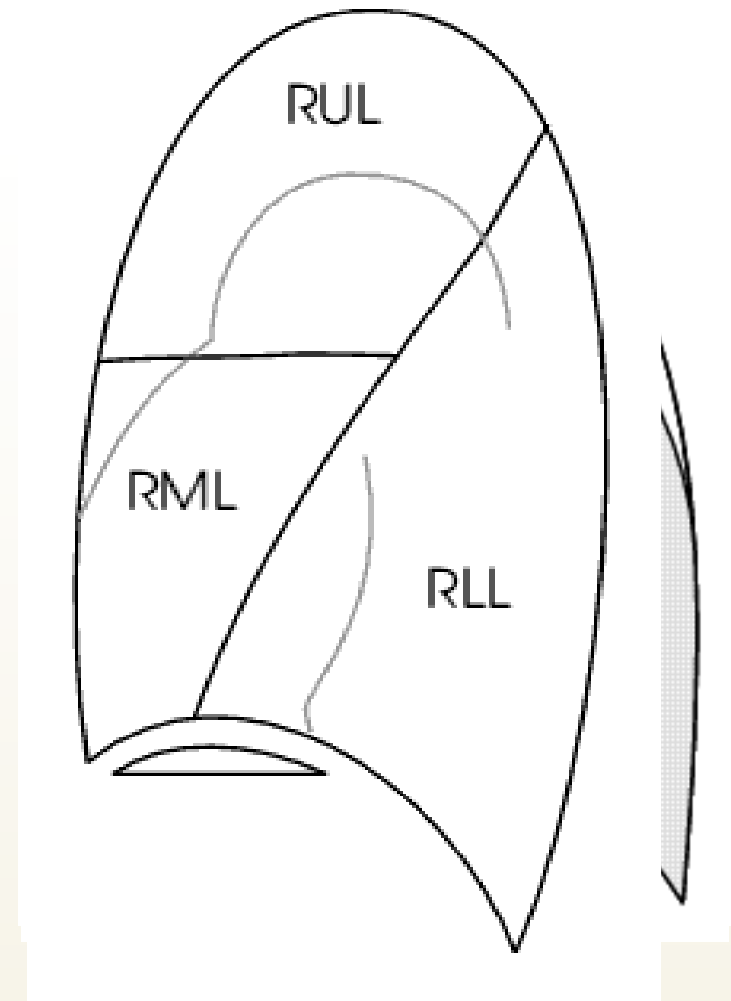
Lung Anatomy

- Right Lung
 - Superior lobe
 - Middle lobe
 - Inferior lobe
- Left Lung
 - Superior lobe
 - Inferior lobe

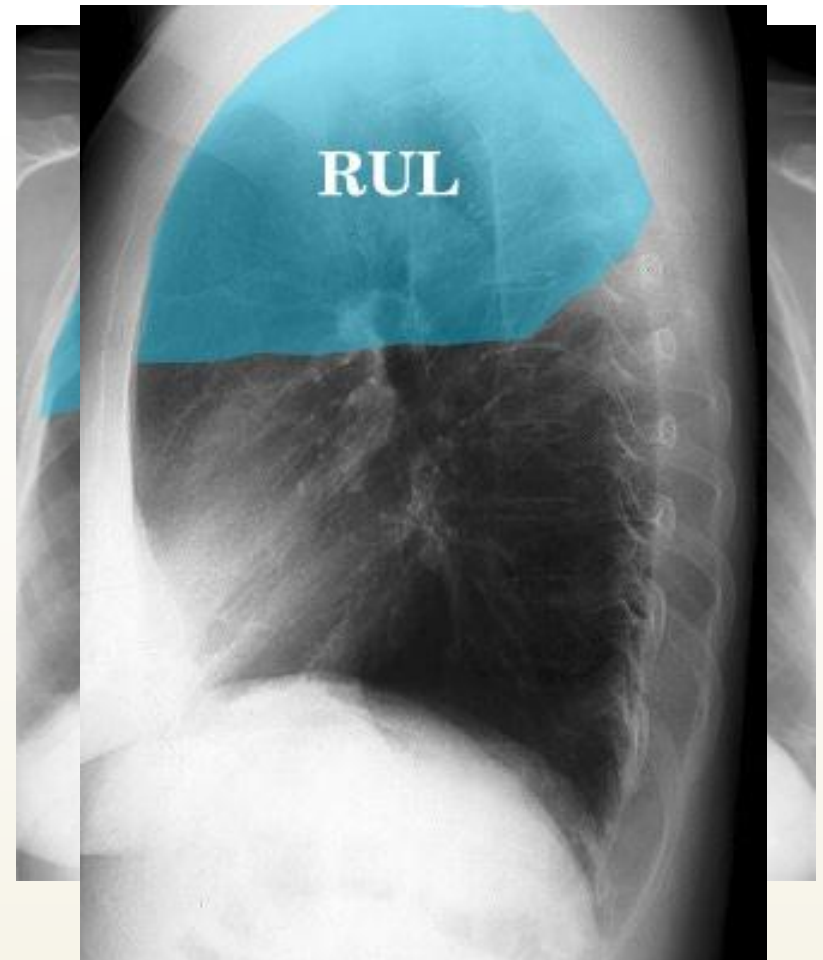


Lung Anatomy on Chest X-ray

- PA View:
 - Extensive overlap
 - Lower lobes extend high
- Lateral View:
 - Extent of lower lobes

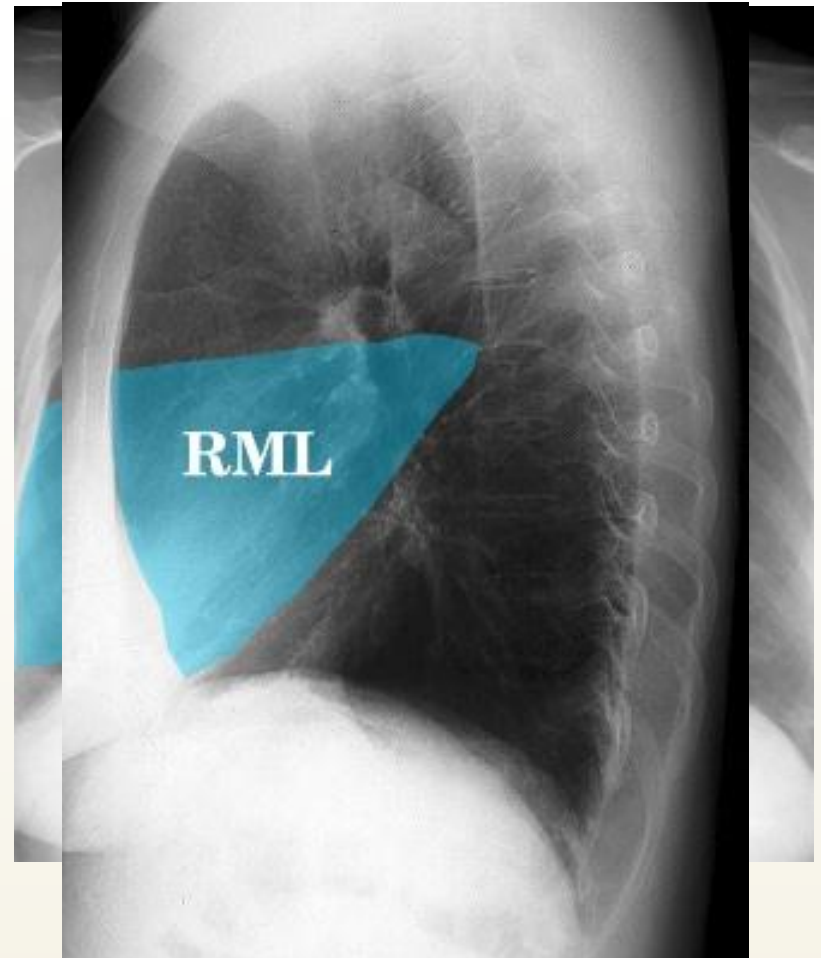


Lung Anatomy on Chest X-ray

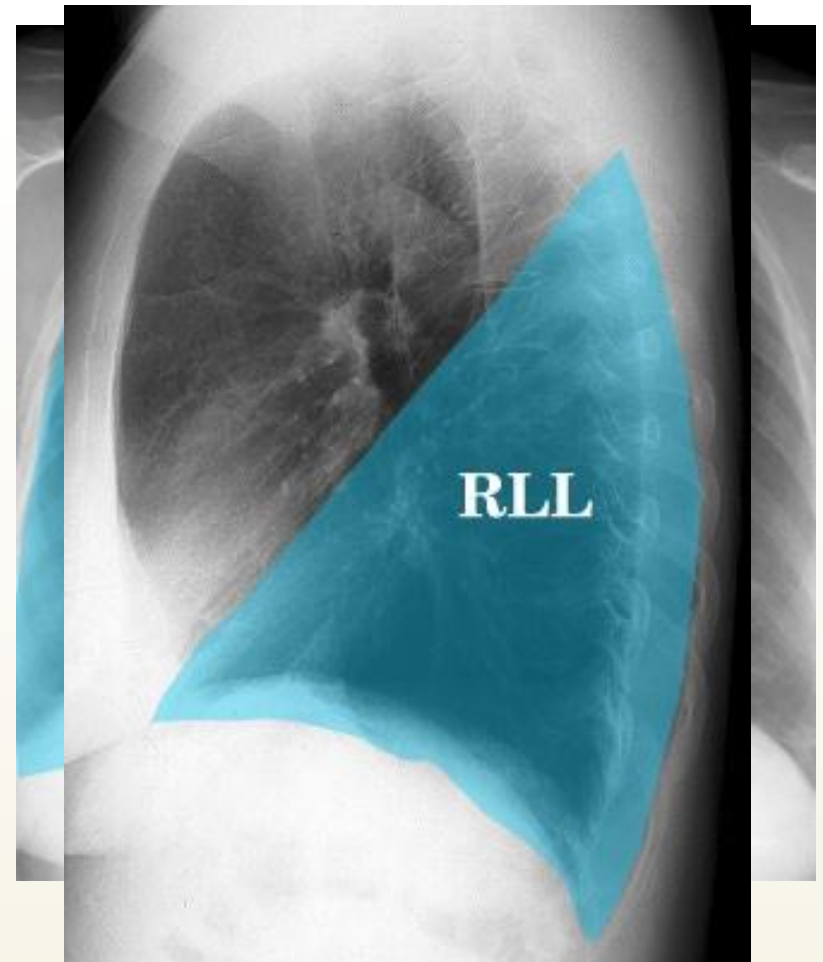


Lung Anatomy on Chest X-ray

- The right middle lobe is typically the smallest of the three, and appears triangular in shape, being narrowest near the hilum

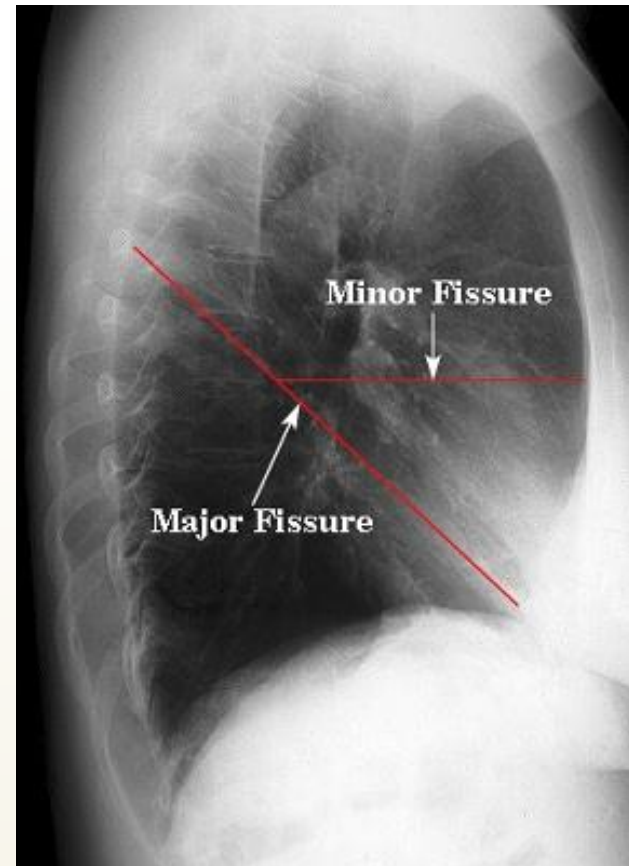


Lung Anatomy on Chest X-ray



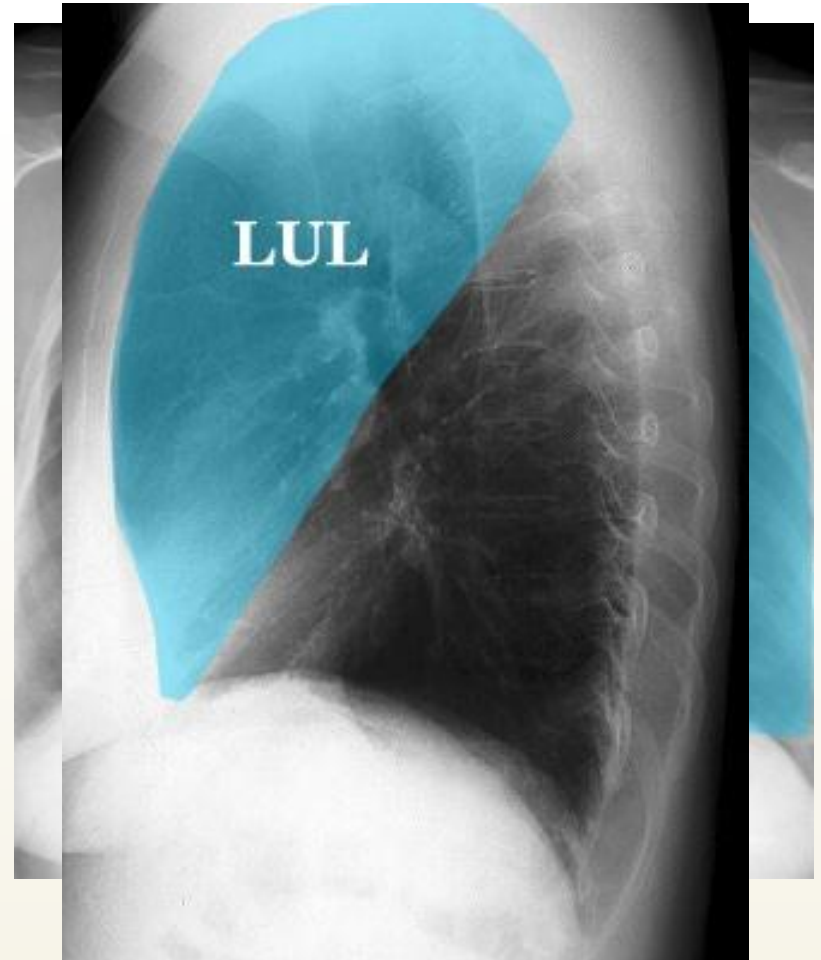
Lung Anatomy on Chest X-ray

- these lobes separated from one another by two fissures .
- The minor fissure separates the RUL from the RML , at the level of the fourth vertebral body and crosses the right sixth rib in the midaxillary line
- The right major fissure separating the right upper and middle lobes from the larger right lower lobe , The major fissure extend anteroinferiorly, intersecting the diaphragm at the anterior cardiophrenic angle



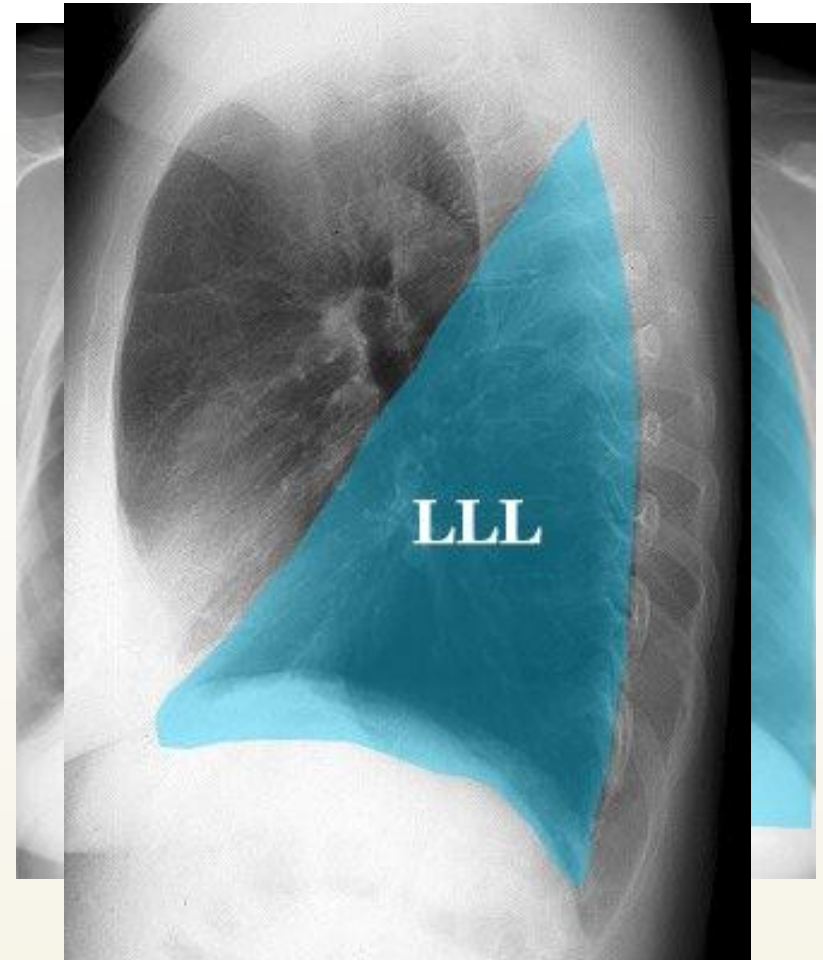
Lung Anatomy on Chest X-ray

- Left upper lobe



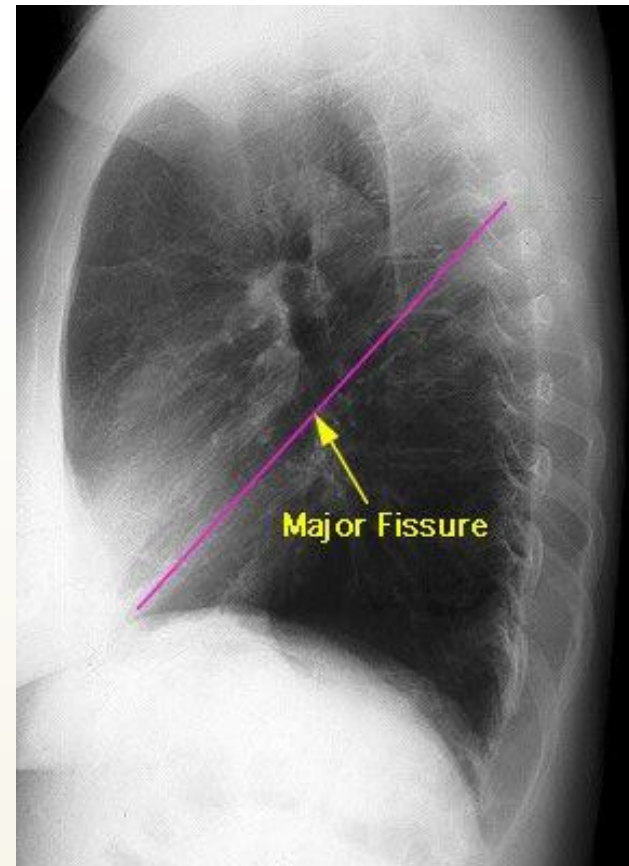
Lung Anatomy on Chest X-ray

- Left lower lobe



Lung Anatomy on Chest X-ray

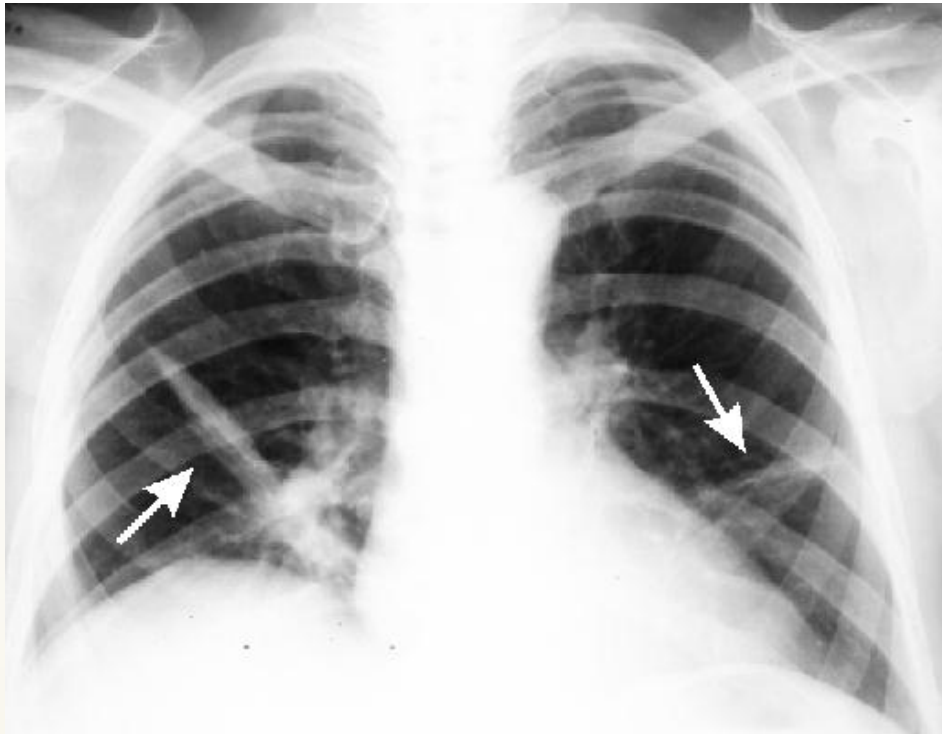
- the left lung is slightly different than the right. Because there is no defined left minor fissure, there are only two lobes .



fissures are not readily identifiable on plain films

- This is because fissures which are composed of only two layers of visceral pleura, may not present a significant radiographic interface and will not produce a shadow. However, if there is fluid within the pleural space or if the visceral pleura is thickened, fissures may be seen in their entirety.

ATELECTASIS



- No ventilation to lobe beyond the obstruction
- Trapped air absorbed by pulmonary circulation
- Segmental/lobar density
- Compensatory hyperinflation of normal lungs.

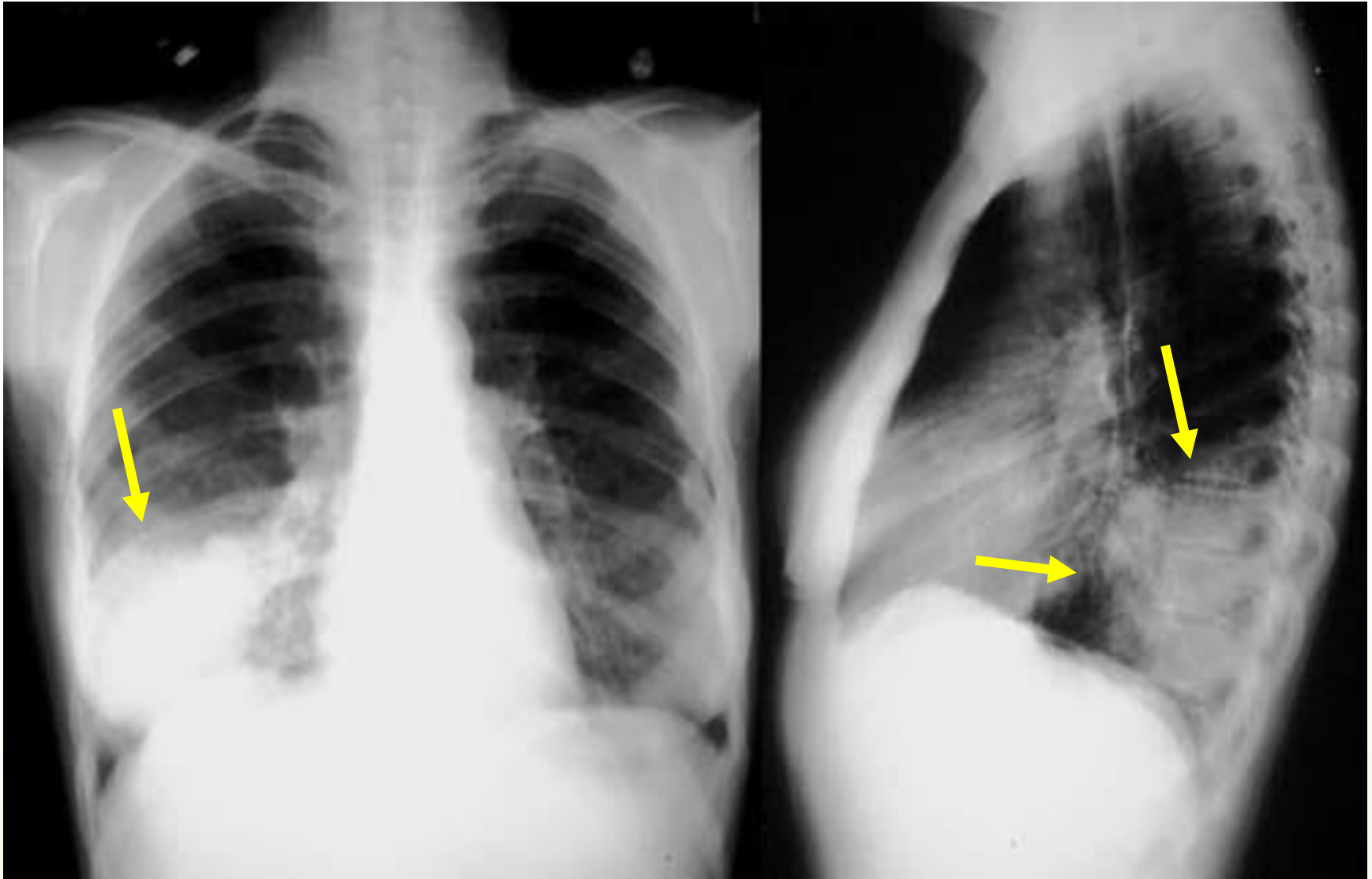
radiopaque



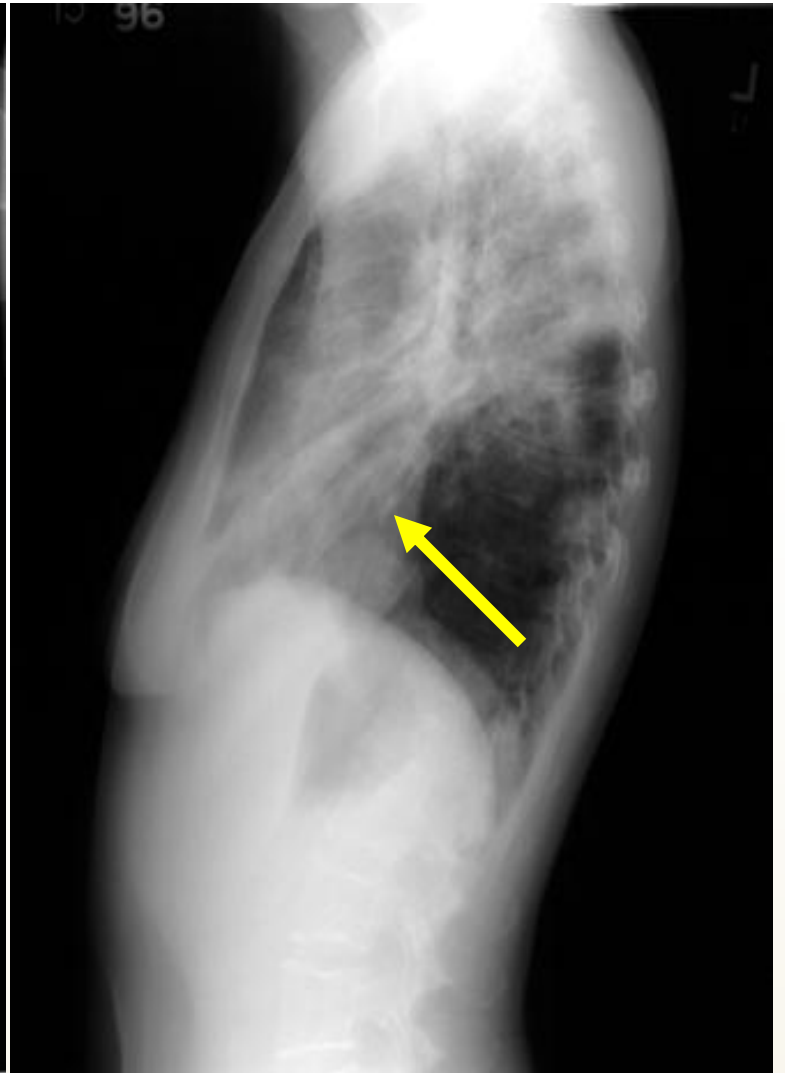
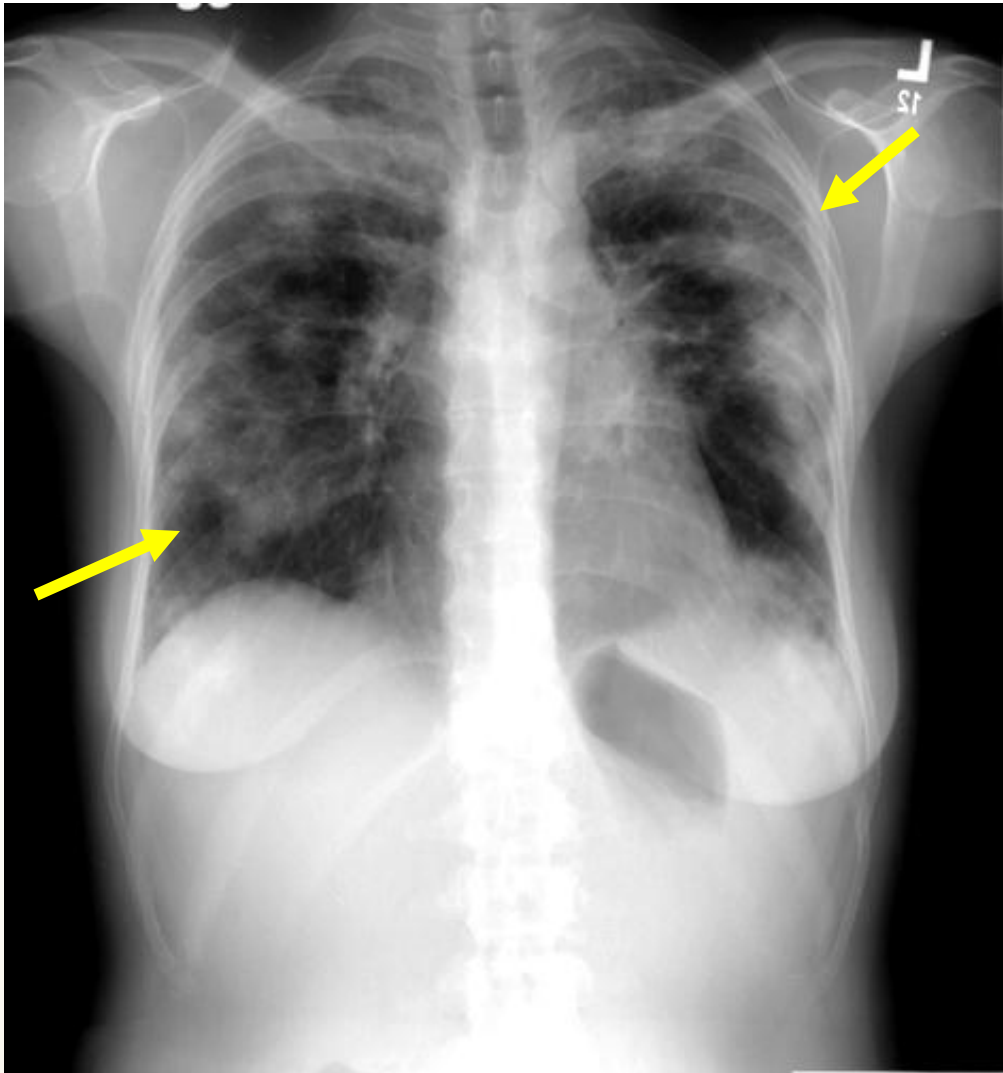
**Right middle lobe collapse:
Lateral view (triangular
'wedge' seen)**



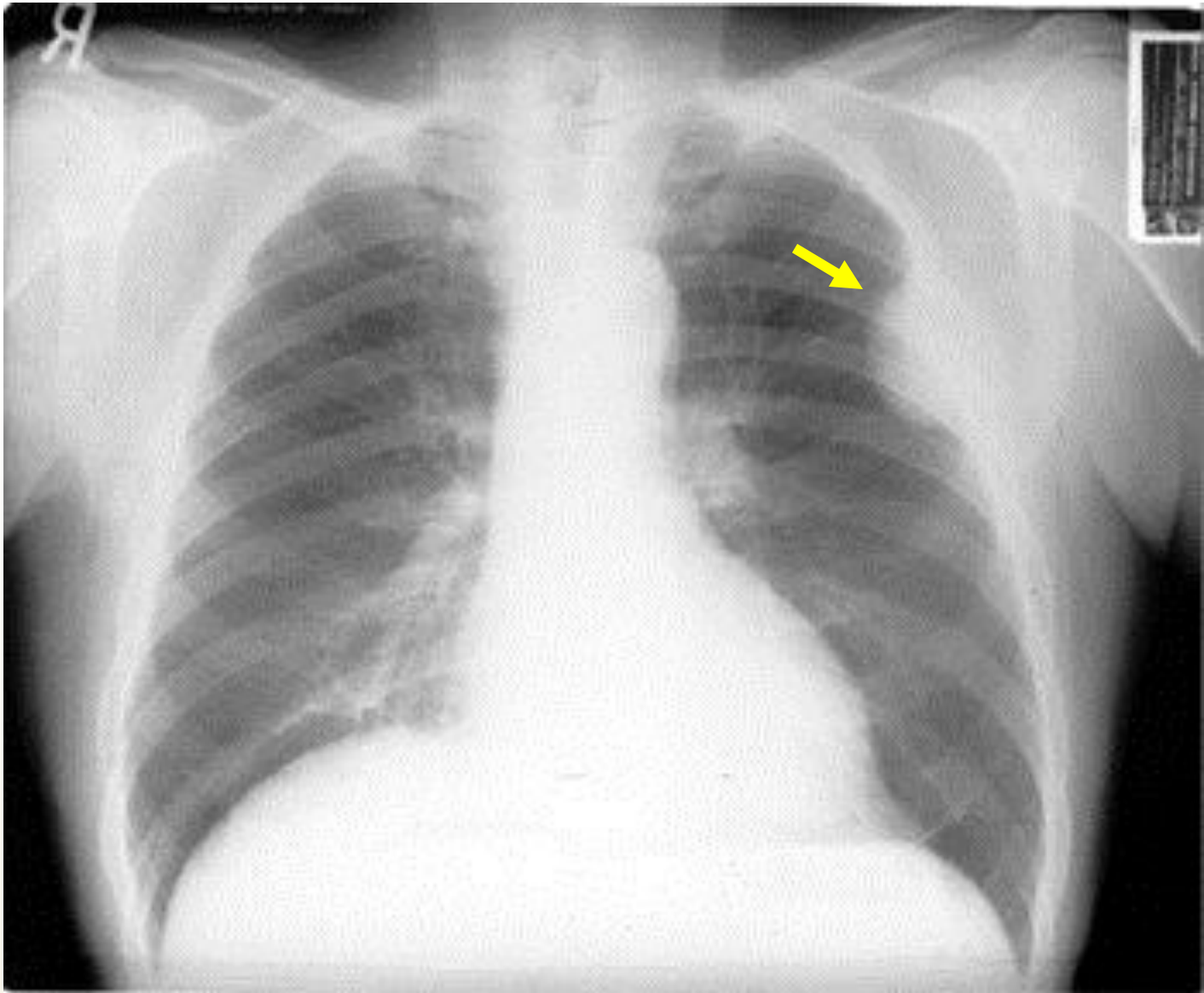
**ABNORMAL - Right middle lobe
collapse
Right middle lobe collapse: PA view
(blurred or obscured and 'indistinct'
right heart border)**



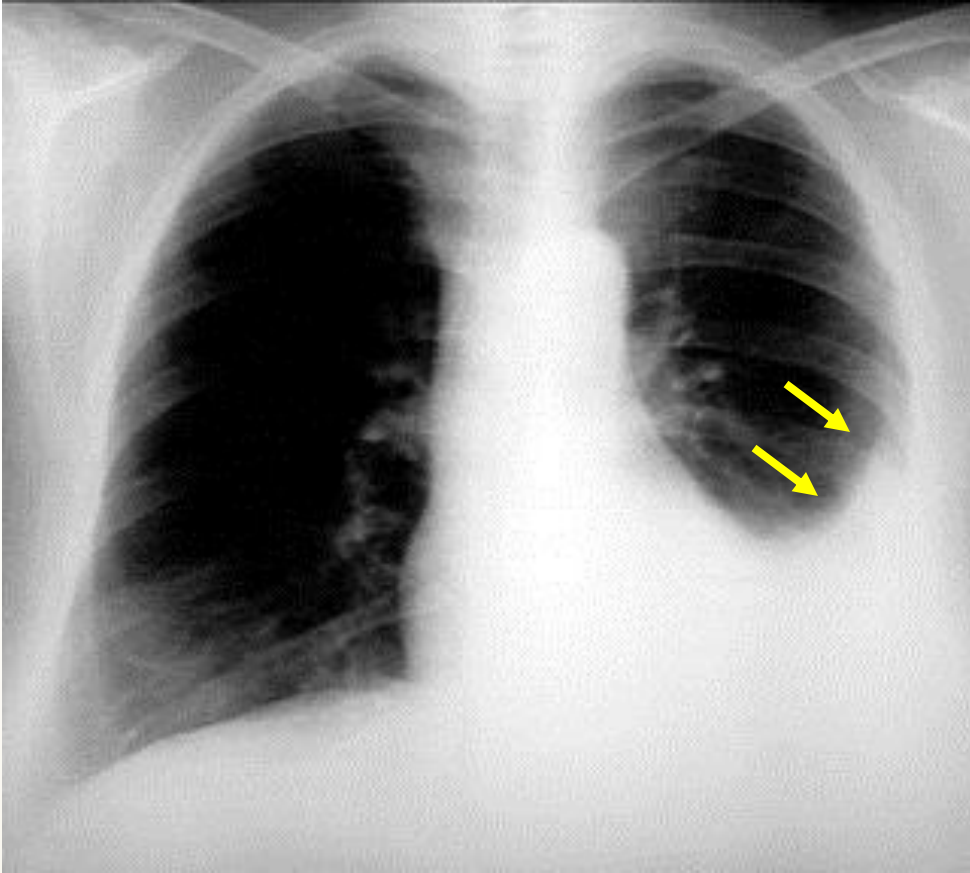
Pneumonia: a large pneumonia in the right lower lobe. Knowledge of lobar and segmental anatomy is important in identifying the location of the infection



Right Middle and Left Upper Lobe Pneumonia

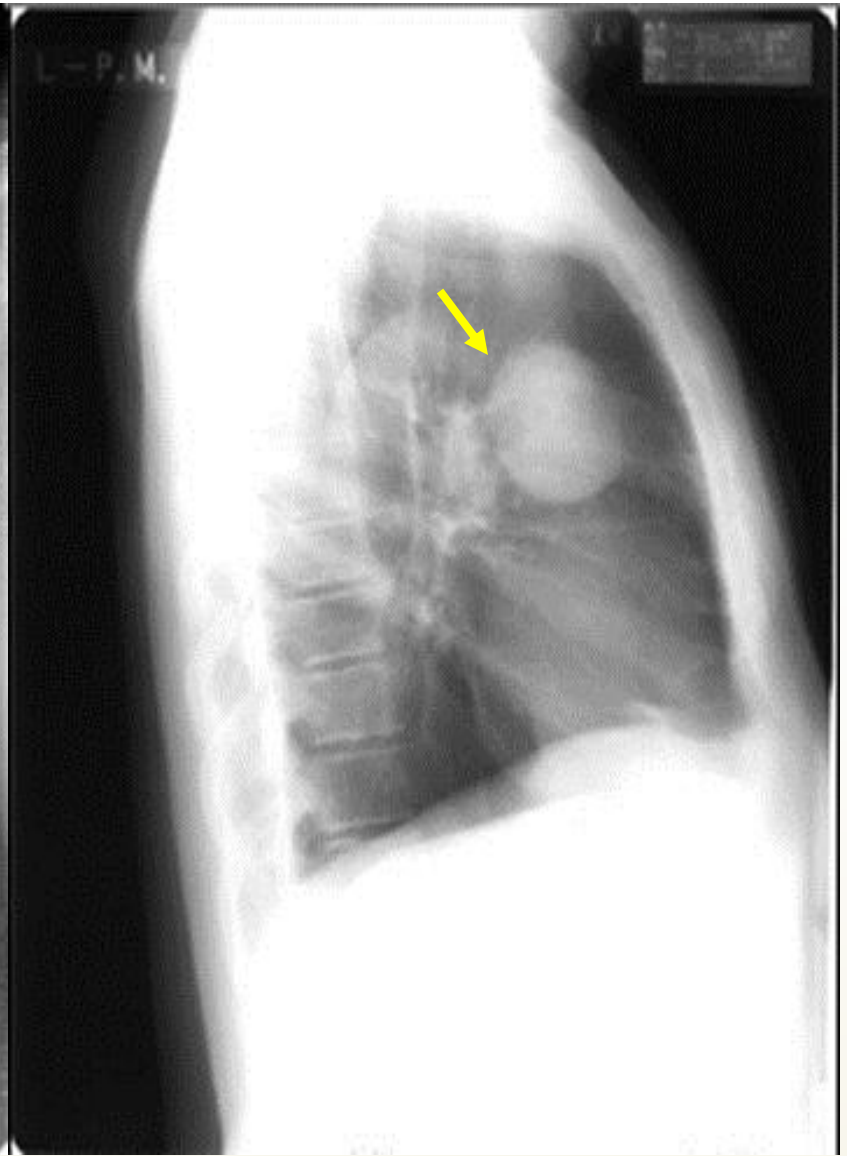
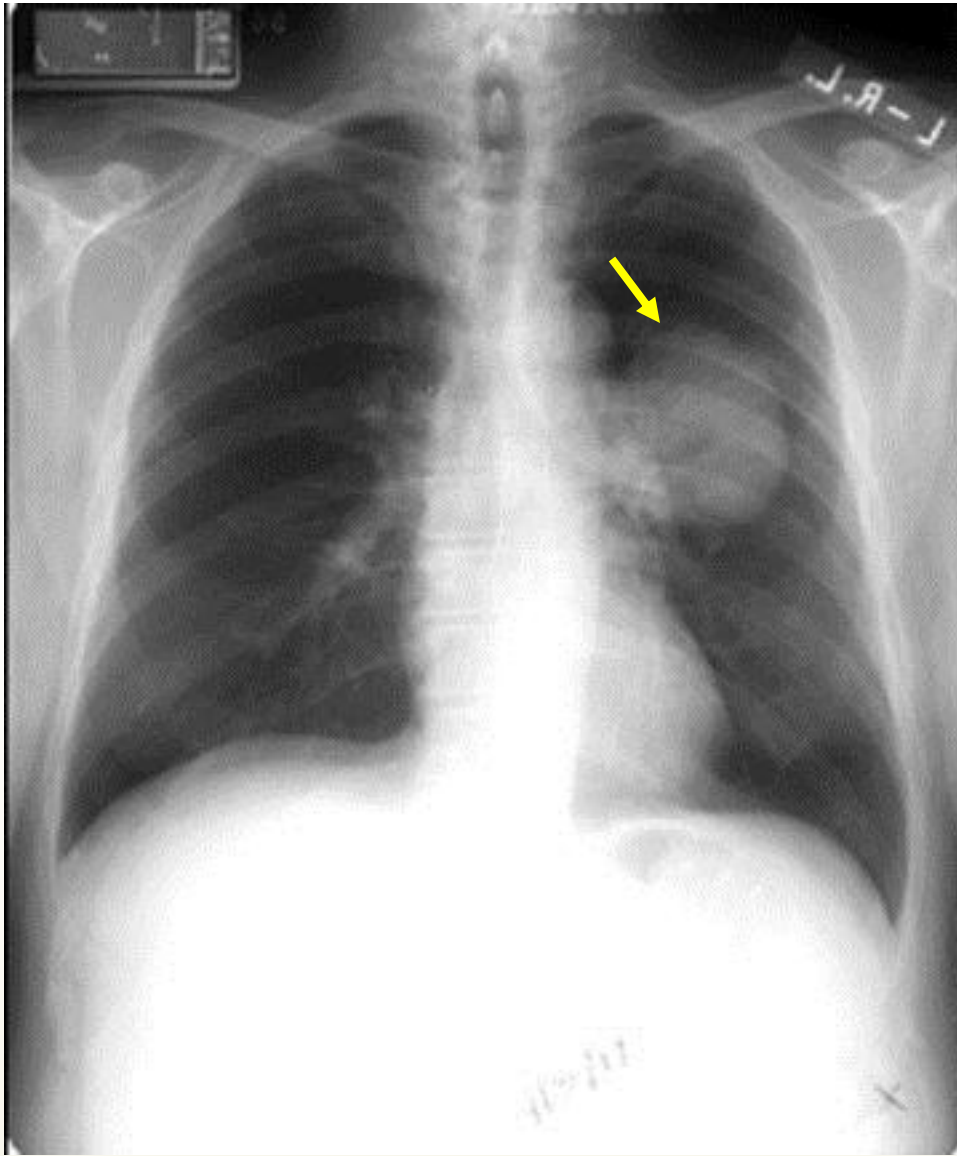


Chest wall lesion: arising off the chest wall and not the lung

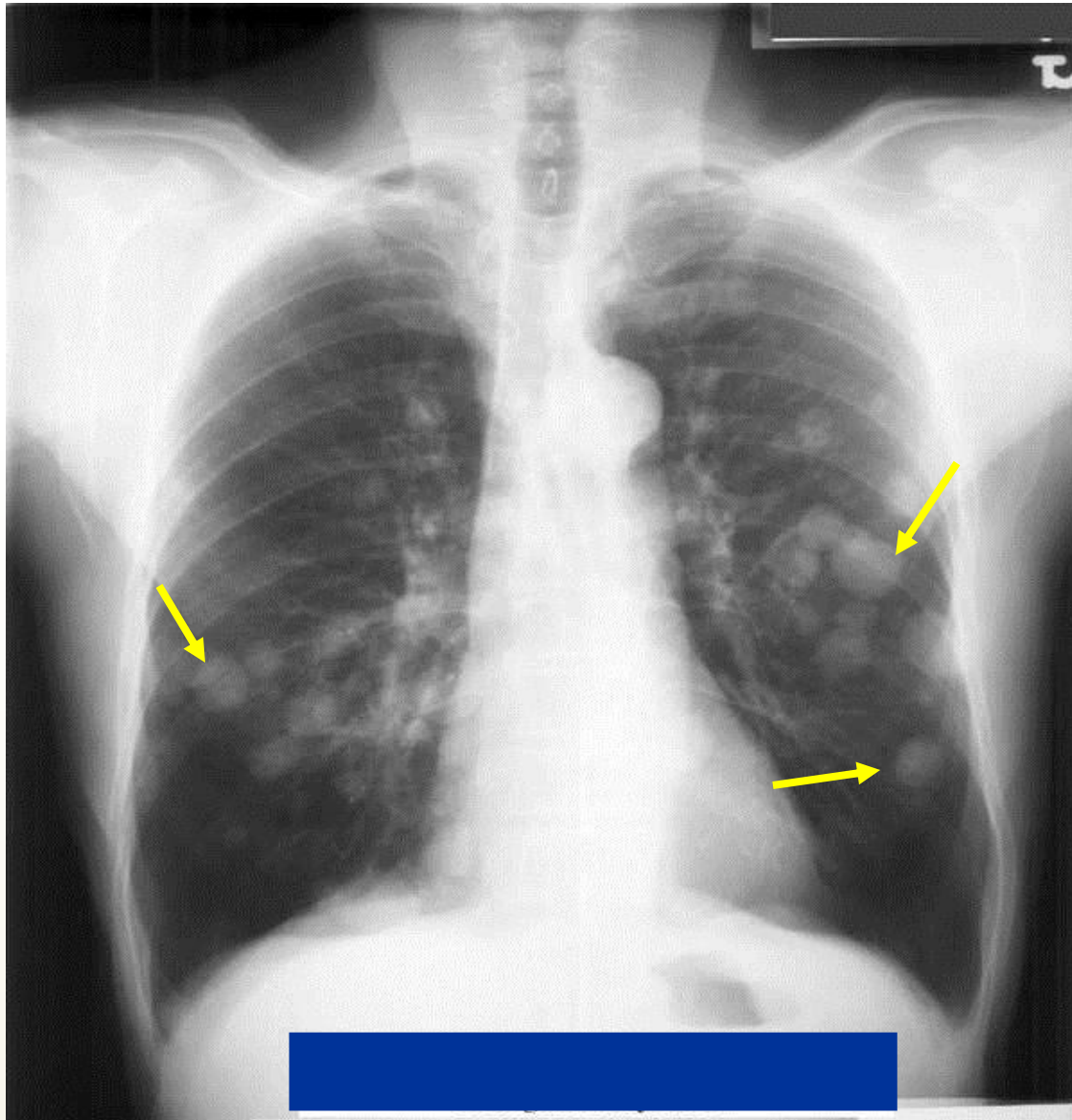


LLL

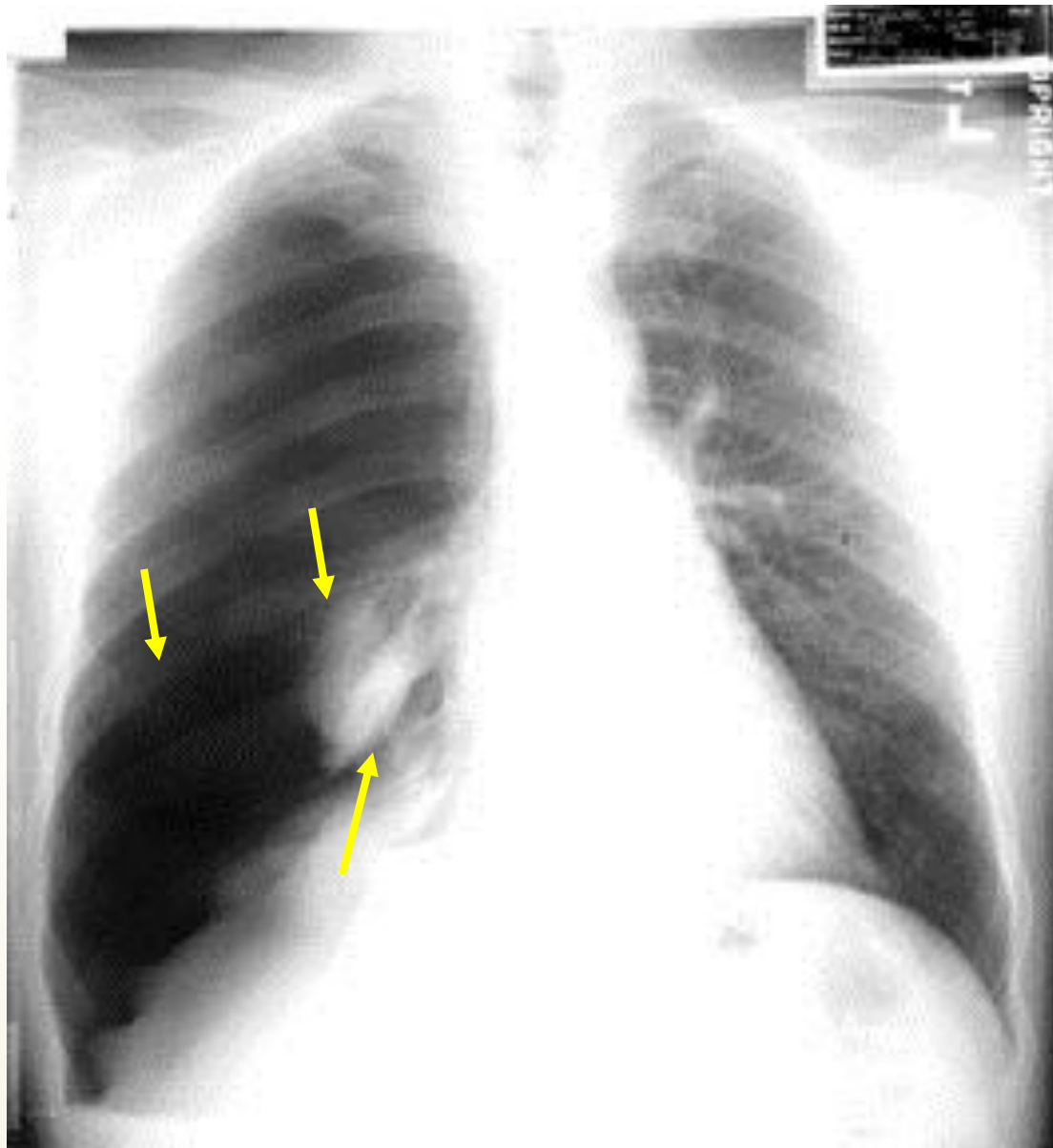
Pleural effusion: Note loss of left hemidiaphragm. Fluid drained via thoracentesis



Lung Mass -LUL



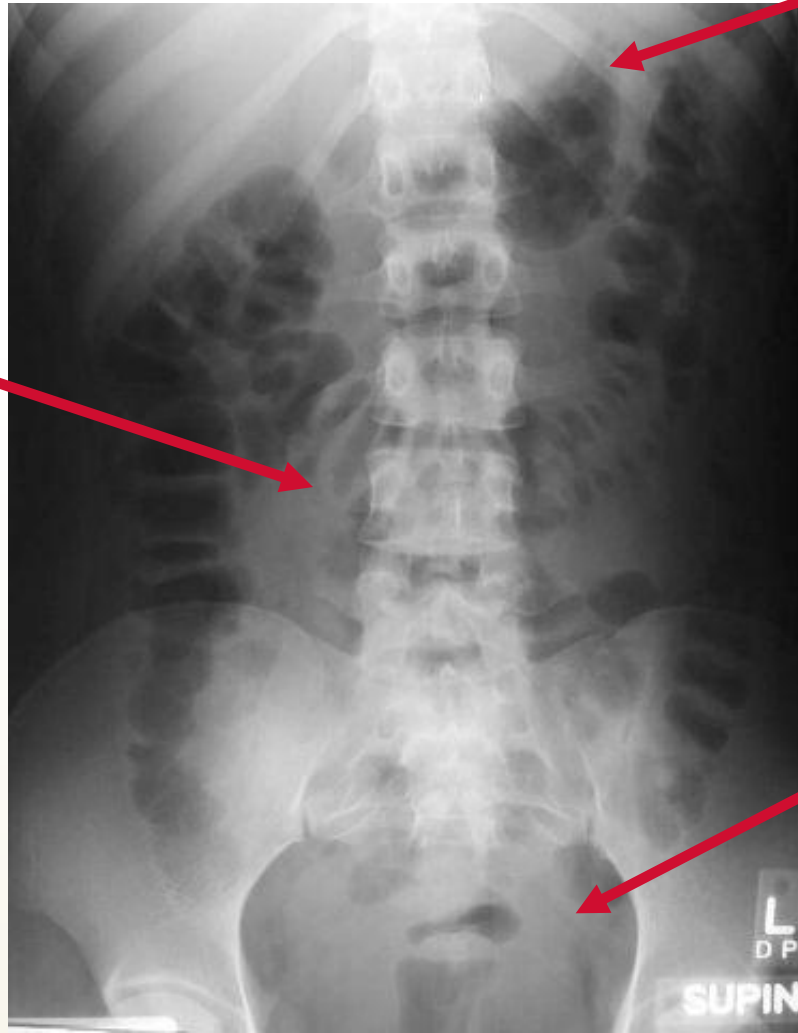
Metastatic Lung Cancer: multiple nodules seen



Right Middle Lobe Pneumothorax: complete lobar collapse

AP ABDOMEN

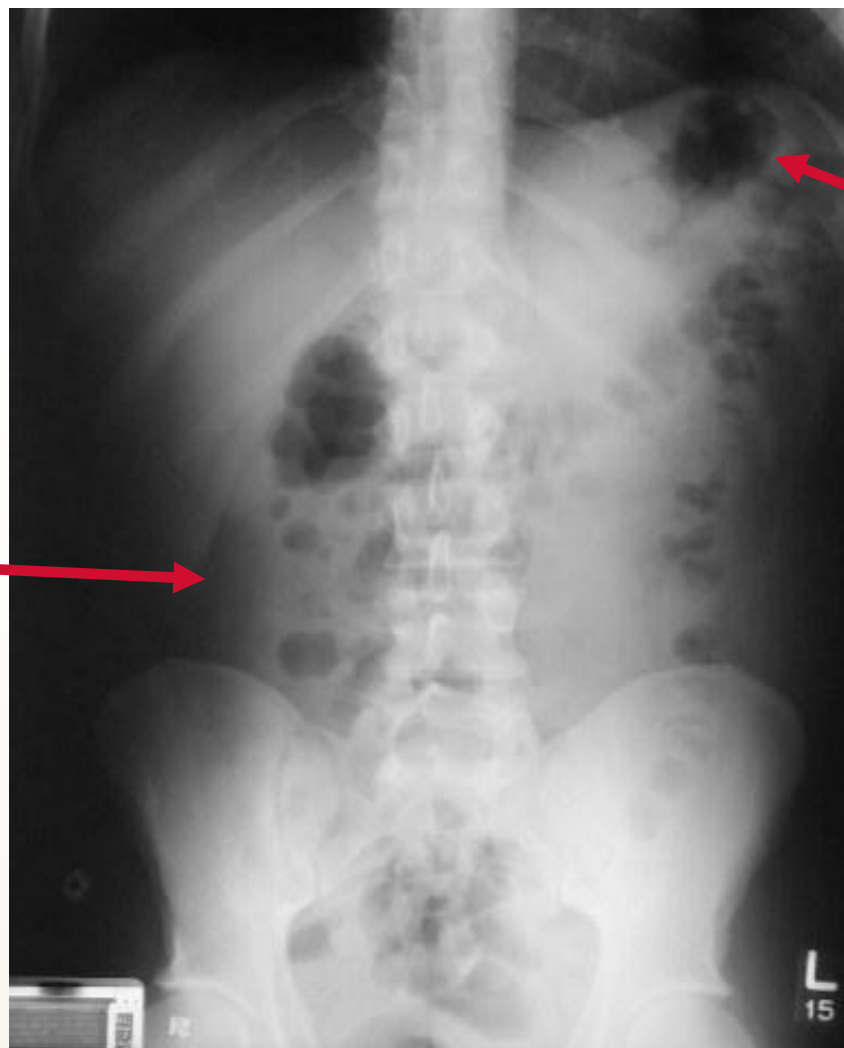
Gas in a few loops of small bowel



Gas in stomach

Gas in rectum or sigmoid

Normal Gas Pattern

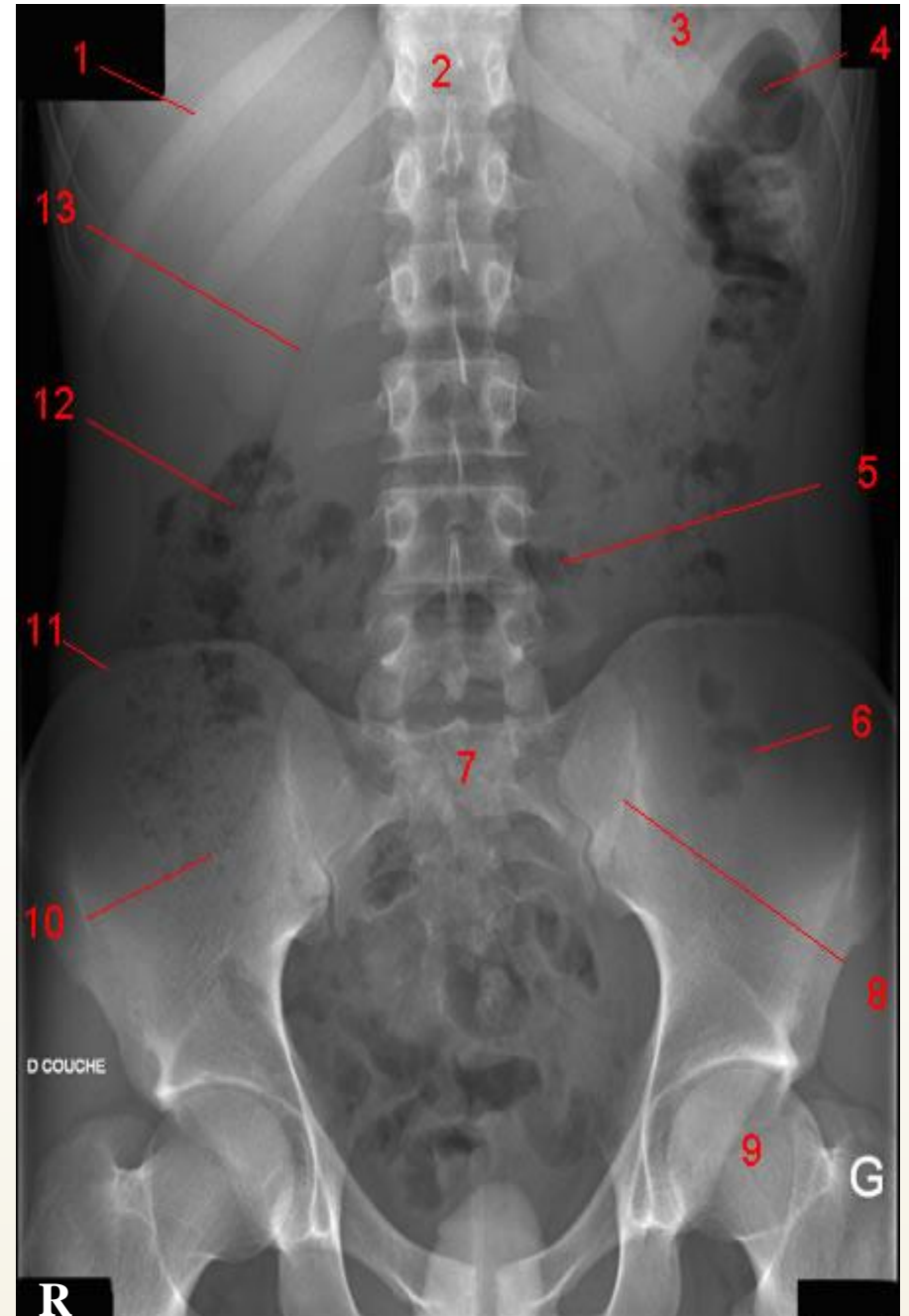


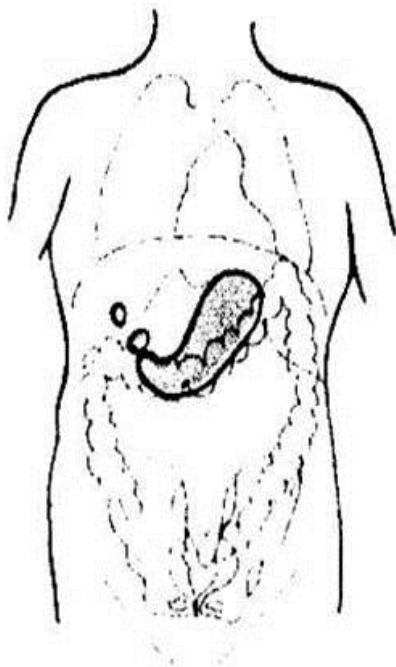
Always
air/fluid level
in stomach

A few
air/fluid
levels in
small bowel

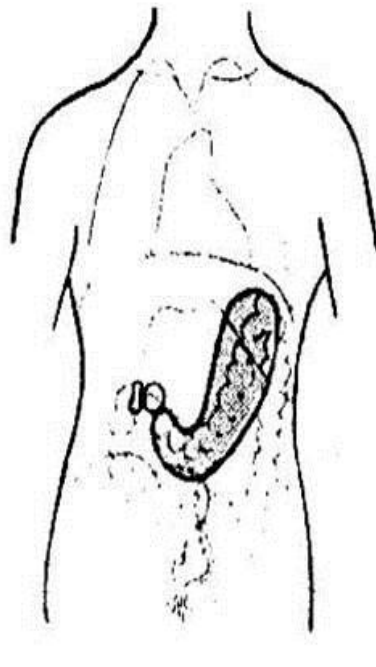
Erect Abdomen

- 1, 11th rib.
- 2, Vertebral body (TH 12).
- 3, Gas in stomach.
- 4, Gas in colon (splenic flexure).
- 5, Gas in transverse colon.
- 6, Gas in sigmoid.
- 7, Sacrum.
- 8, Sacroiliac joint.
- 9, Femoral head.
- 10, Gas in cecum
- 11, Iliac crest.
- 12, Gas in colon (hepatic flexure).
- 13, Psoas margin.

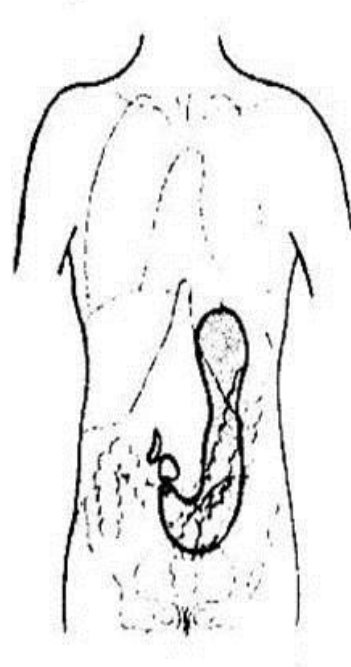




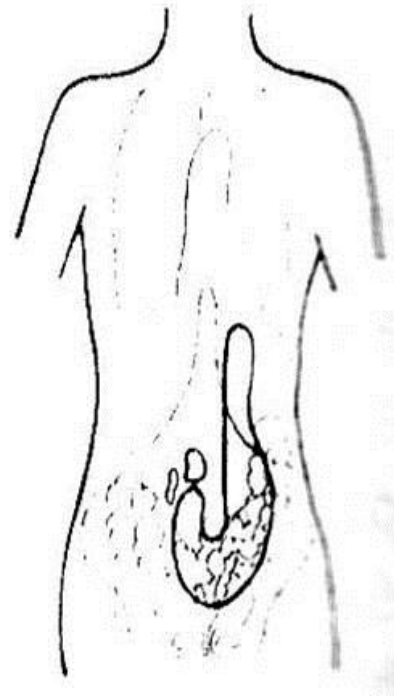
1. Hypersthenic
(massive)
5%



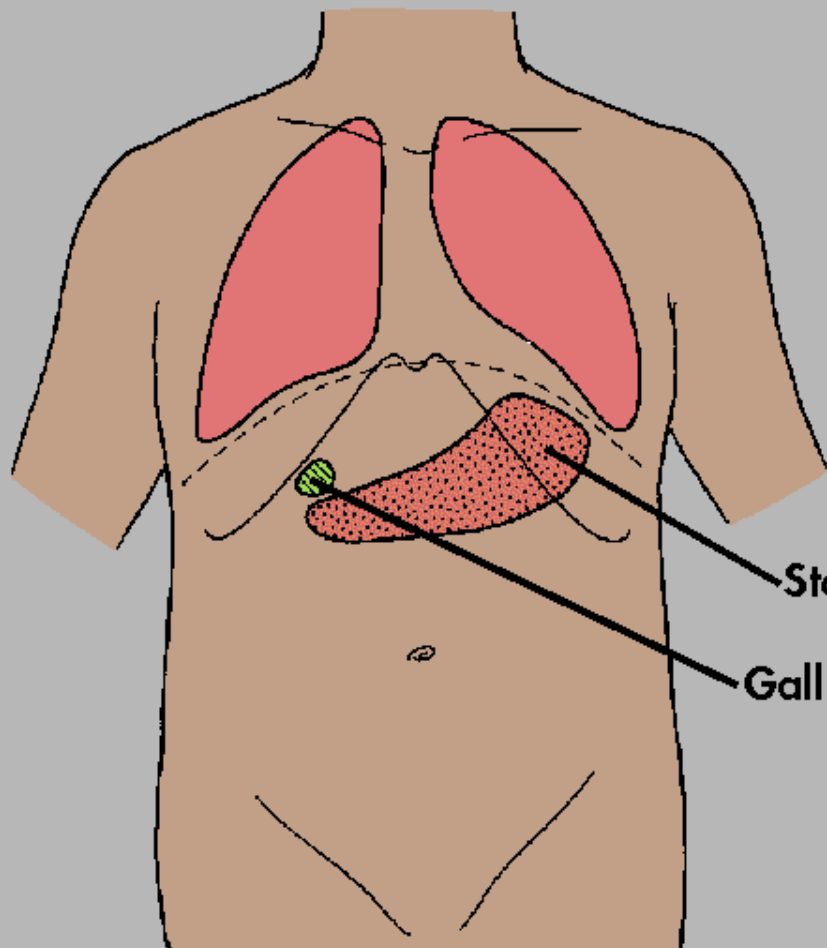
2. Sthenic
(average)
50%



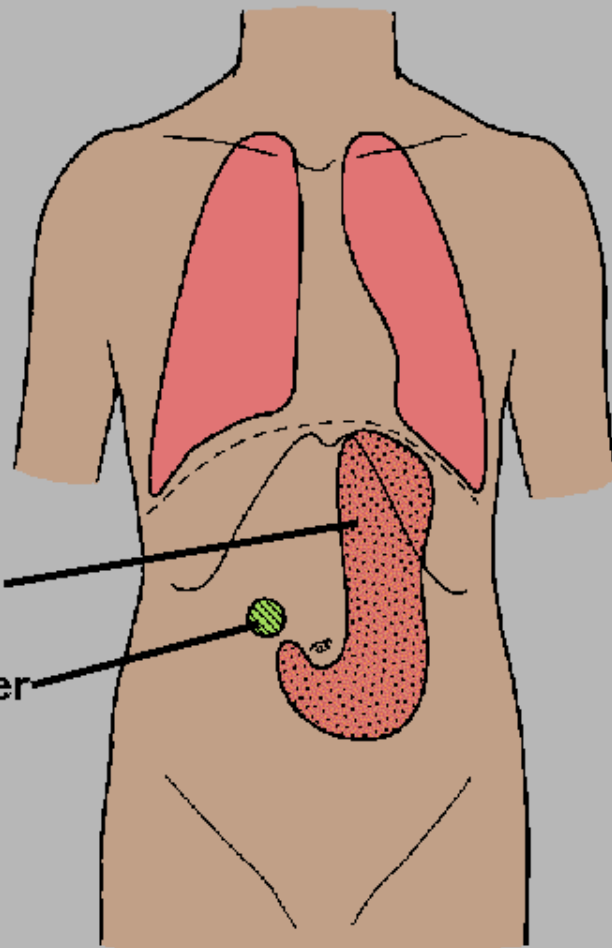
3. Hyposthenic
(slender)
35%



4. Asthenic
(very slender)
10%



HYPERSTHENIC



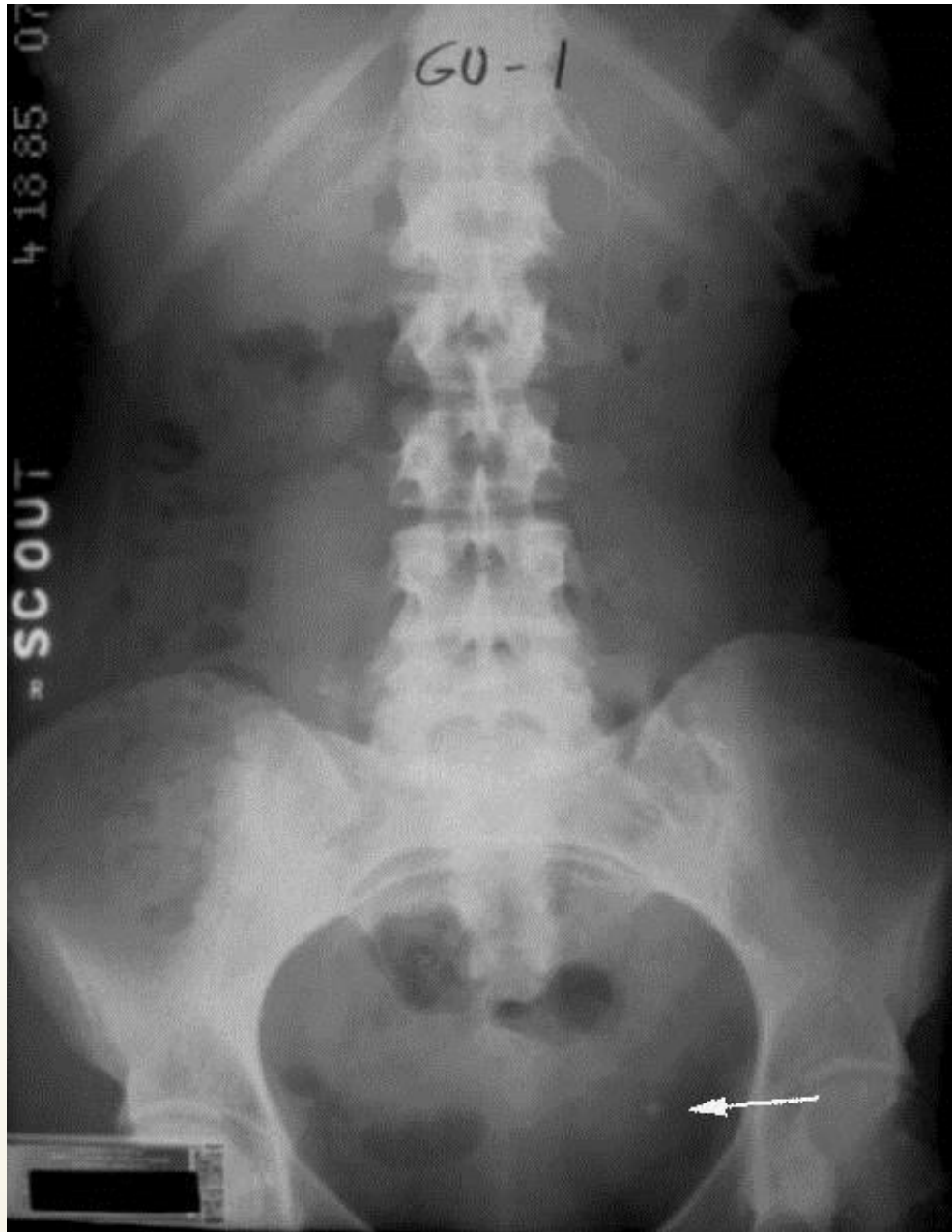
ASTHENIC

Stomach

Gall bladder



- **ABNORMAL - Gallbladder stones**
- Abnormal calcification: gallstones in gallbladder

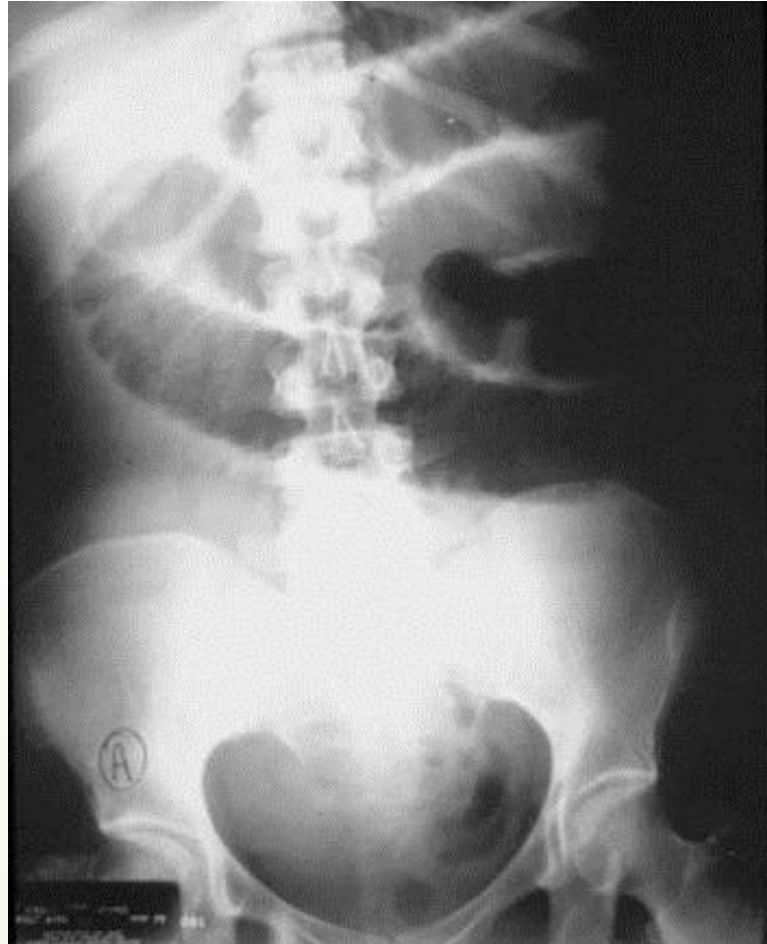


Right ureter calculus (stone)



IVU-INTRA VENOUS UROGRAM

Small bowel obstruction



Mechanical LBO

Causes:-

- Tumor**
- Volvulus**
- Hernia**



LBO