

# Anatomy of thorax

Dr Afraz Sherazi

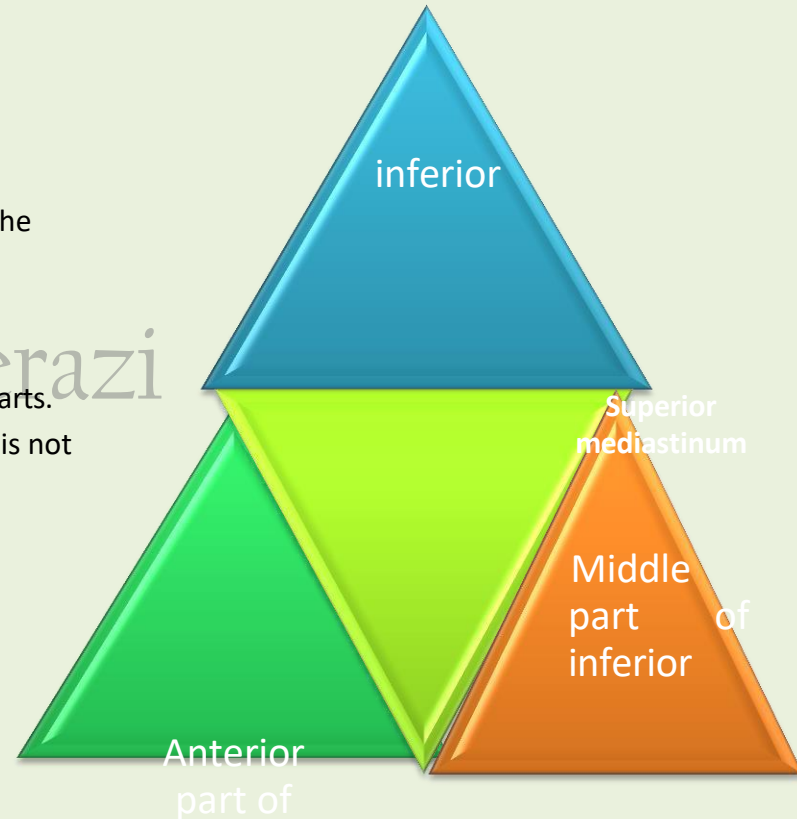
**{Mediastinum and Pericardium}**

# mediastinum

- it's a thick midline partition that extends from the sternum anteriorly to the thoracic vertebrae posteriorly, and from the superior thoracic aperture to the inferior thoracic aperture.
- The mediastinum includes: heart, esophagus, vessels and nerves.
- **Some important note about sternal angle:**
  1. The sternal angle separates the mediastinum into superior and inferior parts.
  2. Used to find the position of 2<sup>nd</sup> rib as a **reference for counting ribs** (1<sup>st</sup> rib is not palpable because it's overlying clavicle).
  3. Marks where the arch of aorta begins and ends.
  4. It's site where the SVC penetrates the pericardium to enter the heart.
  5. It's site where the trachea bifurcates into right and left main bronchi.

**Note// Mediastinum divided into superior and inferior.....**

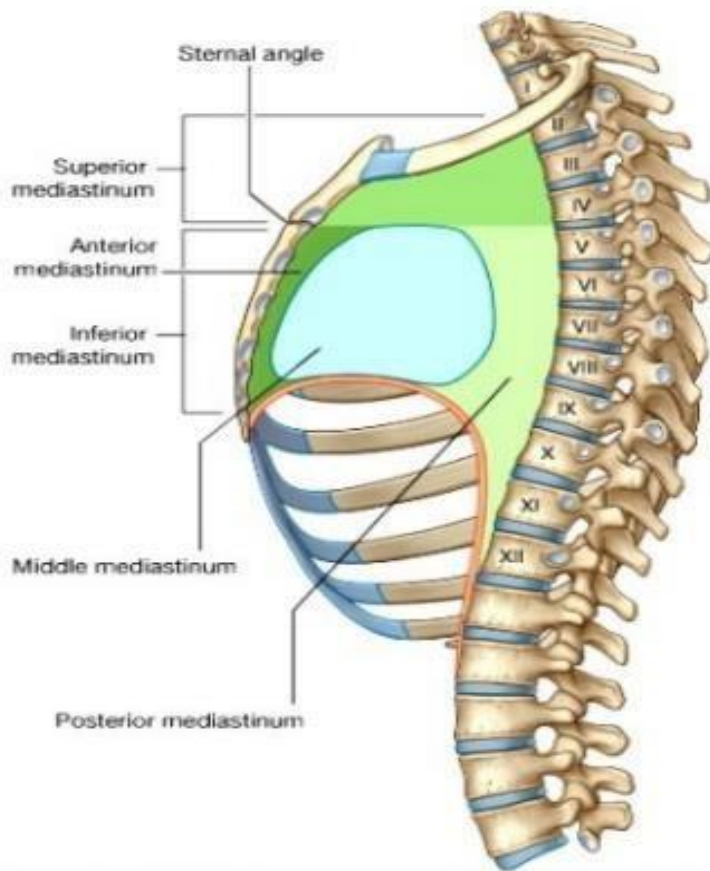
**The inferior part divided into ant. & post. And middle**



Dr Afraz Sherazi

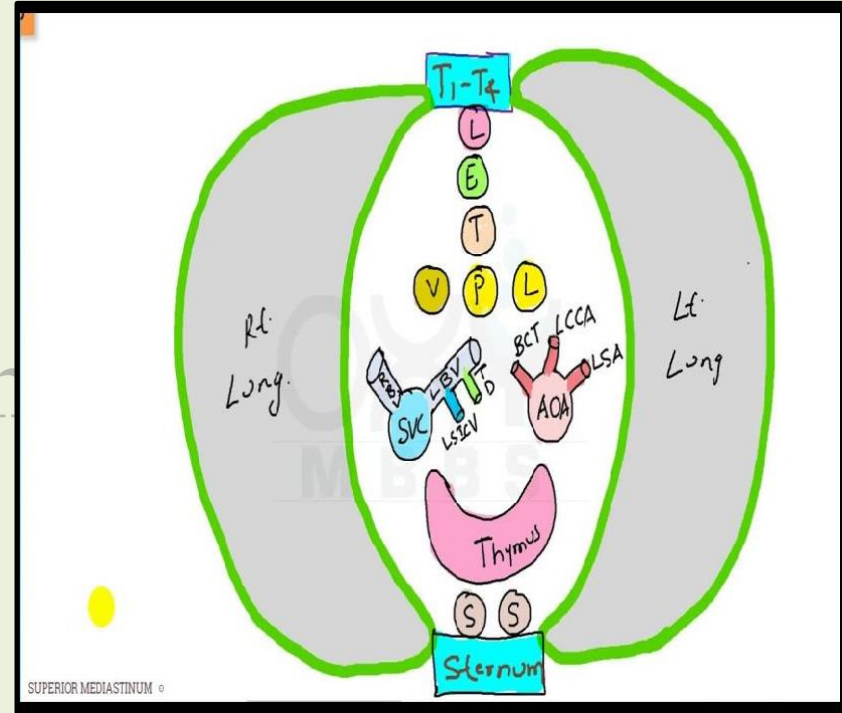
Posterior part of inferior

# Divisions of Mediastinum



## • Superior mediastinum :

- Posterior to the **manubrium of sternum** and anterior to the bodies of the **first 4 thoracic vertebrae**
- **Major structures found in :**
  - I. Thymus
  - II. Right and left brachiocephalic veins
  - III. Left superior intercostal vein
  - IV. SVC
  - V. Arch of aorta with his three major braches
  - VI. Trachea and esophagus
  - VII. Phrenic and Vagus nerves
  - VIII. Thoracic duct

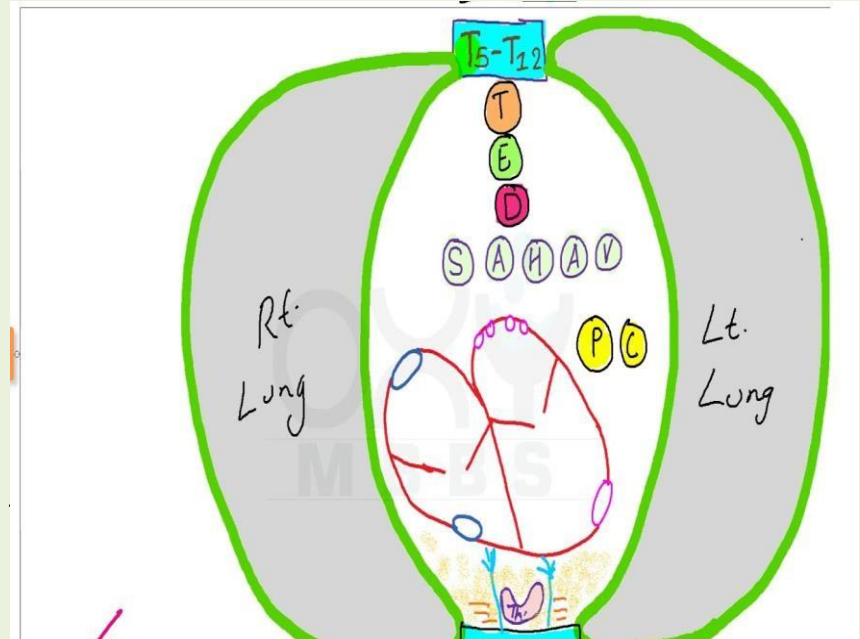


IX. Other small blood vessels and  
lymphatics

Dr Afraz Sherazi

# Inferior mediastinum

- **Anterior part :**
- it's posterior to the body of sternum and anterior to pericardial sac
- Superior boundary transverse plane passing from sternal angle to intervertebral disc between T4-T5
- Posterior surface of the body of sternum to the fibrous pericardium.
- **Middle part :**
- Centrally located in the thoracic cavity it **contains** the pericardium, heart, origins of great vessels, nerves



and smaller vessels .

Dr Afraz Sherazi

- **Posterior part :**

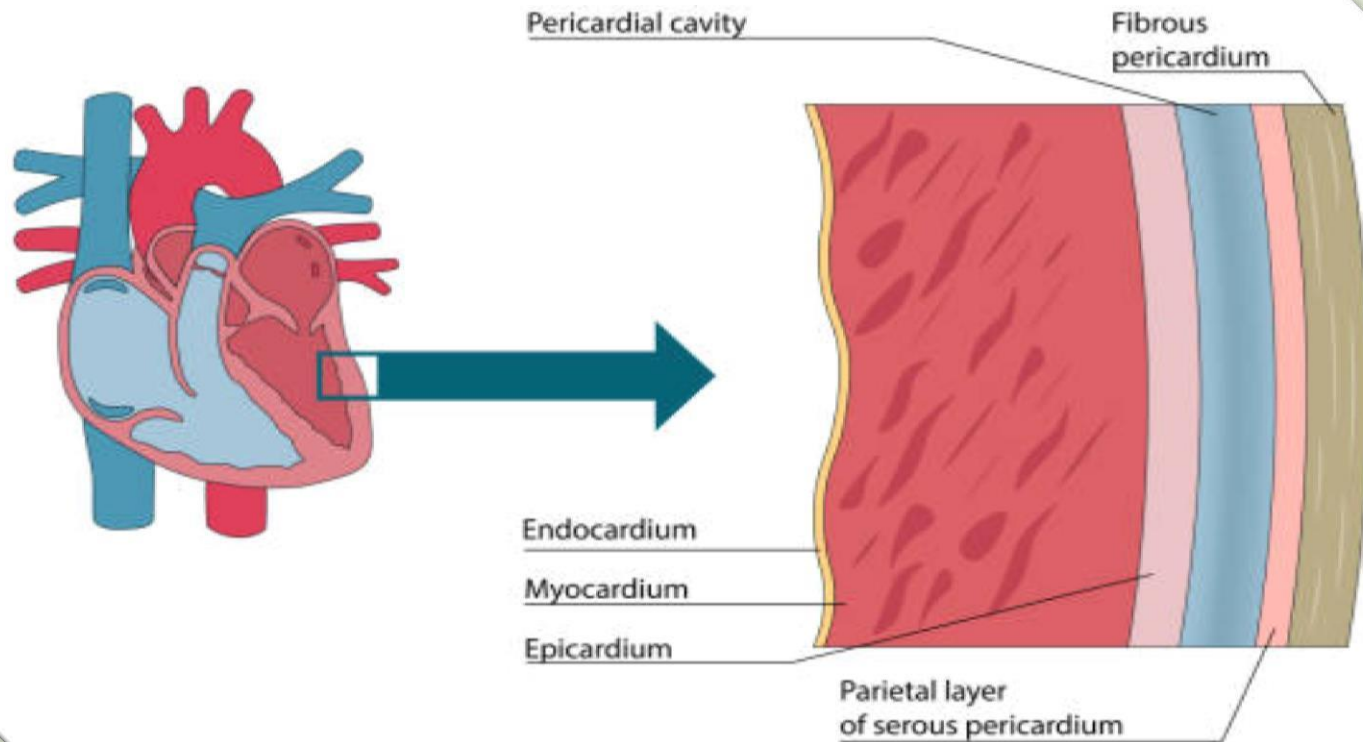
- Posterior to pericardial sac and diaphragm and anterior to the bodies of mid & lower thoracic vertebrae

- **Major structures in ...**

- I. Esophagus and associated nerves(left&right vagus nerves)
- II. Thoracic aorta and its branches
- III. Azygos system of veins
- IV. Thoracic duct and associated lymph node
- V. Sympathatic trunks
- VI. Thoracic splanchnic nerves

# Pericardium

- Is a fibroserous sac surrounding the heart and the roots of great vessels , **it consists of two components** the fibrous pericardium and serous pericardium
- **Fibrous pericardium** is a tough CT outer layer that defines the boundaries of the middle mediastinum.
- Cone-shaped bag with its base on the **diaphragm** and its apex continuous with **adventitia** of the great vessels
- **Serous pericardium** is thin and consists of two layers :
  1. Parietal layer lines the inner surface of the fibrous pericardium
  2. Visceral layer (epicardium) adheres to the heart and forms its outer covering



**Pericardial membranes and layers of the heart wall**

- Pericardial sinus:

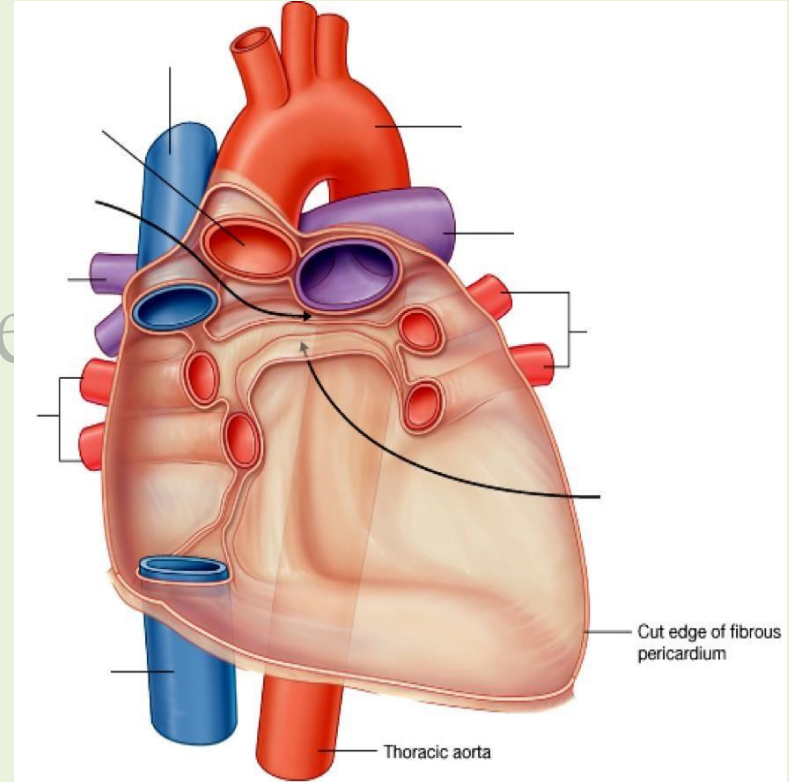
1. **Oblique pericardial sinus(Haller)**

The zone of reflection surrounding the veins is J-shaped, and the cul-de-sac formed within the J ,posterior to the left atrium.

2. **Transverse pericardial sinus(Theil)**

A passage between the two sites of reflected serous pericardium ..

This sinus lies posterior to the ascending aorta and pulmonary trunk & anterior to the SVC & superior to left atrium



# Vessels and nerves supply

- Arteries that supply the pericardium are branches from internal thoracic and thoracic aorta **(PCP&MP&IP)**
- Veins from pericardium enter the **azygos system and internal thoracic and superior phrenic veins.**
- Nerve supply pericardium arise from **the vagus nerve {X}, the sympathetic trunks and phrenic nerves .**

**Thank YOU**

Dr Afraz Sherazi