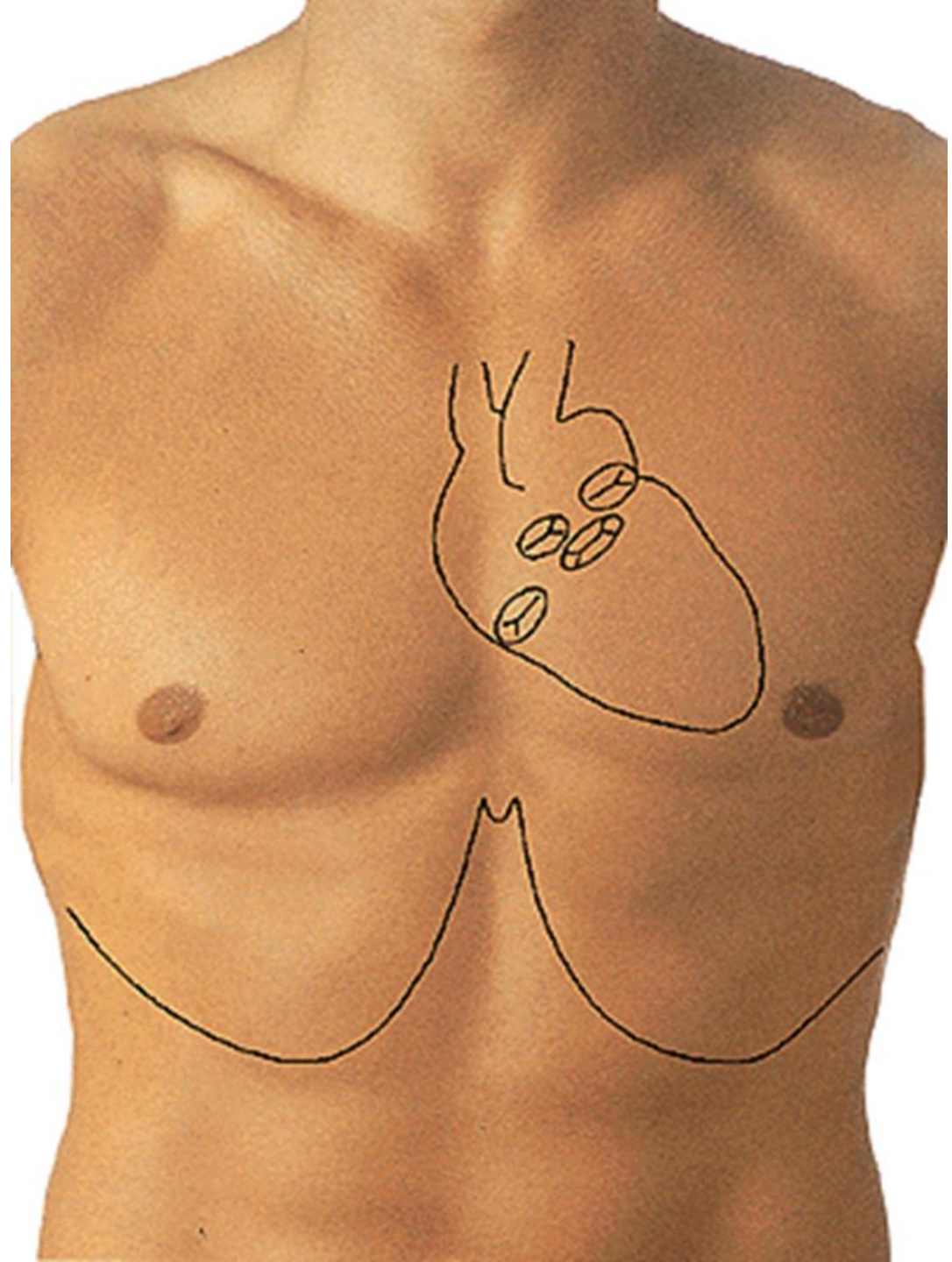
Pericardium and Heart

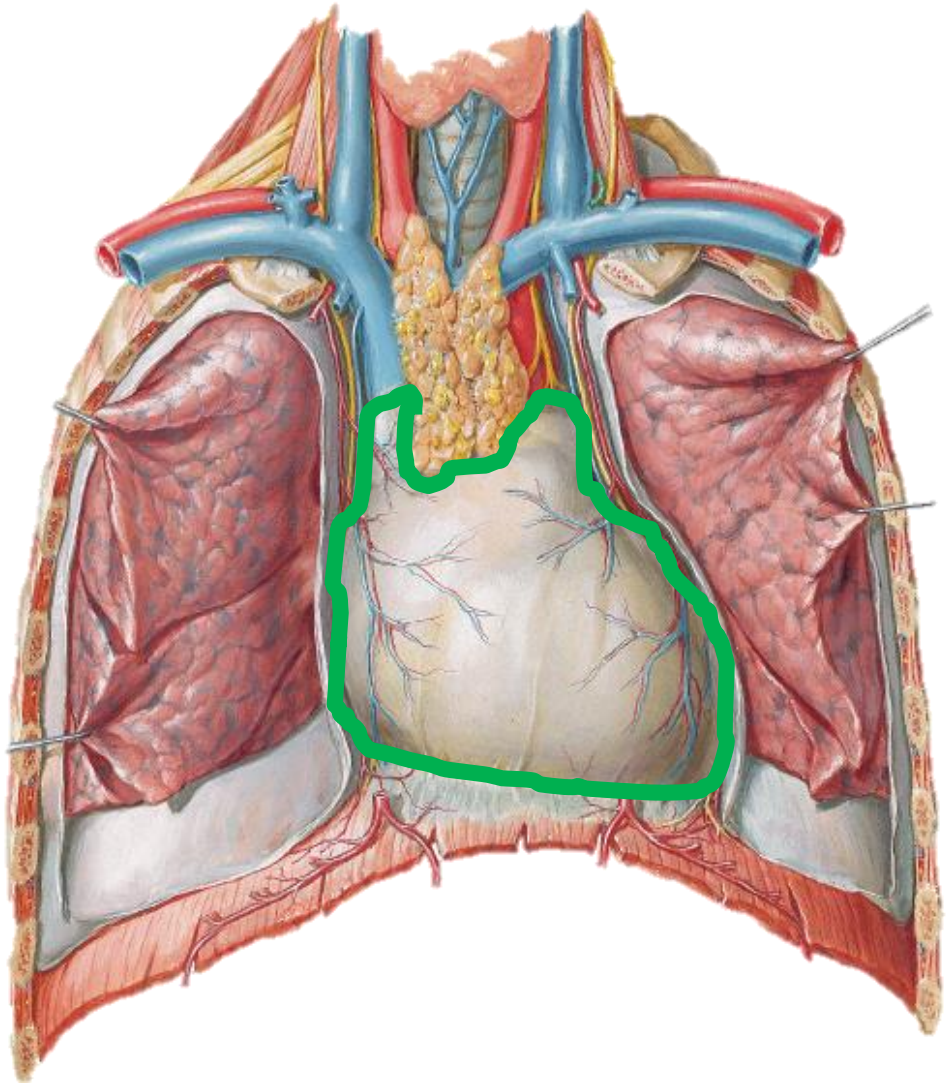


Pericardium

Conical fibroserous sac which contains the heart and the roots of the great vessels in the middle mediastinum.

It is formed of 2 sacs:

- Outer fibrous
- Inner serous:
  - Parietal pericardium
  - Visceral pericardium

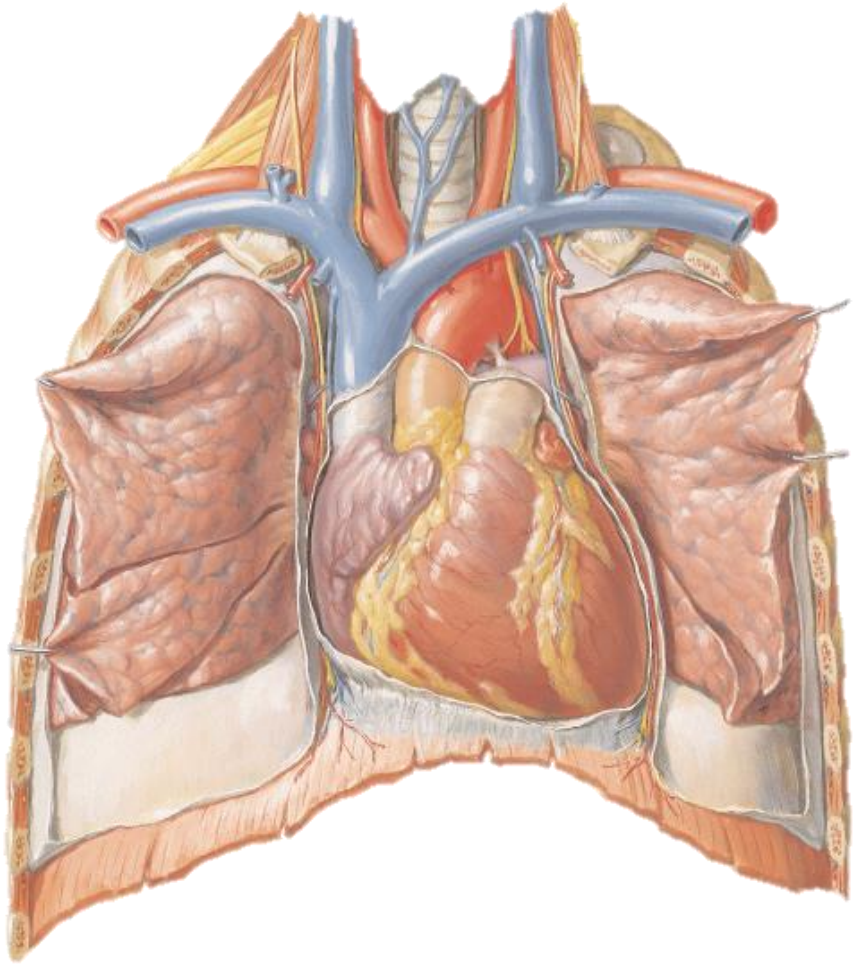


Relations of the pericardium..1/2

Anteriorly:

- Lung and pleurae separating it from the thymus.
- Body of the sternum
- Cartilage of 2-6 ribs

On the left side the pericardium is closely related to the lower part of the sternum and the left 4^{th} and 5^{th} costal cartilages.



Relations of the Pericardium..2/2

Posteriorly:

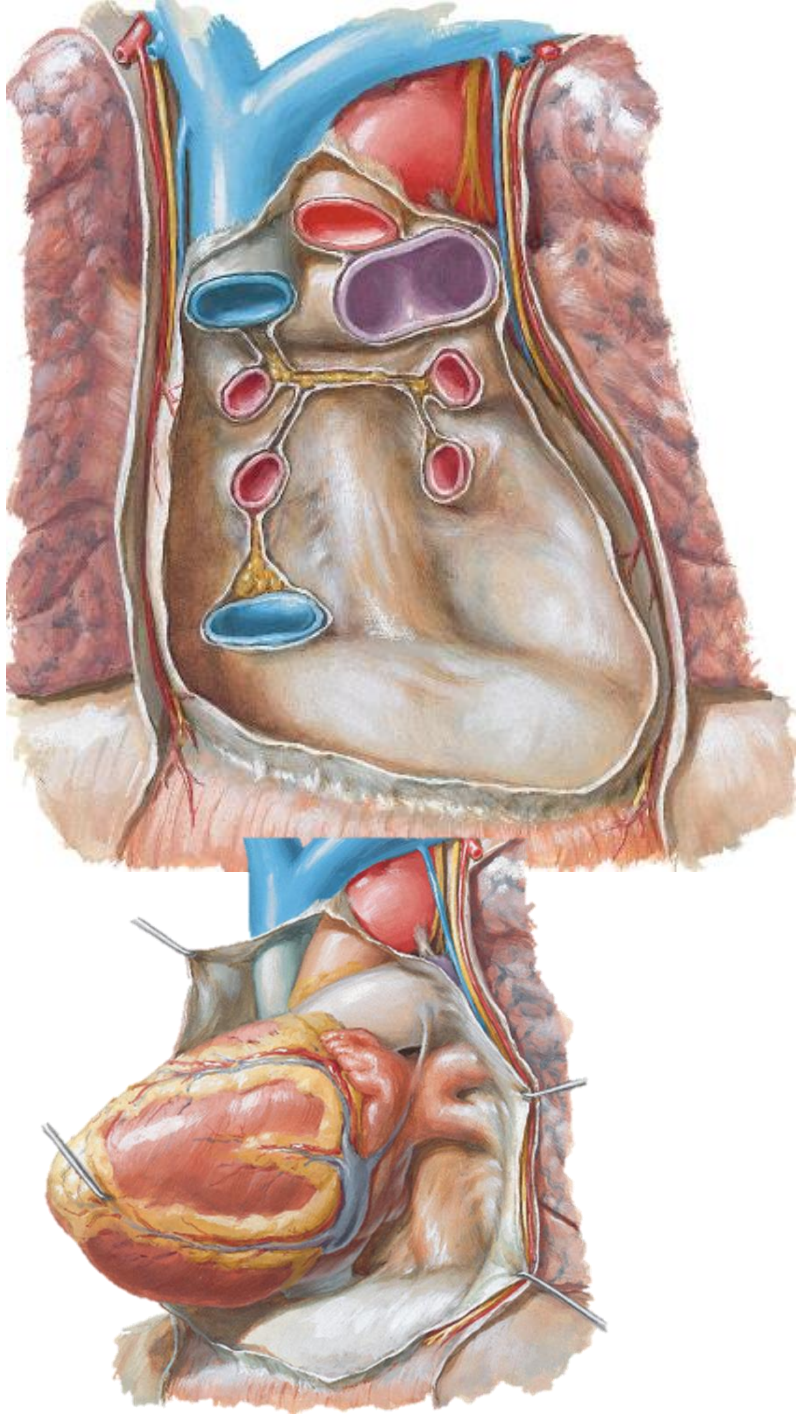
- Bronchi
- Oesophagus
- Oesophageal plexus
- Descending aorta
- T5-T8 vertebra

Inferiorly:

- Diaphragm

Laterally:

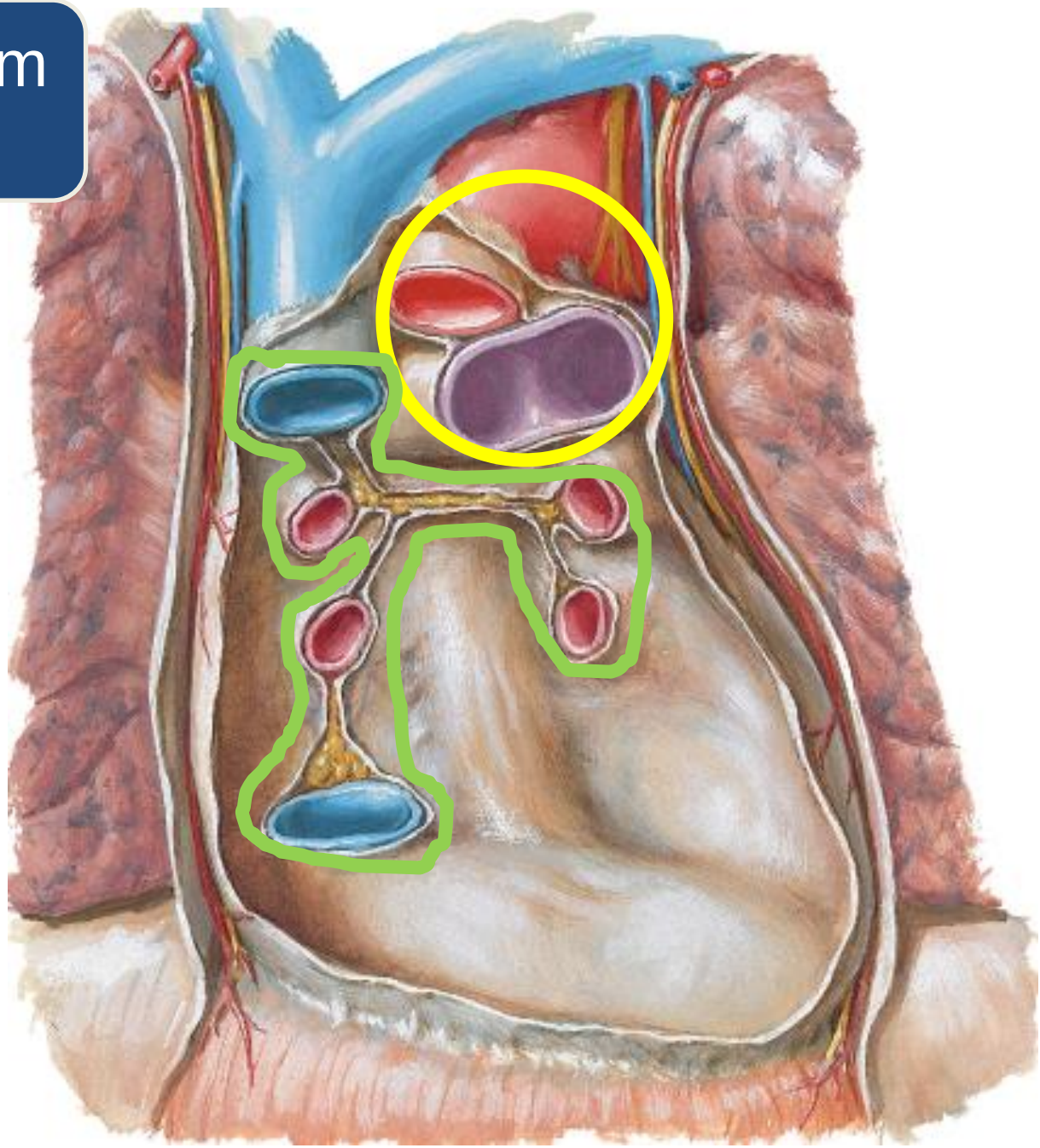
- Pleura and mediastinal surfaces of both lungs
- Phrenic nerves and musculophrenic vessels



Visceral Pericardium

Formed of two tubes:

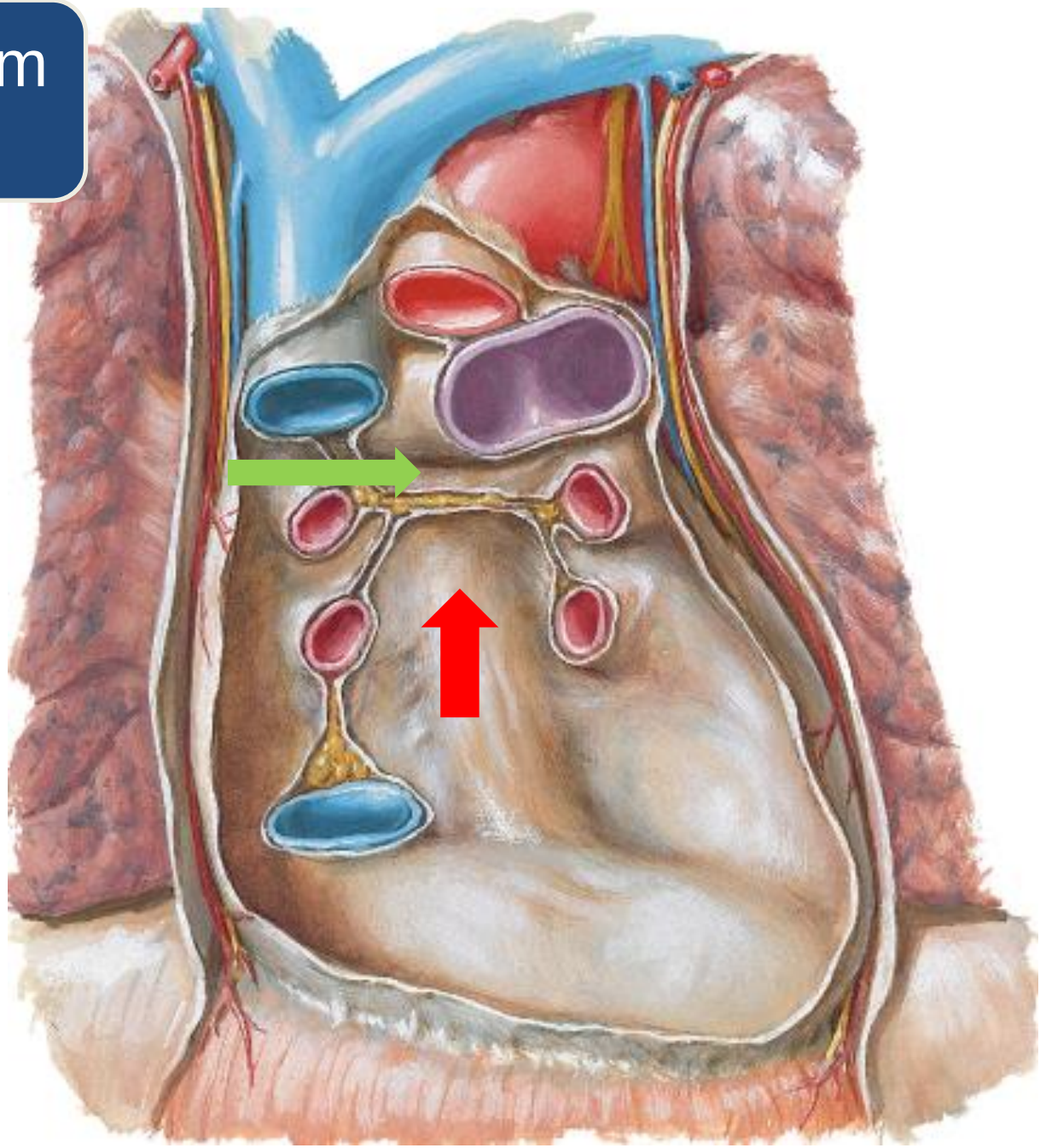
- 1st tube: closes the aorta and pulmonary trunk
- 2nd tube: closes the S.V.C, I.V. C and the 4 pulmonary veins and shows two sinuses:
  - Oblique
  - Transverse

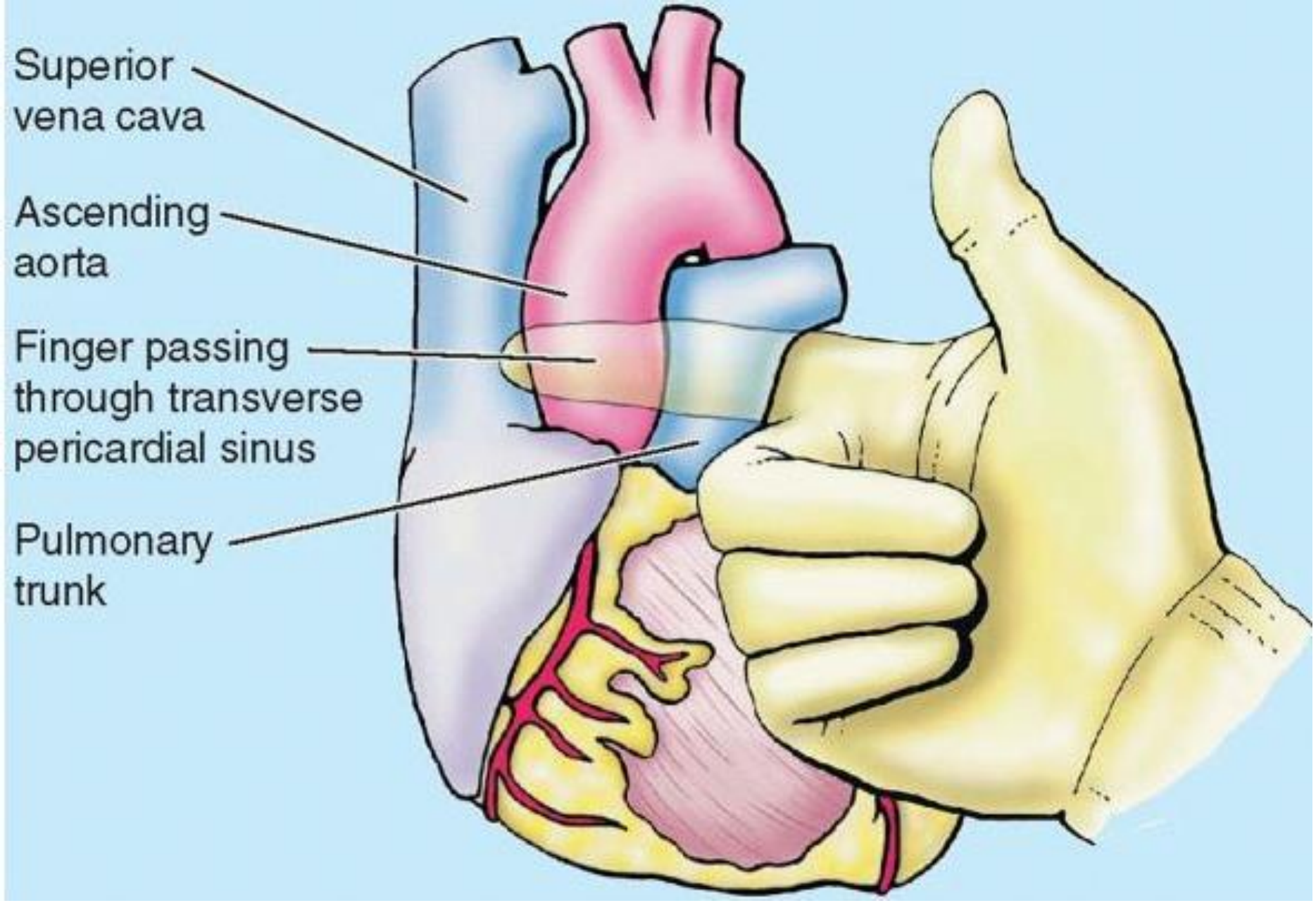


Visceral Pericardium

The Oblique Sinus: lies behind the left atrium and the pericardium.

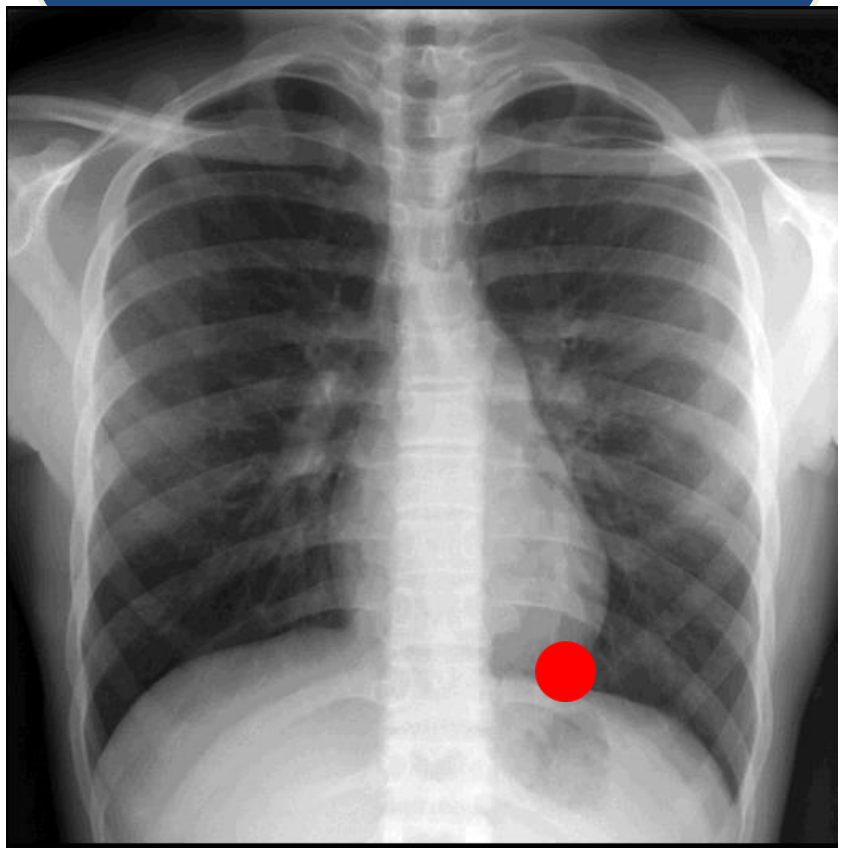
The Transverse sinus: lies between the ascending thoracic aorta, pulmonary trunk and the left atrium

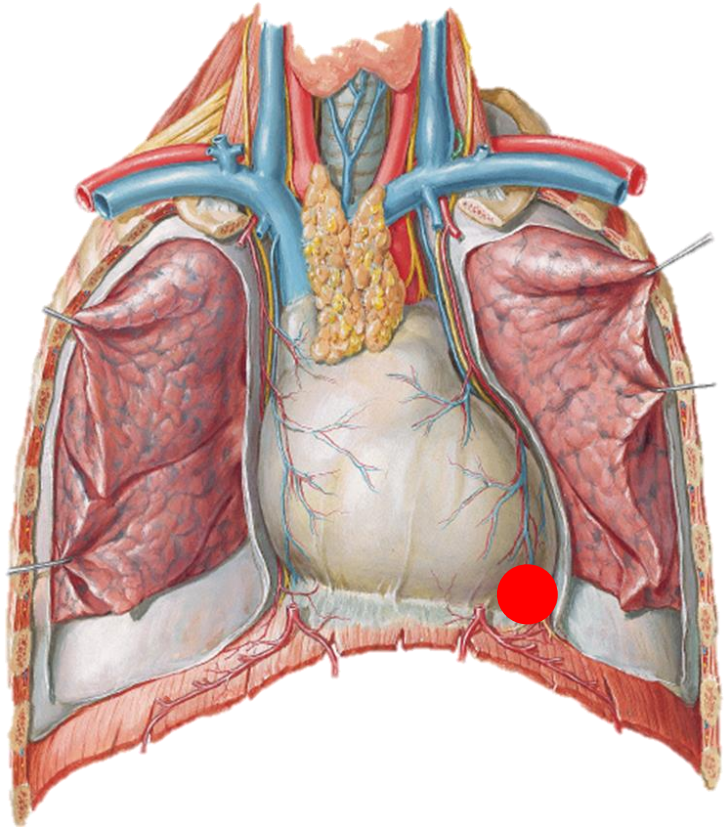



Superior vena cava
Ascending aorta
Finger passing through transverse pericardial sinus
Pulmonary trunk

The Heart, General Considerations..1/5

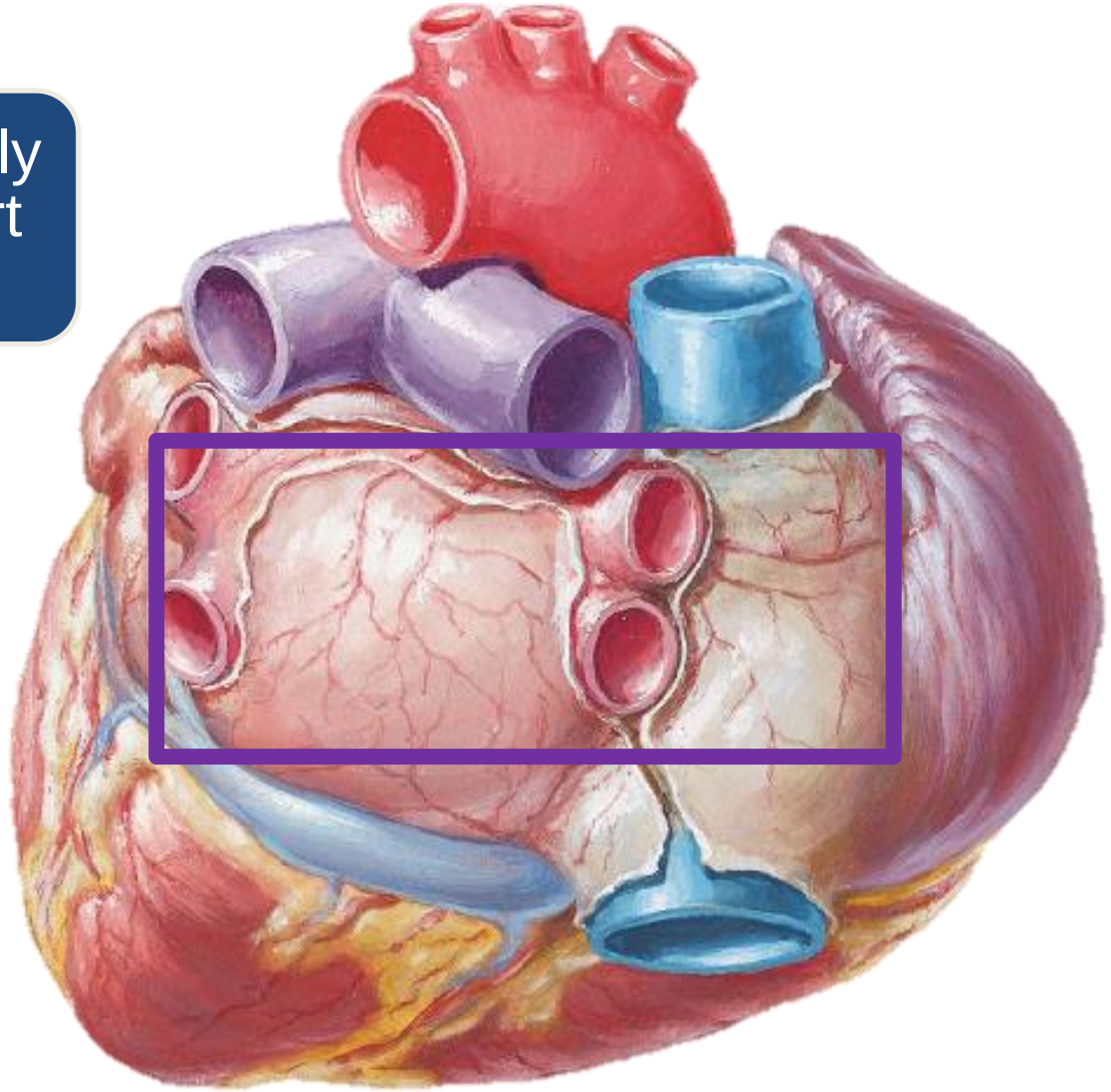
The APEX: lies in the 5th intercostal space, slightly medial to the mid clavicular line, 9 cm from the midline. This point is important for auscultating the mitral valve.





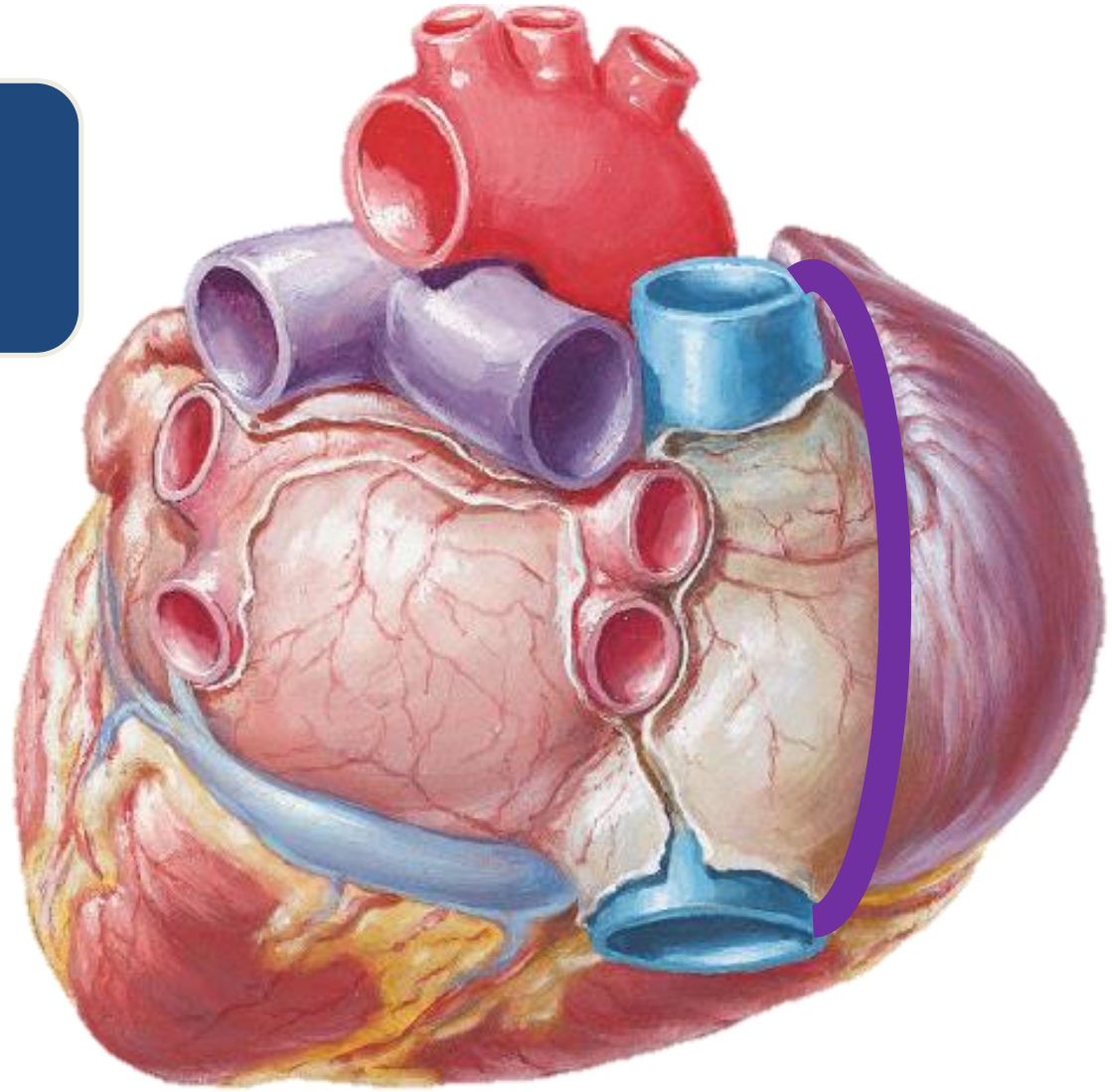
The Heart, General Considerations ..2/5

The BASE: formed mainly by the left atrium and part of the right atrium



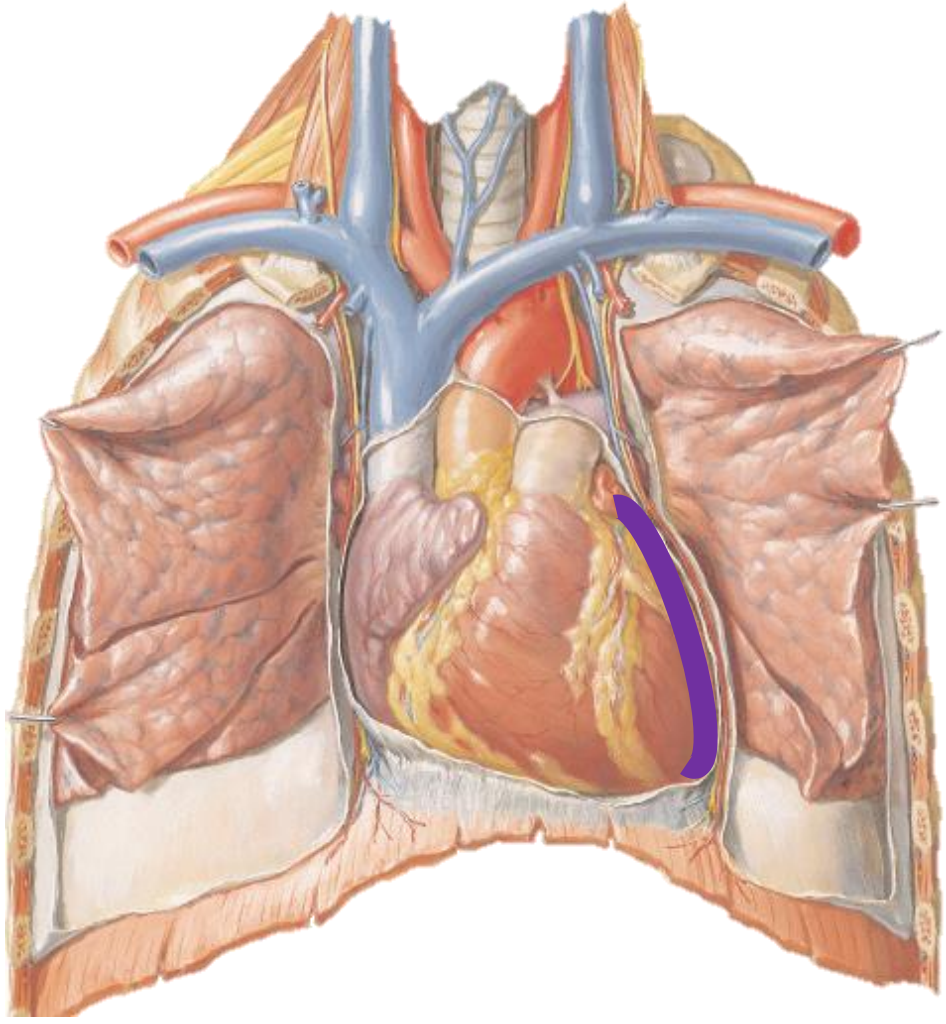
The Heart, General Considerations ..3/5

The RIGHT BORDER: formed by the S.V.C, right atrium and I.V.C.



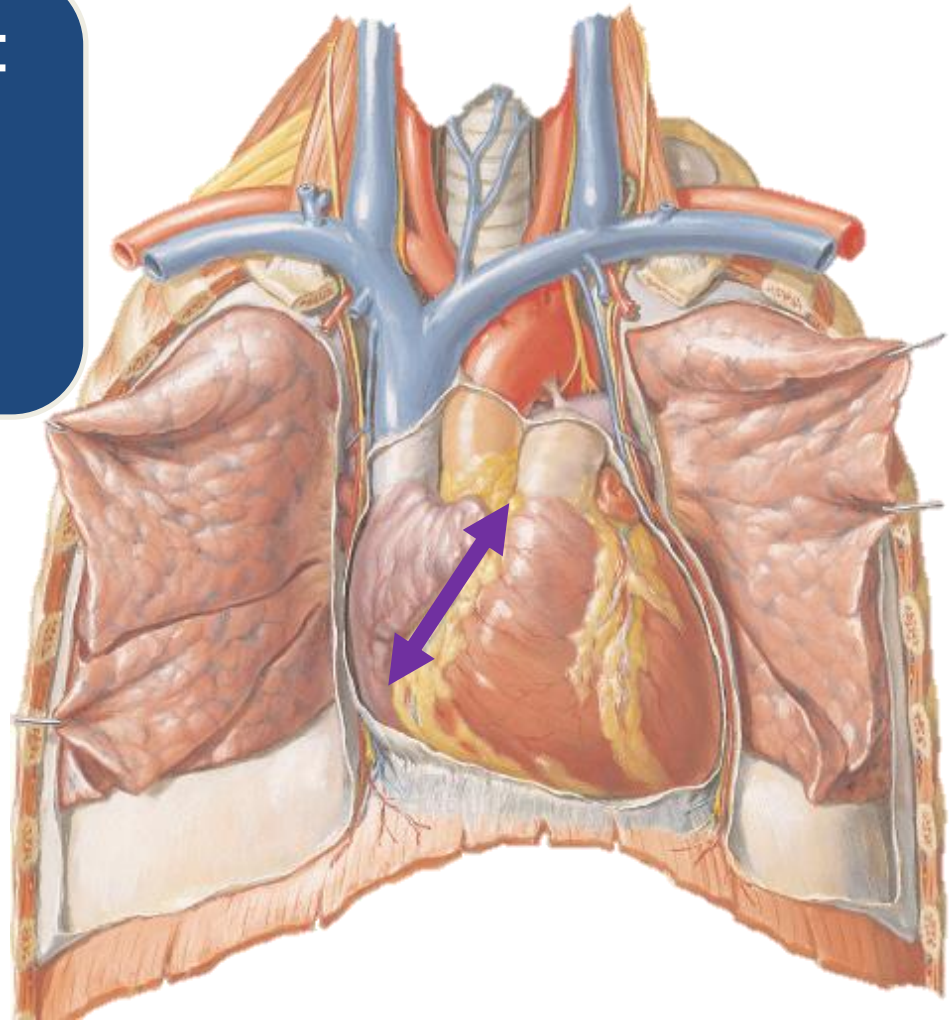
The Heart, General Considerations ..4/5

The LEFT BORDER:
formed the left ventricle.



The Heart, General Considerations ..5/5

The CORONARY SULCUS: a groove on the external surface of the heart marks the division between the atria and the ventricles.



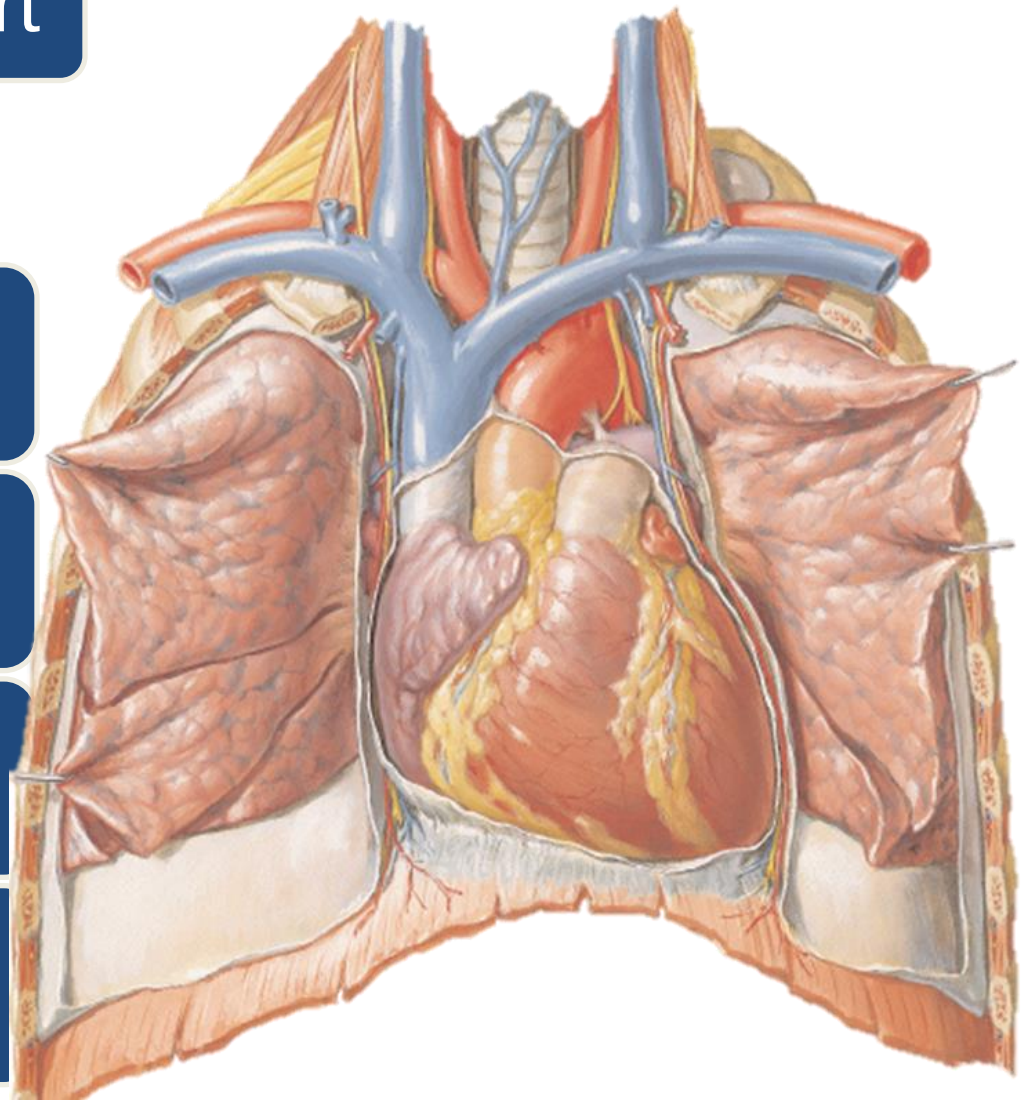
Surfaces of the Heart

Anterior (sternocostal) surface, formed mainly by the right ventricle.

Diaphragmatic (inferior) surface, formed mainly by the left ventricle and partly by the right ventricle; it is related mainly to the central tendon of the diaphragm.

Right pulmonary surface, formed mainly by the right atrium.

Left pulmonary surface, formed mainly by the left ventricle; it forms the cardiac impression in the left lung.



Surface anatomy of the Heart

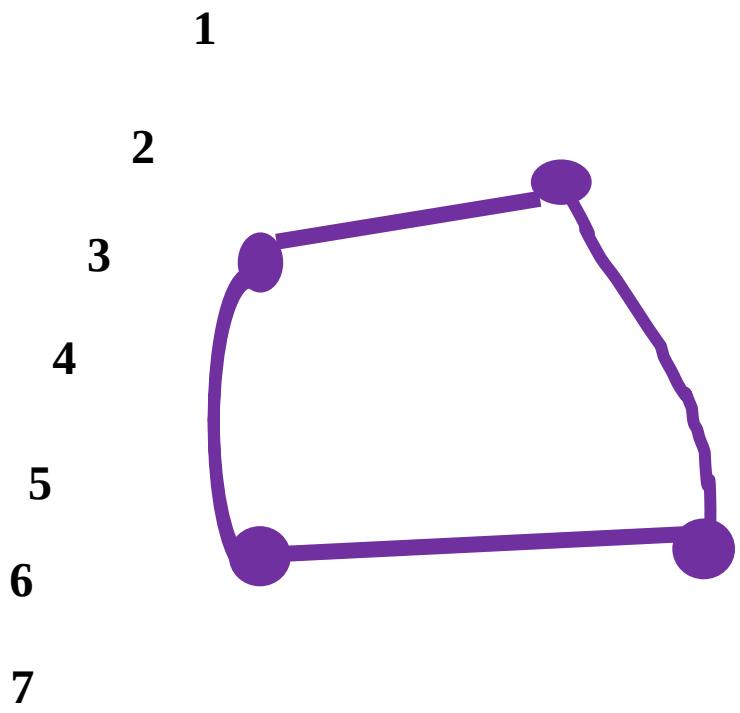
Right border: a curved line on the right side between:

- Upper border of the 3rd costal cartilage 3cm from midline, and
- 6th costal cartilage 3cm from midline

Left border: a curved line on the left between:

- Lower border of the 2nd costal cartilage 4cm from midline
- 5th left intercostal space 9cm from midline

Upper and lower borders: join corresponding points



Heart Valves and Their Surface Projections

Pulmonary Valve:

- At the 3rd left sternocostal junction
- Heard at the 2nd left space

Aortic Valve:

- 3rd space at the left sternal border
- Heard at the 2nd right space

Mitral Valve:

- At the 4th left intercostal space
- Heard at the apex of the heart

Tricuspid Valve:

- At the level of the 4th space behind the sternum
- Heard at the xiphesternal junction