



History & Physical Examination of Respiratory system

Pneumothorax: Is the presence of **air** in the **pleural cavity** causing lung collapse.

Chief Complain : Shortness of breath & pleuritic chest pain.	
Question	Indications
How long have you been short of breath? (Duration).	sec to min: pneumothorax,
Did it come on very quickly? Or instantaneously? (Onset: How it started, sudden or gradual?).	instantaneously (Pneumothorax)
Is the SOB contentious throughout the day, intermittent? If intermittent When is it worse/better? (frequency)	
Where do you feel the pain?	Well localized to the side of the pneumothorax
Progression: become worse with time?	
Severity: affect your work, life? Or NYHA classification).	
Can you tell me how the pain is like?	Sharp and stabbing (pleuritic pain)
What makes the pain worse ?	Respiration or cough
What relives the pain?	Holding breath
Other respiratory symptoms?	
Fever, weight loss, loss of appetite, night sweat?	
Risk Factors:	
Trauma? Respiratory disease? Ventilation? Any invasive procedure of the chest such as central venous cannulation?	
Past Medical History:	
Any known respiratory disease?	Such as asthma, COPD or pleural disease

	(mesothelioma)
Any previous pneumothorax?	
Dose the patient have diagnosed Marfan's syndrome?	
Drug History	
Family History	
Social History	
Smoking?	(smoking considerably increase the incidence of idiopathic pneumothorax)
Systemic Review	

- **What are the Causes of pneumothorax: (SIT, 3A, 3C)**

Primary:

- **Spontaneous: subpleural bullae rupture** (tall, thin, young male).

Secondary:

- **Iatrogenic.**(insertion of a central venous catheter)
- **Trauma.** (rib fracture, penetrating chest wall injury, or during pleural or pericardial aspiration)
- **Asthma, Alveolitis , AIDS.**
- **COPD, Carcinoma, Cystic fibrosis.**
- Emphysema, Marfan's syndrome.

- **Diagnosis: Chest X-Ray.**

- **Management:**

If small & asymptomatic patient □ observation or small chest tube.

If large & symptomatic patient □ supplemental O₂ & chest tube.

Tension pneumothorax:

Communication between the lung and the pleural space, with a flap of tissue acting as a valve, allowing air to enter the pleural space during inspiration and preventing it from leaving during expiration.

- **What are the Causes of Tension pneumothorax::**
Trauma, Mechanical ventilation, Spontaneous.

Clinical manifestation: what do you expect when examining the patient?

Inspection	Palpation	Percussion	Auscultation
Tachypnea. Tachycardia Central cyanosis.	<u>Reduced chest expansion</u> on the affected side. <u>Trachea deviated away from</u> the affected side	<u>hyperresonant</u> over the affected side.	Absent or reduced breath sound. Absent Vocal resonance. No added sound.

- **Important findings:** subcutaneous emphysema, Increased JVP, Distended neck veins, muffle heart sounds, hematomas.
- **Management :** chest decompression needle, inserted into the pleural cavity through the **second intercostal space in the mid- clavicular line.**

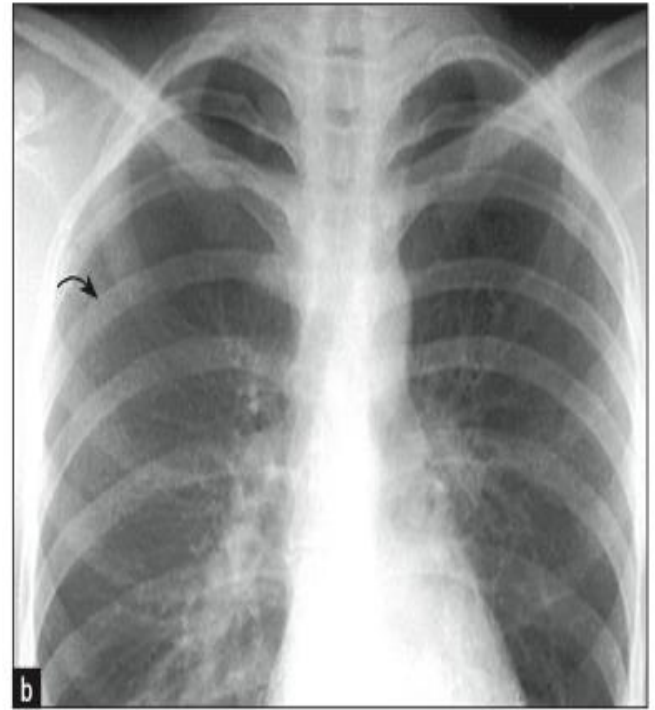
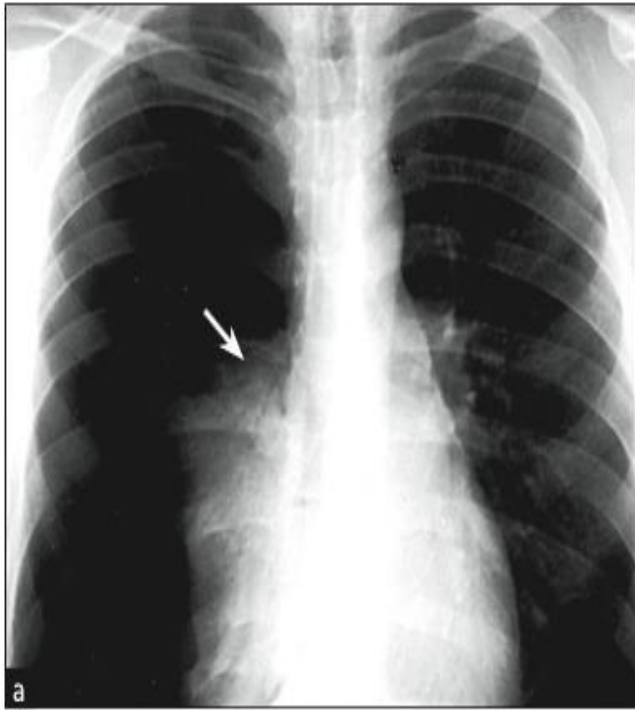


Figure 12.7 Pneumothorax

(a) There is a massive right pneumothorax with collapsed lung seen against the hilum (arrow). There is increased translucency because of the absence of vascular shadows. (b) Different patient with a smaller pneumothorax. Small pneumothoraces are easier to see on an expiratory film as the pneumothorax volume remains constant, surrounding the partly deflated lung. The visceral pleural surface is marked (arrow).

***NOTE: They will show you chest X-Ray (you have to mention the name of patient, date of performing the X-Ray and describe what you see on X-ray).**

History

- Pain
- Breathlessness
- Cyanosis
- Shock
- Tachypnoea
- Tachycardia

Shift of trachea

Shock

Tension pneumothorax

Shift of apex beat

- Rib fracture
- Surgical emphysema
- Reduced breath sounds
- Percussion hyper-resonant

Marfan's syndrome

- Tall
- Span > height
- Arachnodactyly
- Lens dislocation
- Aortic dissection
- Mitral valve prolapse
- Dilatation of ascending aorta
- Herniae
- Dural ectasia
- Protrusio acetabuli



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