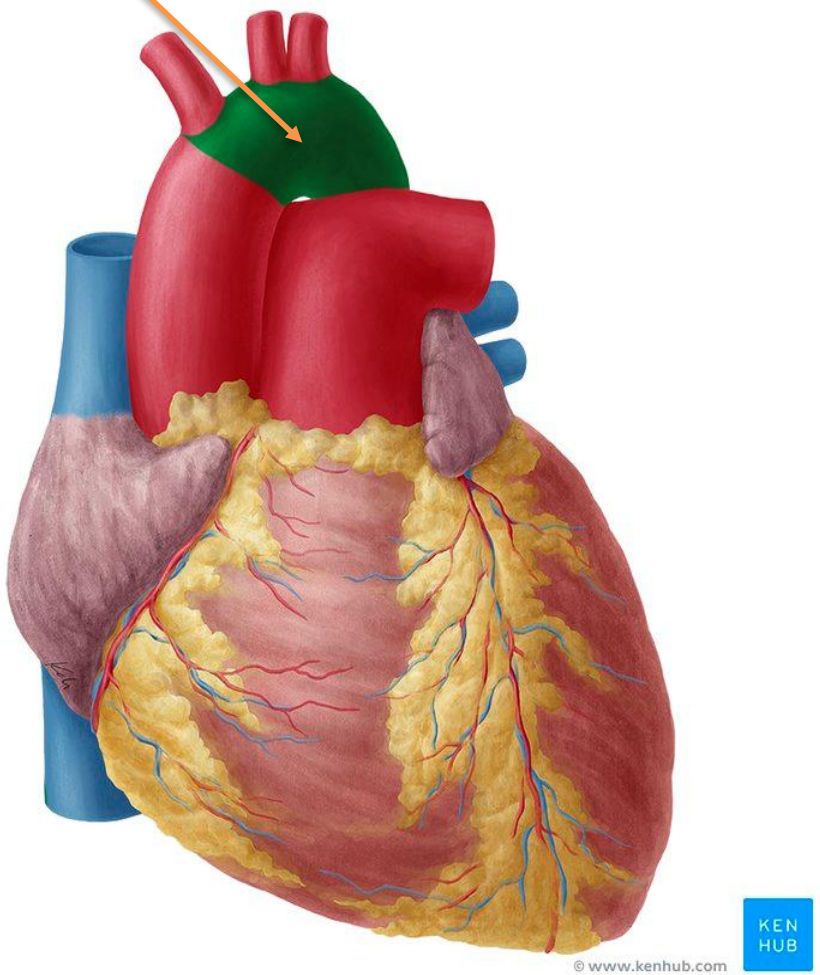
GREAT ARTERIES OF THE SUPERIOR MEDIASTINUM

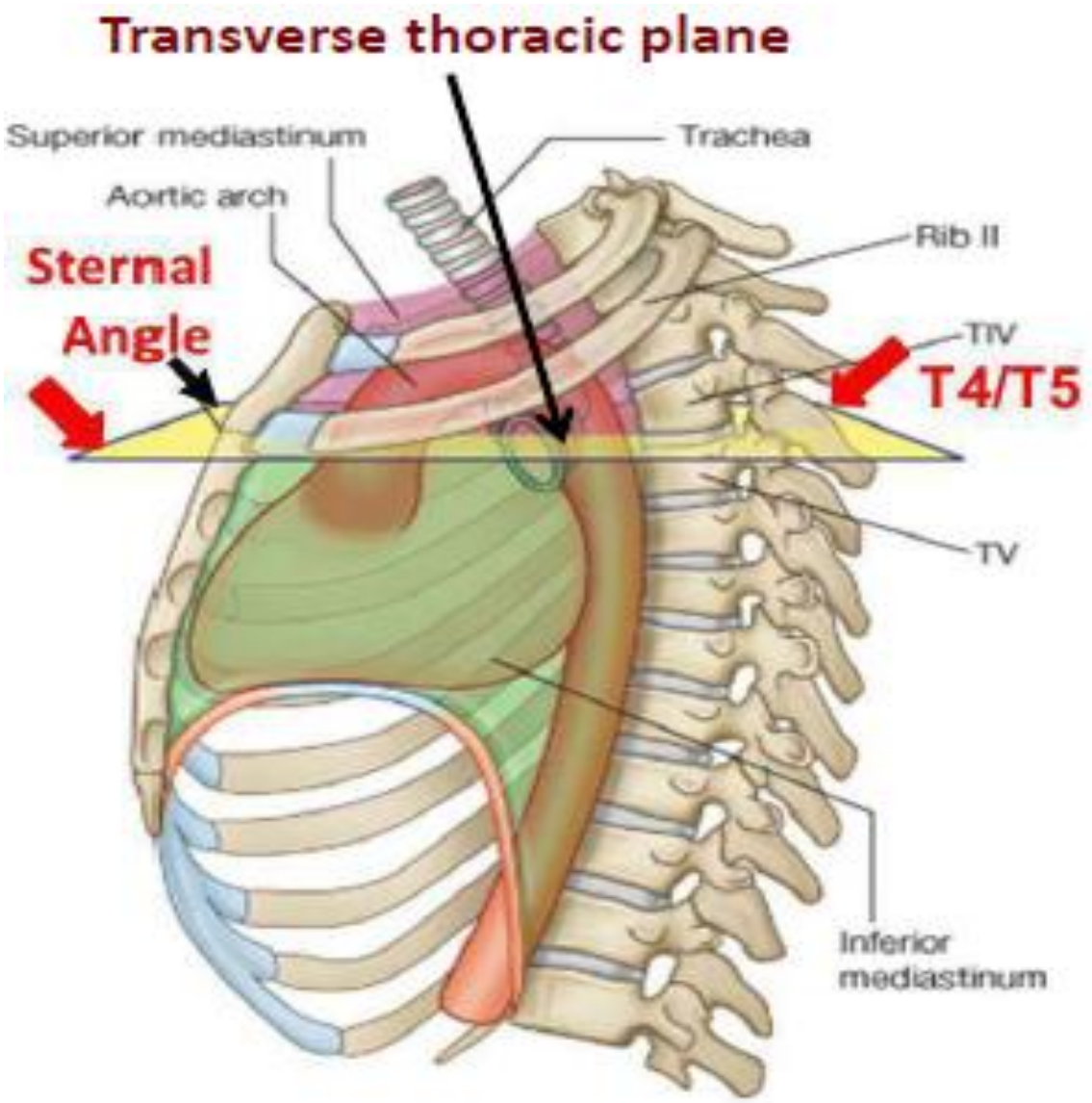
THE ARCH OF THE AORTA

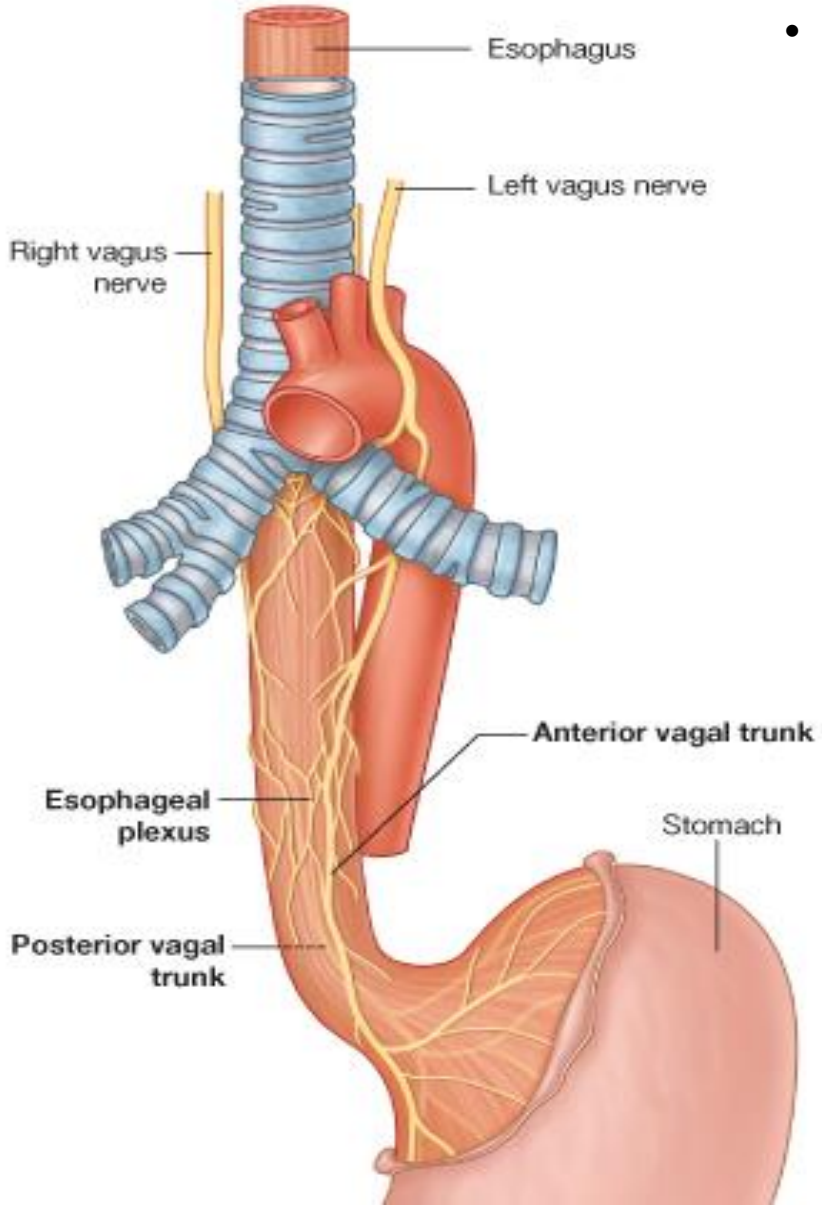


THE ARCH OF THE AORTA

- The aortic arch continues from the ascending aorta at the imaginary plane (from angle of Luis anteriorly back to the intervertebral disc between 4 and 5 vertebrae).

Thus the aortic arch lies wholly in the **superior mediastinum**





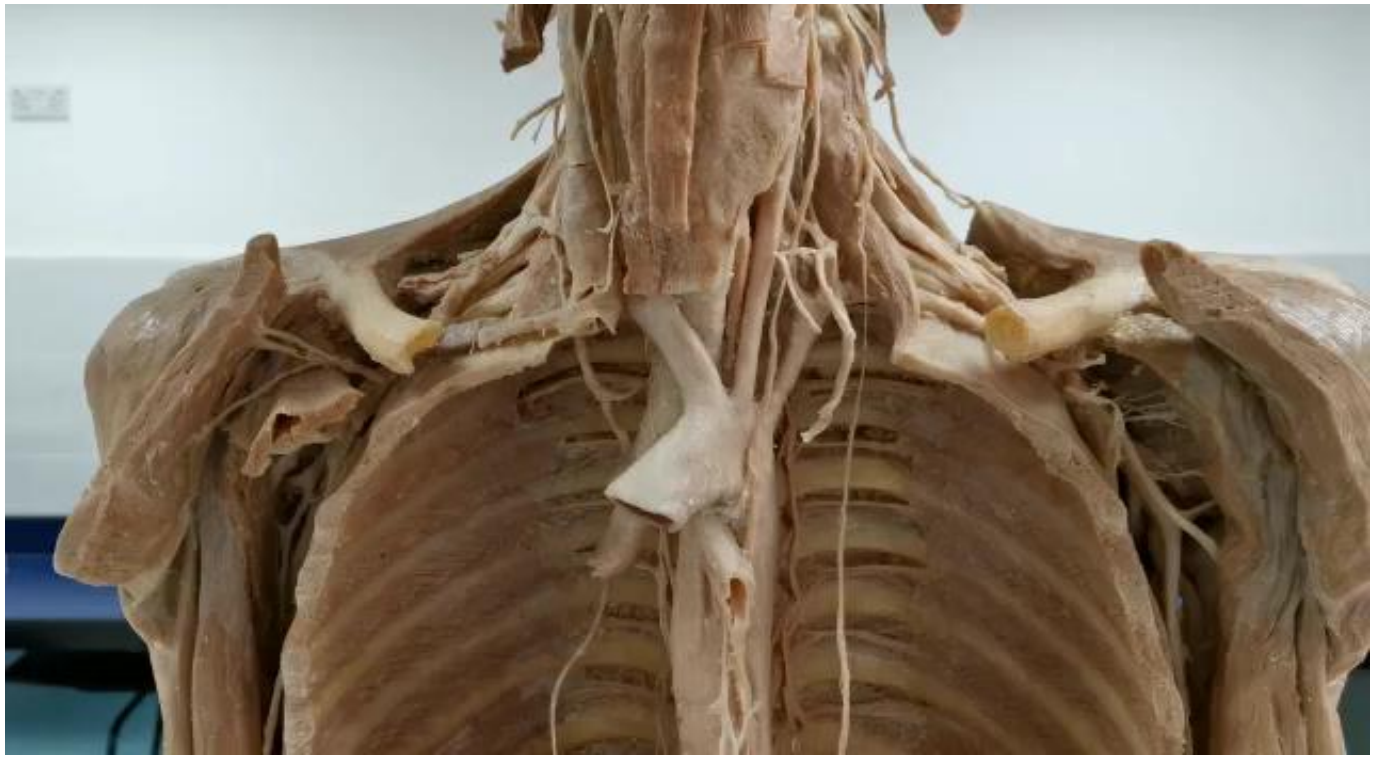
❖ Course;

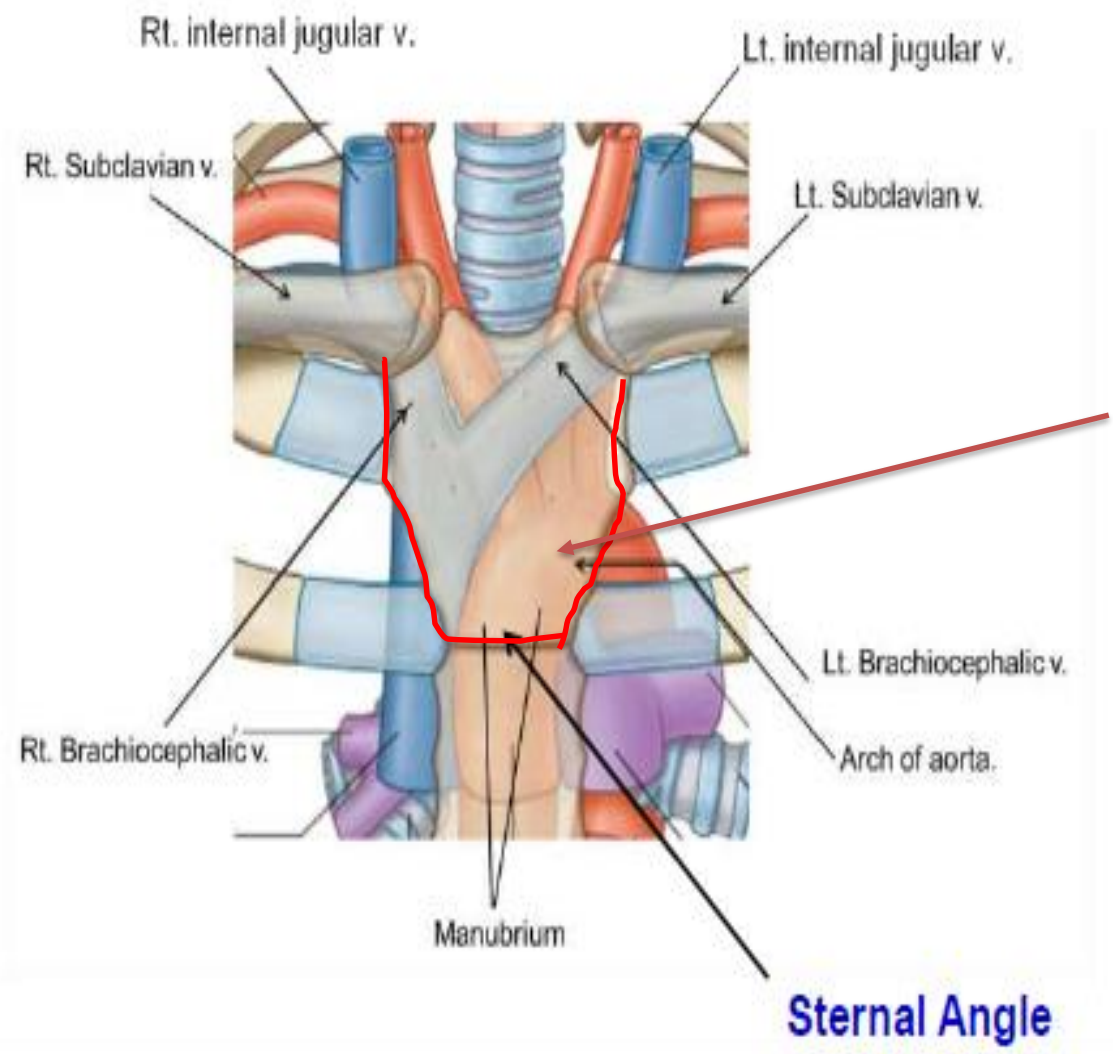
- The arch first ascends ***diagonally back and to the left*** over ***<u>the anterior surface of the trachea then back across its left side</u>***.

- It curves around the hilum of the left lung

Finally descends to ***<u>the left of the fourth thoracic vertebral body</u>***, continuing as the descending thoracic aorta.

What does this mean to you? what is your final picture of the course of the arch of the aorta?





extends upwards to the mid level of the manubrium of the sternum.

Do you remember the shooting story ……!!!!

Relations of the aortic arch

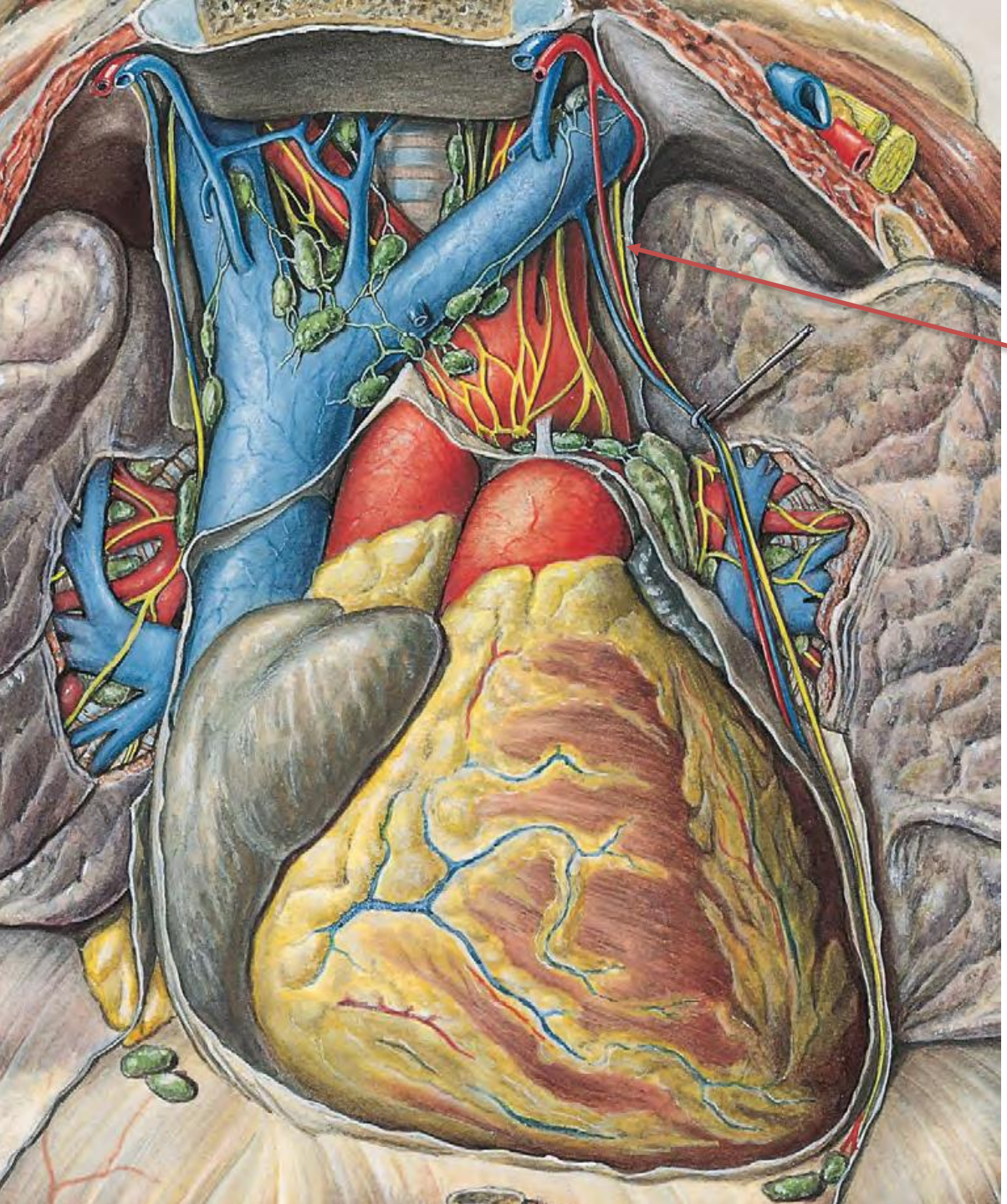
Anteriorly and to the left of the aortic arch is the left mediastinal pleura. Deep to the pleura it is crossed by;

Left phrenic nerve

Left vagus nerve

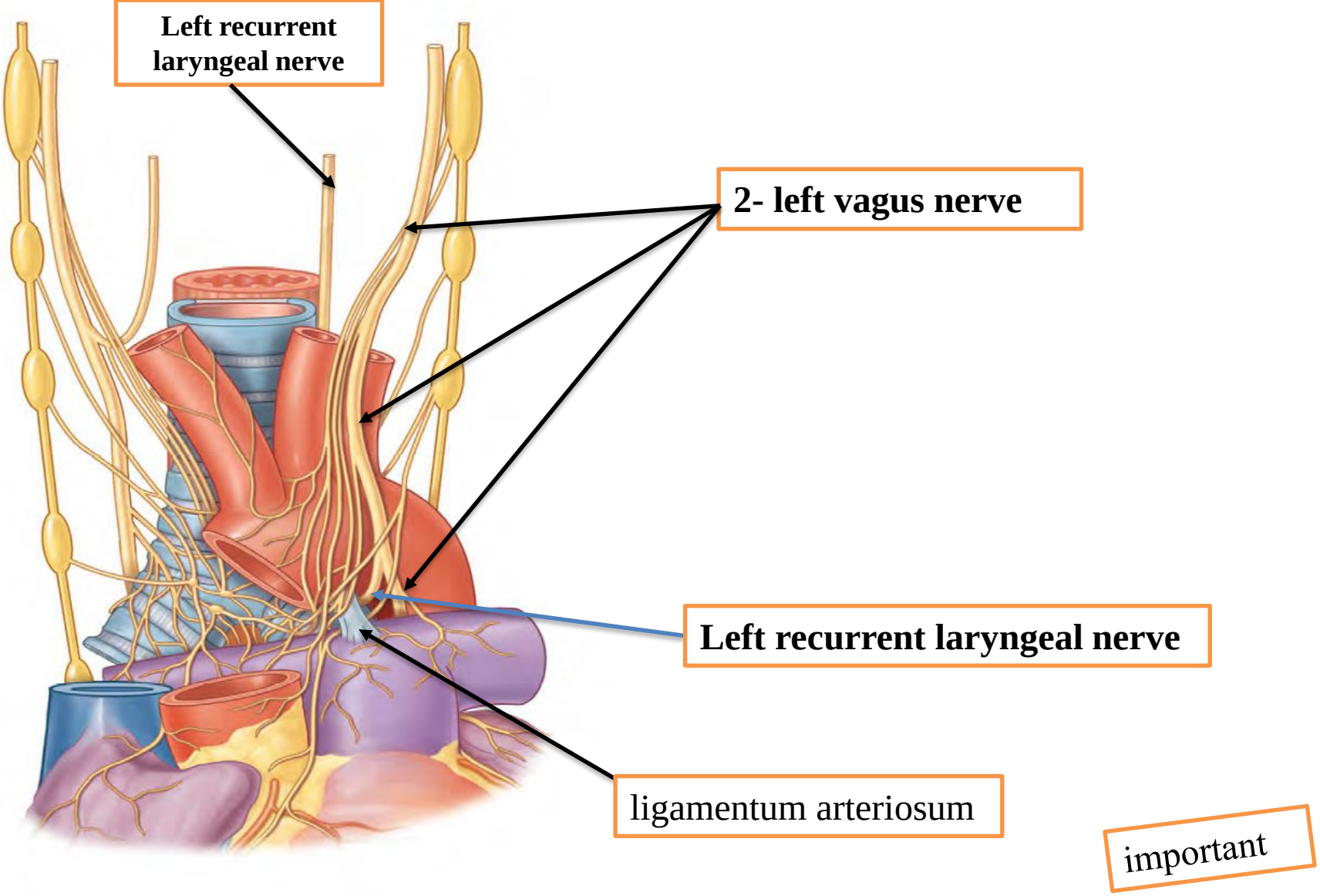
left superior intercostal vein

The left lung and pleura separate all these from the thoracic wall



Left phrenic nerve

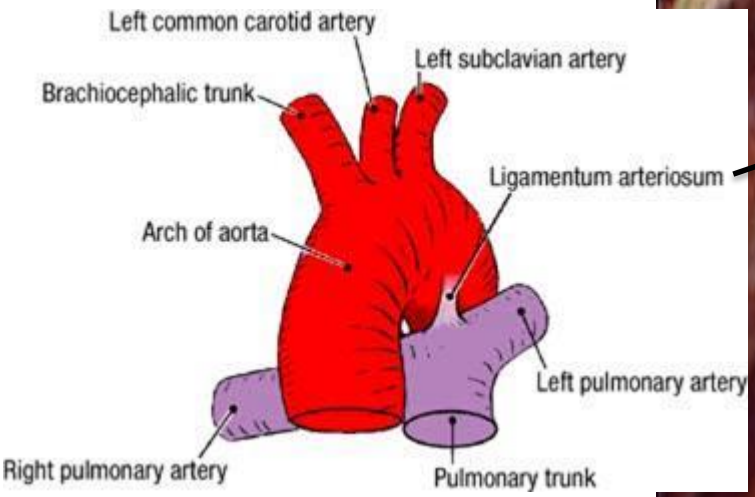
Relations
Anteriorly and to the left of the aortic arch is the left mediastinal pleura.
Deep to the pleura it is crossed,
in anteroposterior order by:
1-the left phrenic nerve



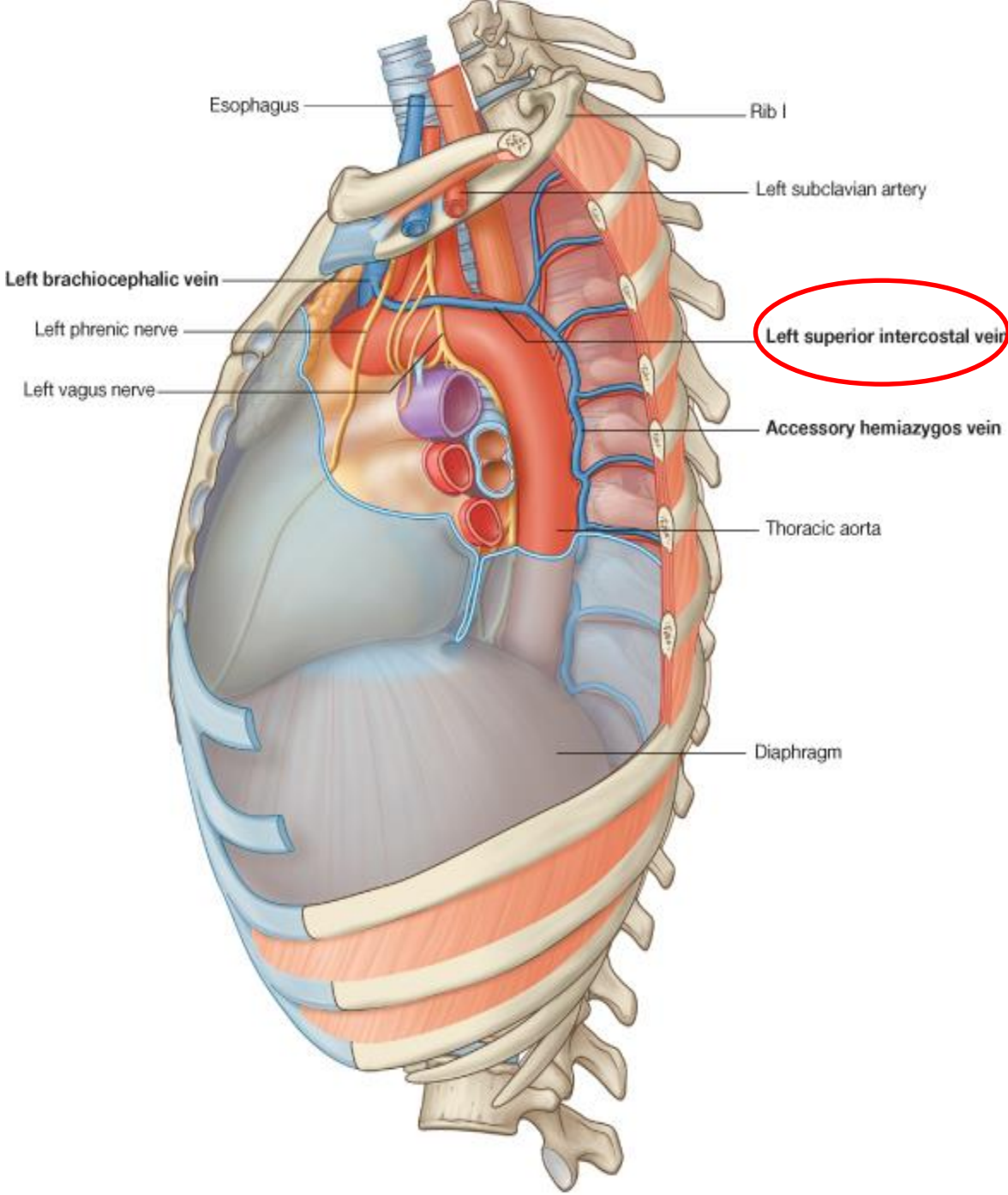
important

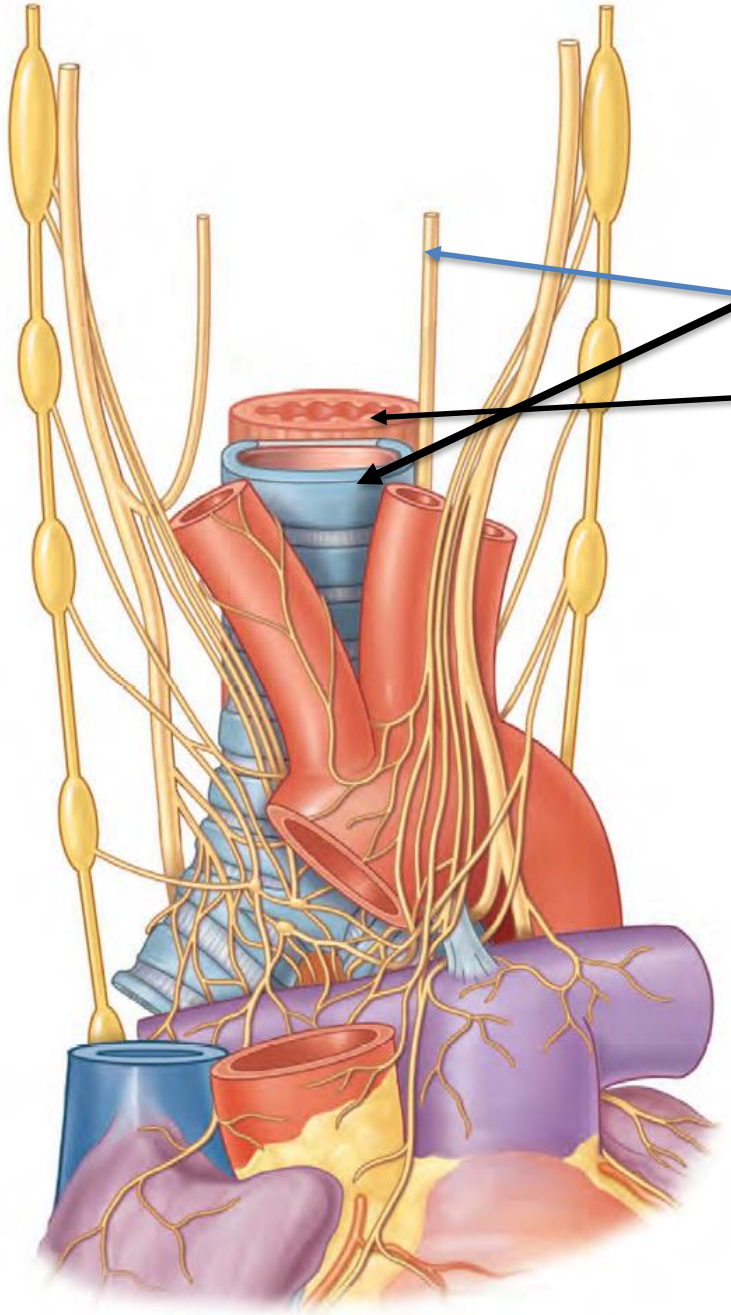
Note

The left vagus nerve just crosses the arch of the aorta, however, its branch ***the left recurrent laryngeal nerve*** passes on the left side of the ***Aortic arch and then hooks*** below it and behind the ***ligamentum arteriosum*** to ascend on the right of the arch and up to the larynx


Left common carotid artery
Left subclavian artery
Brachiocephalic trunk
Ligamentum arteriosum
Arch of aorta
Left pulmonary artery
Right pulmonary artery
Pulmonary trunk

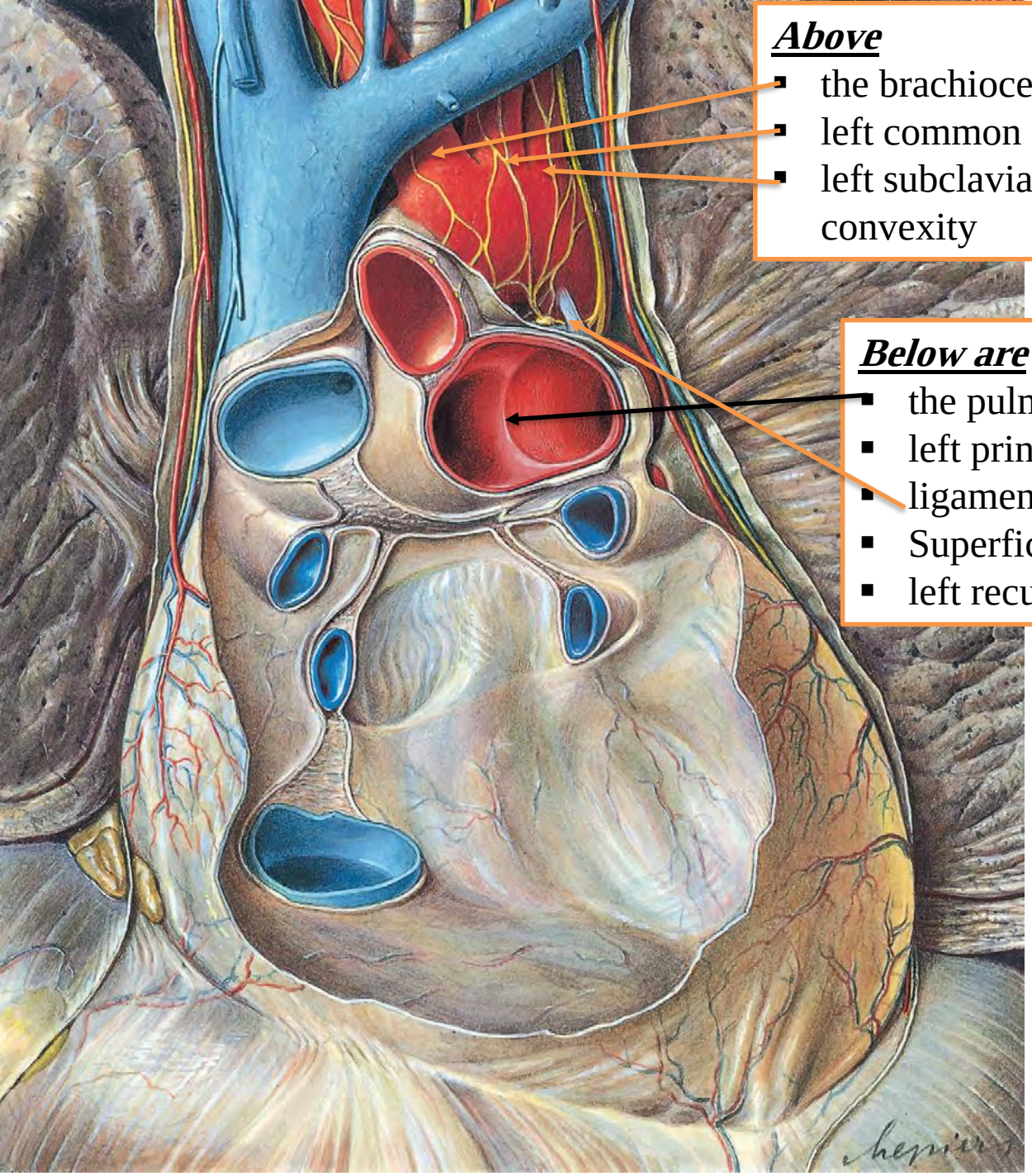
3-Left superior intercostal vein





Posterior and to the right are

- the trachea
- deep cardiac plexus
- the left recurrent laryngeal nerve
- Oesophagus
- thoracic duct and vertebral column.

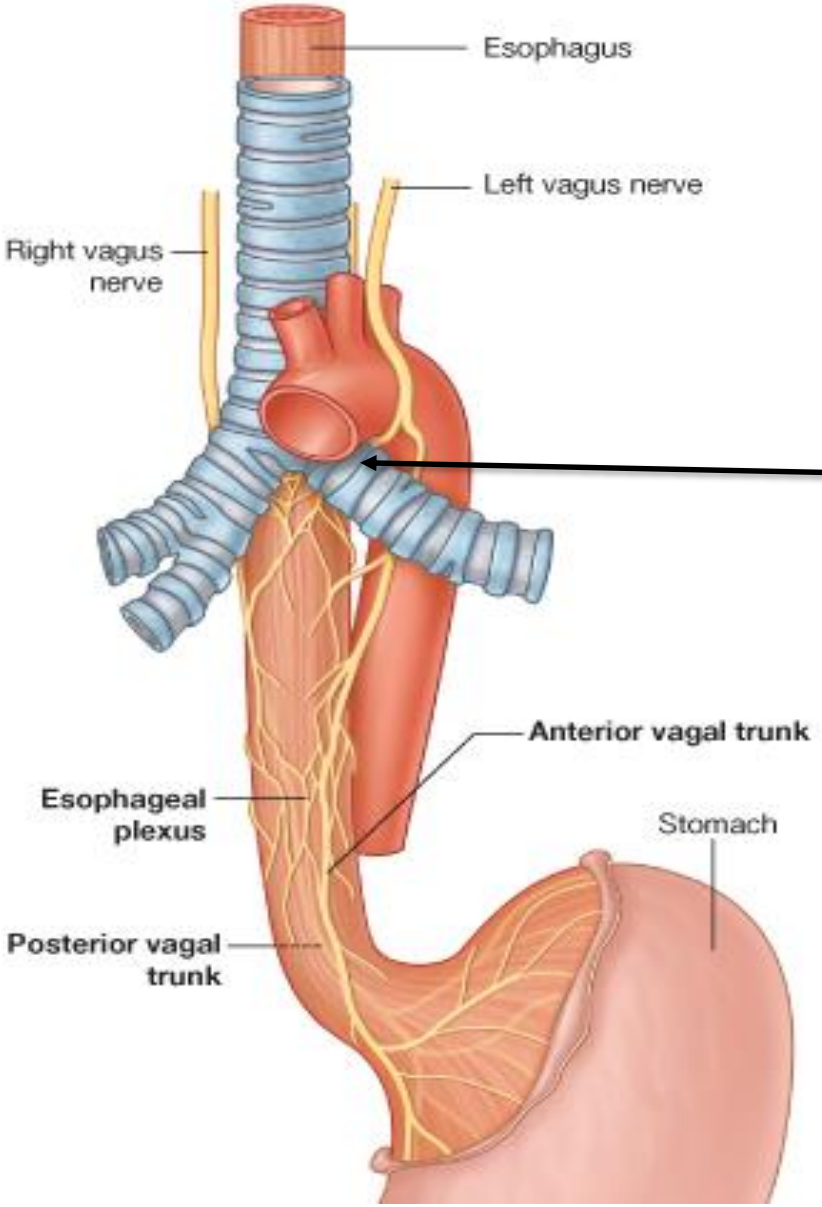


Above

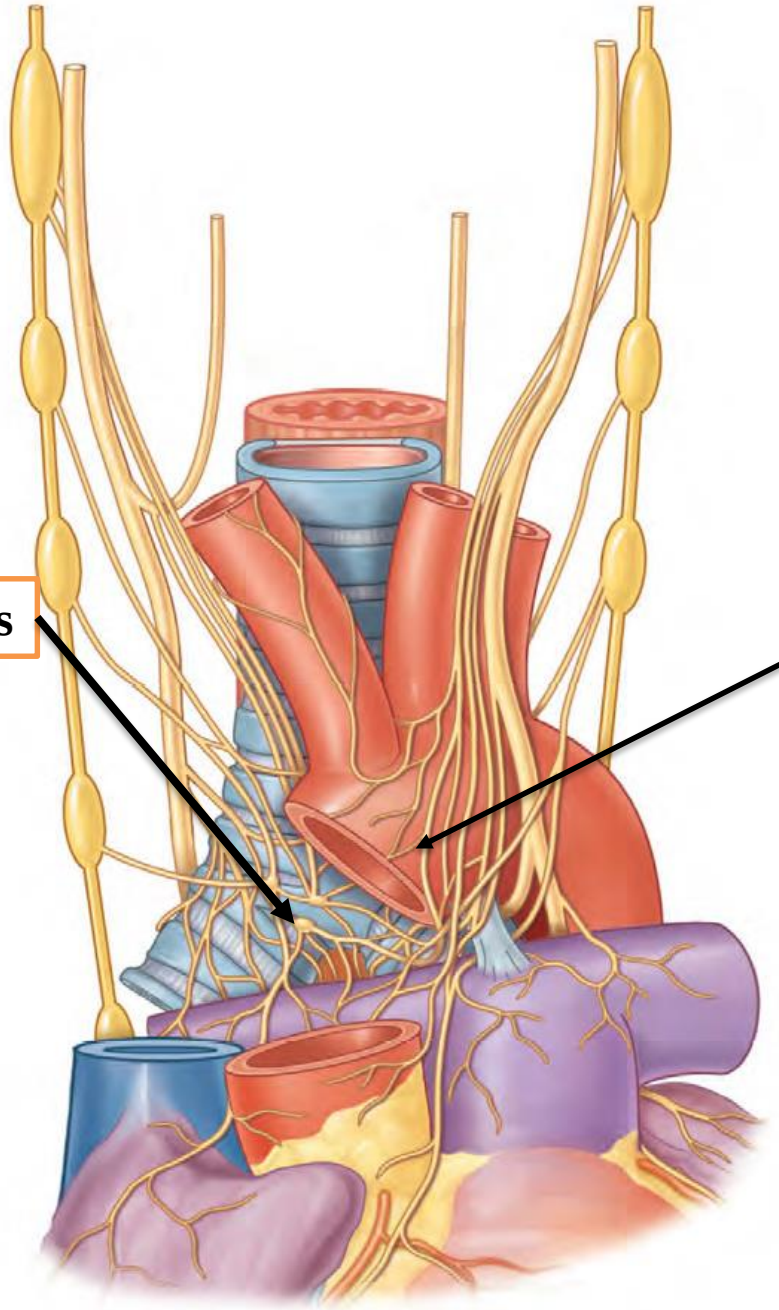
- the brachiocephalic
- left common carotid
- left subclavian arteries arise from its convexity

Below are

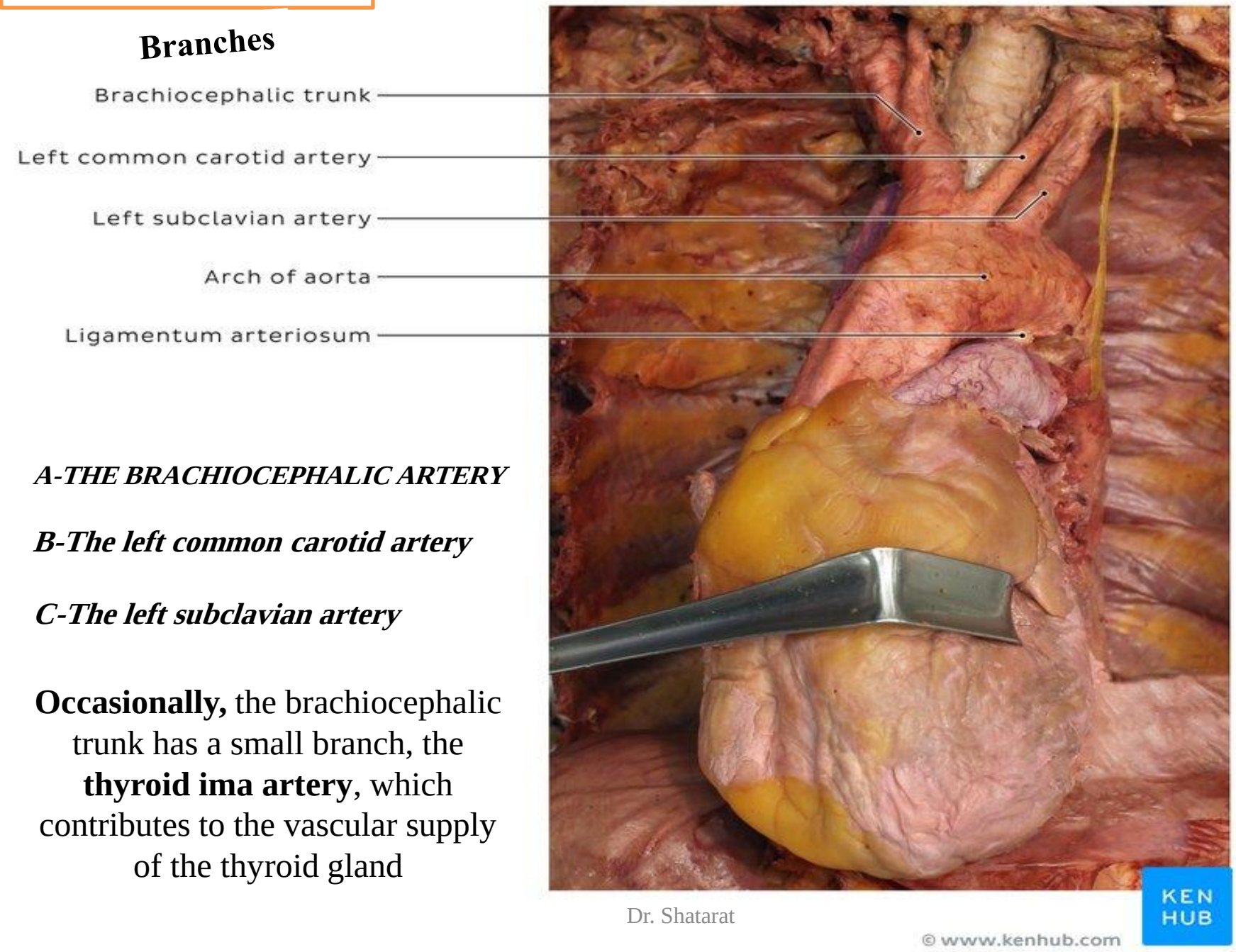
- the pulmonary bifurcation
- left principal bronchus
- ligamentum arteriosum
- Superficial cardiac plexus
- left recurrent laryngeal nerve



- left principal bronchus


Deep cardiac plexus
Superficial cardiac plexus

Arch of the Aorta



A-THE BRACHIOCEPHALIC ARTERY

B-The left common carotid artery

C-The left subclavian artery

Occasionally, the brachiocephalic trunk has a small branch, the **thyroid ima artery**, which contributes to the vascular supply of the thyroid gland

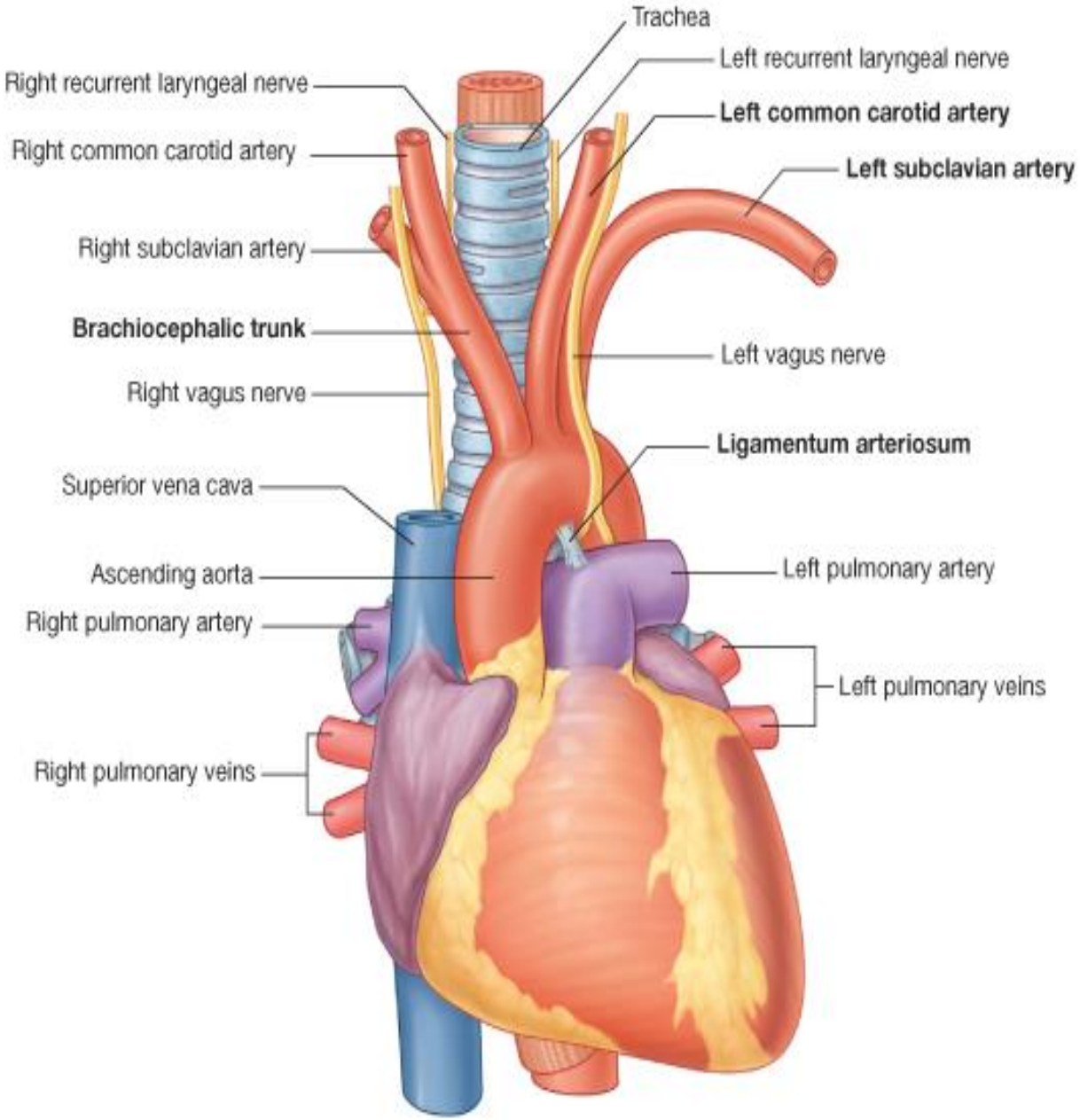
A-THE BRACHIOCEPHALIC ARTERY

- The first branch of the arch of aorta from the right side
- It is the largest of the three branches
- ***arises*** from the convex surface of the aortic arch
  - ***Behind the right sternoclavicular joint***

It divides into:

1-THE RIGHT SUBCLAVIAN ARTERY

2-RIGHT COMMON CAROTID ARTERY



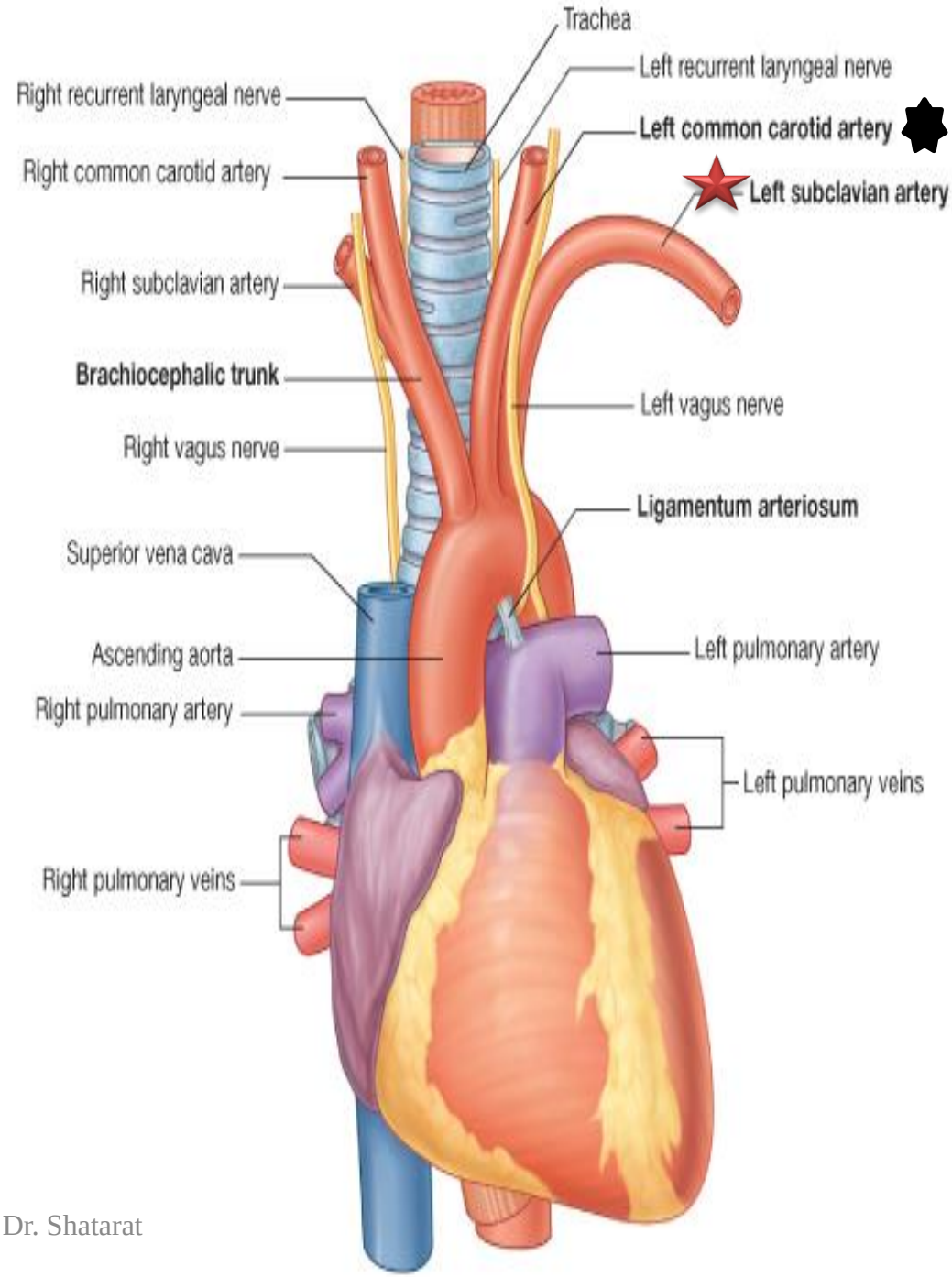
b-The left common carotid artery

- Arises from the convex surface of the aortic
- It runs upward and to the left of the trachea and enters the neck behind the left sternoclavicular joint.

c-The left subclavian artery

Why we call it subclavian?

- arises from the aortic arch
- Runs in a groove in the first rib



Aorta CTA (M. Malinzak).

Identify: brachiocephalic trunk, left common carotid, left subclavian, right common carotid, right subclavian