



## History of pneumothorax

Color index :

**Important**

Further explanation

[Editing link](#)

## Overview of Pneumothorax :

It is the presence of **air** in the **pleural cavity which is normally airless** causing lung collapse.

### Types:

1- Spontaneous: "Has high recurrence rate 50% in 2 years"

a- **Primary(simple)spontaneous:**

Occur **without any trauma** and without any underlying lung disease

Caused by spontaneous rupture of subpleural blebs(air filled sacs on the lung)at the apex of lung >air escape from lung into pleural space =lung collapse.

Common in **tall, lean young men**(male: female ratio is 6:1) so these patients usually have sufficient pulmonary reserve, so severe respiratory distress does not occur.

b- **Secondary(complicated) spontaneous:**

Occurs as a **complication of underlying lung disease most commonly COPD** or other conditions as asthma interstitial lung disease(ILD), neoplasm, cystic fibrosis(CF) and tuberculosis(TB).

Usually patients are **over 40 years**.

More life threatening because of **low pulmonary reserve** in these patients

### 2- Traumatic

Often **iatrogenic**(following subclavian vein catheterization, pleural biopsy, tracheotomy transbronchial biopsy etc.).

### -When does pneumothorax become Tension Pneumothorax?

When the pulmonary leak point have a flap valve mechanism that **allow air to enter** the pleural space during inspiration and **preventing it from leaving during expiration**.

Which will result in the accumulation of air under (positive)pressure in the pleural space collapses the ipsilateral lung and **shifts the mediastinum away from the side of pneumothorax**.

## Personal Data

**Chief Complaint:** Shortness of breath & pleuritic chest pain.

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? **site**

Well localized to the side of the pneumothorax

**Progression**: become worse with time? and **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 **relieves** 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 previous pneumothorax? Dose the patient have diagnosed Marfan's syndrome?

Such as asthma, **COPD** or pleural disease (mesothelioma)

Drug history? Family history? Social History?

Smoking?

(smoking considerably increase the incidence of idiopathic pneumothorax)

Systematic Review

-How to confirm you diagnosis?

Chest X-Ray (CXR)

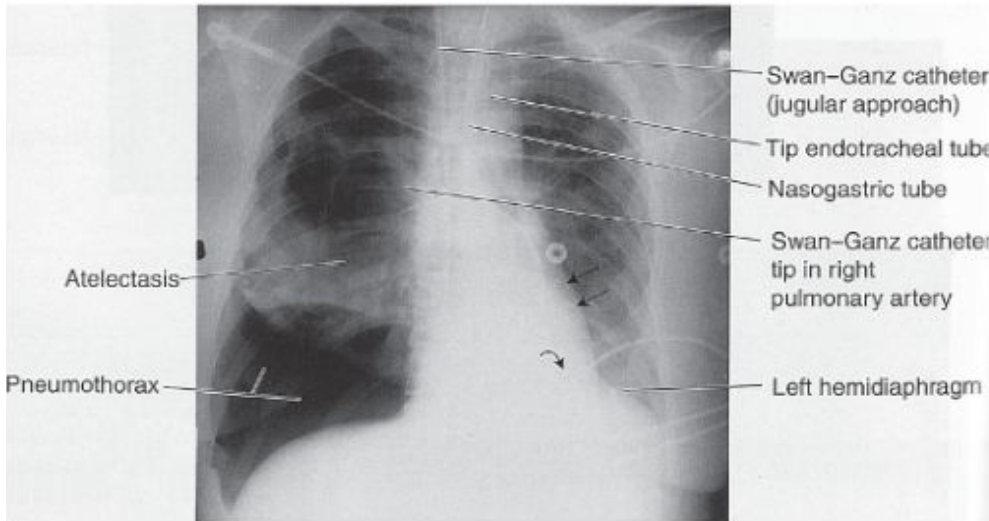
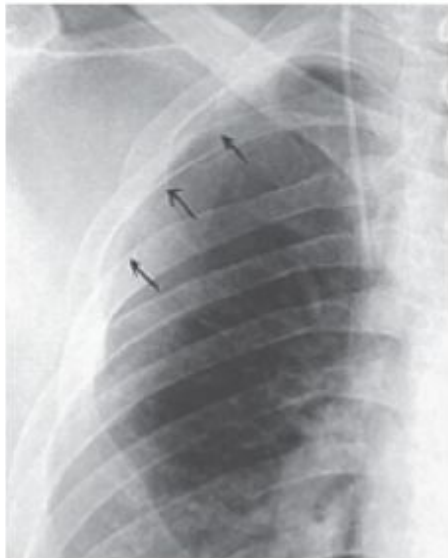


Figure 2-7: **A:** Right pneumothorax seen in a patient on a ventilator.

**B:** Chest radiograph showing a right pneumothorax that occurred as a complication of placement of a central line. These small pneumothoraces are often difficult to detect.

**C:** Large left pneumothorax.



B

C

- Clinical features of pneumothorax vs. tension pneumothorax?

	Pneumothorax	Tension Pneumothorax
Clinical Features	<ol style="list-style-type: none"> <li>1. Sudden ipsilateral chest pain</li> <li>2. Dyspnea and cough</li> <li>3. Decreased breath sounds over affected side</li> <li>5. Hyperresonance over the chest</li> <li>6. Decreased tactile fremitus</li> <li>7. Mediastinal shift toward side of pneumothorax</li> </ol>	<ol style="list-style-type: none"> <li>1. Hypotension and tachycardia</li> <li>2. Distended neck veins</li> <li>3. Shift of trachea away</li> <li>4. Decreased breath sounds on affected side</li> <li>5. Hyperresonance</li> </ol>

- CXR of Tension Pneumothorax:

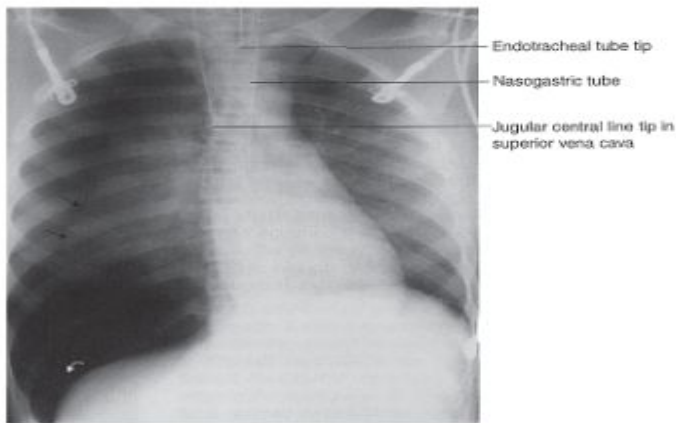


Figure 2-8: **A:** Example of a right tension pneumothorax. Note that the mediastinum is displaced to the left. **B:** Tension pneumothorax. **C:** Tension pneumothorax.



B

C

## - Management:

First you have to check the ABC :Airway - breathing -circulation

### 1-Primary spontaneous:

- If **small** should resolve spontaneously in 10 days = observe or small chest tube may benefit some patients
- If **large** or patient symptomatic administer supplemental oxygen + needle aspiration or chest tube insertion

### 2- secondary spontaneous:

chest tube drainage

### 3-Tension pneumothorax:

it is a **medical emergency** patient may die of hemodynamic compromise

so immediately perform **chest decompression with large-bore needle followed by chest tube placement**

Done by :Nouf AlOraini

Revised By: Nada Alamri & Abdulrahman Al Mizel