

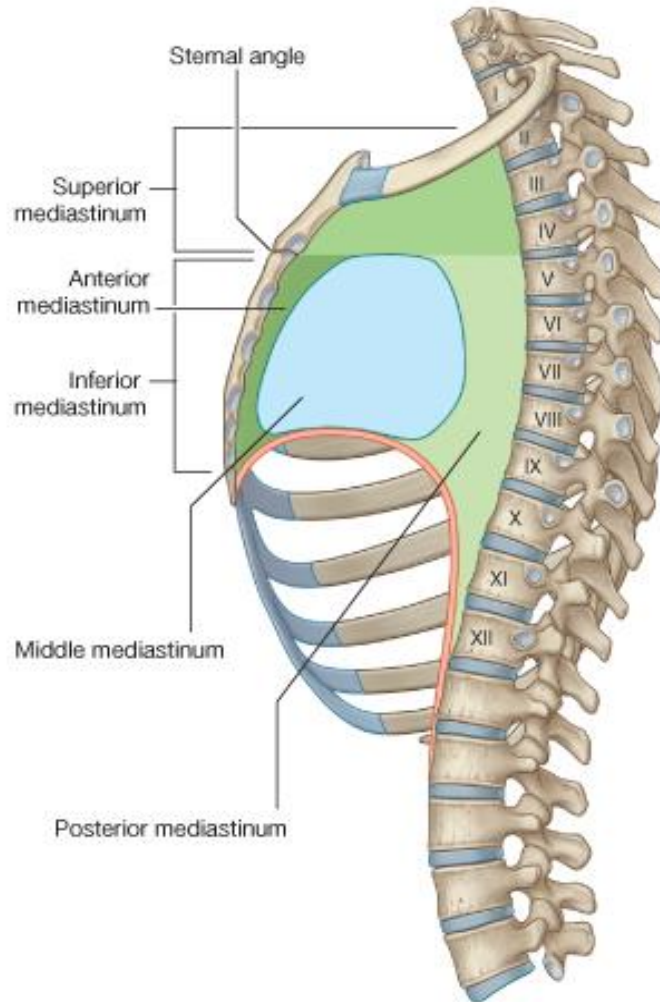
POSTERIOR MEDIASTINUM
ATIBA, P.M.

GROSS ANATOMY OF THORAX
ANA 202

Introduction

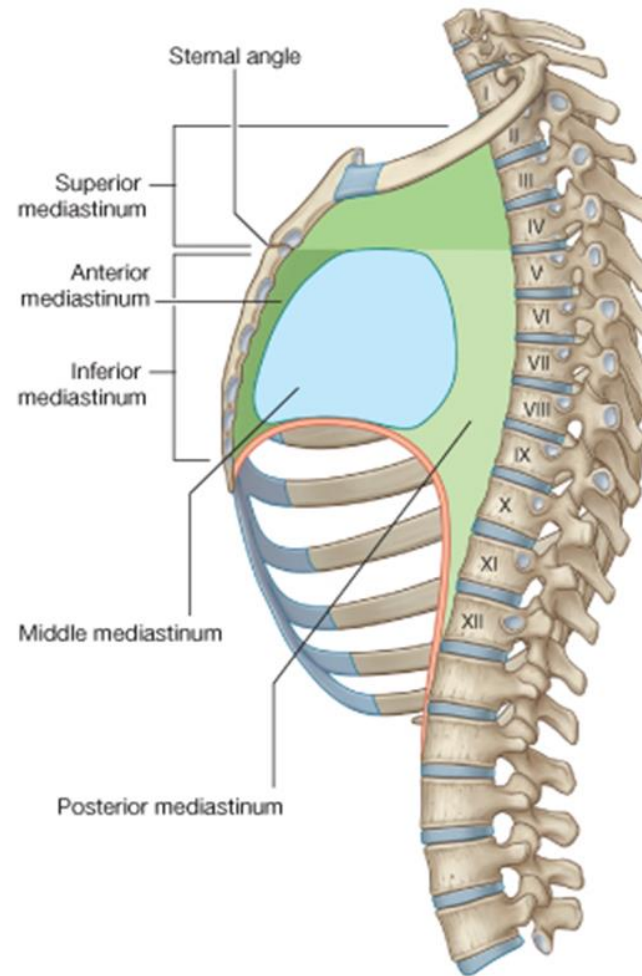
The **posterior mediastinum**, located;

- Posterior to the pericardial sac and diaphragm and
- Anterior to the bodies of the mid and lower thoracic vertebrae.



Boundaries

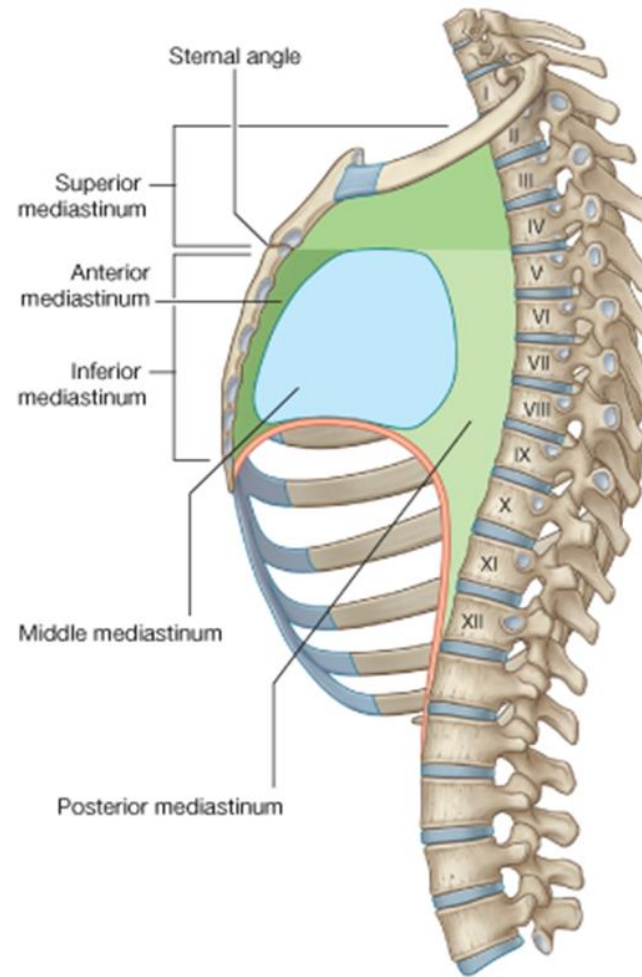
Superiorly: a transverse plane passing from the sternal angle to the intervertebral disc between vertebra TIV-V



Boundaries

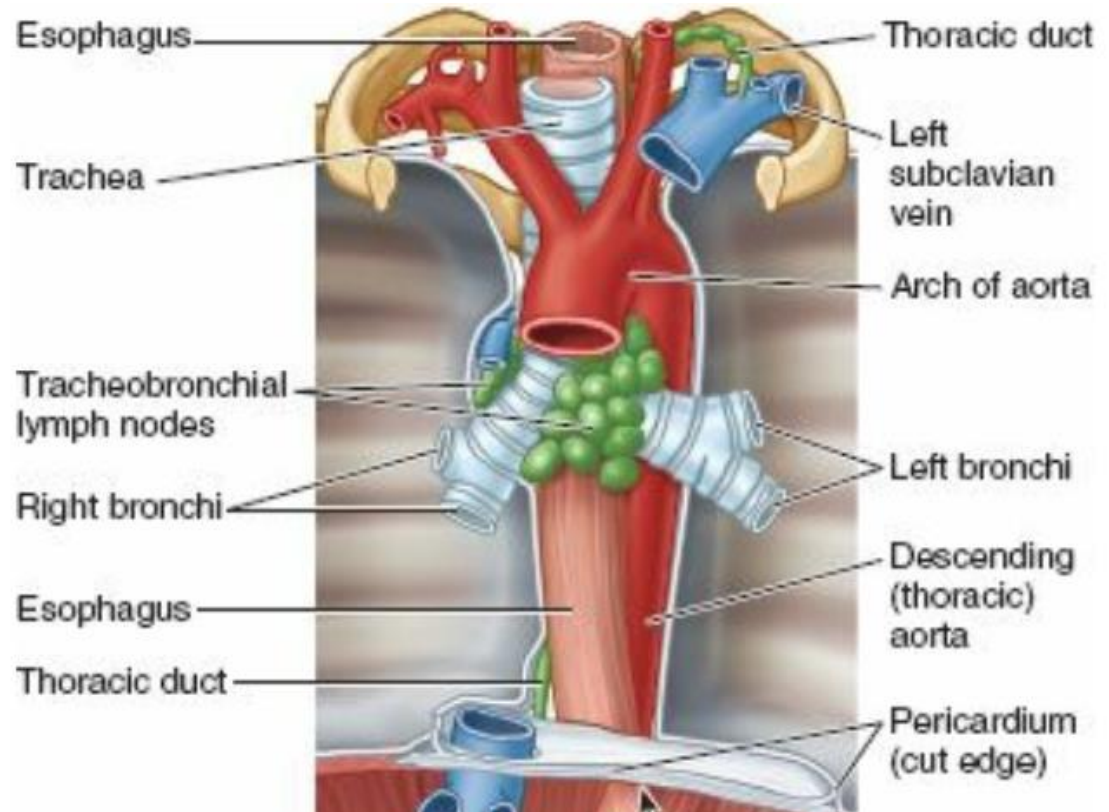
Inferiorly:
Diaphragm

Laterally: The
mediastinal part of
parietal pleura



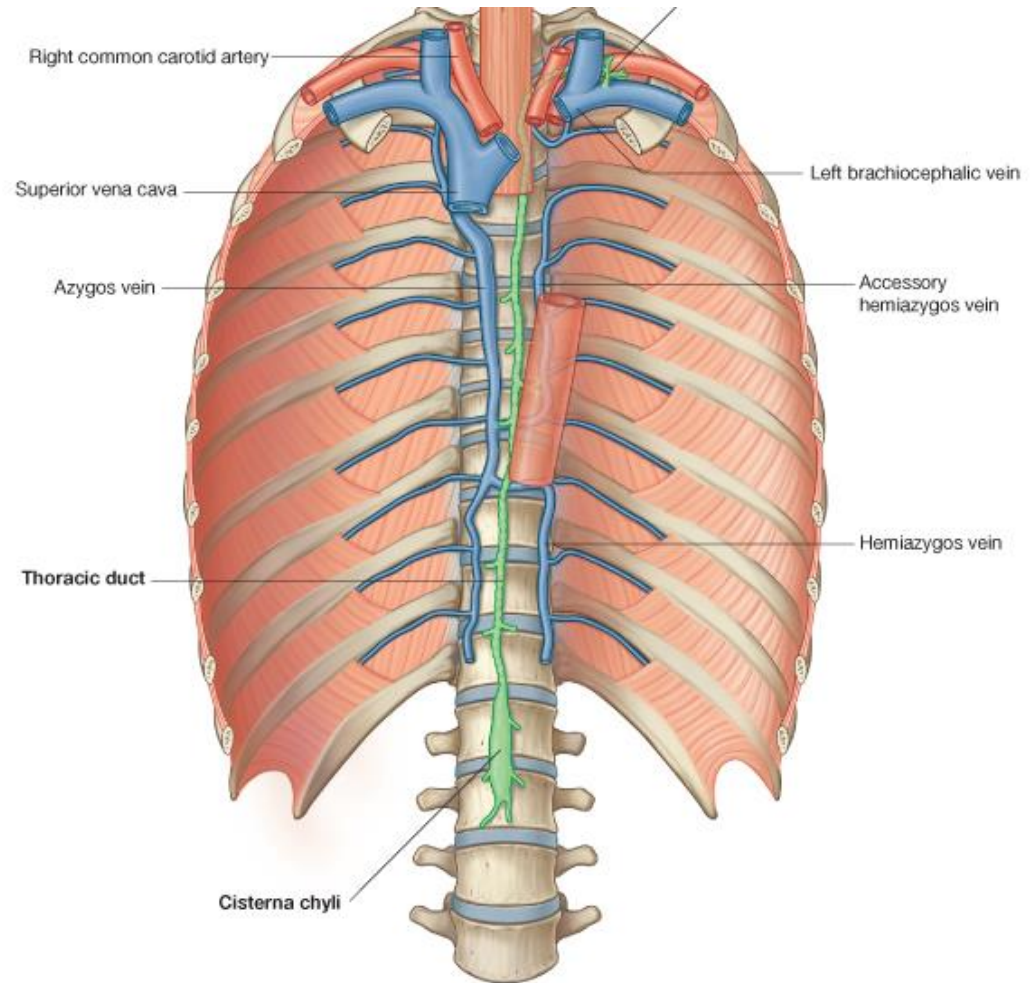
Contents

- esophagus and its associated nerve plexus,
- thoracic aorta and its branches,
- azygos system of veins,



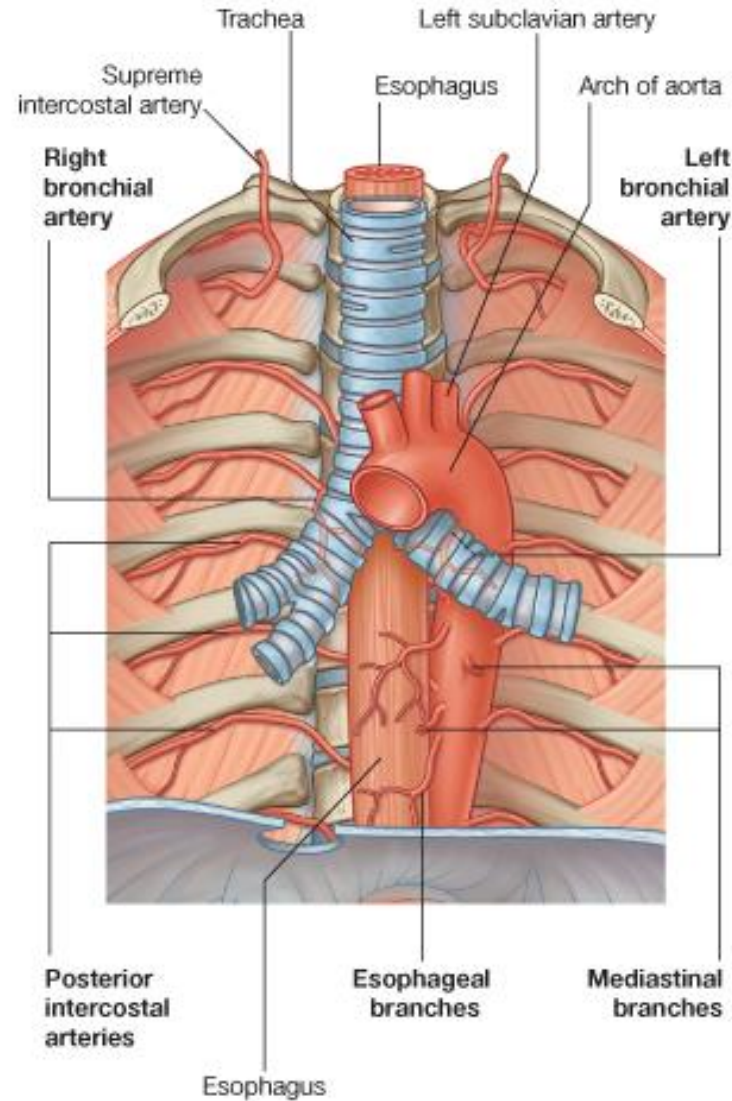
Contents

- thoracic duct and associated lymph nodes,
- sympathetic trunks, and
- thoracic splanchnic nerves



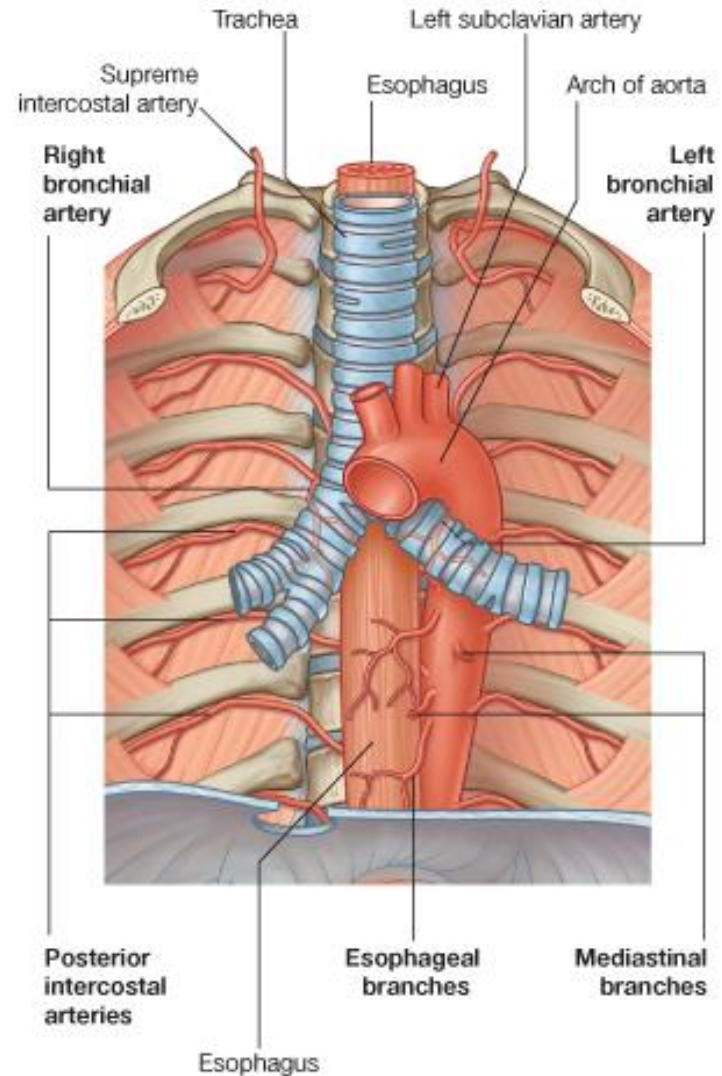
Thoracic Aorta

- It begins at the lower edge of vertebra TIV.
- It ends anterior to the lower edge of vertebrae TXII.



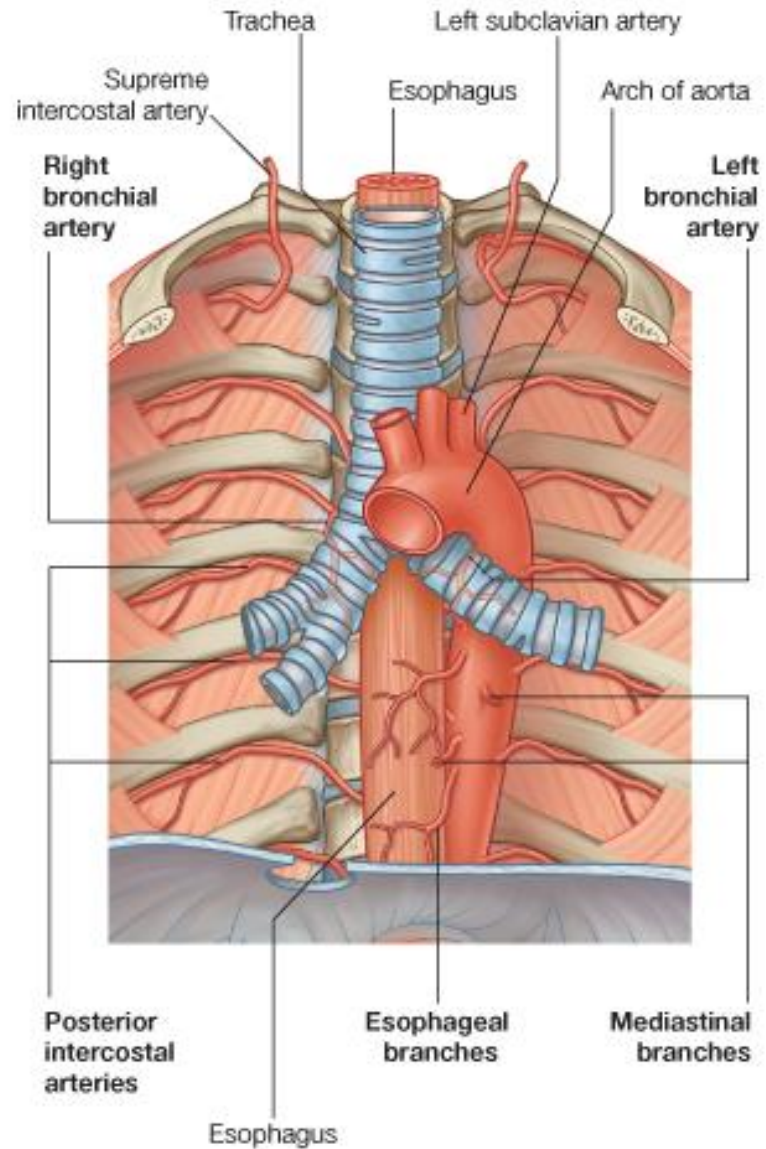
Thoracic Aorta

- It is situated to the left of the vertebral column superiorly, it approaches the midline inferiorly, lying directly anterior to the lower thoracic vertebral bodies



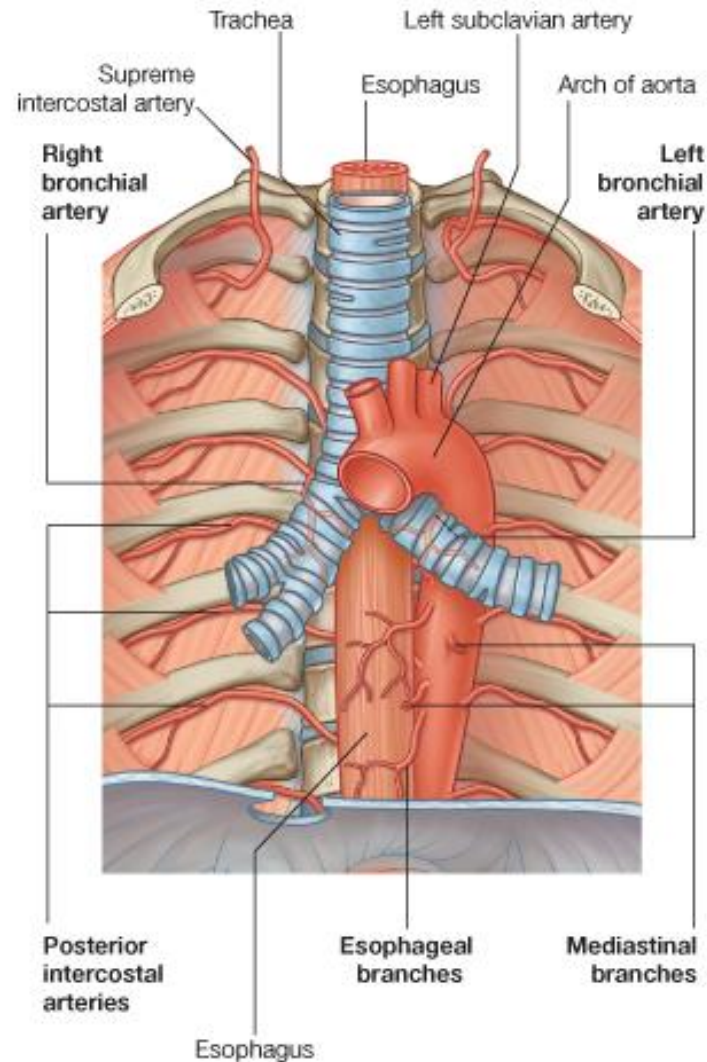
Branches of Thoracic Aorta

- Pericardial branches
- Bronchial branches
- Esophageal branches
- Mediastinal branches



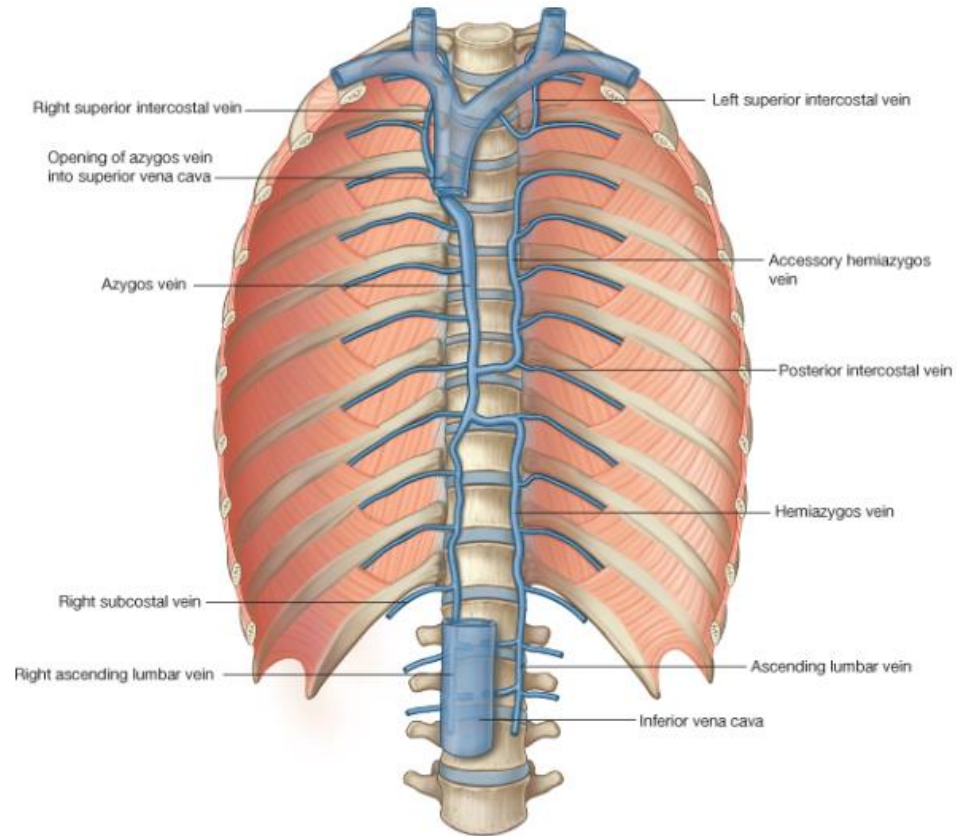
Branches of Thoracic Aorta

- Posterior intercostal arteries
- Superior phrenic arteries
- Subcostal artery



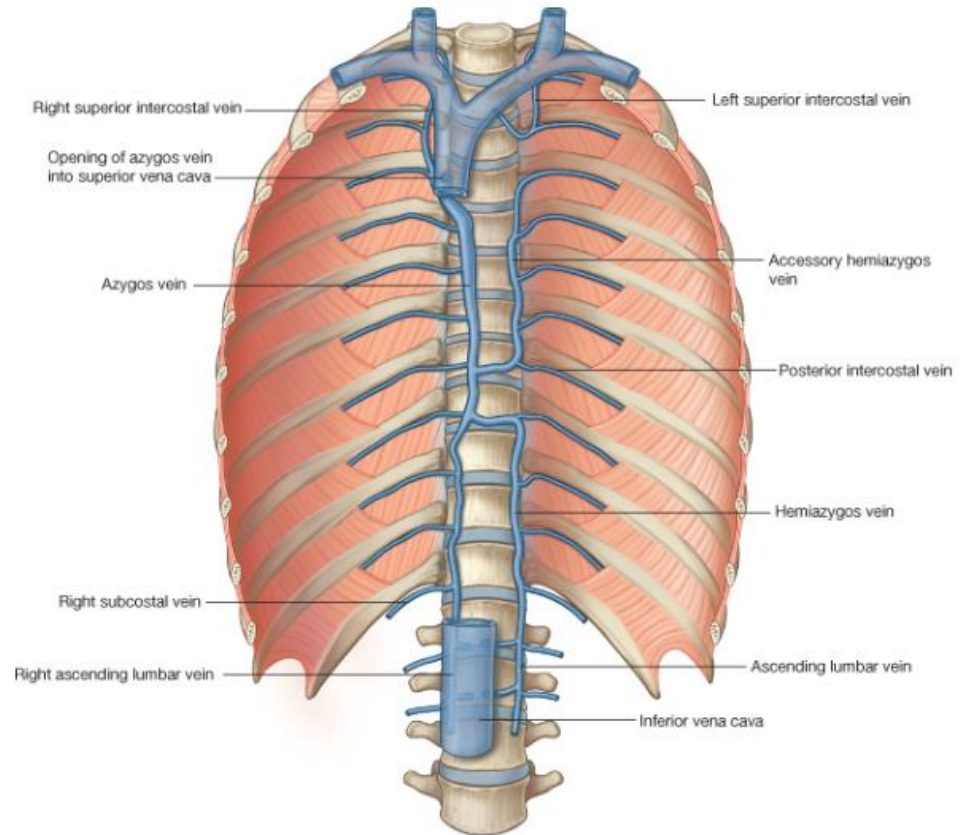
Azygos system of veins

- It consists of a series of longitudinal vessels on each side of the body that drain blood from the body wall and move it superiorly to empty into the superior vena cava.



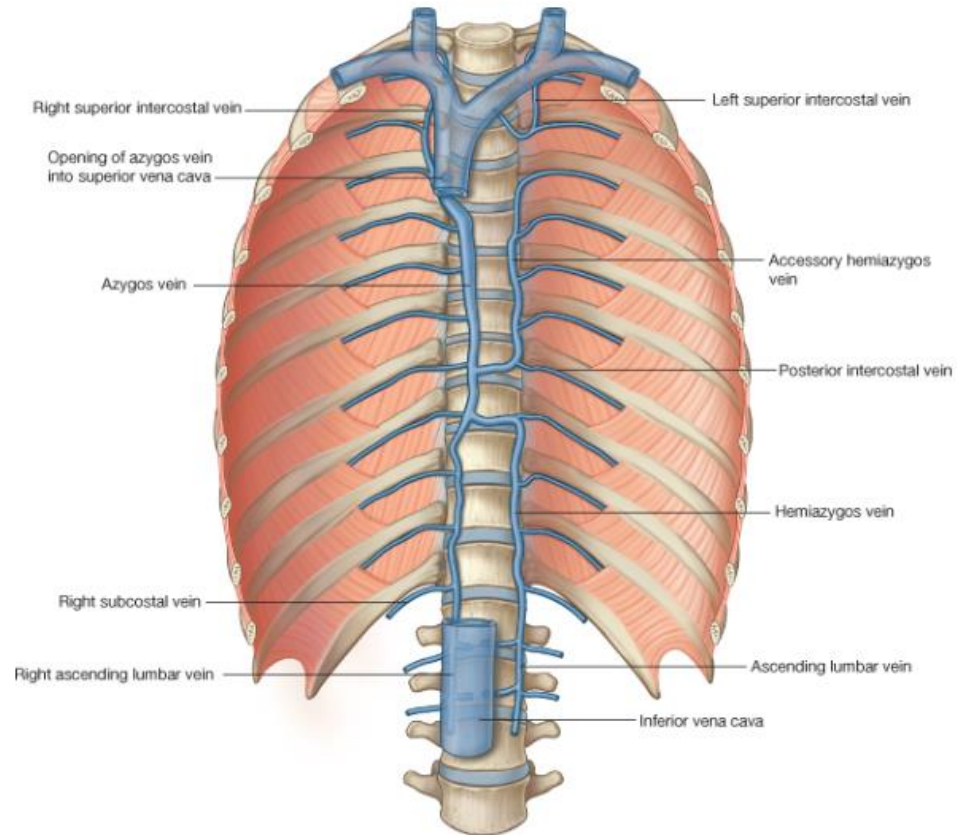
Azygos system of veins

- Blood from some of the thoracic viscera may also enter the system, and there are anastomotic connections with abdominal veins.



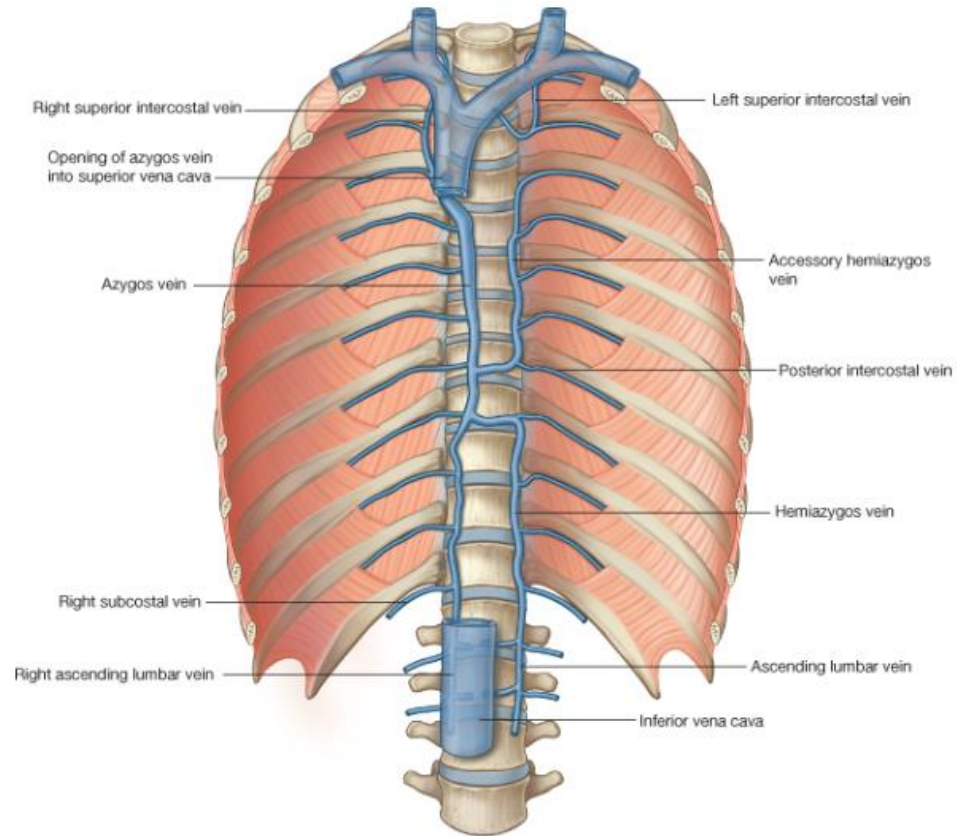
Azygos system of veins

- The major veins in the system are:
- the azygos vein, on the right; and
- the hemiazygos vein and the accessory hemiazygos vein, on the left.



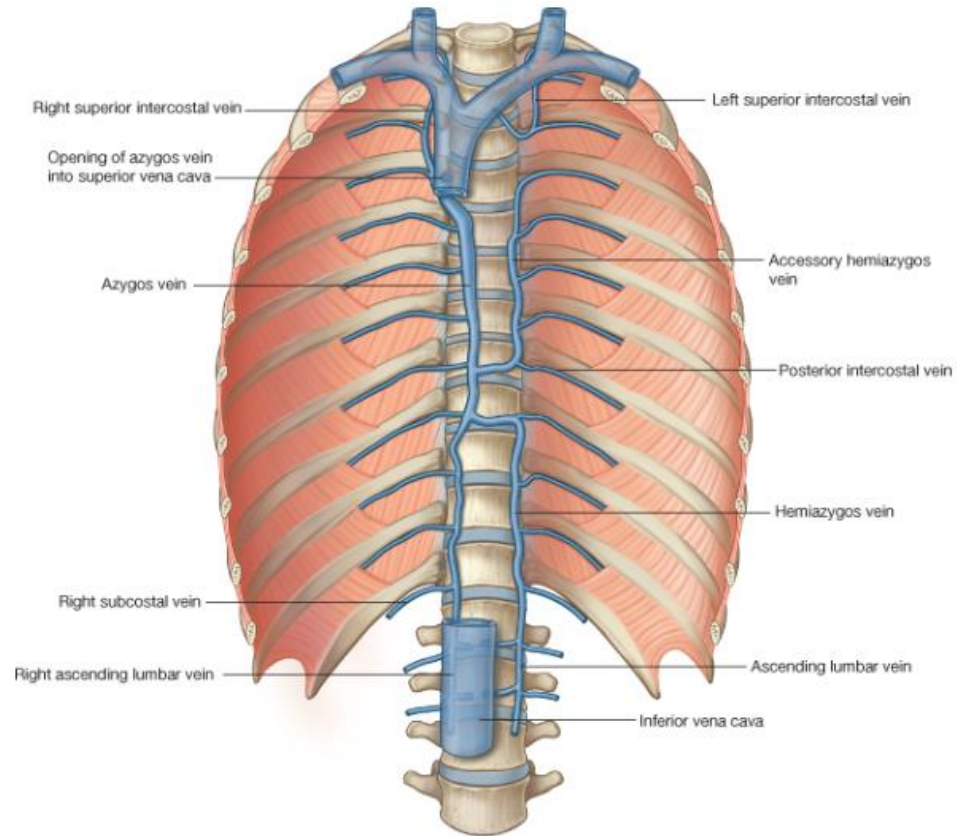
Azygos vein

- It arises opposite vertebra LI or LII at the junction between the **right ascending lumbar vein** and the **right subcostal vein**



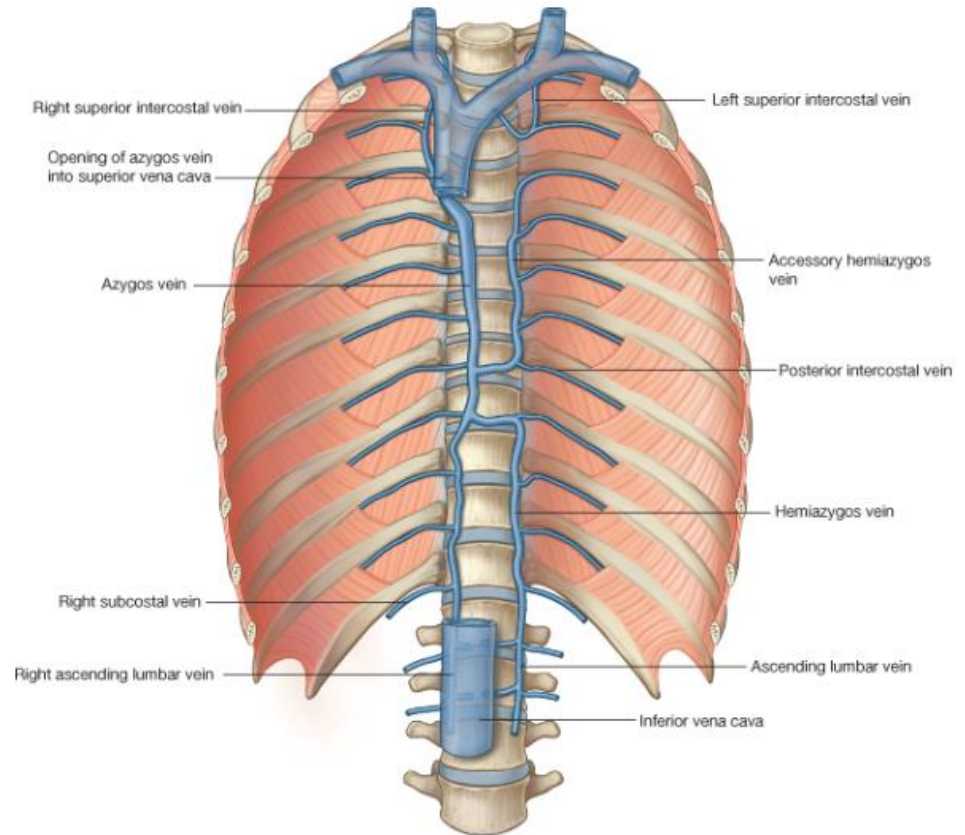
Azygos vein

- It may also arise as a direct branch of the inferior vena cava, which is joined by a common trunk from the junction of the right ascending lumbar vein and the right subcostal vein.



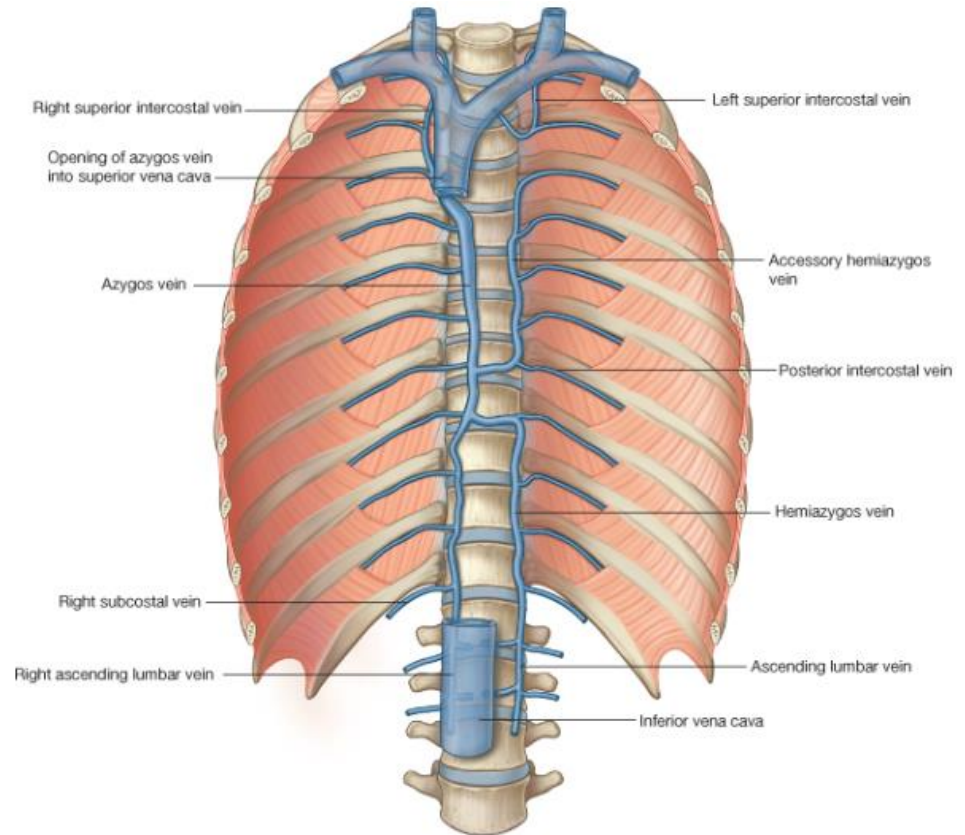
Azygos vein

- The azygos vein enters the thorax through the aortic hiatus of the diaphragm, or it enters through or posterior to the right crus of the diaphragm.



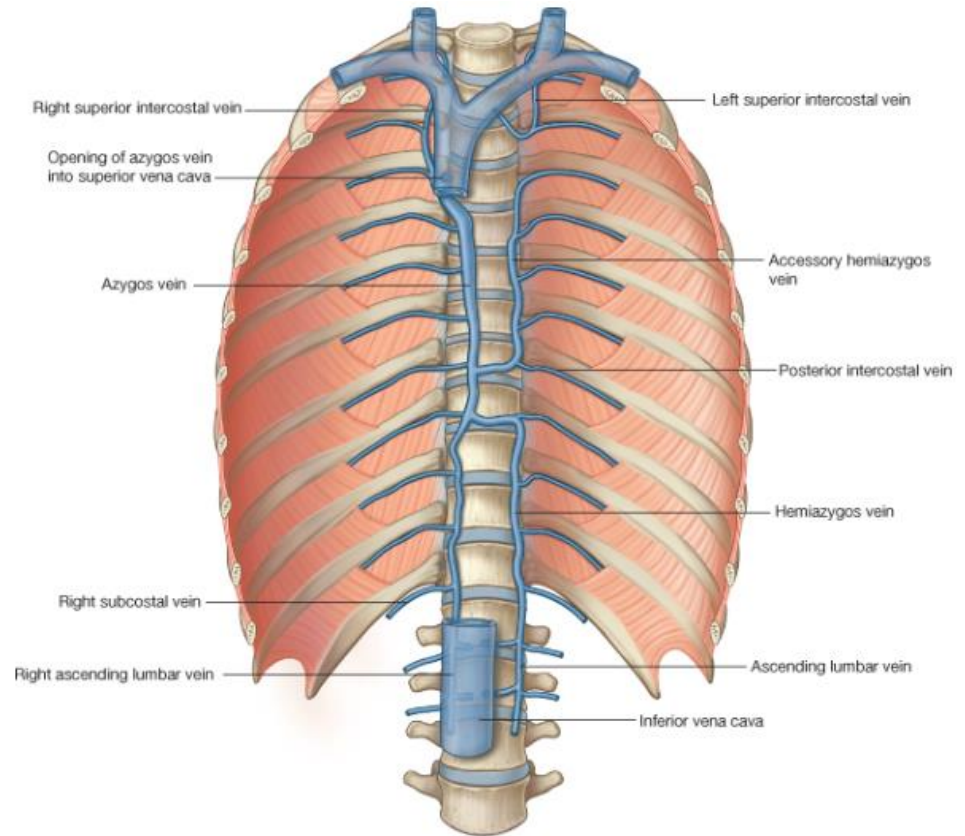
Azygos vein

- It ascends through the posterior mediastinum, usually to the right of the thoracic duct.



Azygos vein

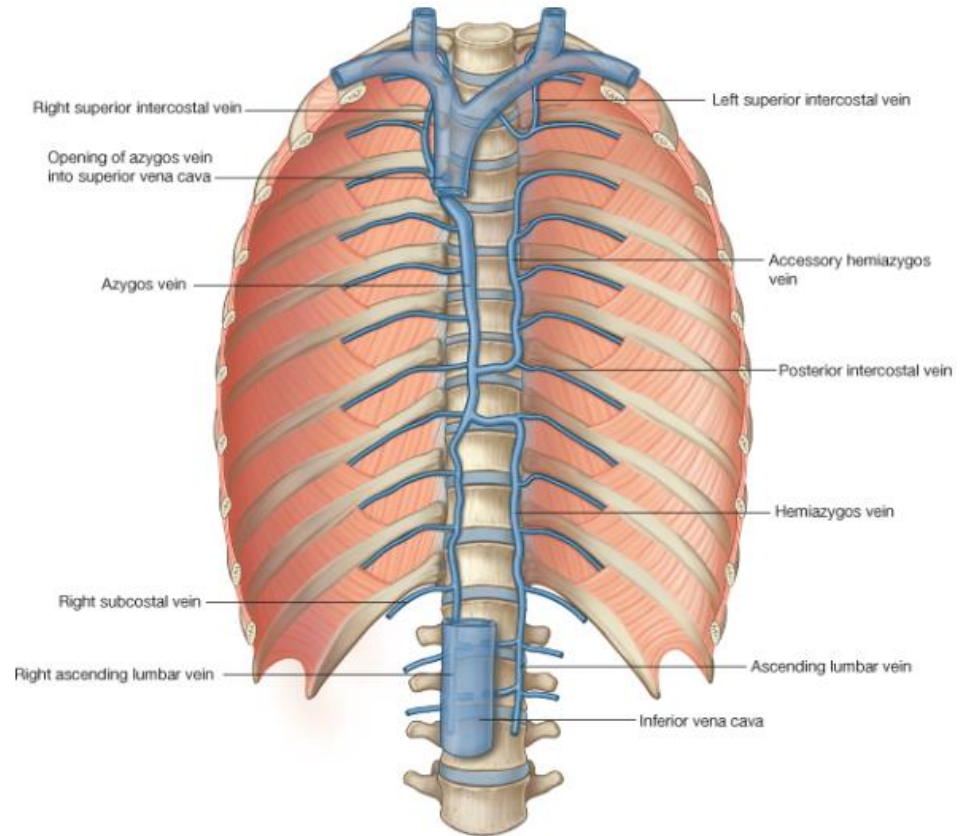
- At approximately vertebral level TIV, it arches anteriorly, over the root of the right lung, to join the superior vena cava before the superior vena cava enters the pericardial sac.



Tributaries of the azygos vein

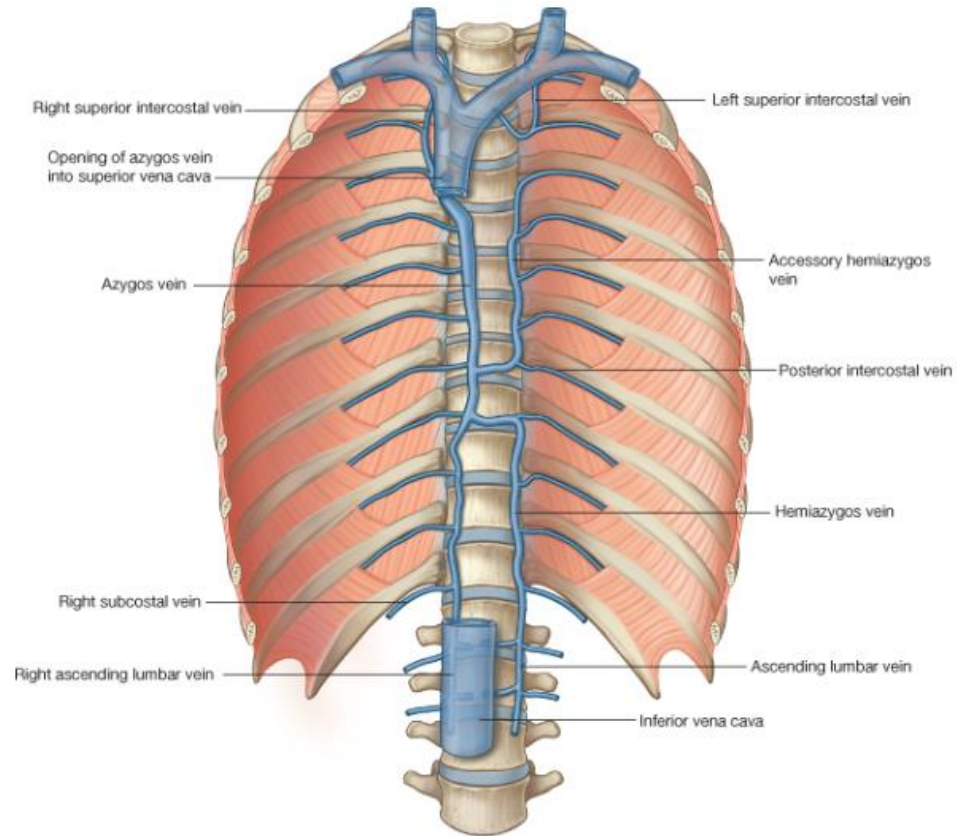
It includes:

- the **right superior intercostal vein** (a single vessel formed by the junction of the second, third, and fourth intercostal veins),
- fifth to eleventh right posterior intercostal veins,



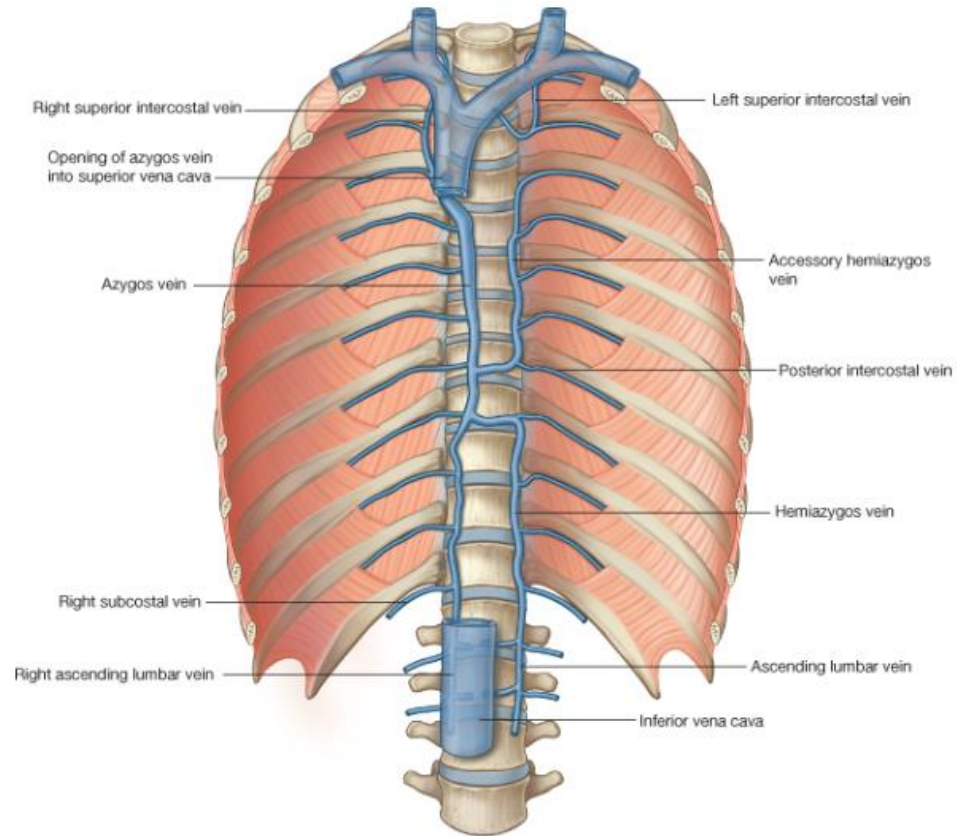
Tributaries of the azygos vein

- the hemiazygos vein,
- the accessory hemiazygos vein,
- esophageal veins,
- mediastinal veins,



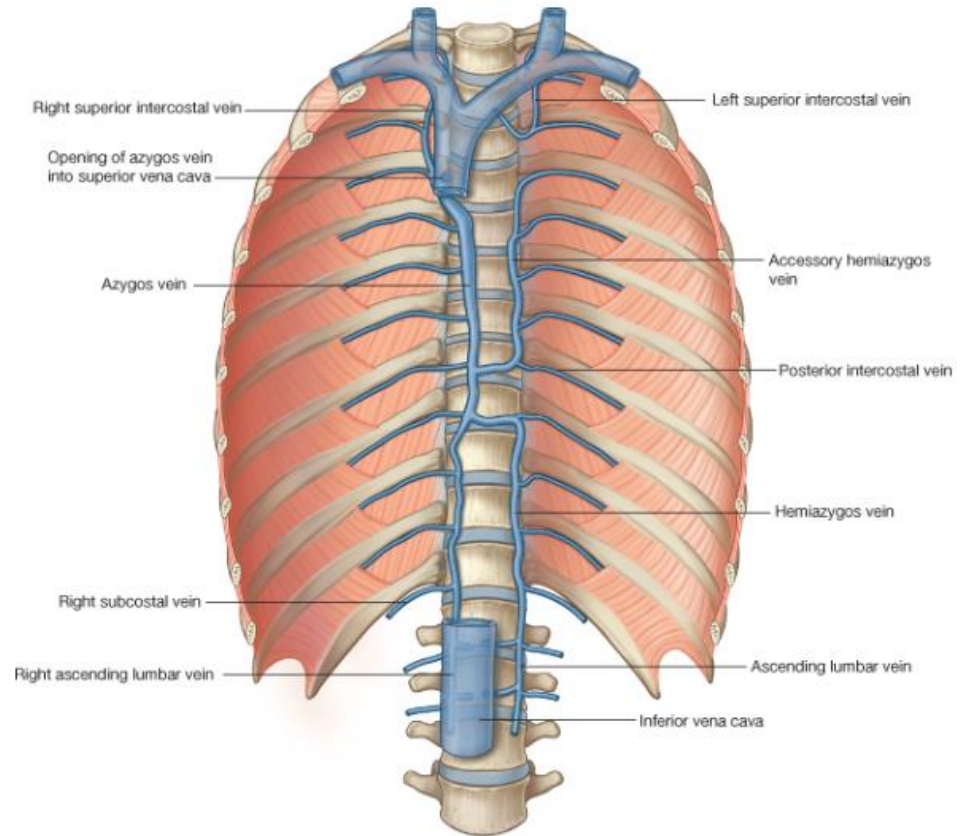
Tributaries of the azygos vein

- pericardial veins, and
- right bronchial veins.



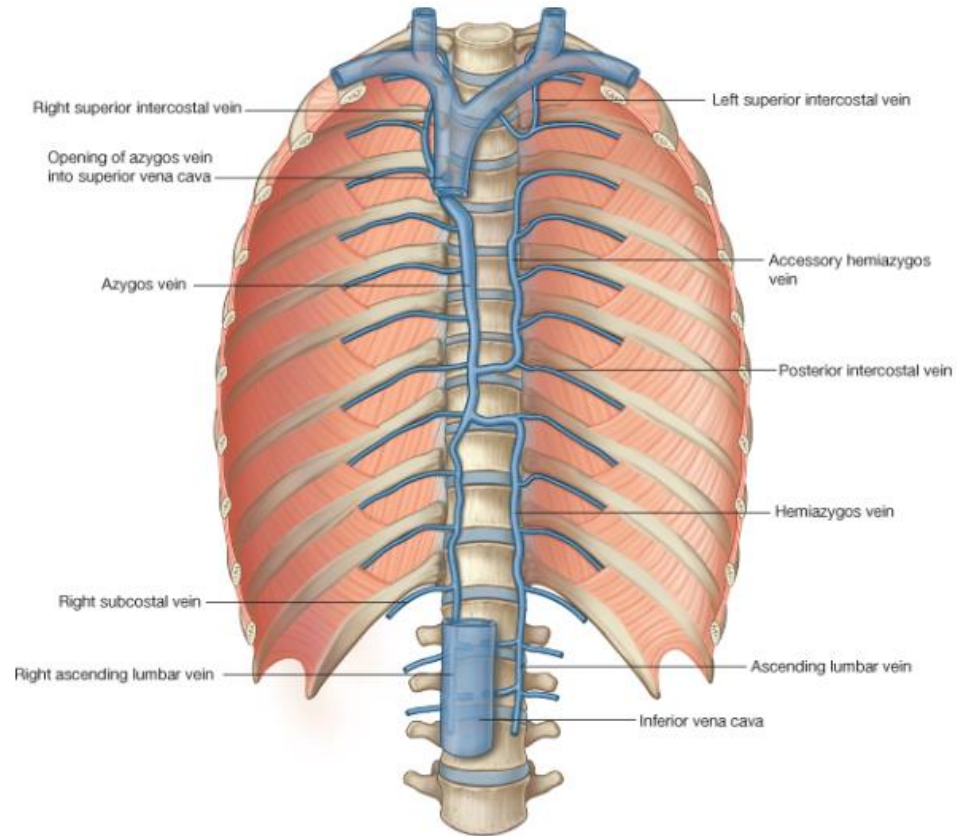
Accessory hemiazygos vein

- It descends on the left side from the superior portion of the posterior mediastinum to approximately vertebral level TVIII



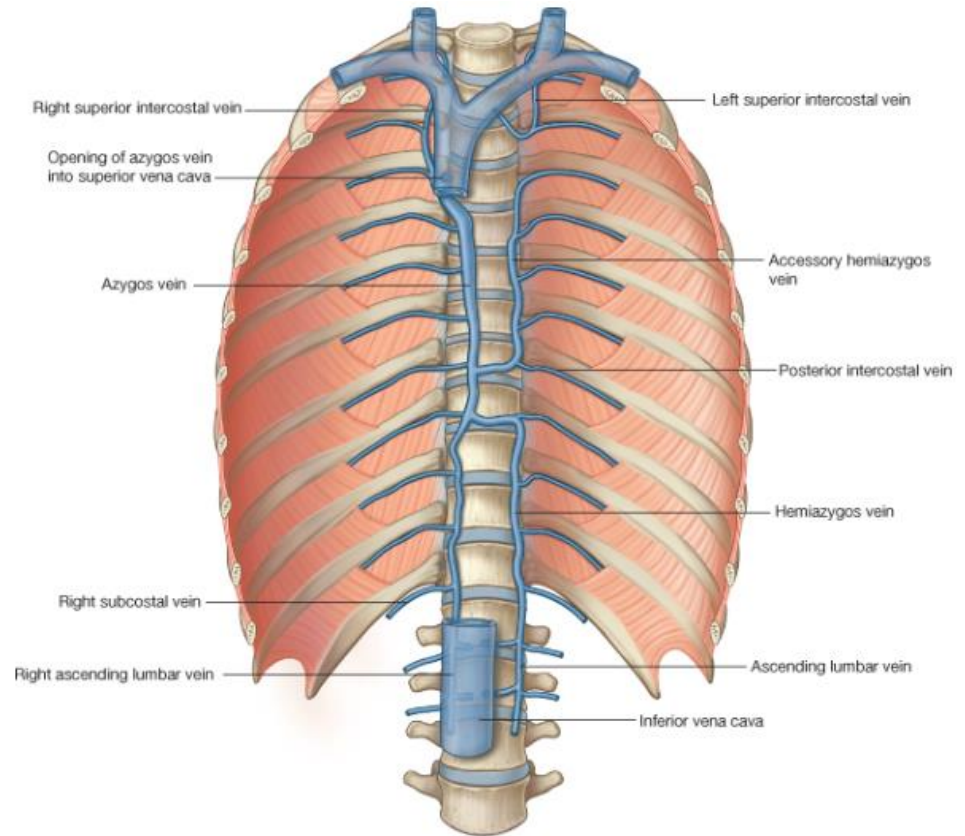
Accessory hemiazygos vein

- It crosses the vertebral column to join the azygos vein, or ends in the hemiazygos vein, or has a connection to both veins.



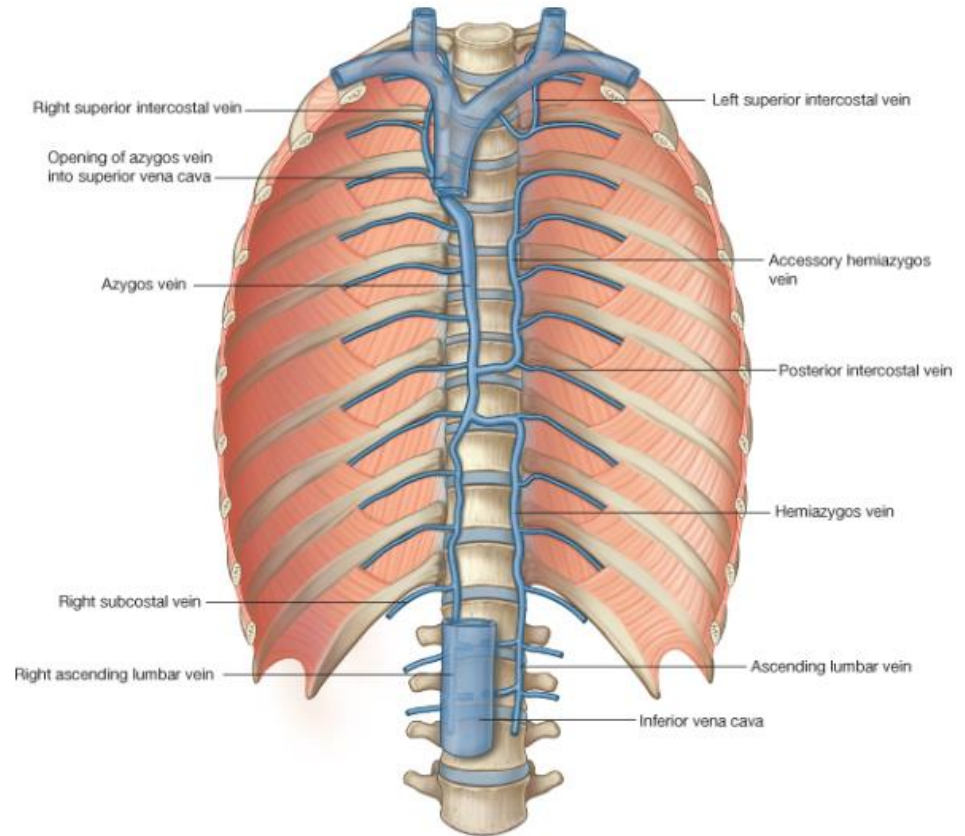
Accessory hemiazygos vein

- Usually, it also has a connection superiorly to the **left superior intercostal vein**.



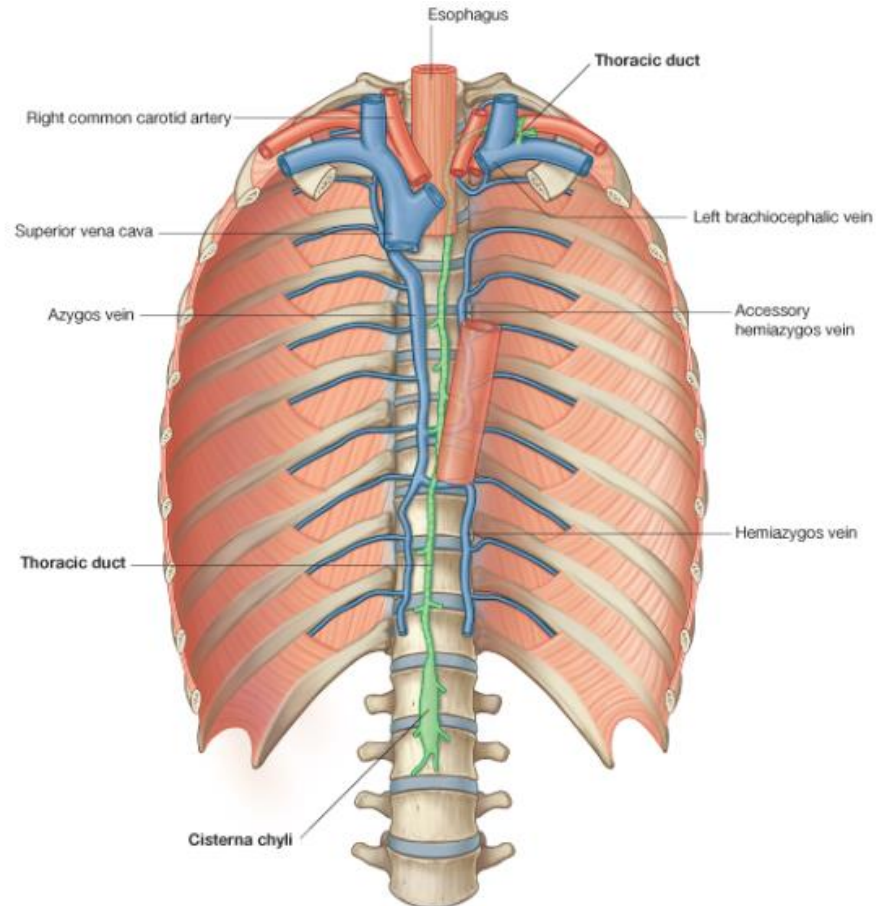
Vessels that drain into the accessory hemiazygos vein include:

- the fourth to eighth left posterior intercostal veins;
- sometimes, the left bronchial veins.



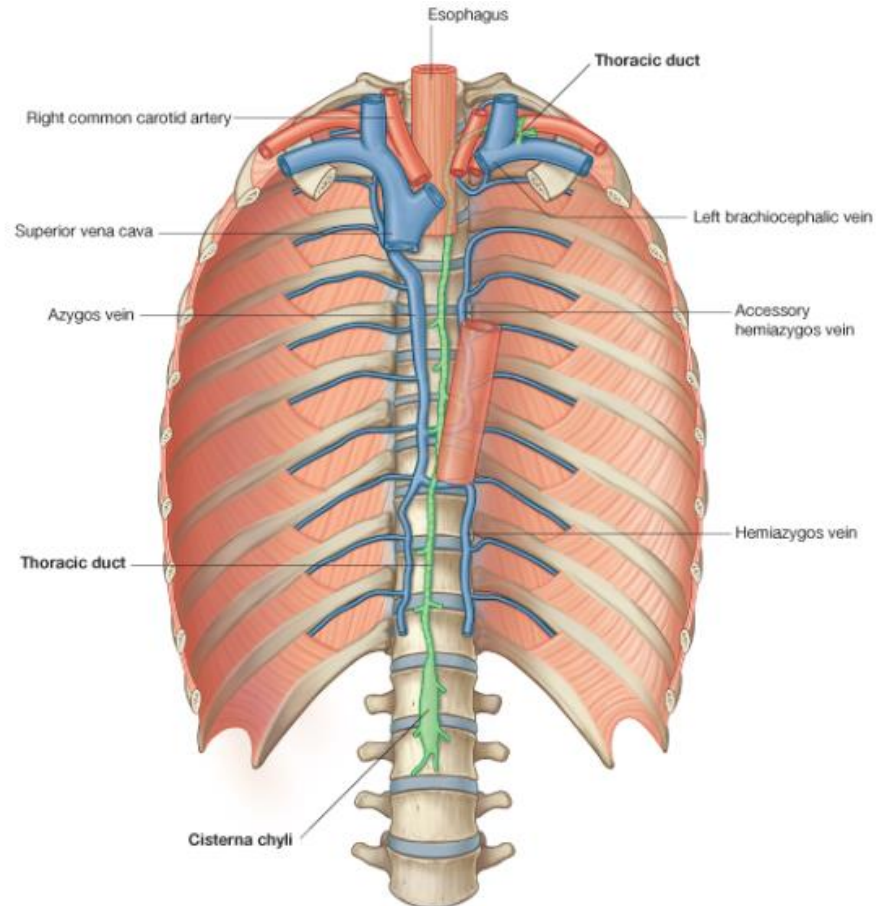
Thoracic Duct

- It is the principal channel through which lymph from most of the body is returned to the venous system.



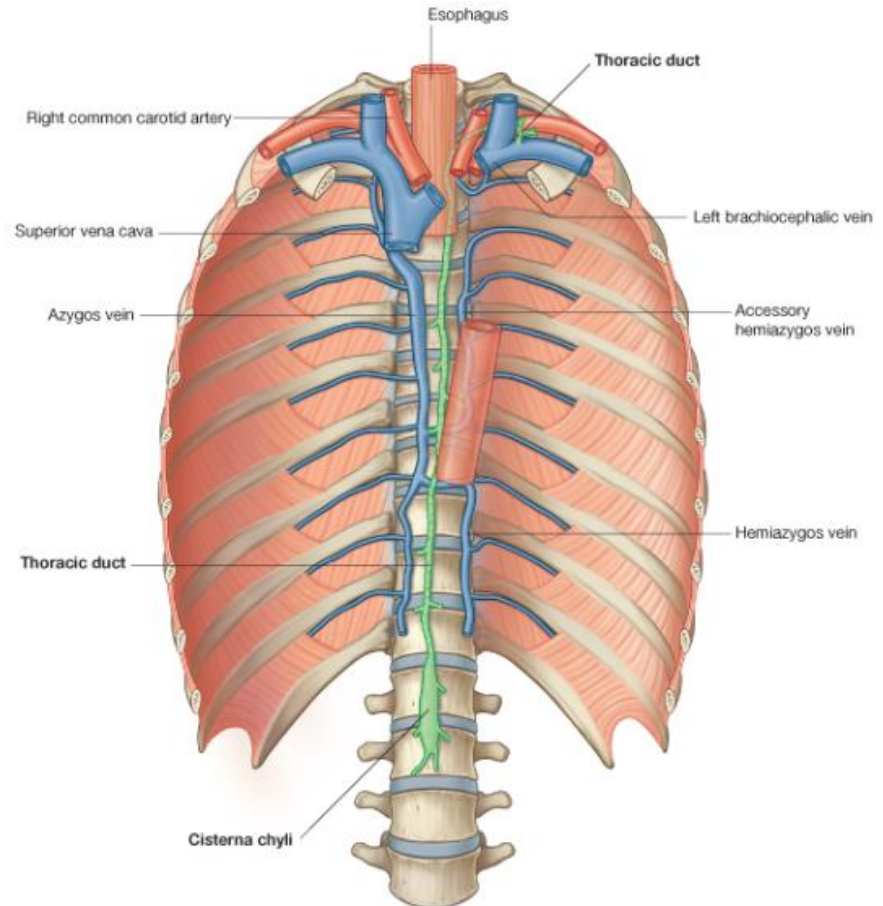
Thoracic Duct

- It begins as a confluence of lymph trunks in the abdomen, sometimes forming a saccular dilation referred to as the **cisterna chyli**



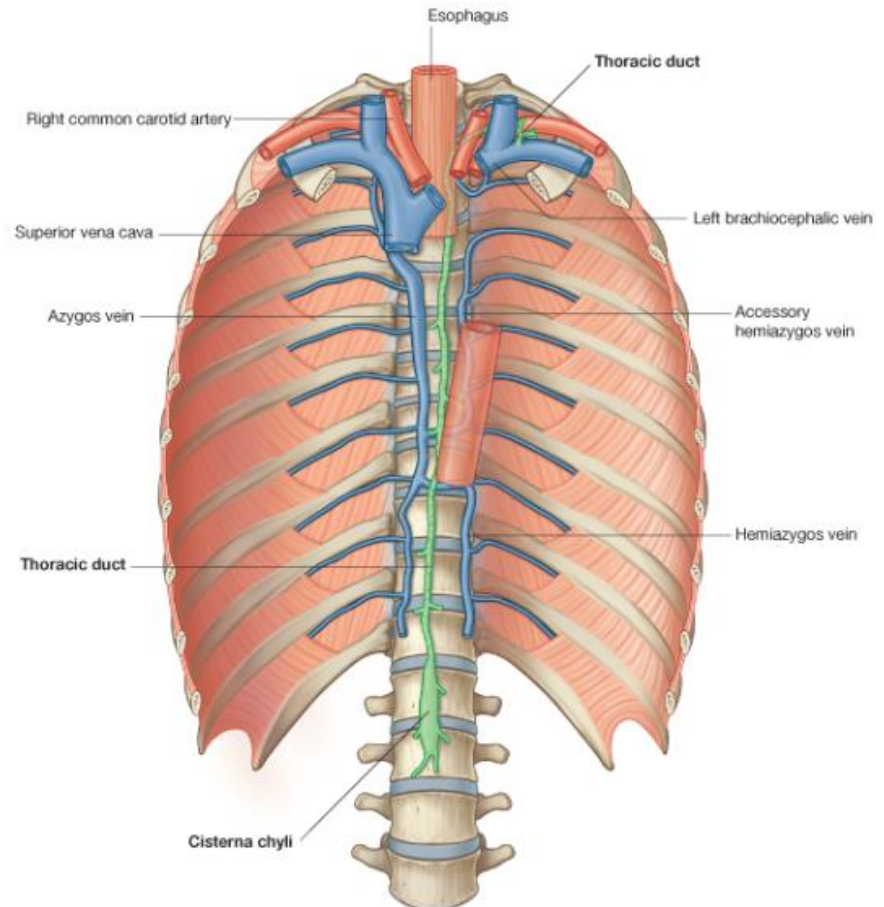
Thoracic Duct

- which drains the abdominal viscera and walls, pelvis, perineum, and lower limbs.
- The thoracic duct extends from vertebra LII to the root of the neck.



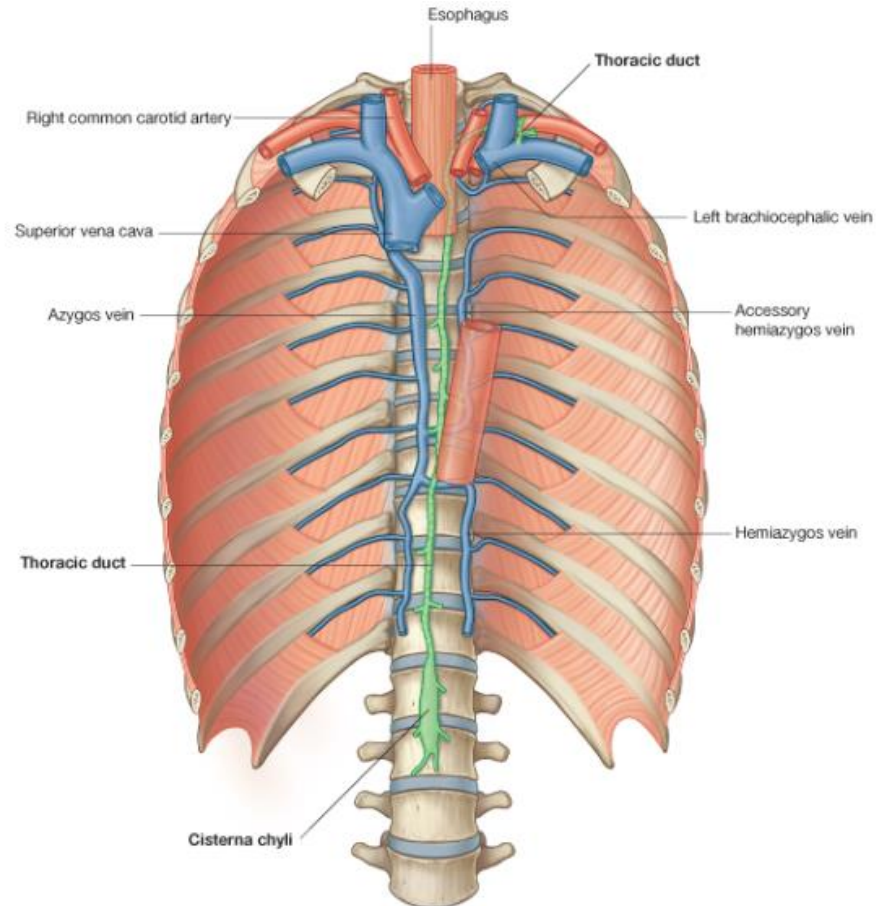
Thoracic Duct

- Entering the thorax, posterior to the aorta, through the aortic hiatus of the diaphragm,



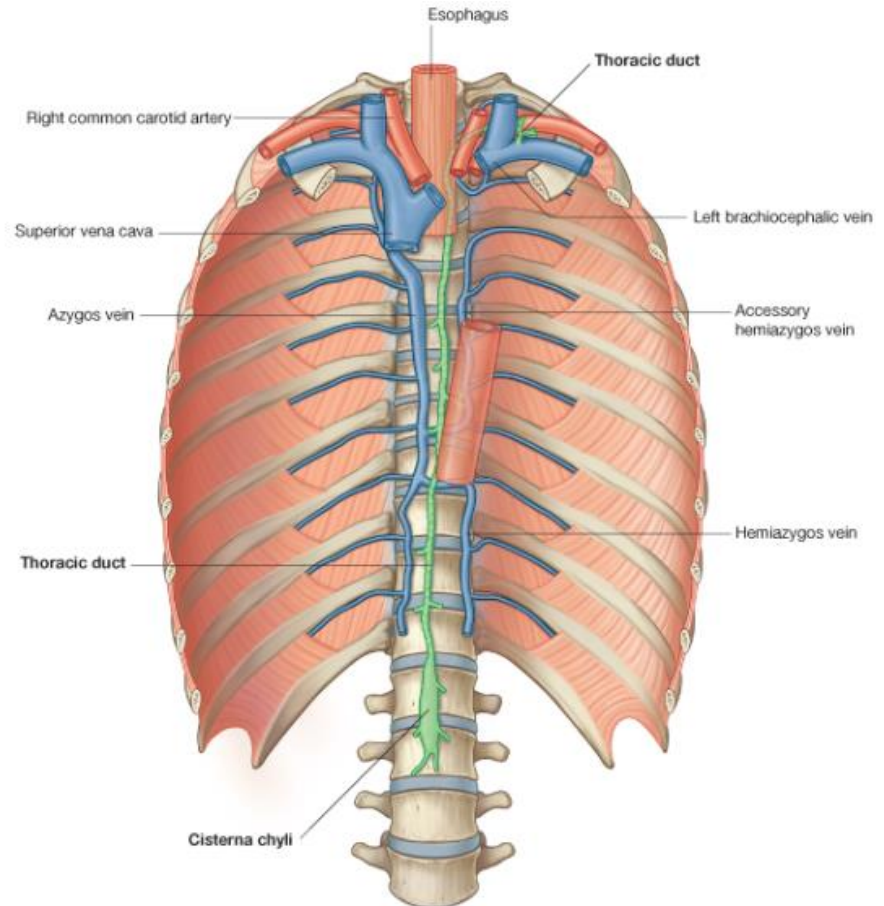
Thoracic Duct

the thoracic duct ascends through the posterior mediastinum to the right of midline between the thoracic aorta on the left and the azygos vein on the right.



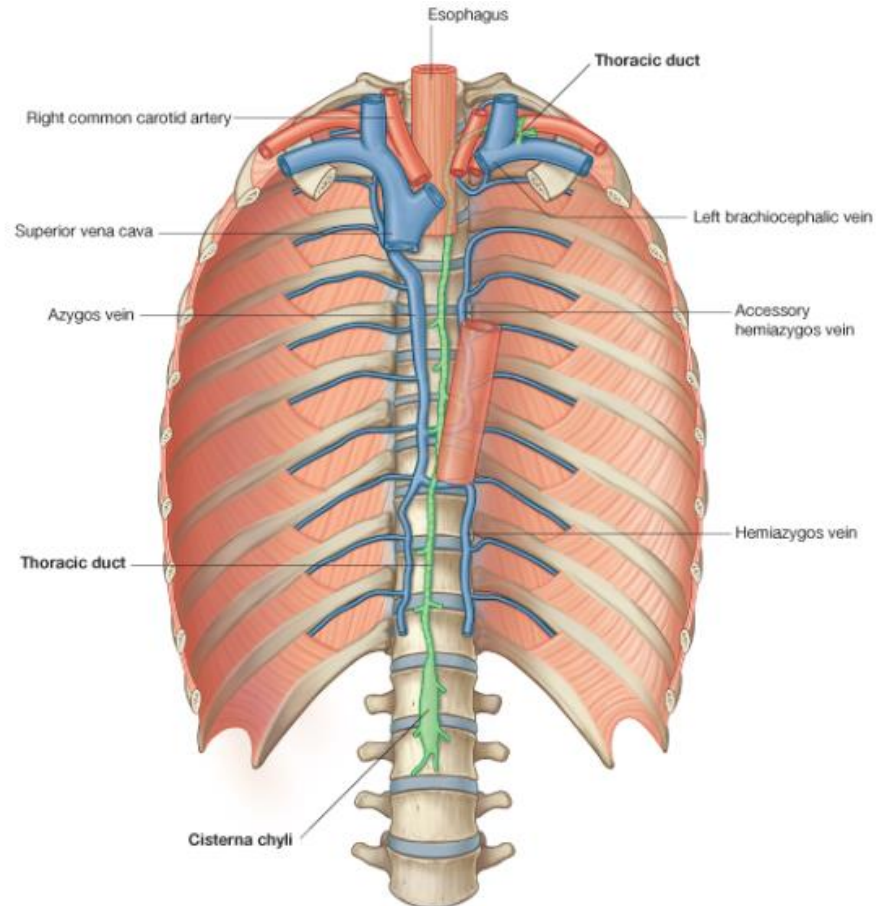
Thoracic Duct

It lies posterior to the diaphragm and the esophagus and anterior to the bodies of the vertebra.



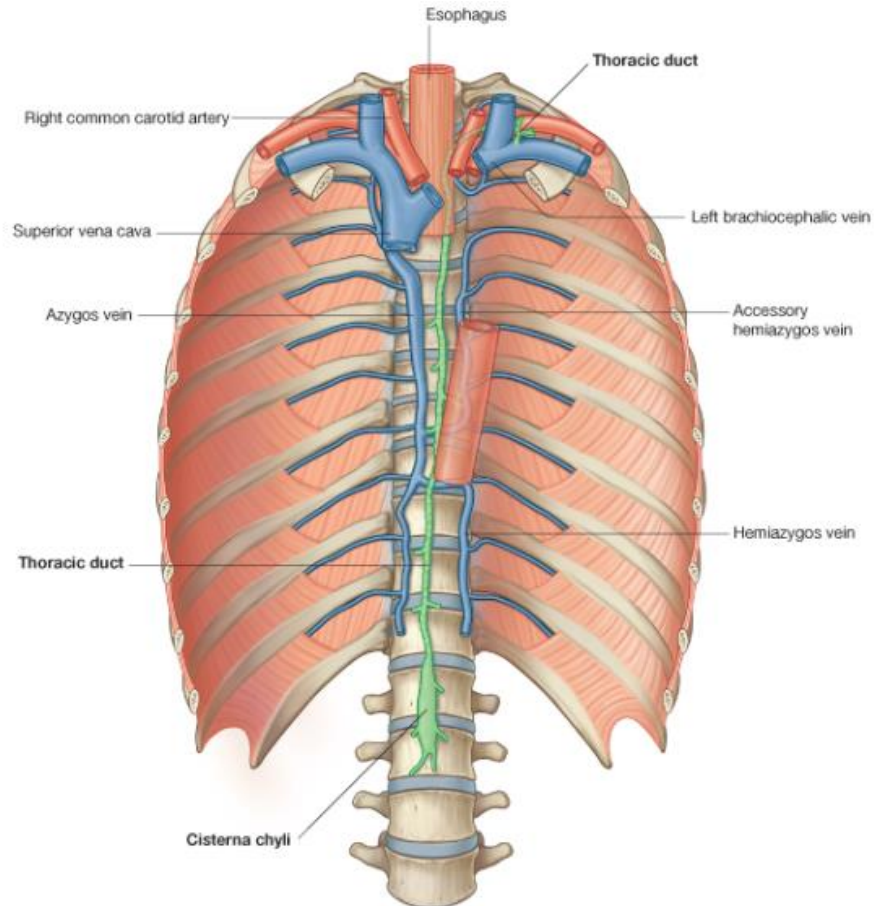
Thoracic Duct

At vertebral level TV, the thoracic duct moves to the left of the midline and enters the superior mediastinum. It continues through the superior mediastinum and into the neck.

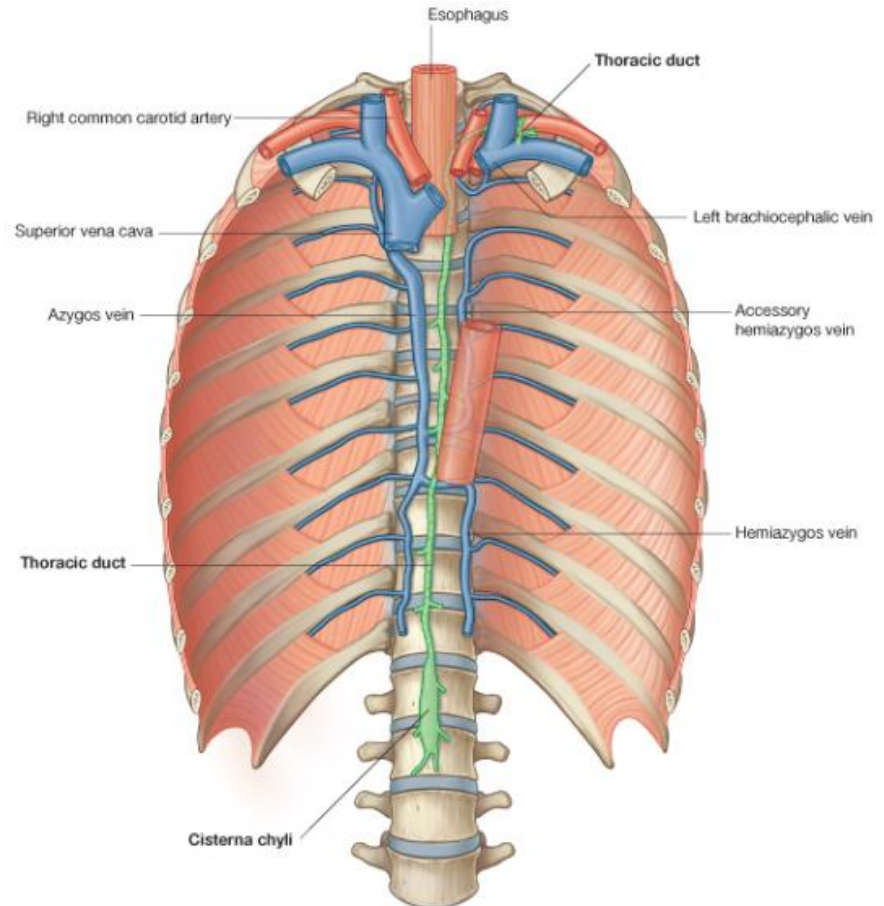


Thoracic Duct

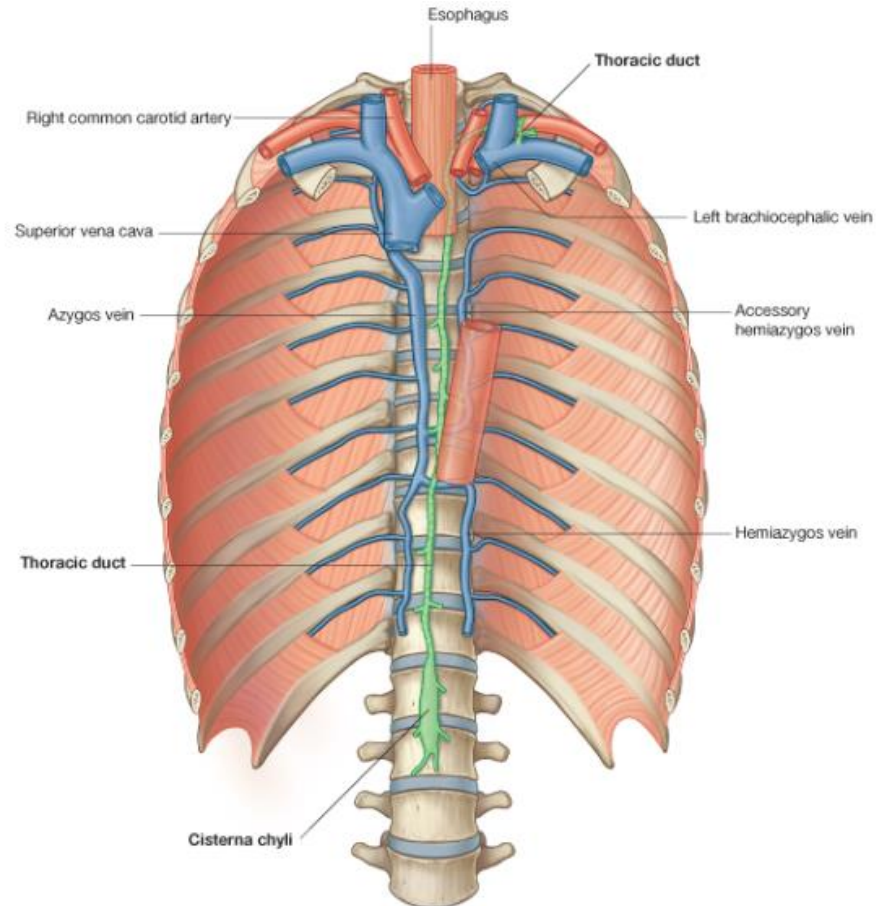
After being joined, in most cases, by the **left jugular trunk**, which drains the left side of the head and neck, and the **left subclavian trunk**, which drains the left upper limb,



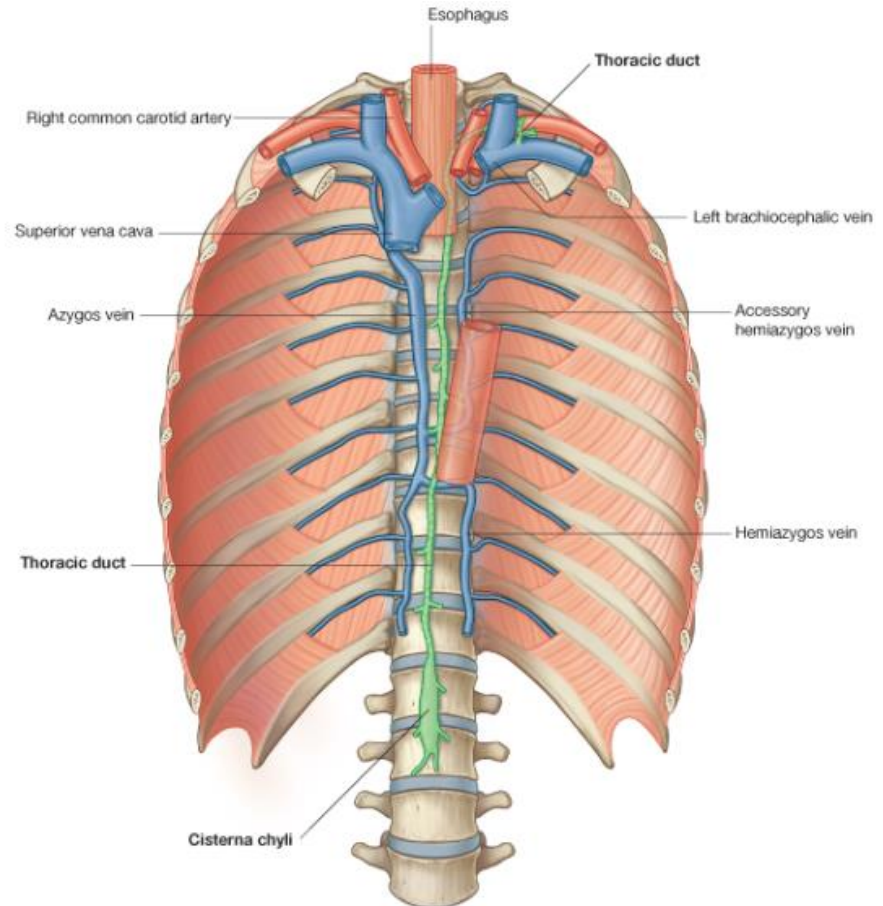
Thoracic Duct
the thoracic duct empties into the junction of the left subclavian and left internal jugular veins.



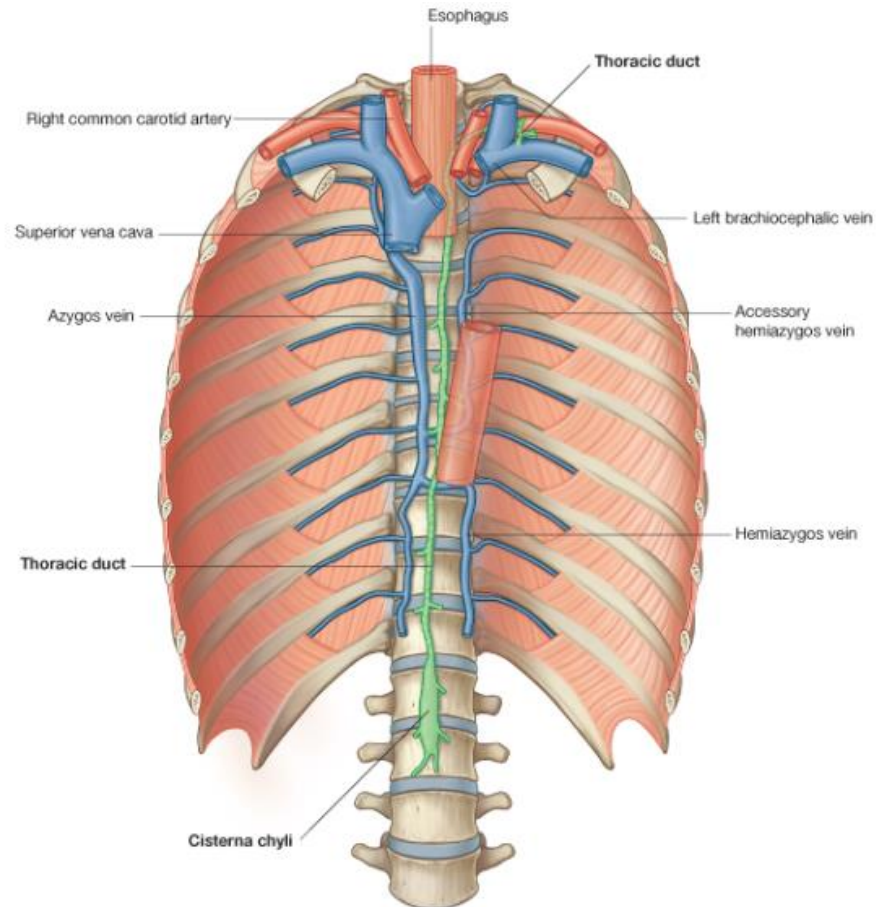
The thoracic duct usually receives the contents from:
the confluence of lymph trunks in the abdomen;
descending thoracic lymph trunks draining the lower six or seven intercostal spaces on both sides



The thoracic duct usually receives the contents from:
upper intercostal lymph trunks draining the upper left five or six intercostal spaces;
ducts from posterior mediastinal nodes;

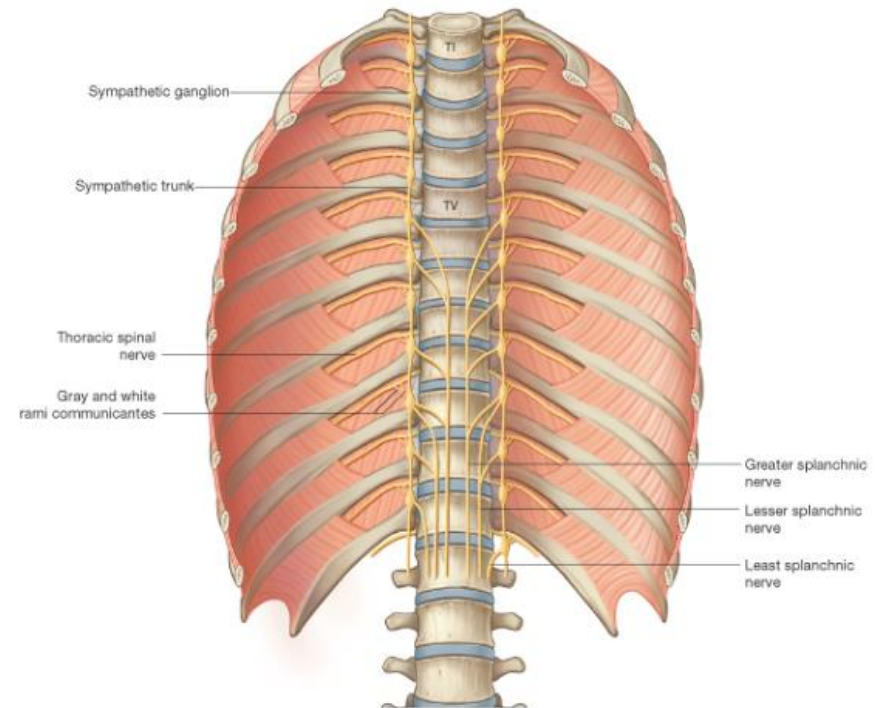


The thoracic duct usually receives the contents from:
ducts from
posterior
diaphragmatic
nodes.



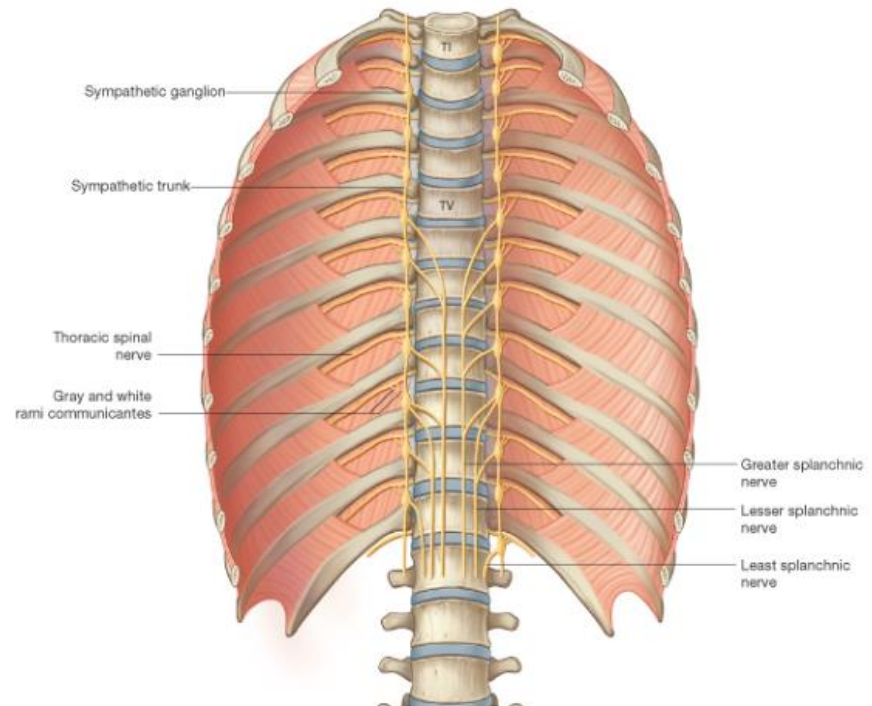
Sympathetic trunks

- This portion of the sympathetic trunks consists of two parallel cords punctuated by 11 or 12 **ganglia** This portion of the sympathetic trunks consists of two parallel cords punctuated by 11 or 12 **ganglia**



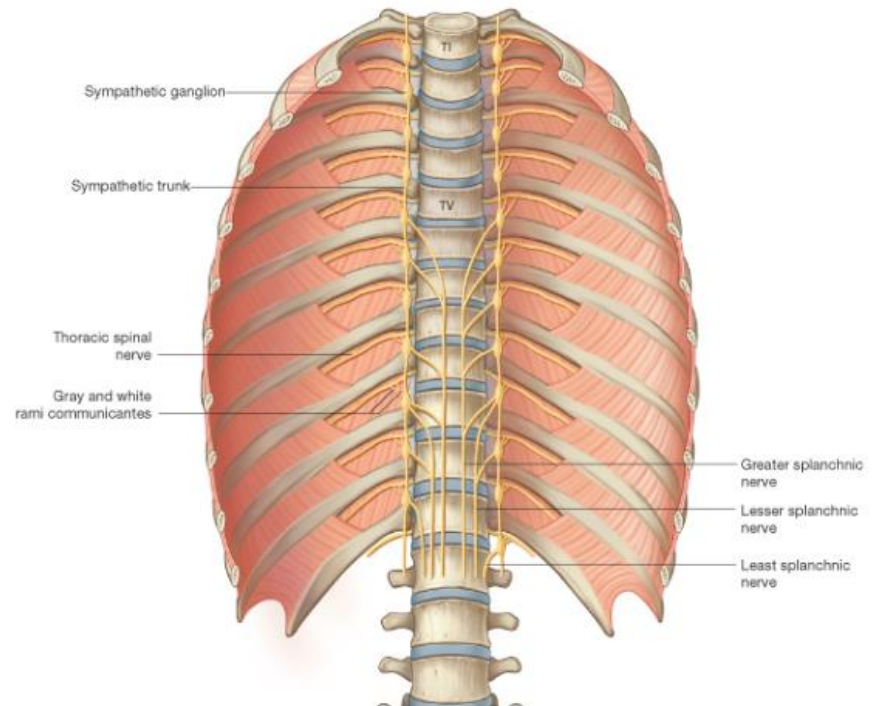
Sympathetic trunks

- The ganglia are connected to adjacent thoracic spinal nerves by **white** and **gray rami communicantes** and are numbered according to the thoracic spinal nerve with which they are associated.



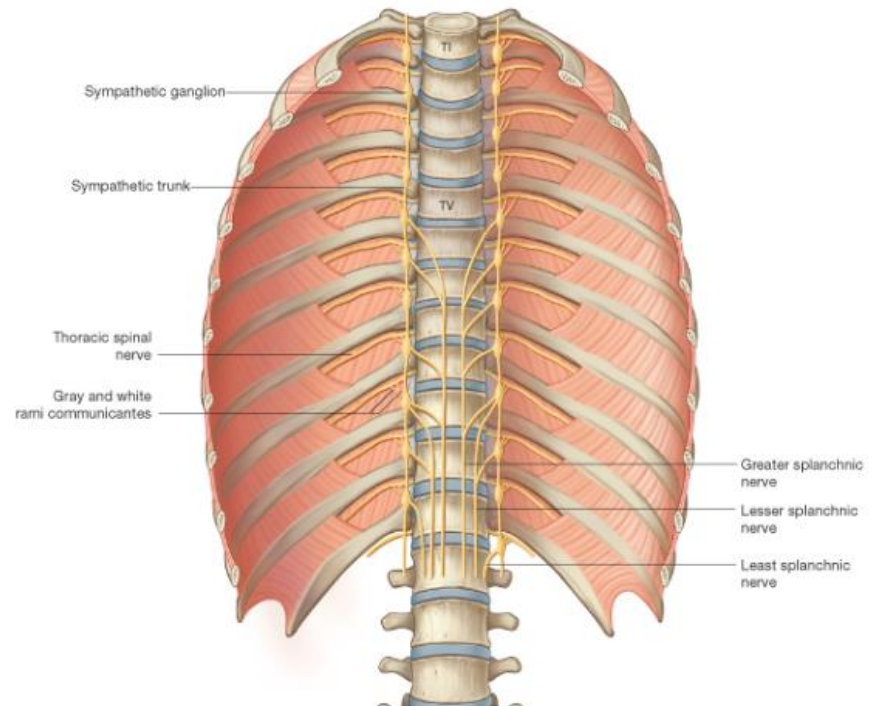
Sympathetic trunks

In the superior portion of the posterior mediastinum, the trunks are anterior to the neck of the ribs. Inferiorly, they become more medial in position until they lie on the lateral aspect of the vertebral bodies.



Sympathetic trunks

The sympathetic trunks leave the thorax by passing posterior to diaphragm under the the medial arcuate ligament or through the crura of the diaphragm. Throughout their course the trunks are covered by parietal pleura.



Branches from the ganglia

Two types of medial
branches are given off
by the ganglia:

the first type includes
branches from the
upper five ganglia;

the second type
includes branches
from the lower seven
ganglia.

