

# Azygos and hemiazygos veins, vertebral venous plexuses

## Azygos Vein

Transports deoxygenated blood from the posterior walls of the thorax and abdomen into the superior vena cava.

Ascends in the posterior mediastinum, through the aortic opening of the diaphragm and arching over the root of the right lung to join the superior vena cava.

It drains blood from:

- Lower 8 Posterior Right Intercostal veins
- Right Superior Intercostal vein
- Right ascending lumbar veins + right subcostal veins (Origin)
- Hemiazygos and Accessory Hemiazygos veins
- Bronchial veins
- Esophageal veins

## Hemiazygous and Accessory Hemiazygous Veins

### Hemiazygos Vein

It ascends through the aortic opening of the diaphragm and crosses posterior to the aorta from the left to the right side of T9 vertebra to enter the azygos vein at T8.

It drains blood from:

- Lower 4 left posterior intercostal veins (9-12th ribs)

### Accessory Hemiazygos Vein

Runs inferiorly on the left side of the vertebral bodies to T8, where it crosses similarly to the hemiazygos vein to enter the azygos vein at T7.

It drains blood from:

- 5th-8th Left Posterior intercostal veins
- Bronchial veins
- Esophageal veins

## Vertebral Venous Plexuses

The function of the vertebral vein is to drain the venous blood from the cervical spine, prevertebral and suboccipital muscles. It terminates low in the neck by emptying into the brachiocephalic vein.

There are 4 vertebral venous plexuses on each side of the cervical vertebral column.

The Anterior Internal, the Posterior Internal, the Anterior External and the Posterior External.

### Anterior External

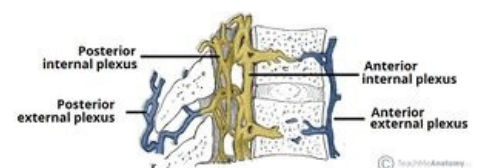
- Lies in front of the bodies of the vertebra.
- Arise from the anterior vertebral veins, which arise from the vertebral veins.
- Communicates with the basivertebral and intervertebral veins, and receive tributaries from the vertebral bodies.

### Posterior External

- Placed partly on the posterior surfaces of the vertebral arches and their processes, and partly between the deep dorsal muscles.

### Anterior Internal (epidural)

- Consists of large veins which lie on the posterior surfaces of the vertebral bodies and intervertebral fibrocartilages on either side of the posterior longitudinal ligament.
- Underneath the posterior longitudinal ligament, they are connected by transverse branches into which the basivertebral veins open, thus anastomosing with the anterior external plexus.



Vertebral venous plexus  
[teachmeanatomy]<sup>[1]</sup>

## Posterior Internal

- Placed on either side of the middle line in front of the vertebral arches and ligamentum flavum.
- Anastomose by veins passing through those ligaments with the posterior externa plexuses.

1. <https://teachmeanatomy.info/neuroanatomy/vessels/venous-drainage/>