Inferior mediastinum

- Below the imaginary plane passing from the sternal angle to the intervertebral disc between the fourth and fifth thoracic vertebra.
Subdivisions

- Anterior mediastinum
- Middle mediastinum
- Posterior mediastinum
Anterior mediastinum

- Posterior to body of sternum & anterior to pericardial sac

Contents-
- Thymus
- Sternopericardial ligaments
- Lymph nodes
- Mediastinal branches of internal thoracic vessels
- Fat
Middle mediastinum

- Centrally located in the thoracic cavity
- Contents:
  - Pericardium
  - Heart
  - Origin of the great vessels
  - Nerves & small vessels
Posterior mediastinum

- Located posterior to the pericardial sac & diaphragm & anterior to the bodies of the middle & lower thoracic vertebrae

Contents-
- Esophagus & its associated nerve plexus
- Thoracic aorta & it’s branches
- Azygos system of veins
- Thoracic duct & associated lymph nodes
- Sympathetic trunk
- Thoracic splanchnic nerves
Esophagus

- Muscular tube passing between the pharynx in the neck ($C_{IV}$) to the cardiac end of the stomach ($T_{XI}$)
- 25cm, 6th C-11th T
- At lower end moves anterior & to the Left, Crosses from Right side of thoracic aorta to become anterior to it
- Passes through the esophageal hiatus ($T_X$)
Constrictions of the esophagus

- Junction of the esophagus with the pharynx (15cm from incisor teeth)
- When the esophagus is crossed by the aorta (22.5cm)
- When the esophagus is crossed by left main bronchus (27.5 cm)
- At esophageal hiatus in diaphragm (40cm)
• Innervation: Branches from vagus nerve & sympathetic trunk
• Arterial supply: Inferior thyroid, Thoracic aorta, bronchial branches & ascending branches of left gastric artery
• Venous drainage: Inferior thyroid, azygos vein, hemiazygos vein, left gastric vein
• Lymphatic drainage: Deep cervical, Posterior mediastinal & left gastric nodes
Applied anatomy

- Oesophageal Varices
- Oesophageoscopy
- Barium studies
- Tracheo-Oesophageal fistula
- Oesophageal atresia
- Gastro-Oesophageal reflux
- Hiatus hernia
Thoracic aorta & its branches

- Begins at the lower border of vertebra T_{IV}
- Ends at lower edge of T_{XII}
- Branches:
  - Pericardial
  - Bronchial
  - Mediastinal
  - Posterior intercostal
  - Superior phrenic
  - Subcostal
Azygos system of veins

- Major veins in the system are
- Azygos veins
- Hemiazygos vein
- Accessory hemiazygos vein
Tributaries of azygos vein

- Right superior intercostal veins - 2\textsuperscript{nd}, 3\textsuperscript{rd}, 4\textsuperscript{th} intercostal veins
- Fifth to eleventh right posterior intercostal veins
- Hemiazygos vein
- Accessory Hemiazygos vein
- Esophageal veins
- Mediastinal veins
- Pericardial veins
- Right bronchial veins
Tributaries of hemiazygos vein

- Lower four to five posterior intercostal veins
- Esophageal veins
- Mediastinal veins

Accessory hemiazygos:
- Fourth to eighth post. intercostal veins
- Left bronchial veins
Thoracic duct

- Principal channel through which lymph from most of the body returns to venous system 38-45cm, varicose, valvular
- Extends from vertebra L_{II} to the root of the neck
- Begins as a confluence of lymph trunks in the abdomen, forming a saccular dilatation called Cisterna chyli
- Empties into junction of the left subclavian and left internal jugular veins after joining the left jugular trunk and left subclavian trunk.
Thoracic duct receives the contents from:
• Confluence of lymph trunks in the abdomen
• Descending thoracic lymph trunks draining the lower 6 or 7 intercostal spaces
• Upper intercostal lymph trunks from upper left 5-6 intercostal spaces
• Ducts from posterior mediastinal nodes
• Ducts from posterior diaphragmatic nodes
Sympathetic Trunks

• Continuation of the cervical sympathetic chain
• Two parallel chains with 11 or 12 ganglia
• Ganglia are connected to adjacent thoracic spinal nerves by white and grey rami communicantes
• Trunks lie anterior to the neck of ribs, then on the lateral aspect of vertebral bodies; leave the thorax posterior to diaphragm under the medial arcuate ligament/ crura of the diaphragm.
• Branches:
  - **Post**ganglionic sympathetic fibres from upper five ganglia
    - to supply abdominal and pelvic viscera (small, contain visceral afferent fibres)
  - Preganglionic sympathetic fibres from lower seven ganglia
    - To supply abdominal and pelvic viscera (large, contain visceral afferent fibres)
• Splanchnic nerves
Splanchnic nerves

• Greater splanchnic nerve: arises from 5\textsuperscript{th} - 9\textsuperscript{th} thoracic ganglia; crosses crus of the diaphragm; ends in the coeliac ganglion.

• Lesser splanchnic nerve: arises from 9\textsuperscript{th} & 10\textsuperscript{th} or 11\textsuperscript{th} thoracic ganglia; crosses crus of the diaphragm; ends in the aorticorenal ganglion.

• Least splanchnic nerve: arises from 12\textsuperscript{th} thoracic ganglia; crosses crus of the diaphragm; ends in the renal plexus.