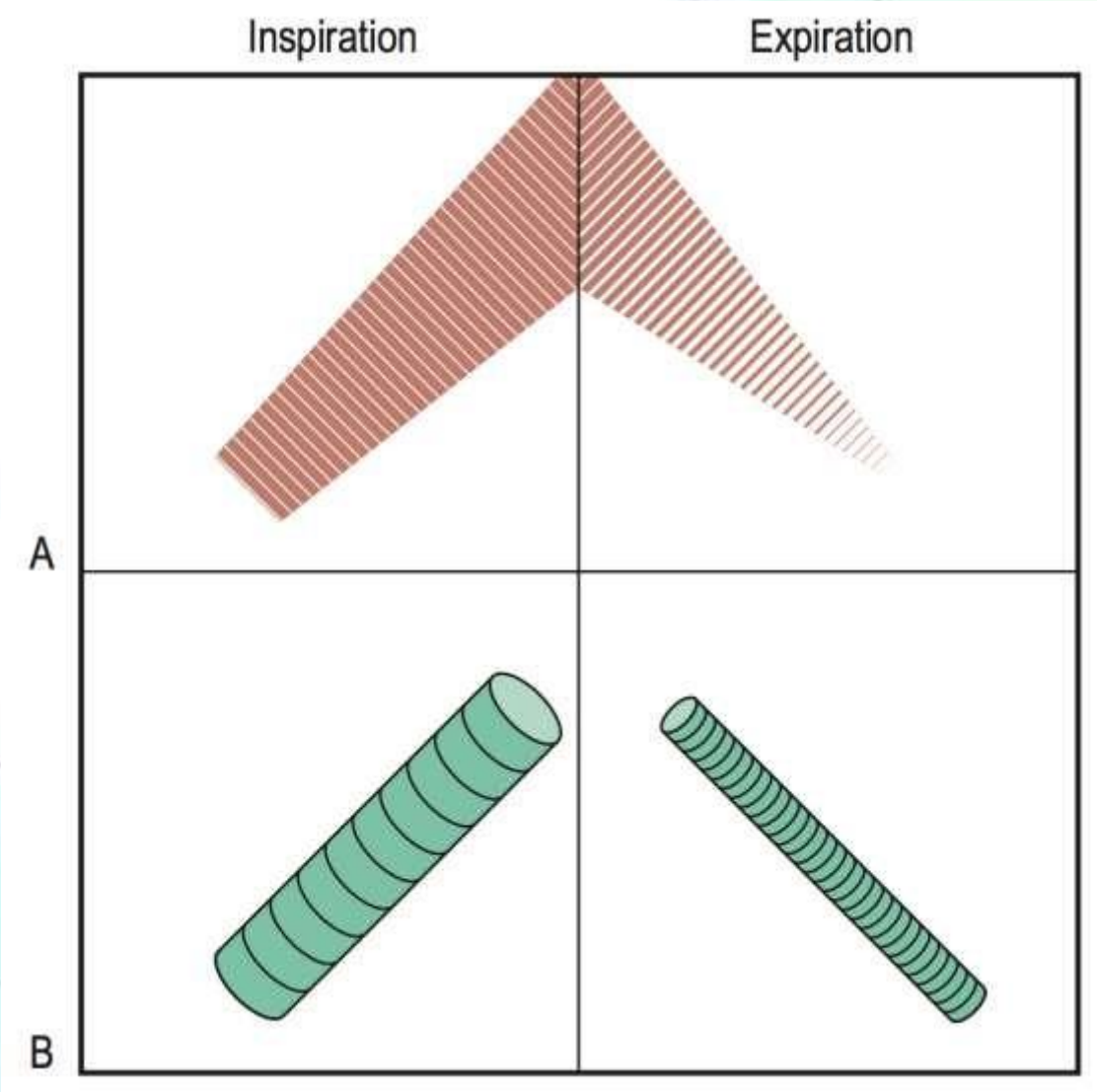
RESPIRATORY SYSTEM

Dr AADIL RAFEEQ

Auscultation



Auscultation

7.22 Causes of diminished vesicular breathing

Reduced conduction	
• Obesity/thick chest wall • Pleural effusion or thickening	• Pneumothorax
Reduced airflow	
• Generalised, e.g. COPD	• Localised, e.g. collapsed lung due to occluding lung cancer

Auscultation

7.25 Causes of crackles

Phase of inspiration	Cause
Early	Small airways disease, as in bronchiolitis
Middle	Pulmonary oedema
Late	Pulmonary fibrosis (fine) Pulmonary oedema (medium) Bronchial secretions in COPD, pneumonia, lung abscess, tubercular lung cavities (coarse)
Biphasic	Bronchiectasis (coarse)

Auscultation

7.27 Causes of bronchial breath sounds

Common

- Lung consolidation (pneumonia)

Uncommon

- Localised pulmonary fibrosis
- At the top of a pleural effusion
- Collapsed lung (where the underlying major bronchus is patent)

Fine crackles: high-pitched, discrete, discontinuous crackling sounds heard during the end of inspiration; not cleared by a cough

Medium crackles: lower, more moist sound heard during the midstage of inspiration; not cleared by a cough

Coarse crackles: loud, bubbly noise heard during inspiration; not cleared by a cough

Rhonchi (sonorous wheeze): loud, low, coarse sounds like a snore most often heard continuously during inspiration or expiration; coughing may clear sound (usually means mucus accumulation in trachea or large bronchi)

Wheeze (sibilant wheeze): musical noise sounding like a squeak; most often heard continuously during inspiration or expiration; usually louder during expiration

Pleural friction rub: dry, rubbing, or grating sound, usually caused by inflammation of pleural surfaces; heard during inspiration or expiration; loudest over lower lateral anterior surface

D'Espine's sign

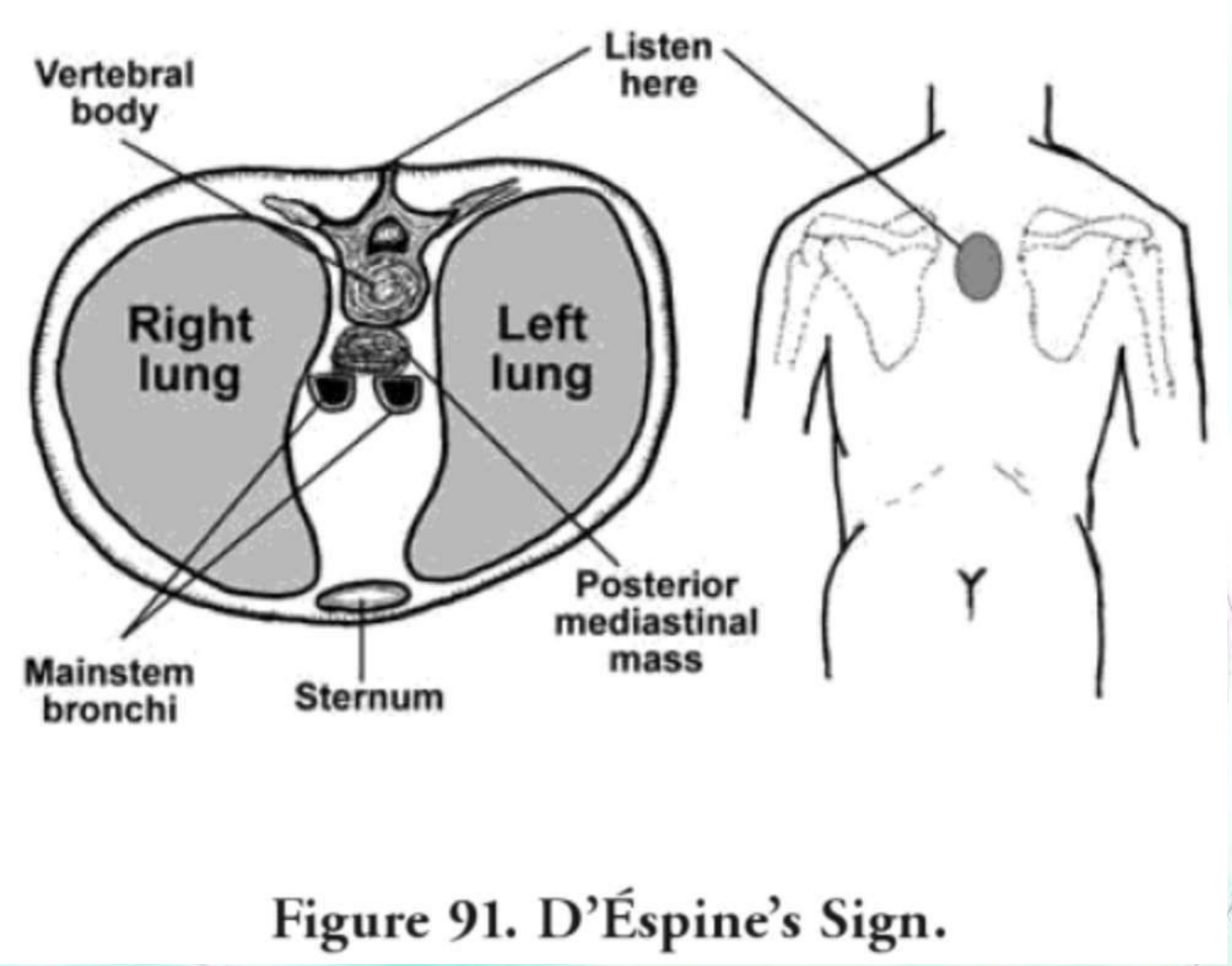
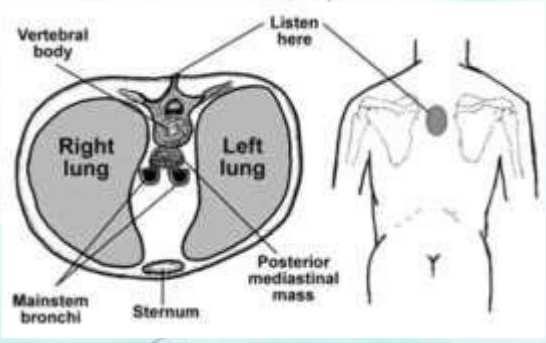


Figure 91. D'Éspine's Sign.

D'Espine's sign

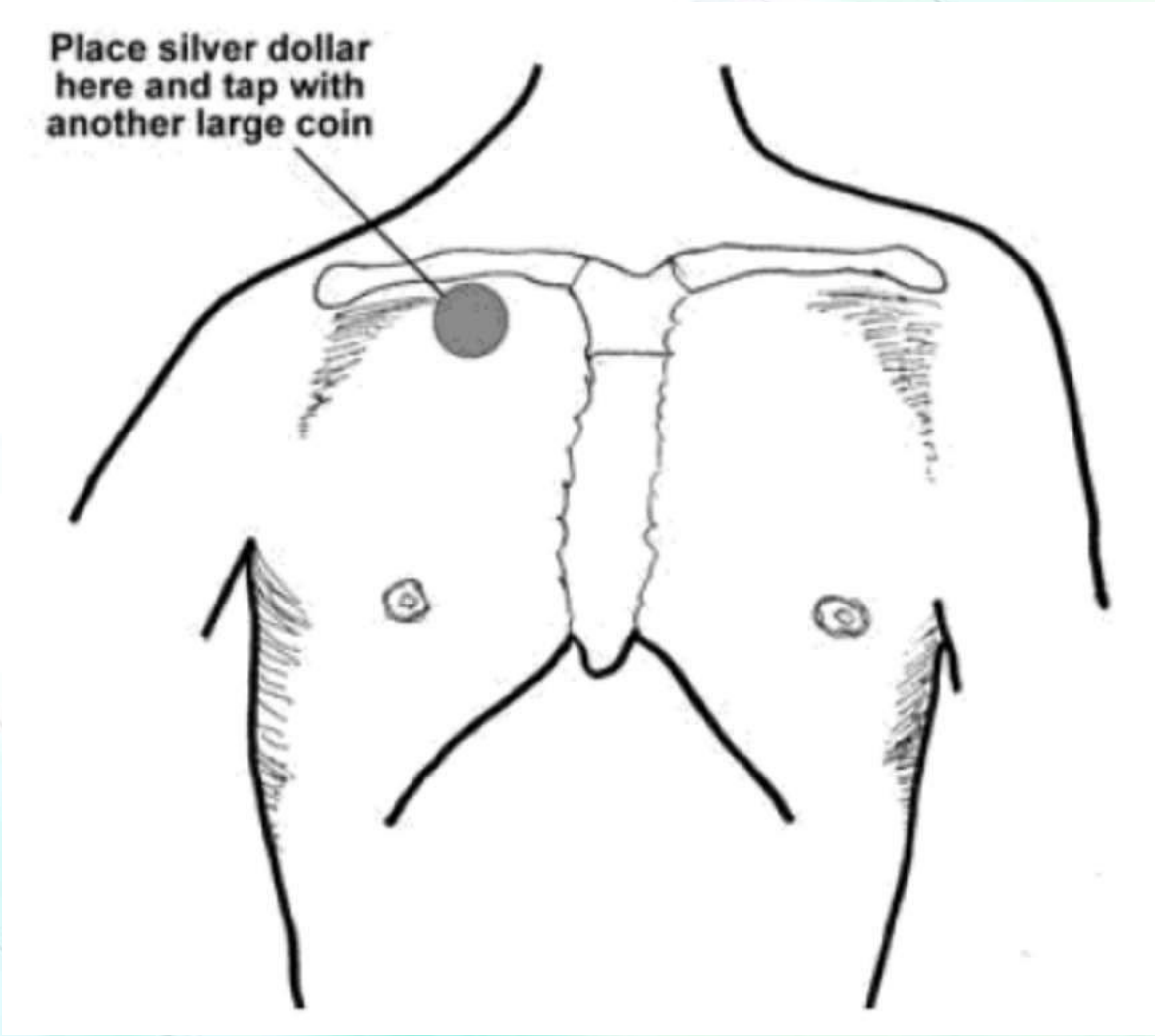
- Important sign of a posterior mediastinal mass
- At the level of mid-scapula (about T5) – listen over the vertebral spinous process and on either side of the vertebral column. Normally the lateral sounds are louder and more distinct.
- When the upper airway sounds are of greater intensity than the corresponding lateral lung sounds – implies a continuity (a mass) between a mainstem bronchus and vertebra



Special tests

- Post-tussive Rales
  - Lung abscess
- Egophony (Goat sound)
  - “E” to “A” – pulmonary consolidation
- Whisper pectoriloquy “sixty-six
  - whiskeys, please” Consolidation
- Bronchophony
  - Consolidation/compressed lung

Coin test for Pneumothorax



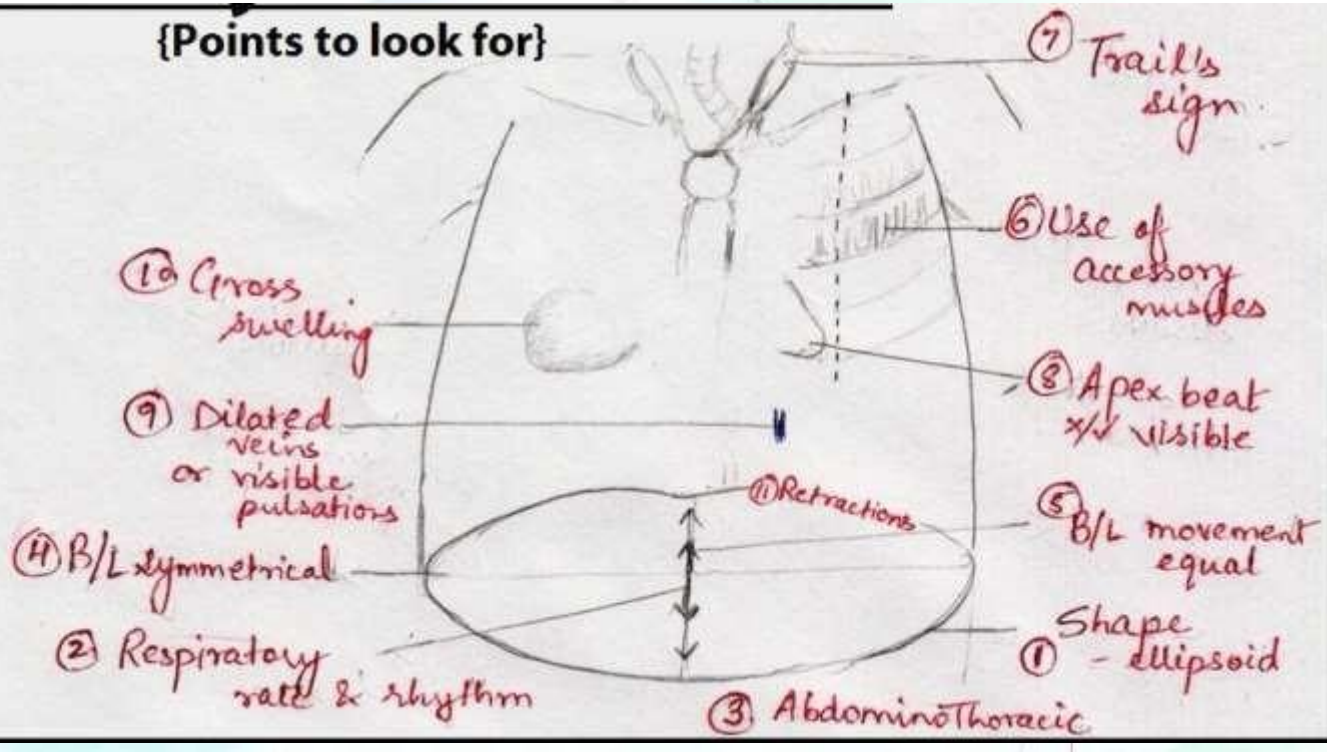
PUTTING IT ALL TOGETHER

- Note the patient’s general appearance and demeanour.
- Look for central cyanosis of the lips and tongue.
- Examine the skin for rashes and nodules.
- Listen for hoarseness and stridor.
- Examine the hands for finger clubbing, peripheral cyanosis and tremor.

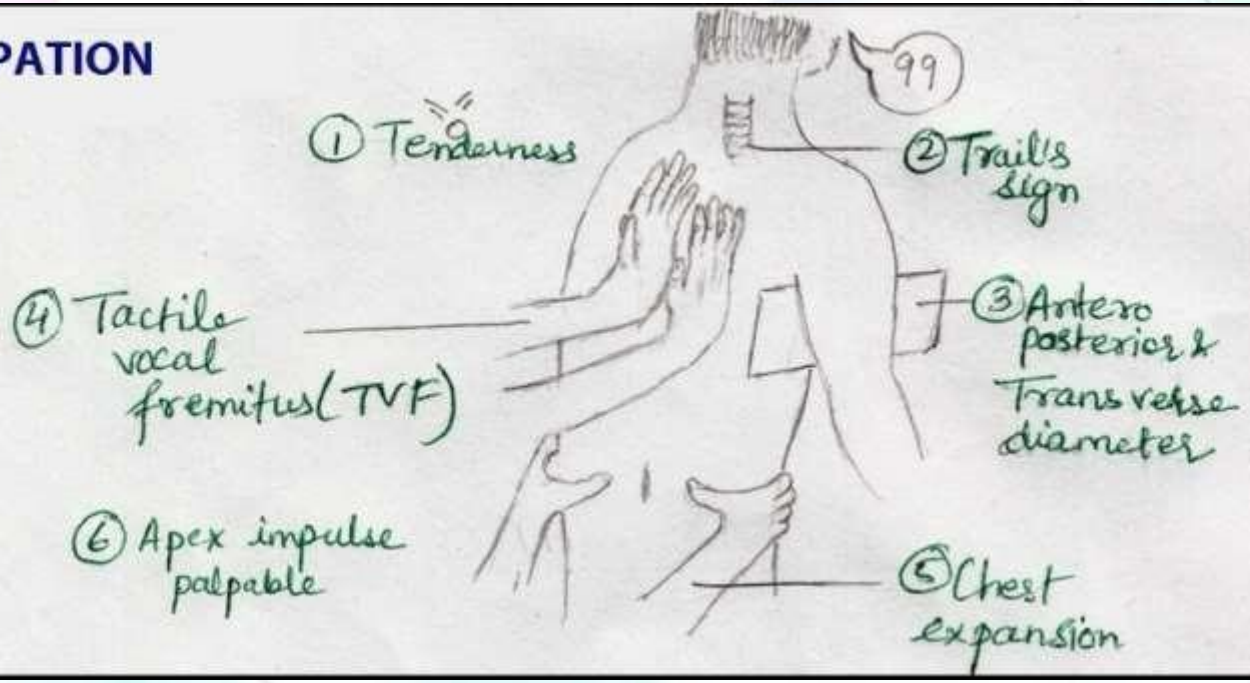
- Measure the blood pressure.
- Examine the neck for raised JVP and cervical lymphadenopathy.
- Record the respiratory rate.
- Observe the breathing pattern, and look for use of accessory muscles.

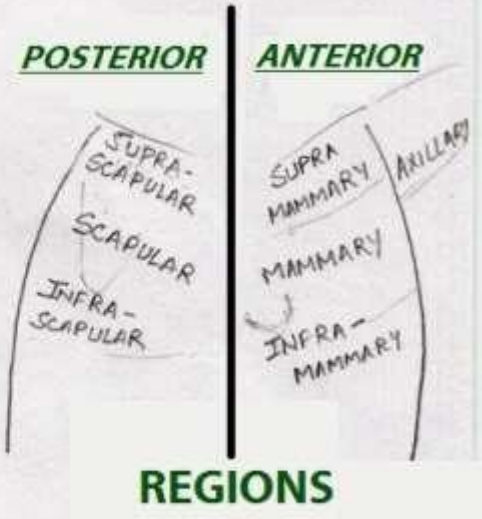
1) Exposure
2) Lighting, Position

3) INSPECTION



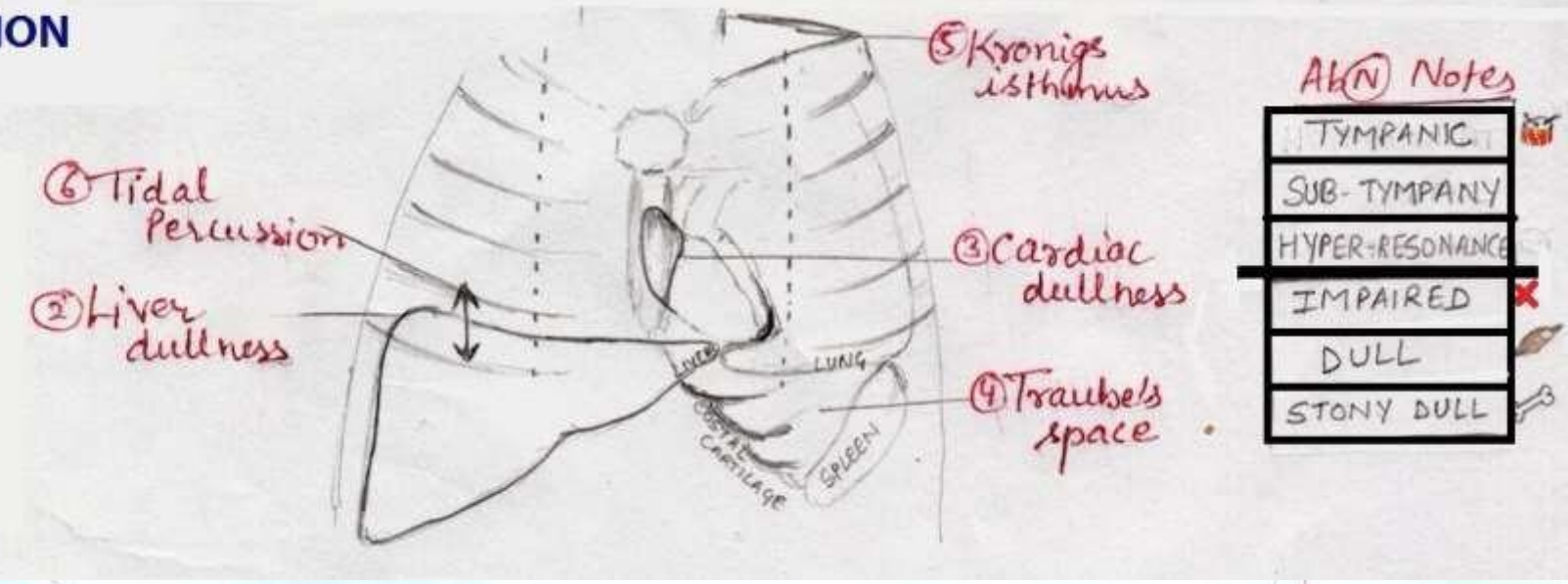
4) PALPATION


99
① Tenderness
② Trail's sign
③ Antero posterior & Trans verse diameter
④ Tactile vocal fremitus (TVF)
⑤ Chest expansion
⑥ Apex impulse palpable

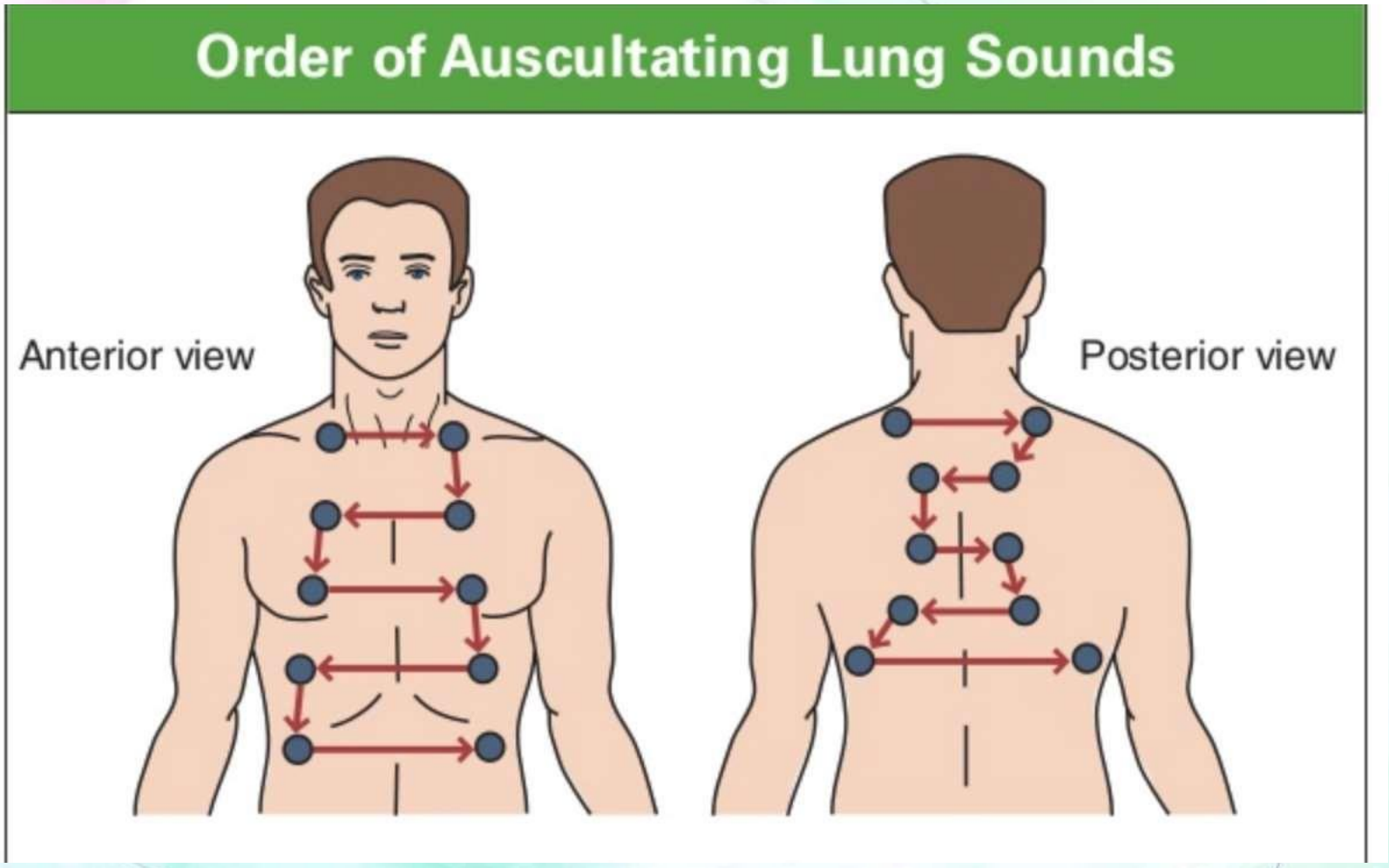

POSTERIOR
ANTERIOR
SUPRA-SCAPULAR
SCAPULAR
INFRA-SCAPULAR
SUPRA MAMMARY
AXILLARY
MAMMARY
INFRA-MAMMARY
REGIONS

5) PERCUSSION

Percuss all areas in the intercostal spaces and look for abnormal notes



Auscultation

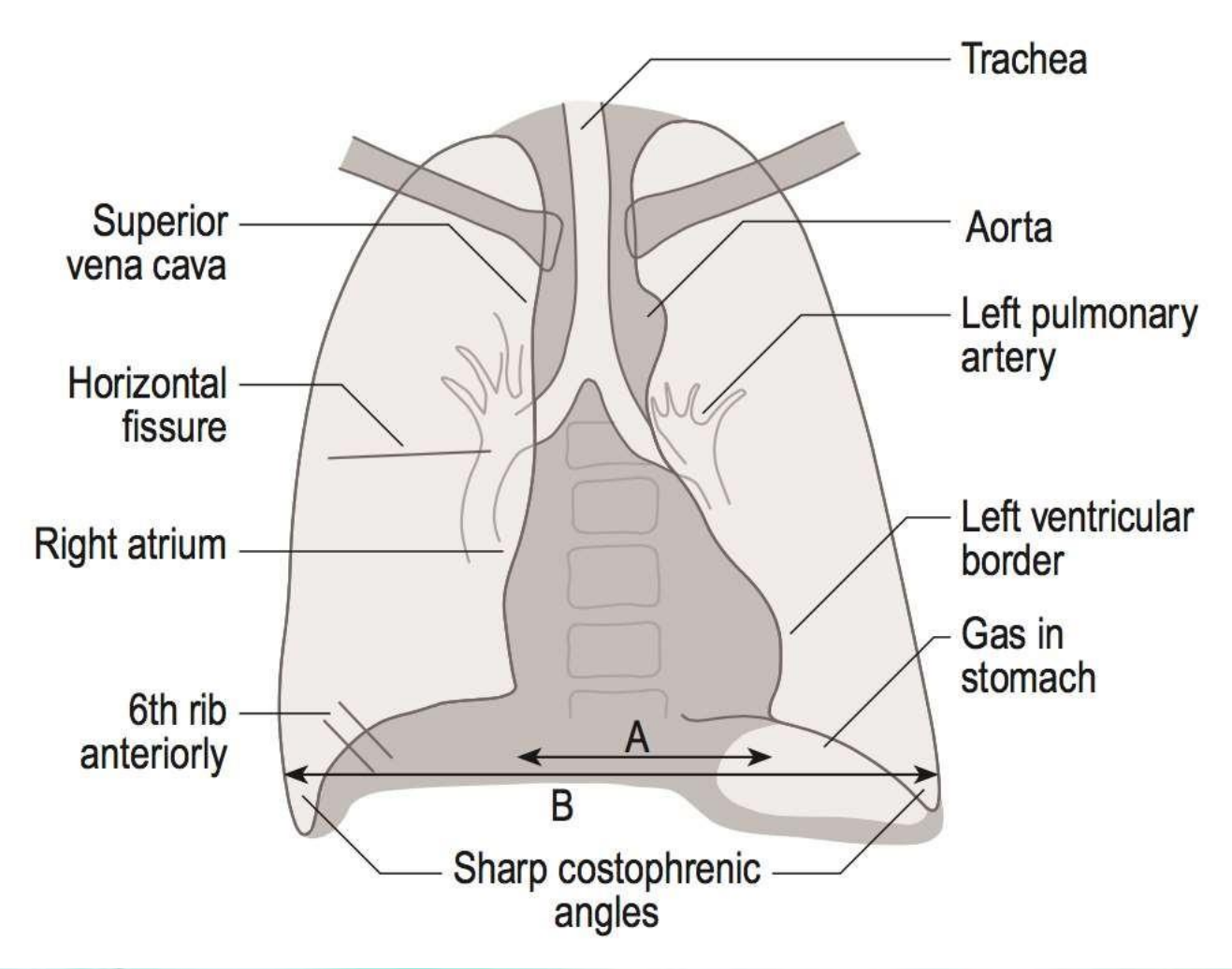


Condition	*Tracheal Shift*	*Chest Expansion*	*Fremitus*	*Percussion*	*Breath Sounds*
Pneumothorax	away	unclear	decreased	increased	reduced
Pleural effusion	away	decreased	decreased	dull	reduced
Consolidation	no shift	decreased	increased	dull	tubular
Consolidation with atelectasis	toward	decreased	decreased	dull	reduced
Pleural thickening	toward	decreased	decreased	dull	reduced

Bedside Clinics

Peak Flow Meter

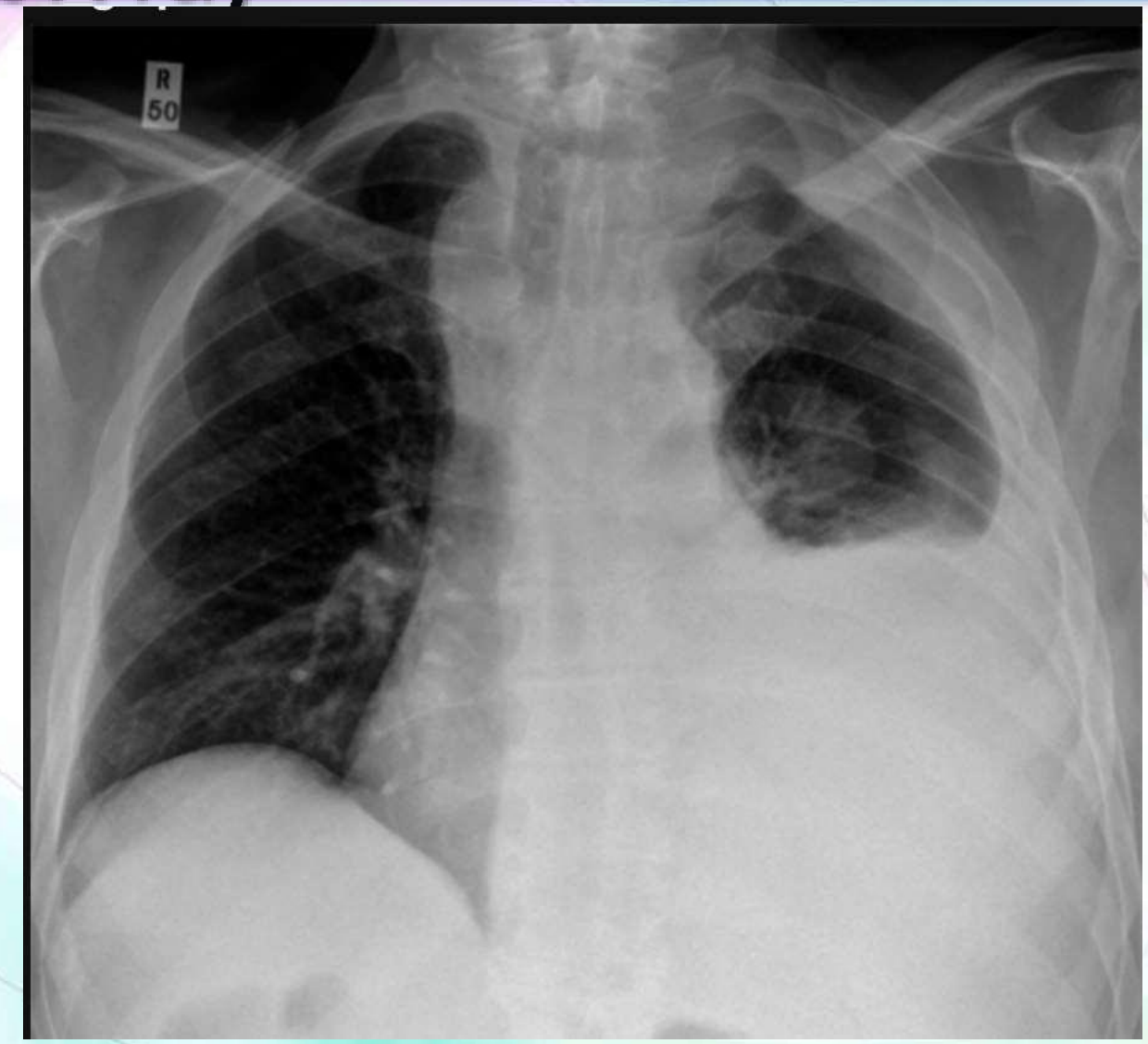
Chest X ray


Trachea
Superior vena cava
Aorta
Left pulmonary artery
Horizontal fissure
Right atrium
Left ventricular border
Gas in stomach
6th rib anteriorly
A
B
Sharp costophrenic angles

Chest X ray

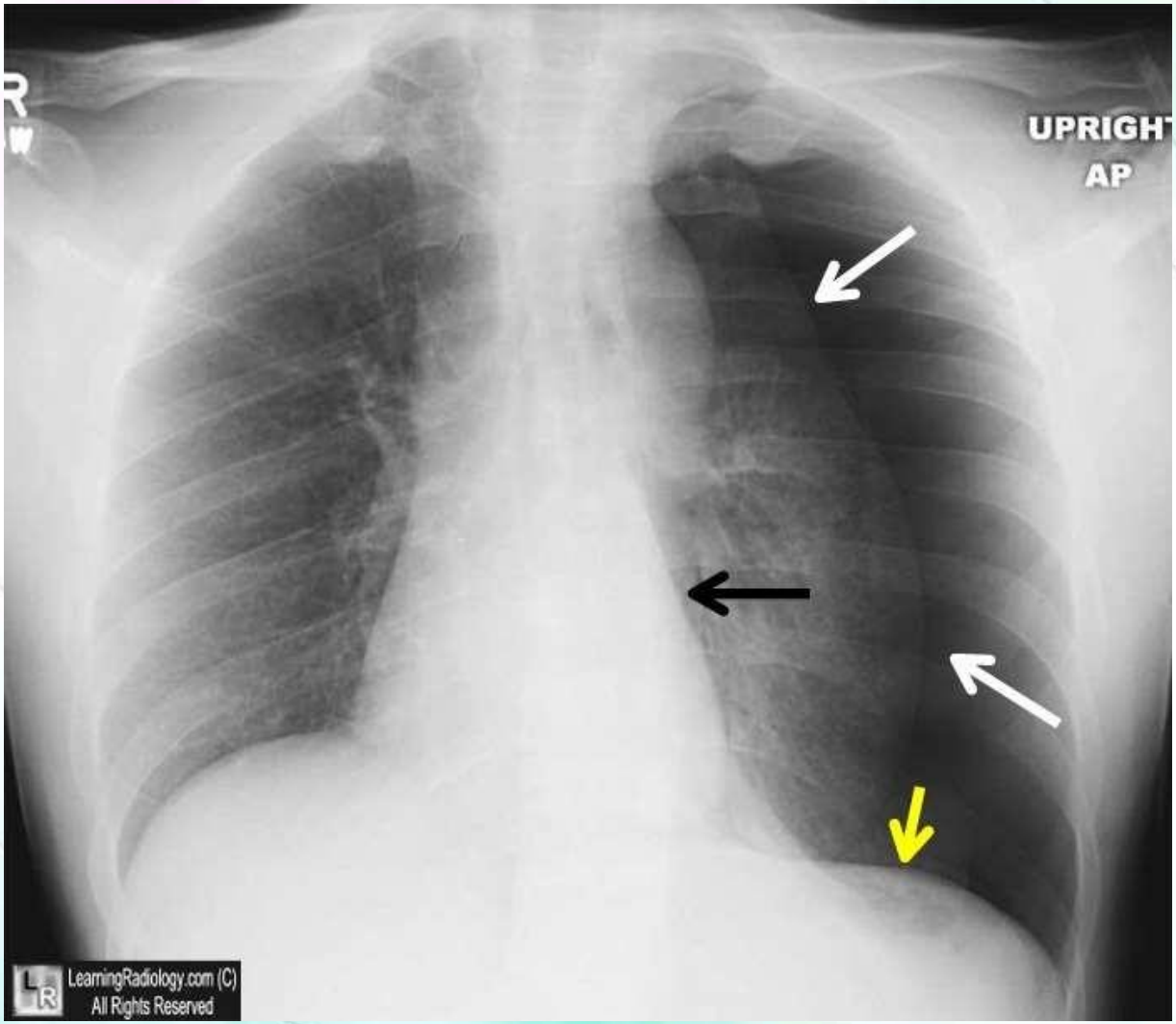
- Normal Chest x ray

Chest X ray



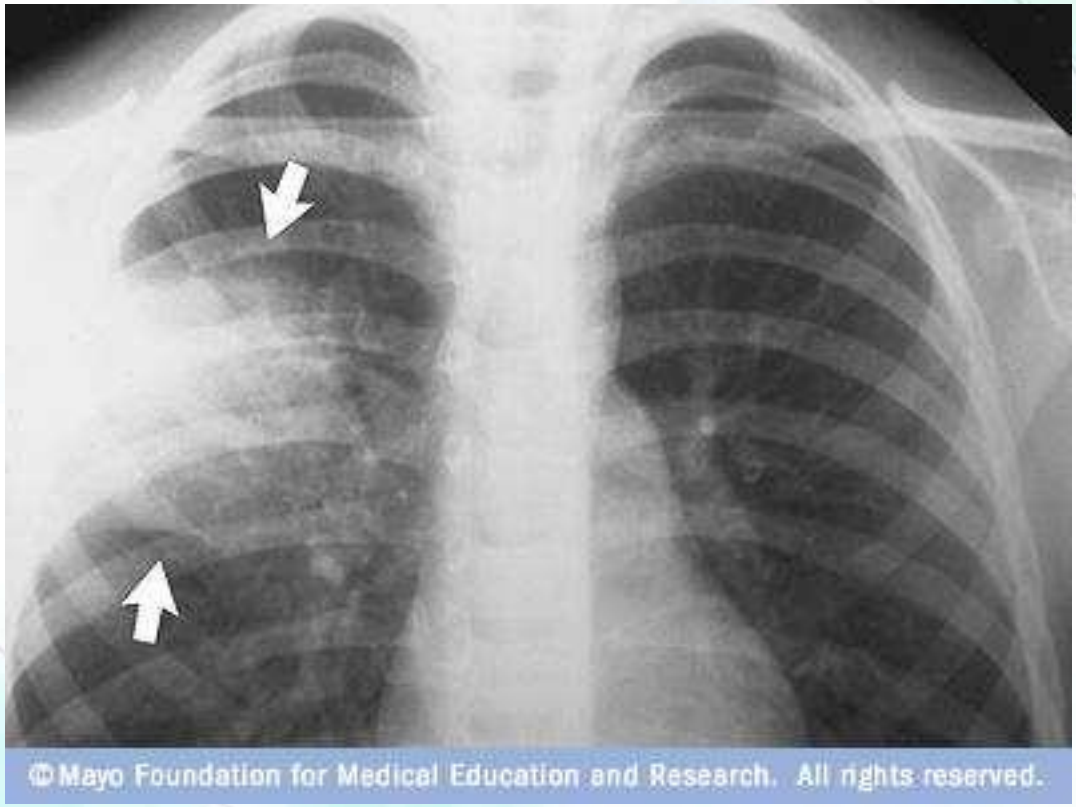
- Pleural effusion (Left)

Chest X ray



- Pneumothorax

Chest X ray



Pneumonia - consolidation

	Pleural Effusion	Consolidation
Tracheal deviation	Contralateral	None
Fremitus	Decreased	Increased
Percussion	Dull	Dull
Breath sounds	Decreased	Decreased

	Emphysema	Pneumothorax
Tracheal deviation	None	Contralateral
Fremitus	Decreased	Decreased
Percussion	Hyper-resonant	Hyper-resonant
Breath sounds	Crackles	Decreased

Thank you