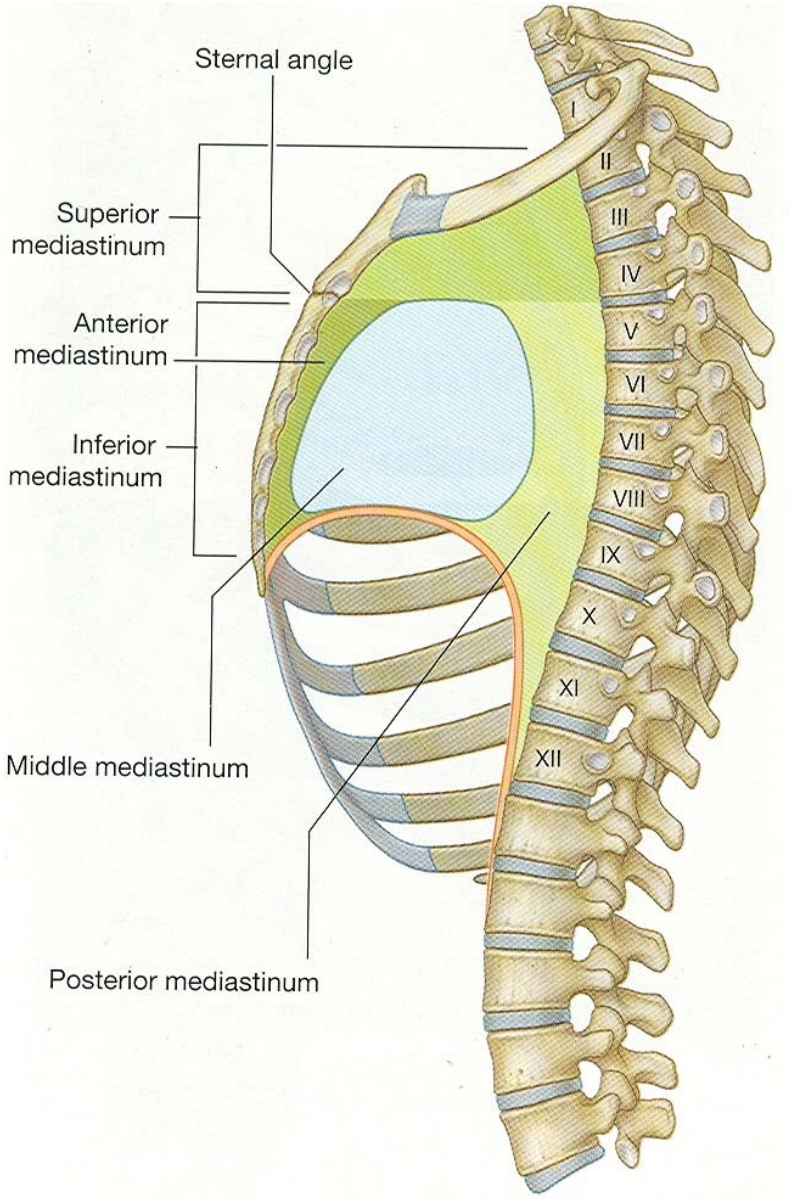
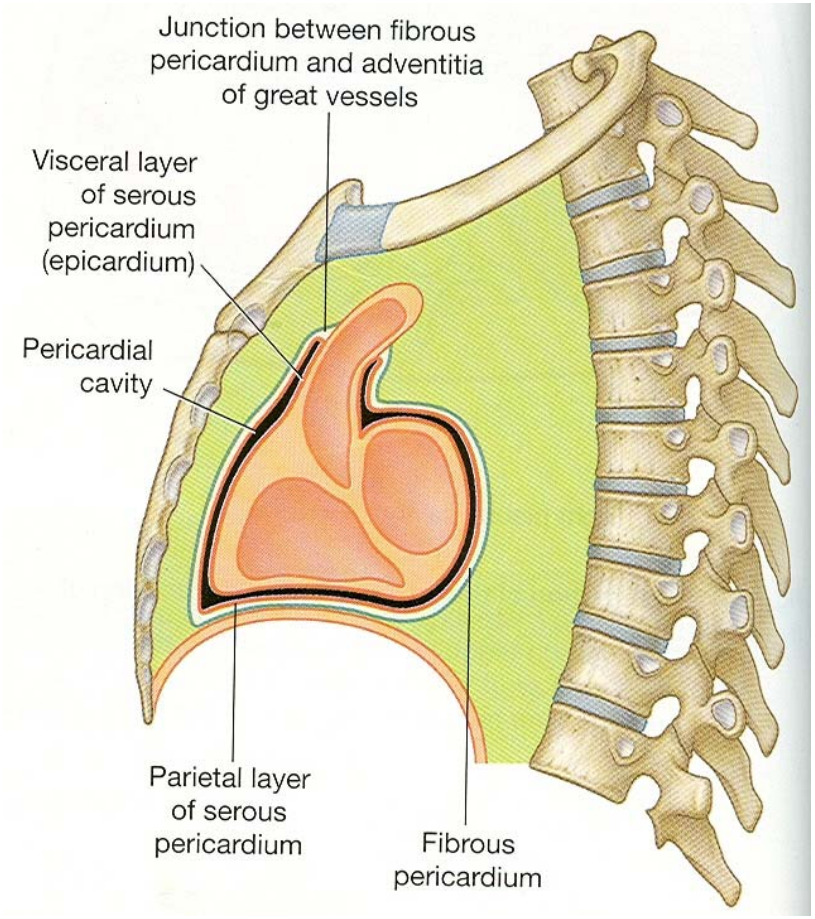
Inferior mediastinum

- 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

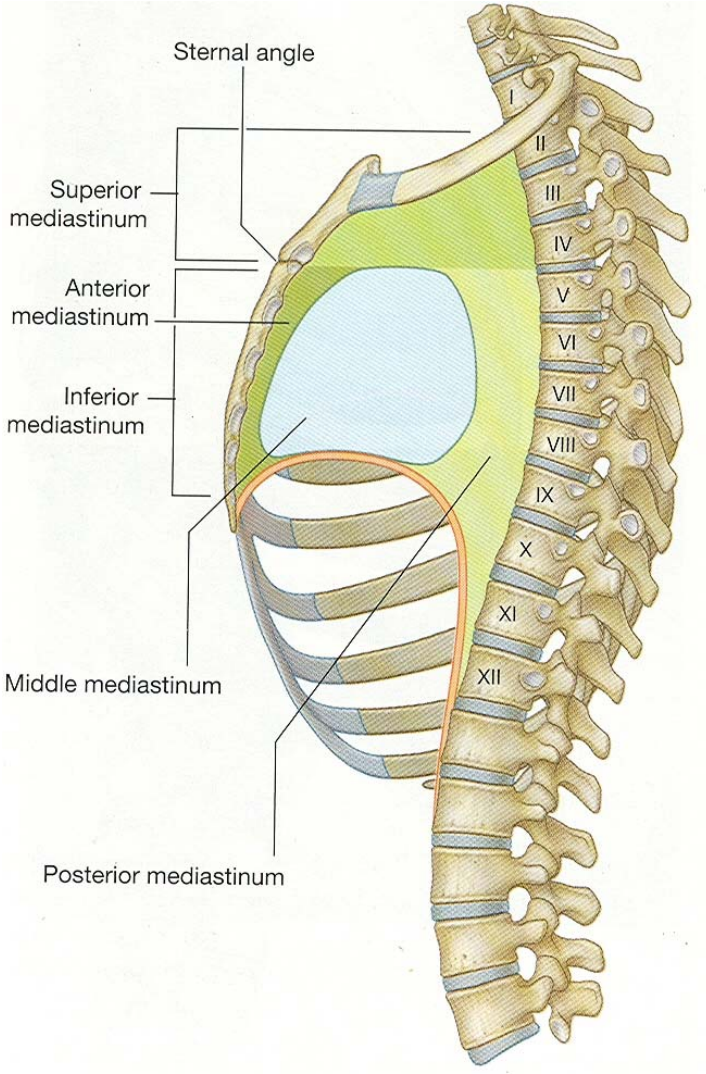


Anterior mediastinum

- Posterior to body of sternum & anterior to pericardial sac

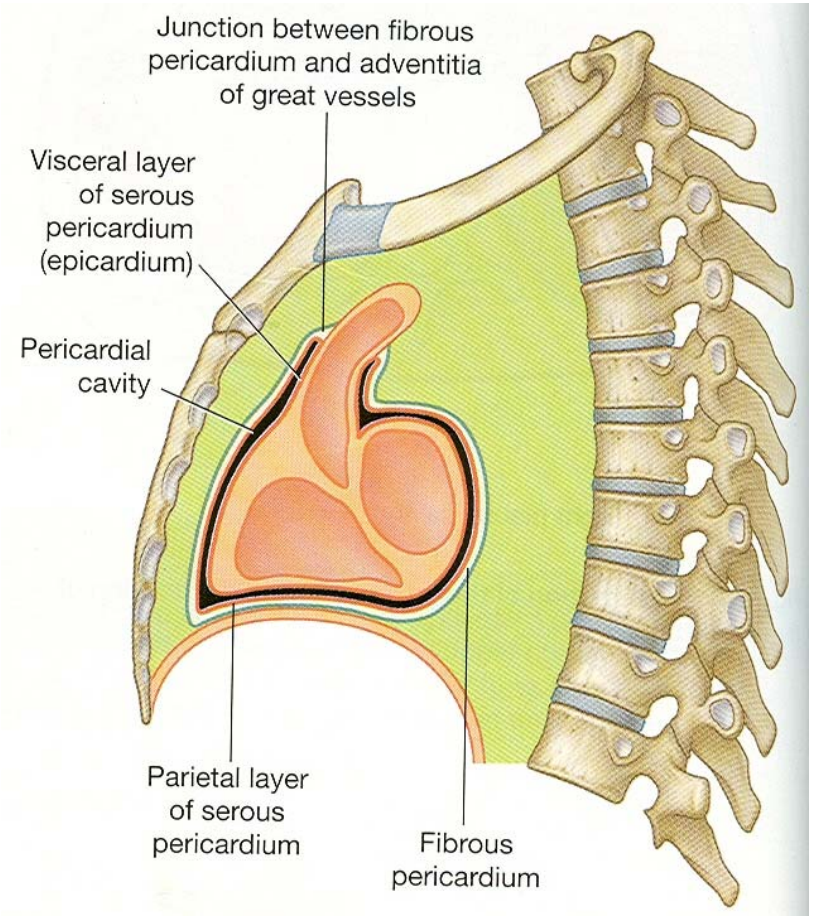
Contents-

- 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

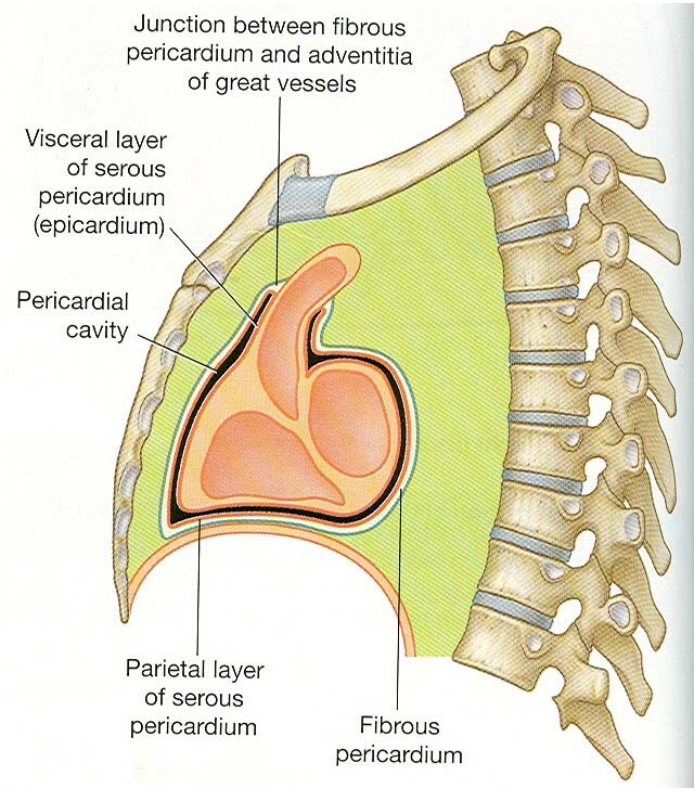


Posterior mediastinum

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

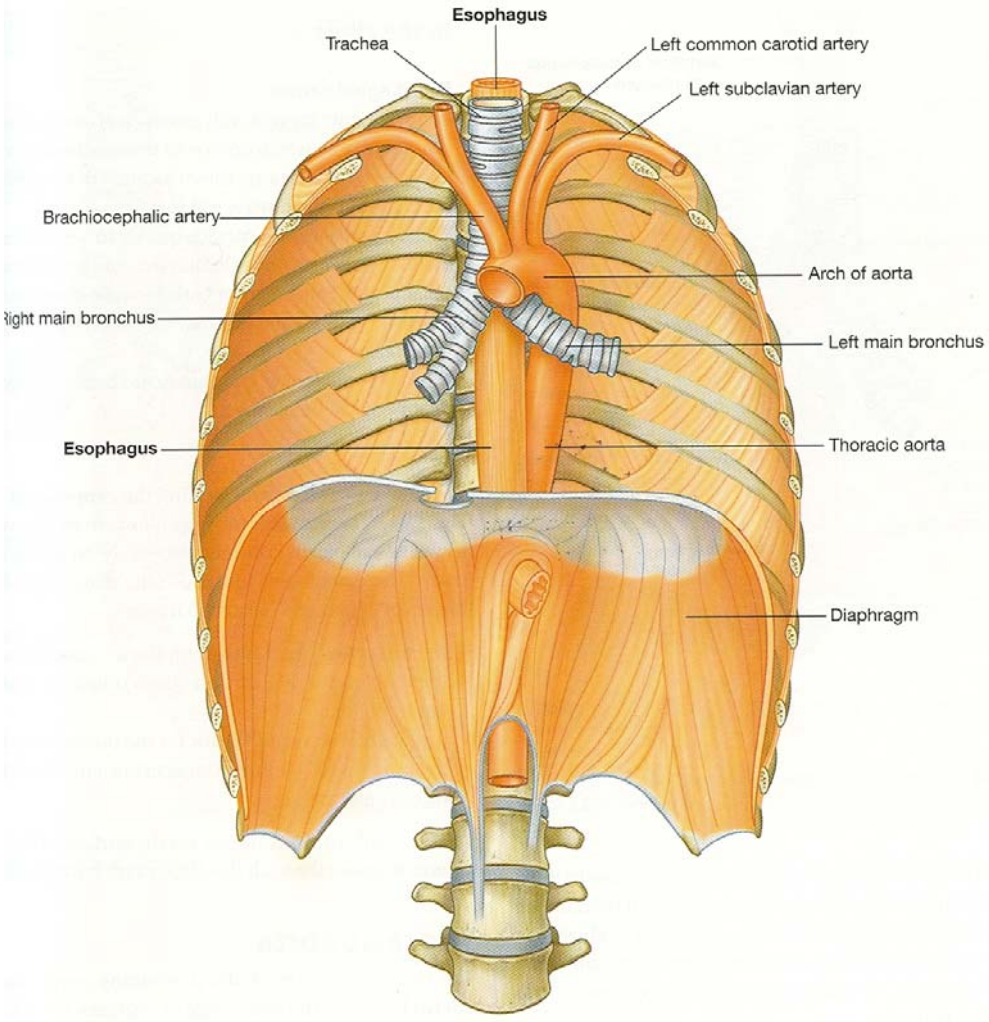
Contents-

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



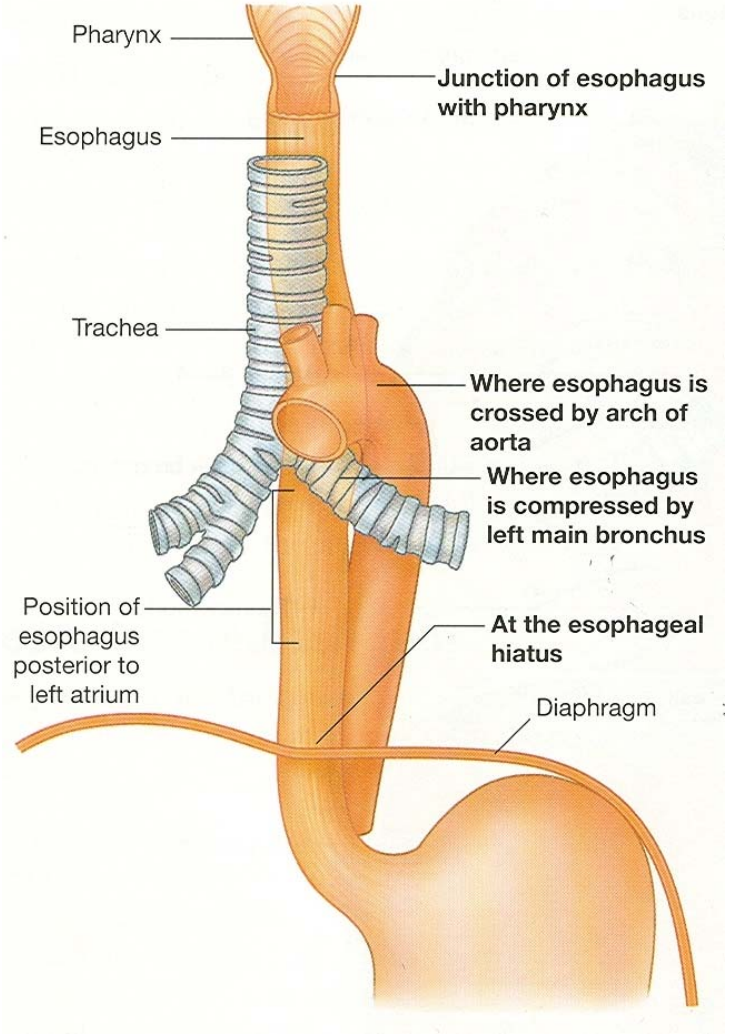
Esophagus

- Muscular tube passing between the pharynx in the neck (C_{IV}) to the cardiac end of the stomach (T_{XI})
- 25cm,6thC-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)



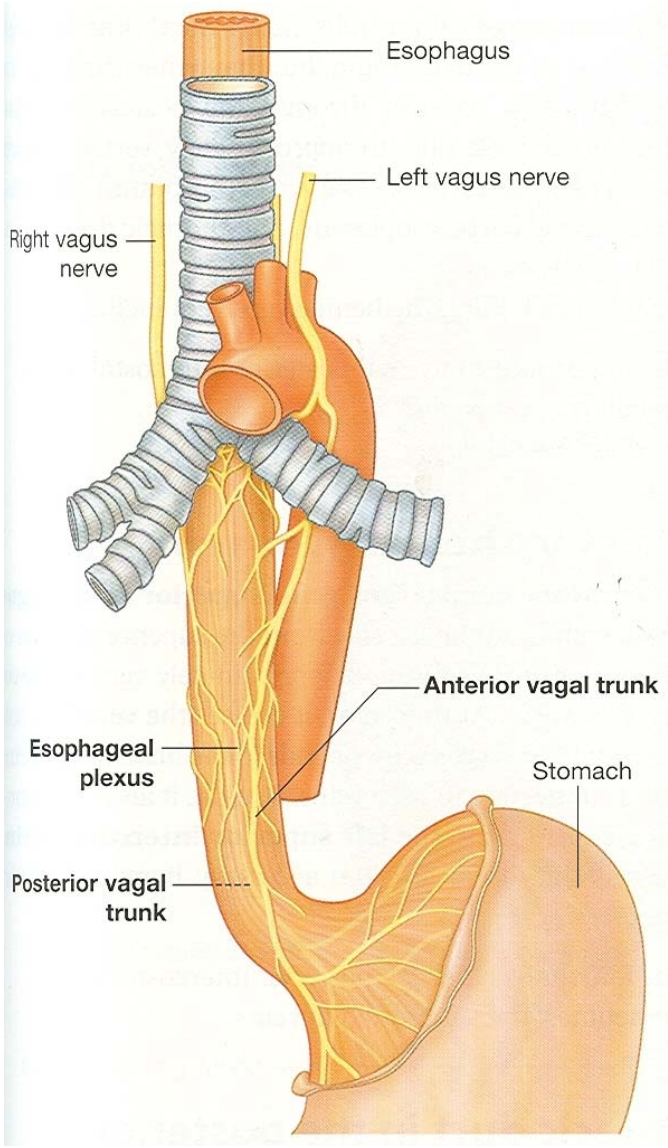
Constrictions of the esophagus

- 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

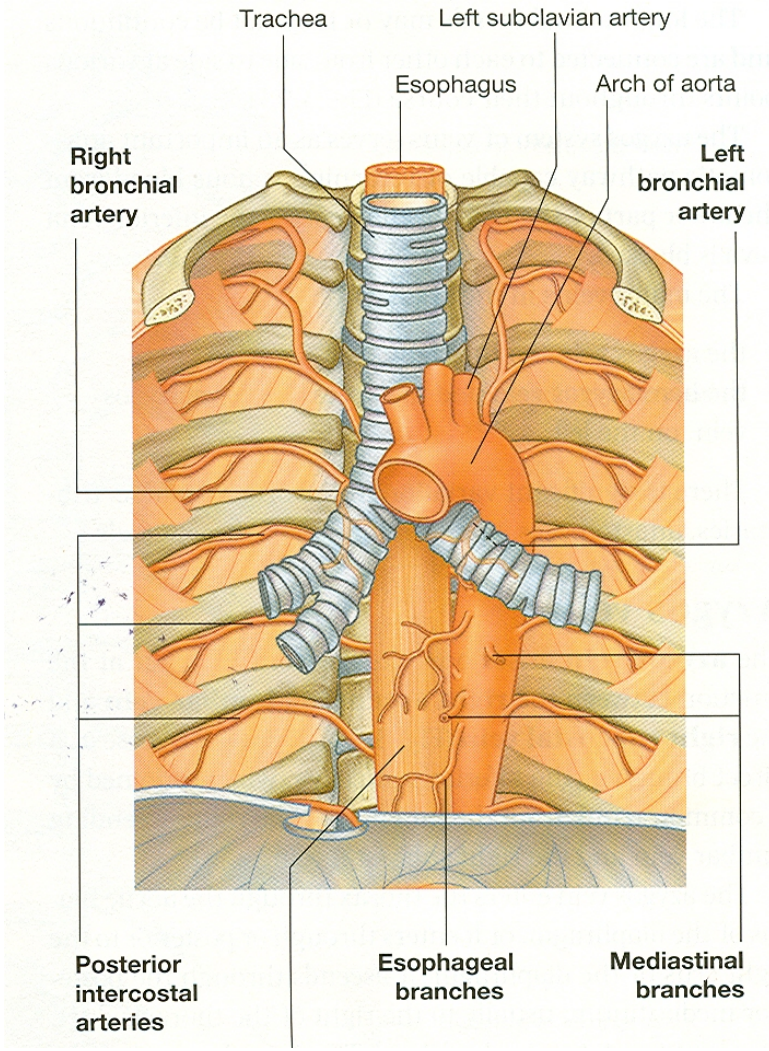


Applied anatomy

- Oesophageal Varices
- Oesophageoscopy
- Barium studies
- Tracheo-Oesophageal fistula
- Oesophageal atresia
- Gastro-Oesophageal reflux
- Hiatus hernia

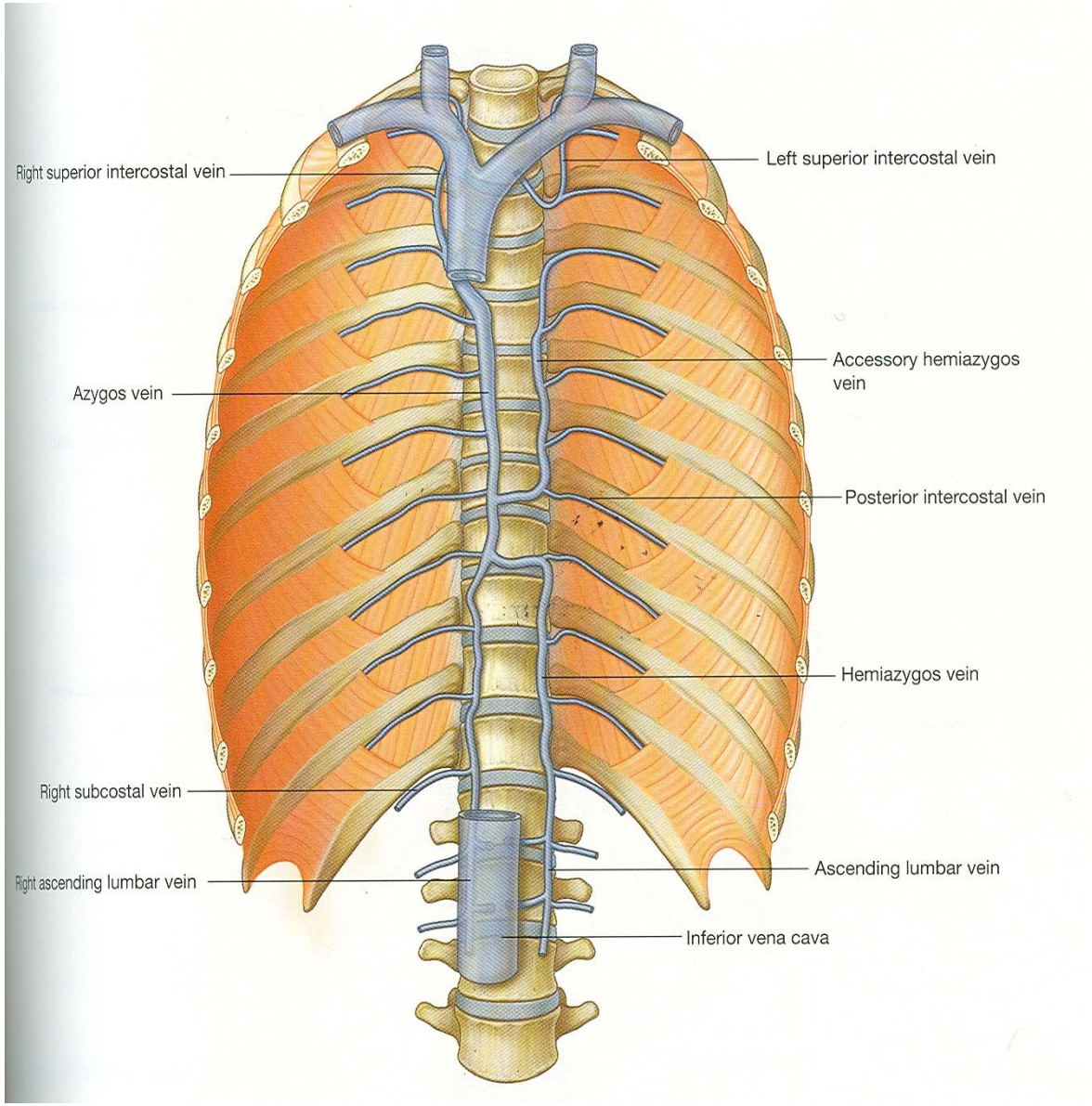
Thoracic aorta & its branches

- 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

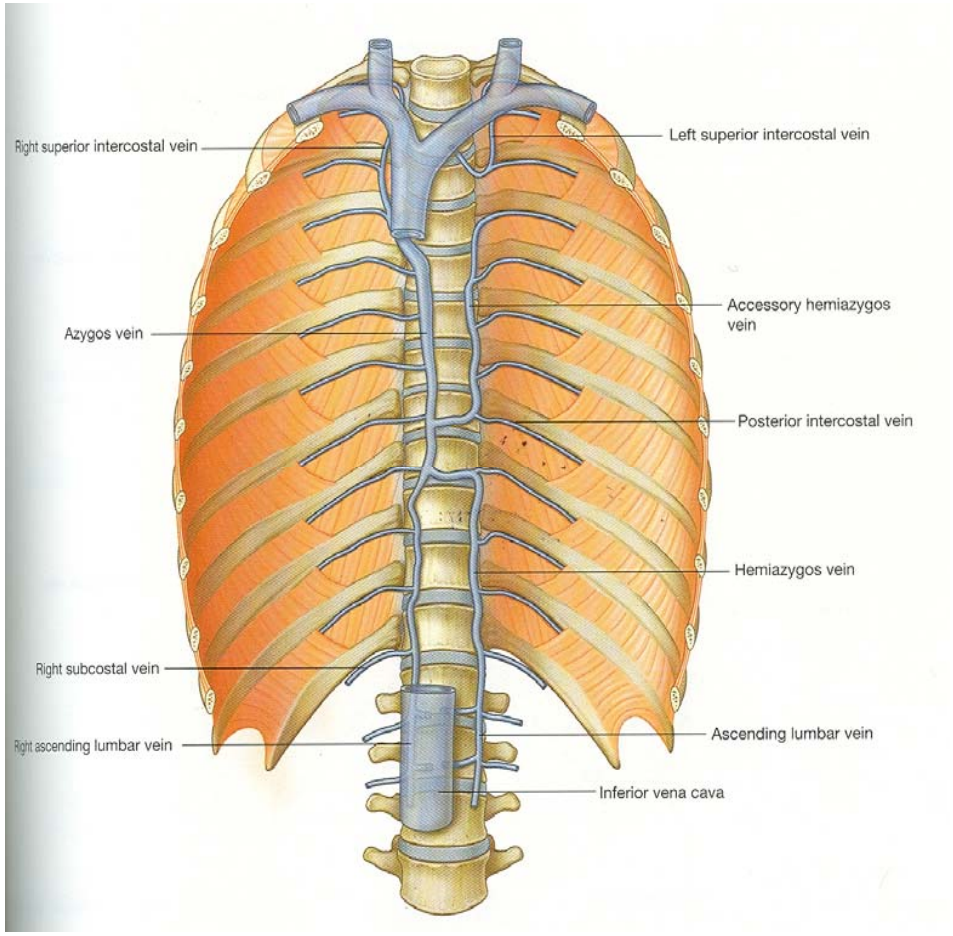
- Right superior intercostal veins-2^{nd},3^{rd},4^{th} intercostal veins
- Fifth to eleventh right posterior intercostal veins
- Hemiazygos vein
- Accessory Hemiazygos vein
- Esophageal veins
- Mediastinal veins
- Pericardial veins
- Right bronchial veins

Tributaries of hemiazygos vein

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

Accessory hemiazygos:

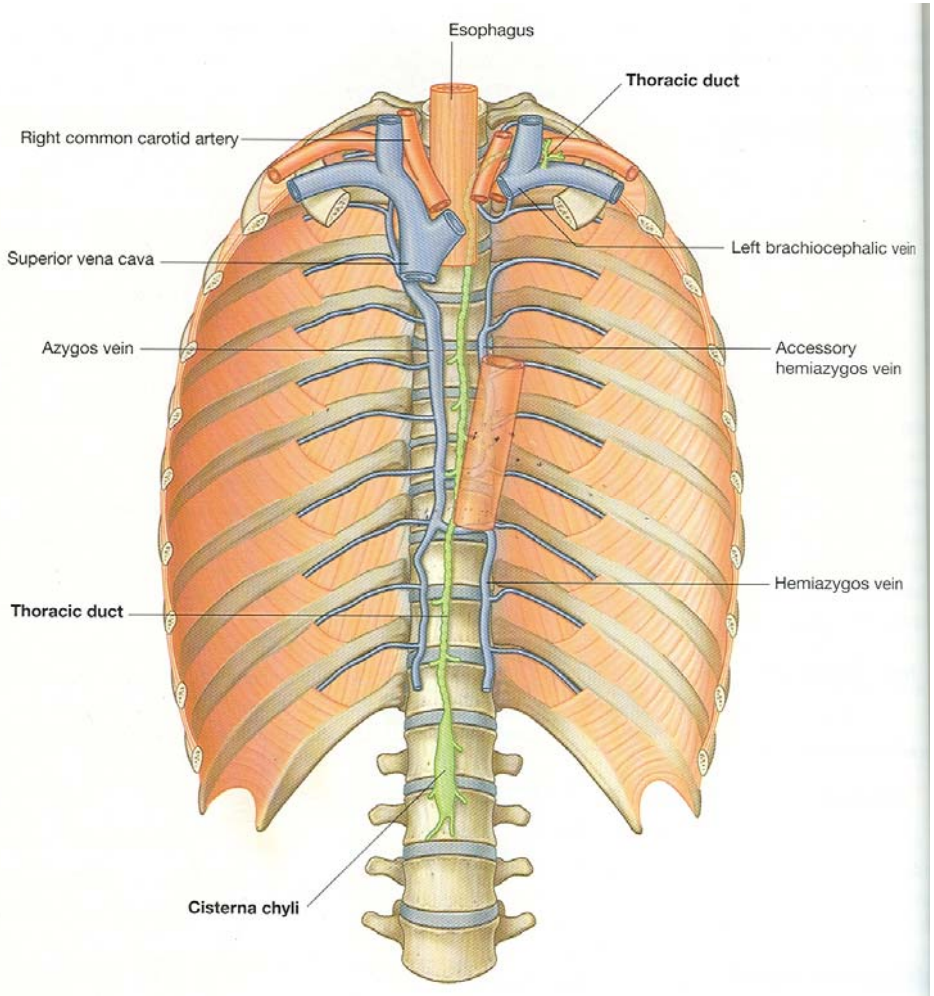
- Fourth to eighth post. intercostal veins
- Left bronchial veins



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 in to 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:

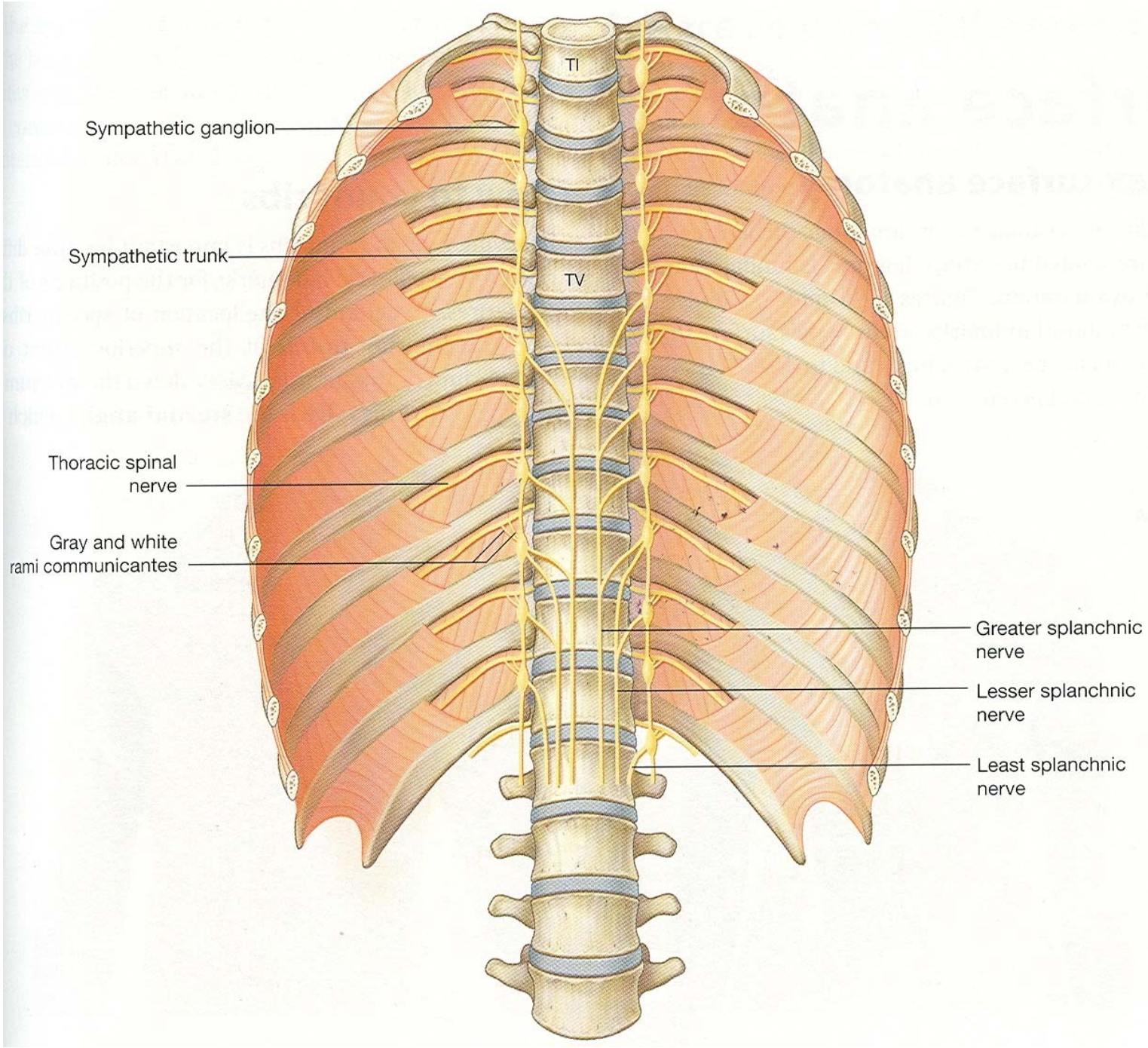
Postganglionic sympathetic fibres from upper five ganglia

- to supply abdominal and pelvic viscera (small, contain visceral afferent fibres)

Preganglionic sympathetic fibres from lower seven ganglia

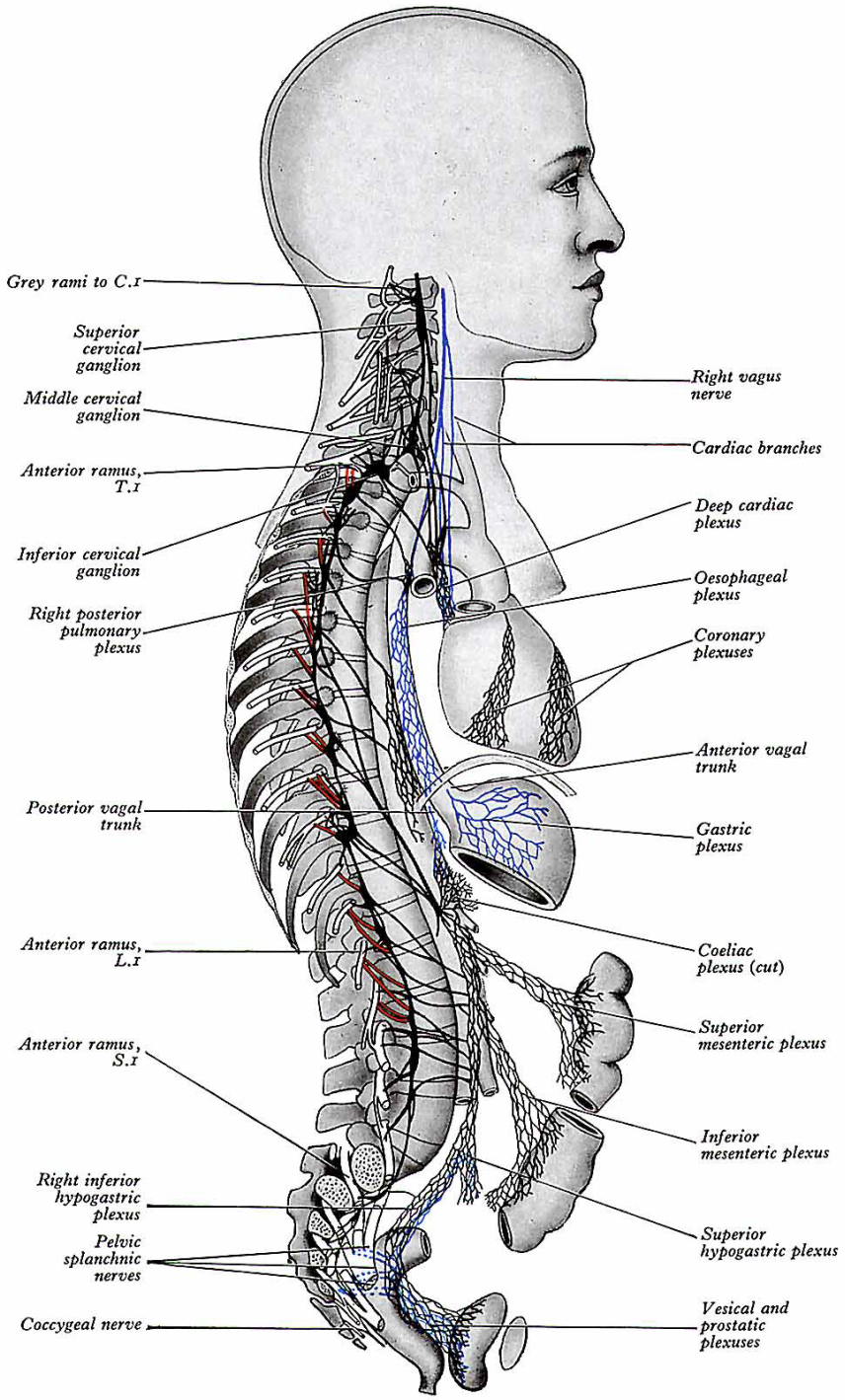
- To supply abdominal and pelvic viscera (large, contain visceral afferent fibres)

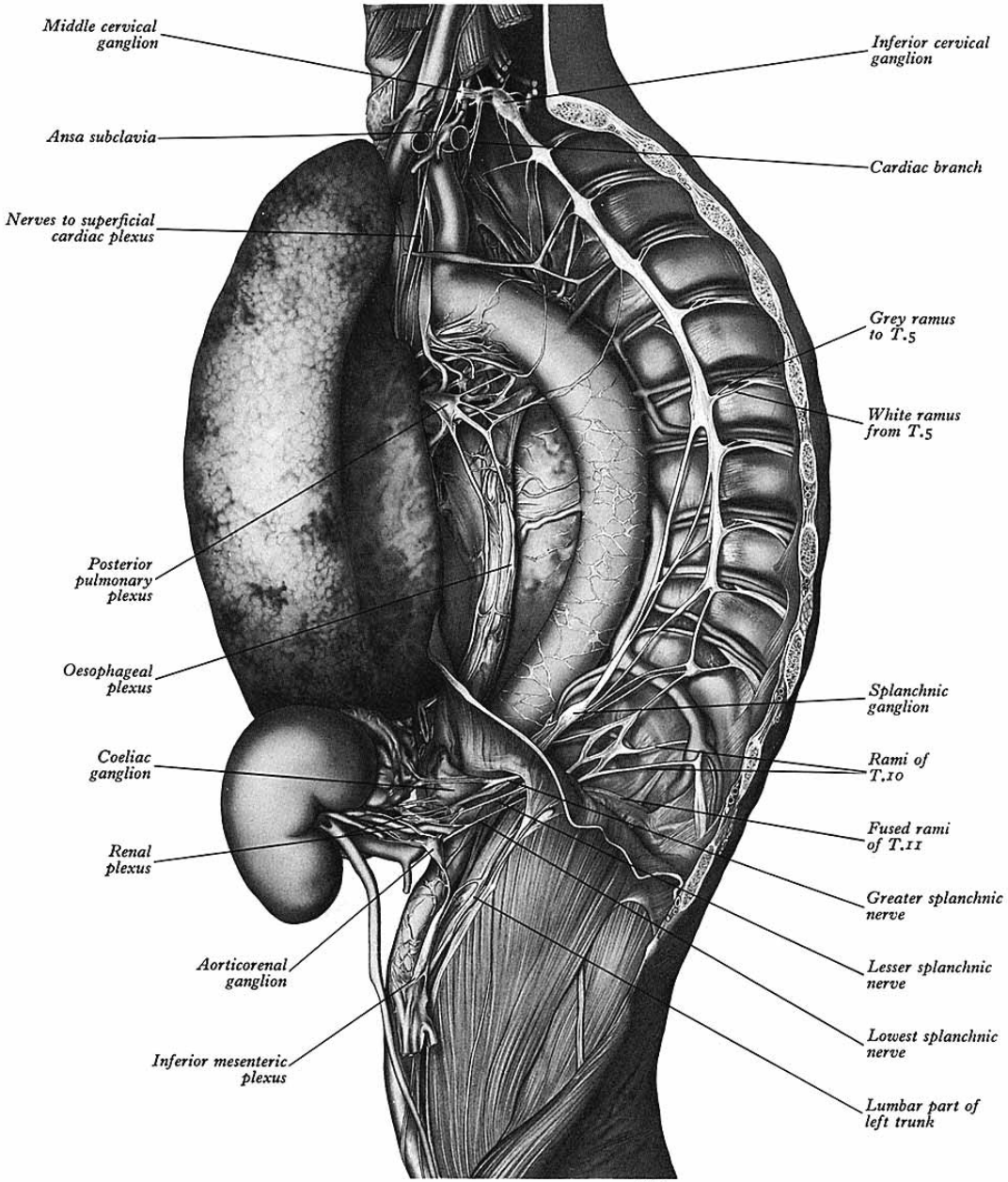
Splanchnic nerves


TI
TV
Sympathetic ganglion
Sympathetic trunk
Thoracic spinal nerve
Gray and white rami communicantes
Greater splanchnic nerve
Lesser splanchnic nerve
Least splanchnic nerve

Splanchnic nerves

- Greater splanchnic nerve: arises from 5^{th} -9^{th} thoracic ganglia; crosses crus of the diaphragm; ends in the coeliac ganglion.
- Lesser splanchnic nerve: arises from 9^{th} &10^{th} or 11^{th} thoracic ganglia; crosses crus of the diaphragm; ends in the aorticorenal ganglion.
- Least splanchnic nerve: arises from 12th thoracic ganglia; crosses crus of the diaphragm; ends in the renal plexus.


Grey rami to C.1
Superior cervical ganglion
Middle cervical ganglion
Anterior ramus, T.1
Inferior cervical ganglion
Right posterior pulmonary plexus
Posterior vagal trunk
Anterior ramus, L.1
Anterior ramus, S.1
Right inferior hypogastric plexus
Pelvic splanchnic nerves
Coccygeal nerve
Right vagus nerve
Cardiac branches
Deep cardiac plexus
Oesophageal plexus
Coronary plexuses
Anterior vagal trunk
Gastric plexus
Coeliac plexus (cut)
Superior mesenteric plexus
Inferior mesenteric plexus
Superior hypogastric plexus
Vesical and prostatic plexuses


Middle cervical ganglion
Inferior cervical ganglion
Ansa subclavia
Cardiac branch
Nerves to superficial cardiac plexus
Grey ramus to T.5
White ramus from T.5
Posterior pulmonary plexus
Oesophageal plexus
Splanchnic ganglion
Coeliac ganglion
Rami of T.10
Fused rami of T.11
Renal plexus
Greater splanchnic nerve
Lesser splanchnic nerve
Aorticorenal ganglion
Lowest splanchnic nerve
Inferior mesenteric plexus
Lumbar part of left trunk
S.W.W.