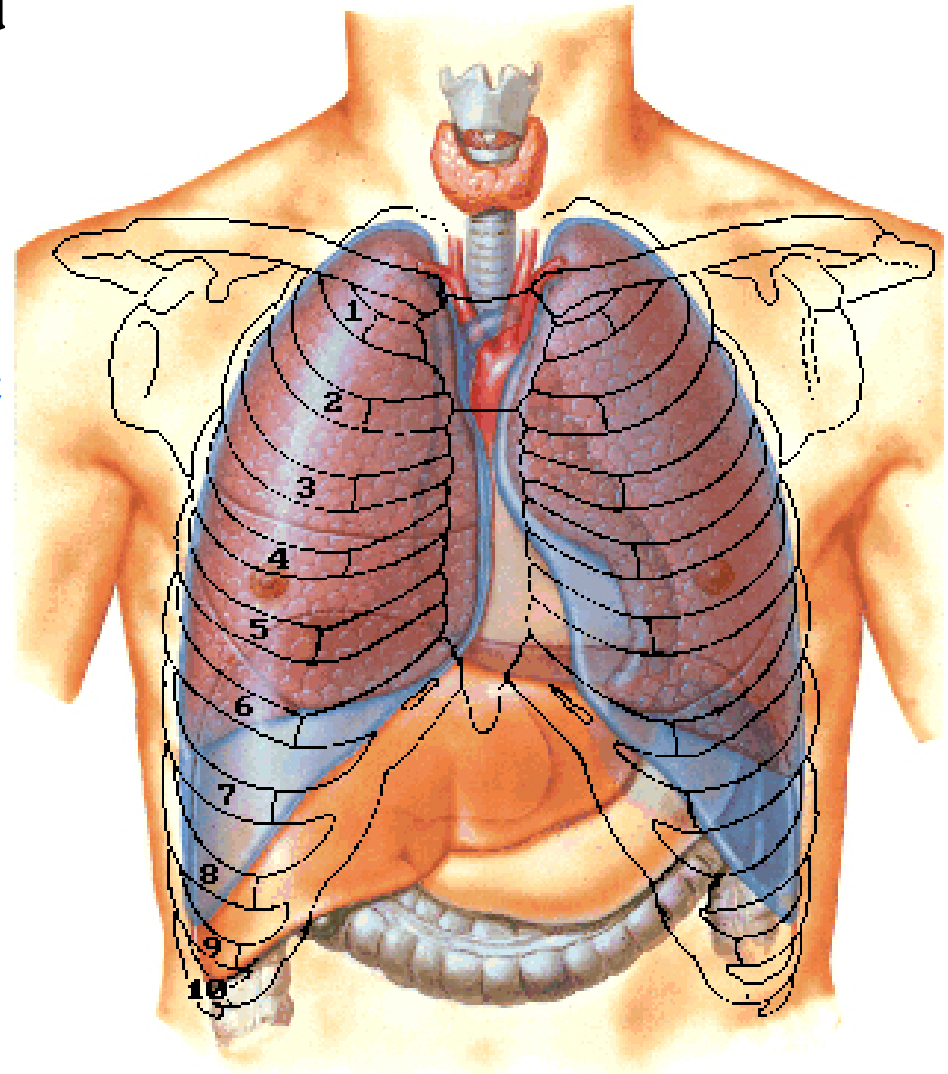


Thorax

- Upper part of trunk separated from abdomen by diaphragm
- Contains main organs of respiration (pair of lungs) & circulation(Heart) –Thoracic Cavity
- Supported by oseo-cartilaginous elastic framework (Thoracic cage)
- Designed for increasing & decreasing intra-thoracic pressure

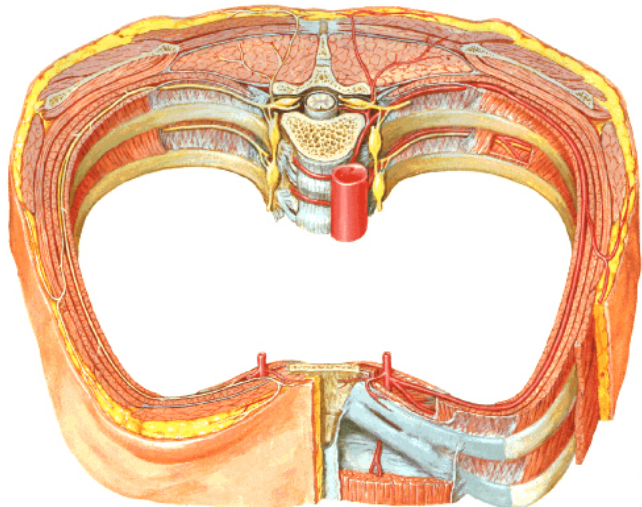
Topography of Lungs Anterior View



In transverse section

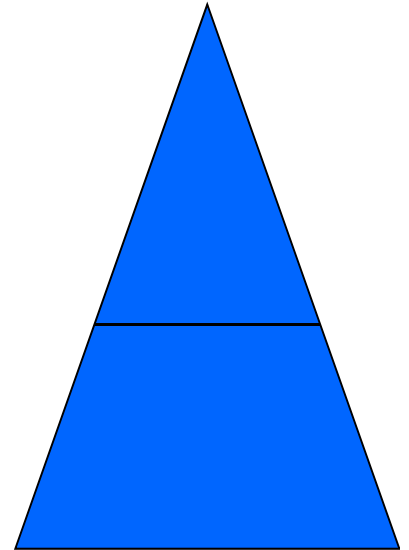
- Bean or kidney shaped
Transverse Dia > A.P.
diameter
- Reverse in quadrupeds

Intercostal Nerves and Arteries

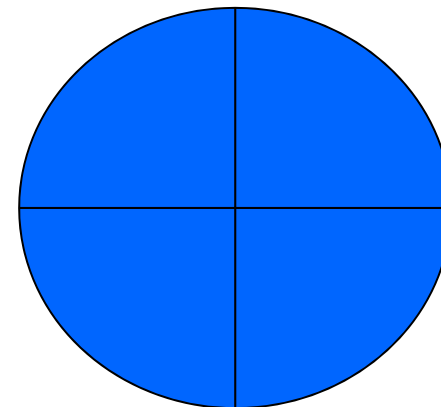


In coronal section

- Truncated cone ,
narrow above
(Thoracic inlet) &
wider below
(Thoracic outlet)

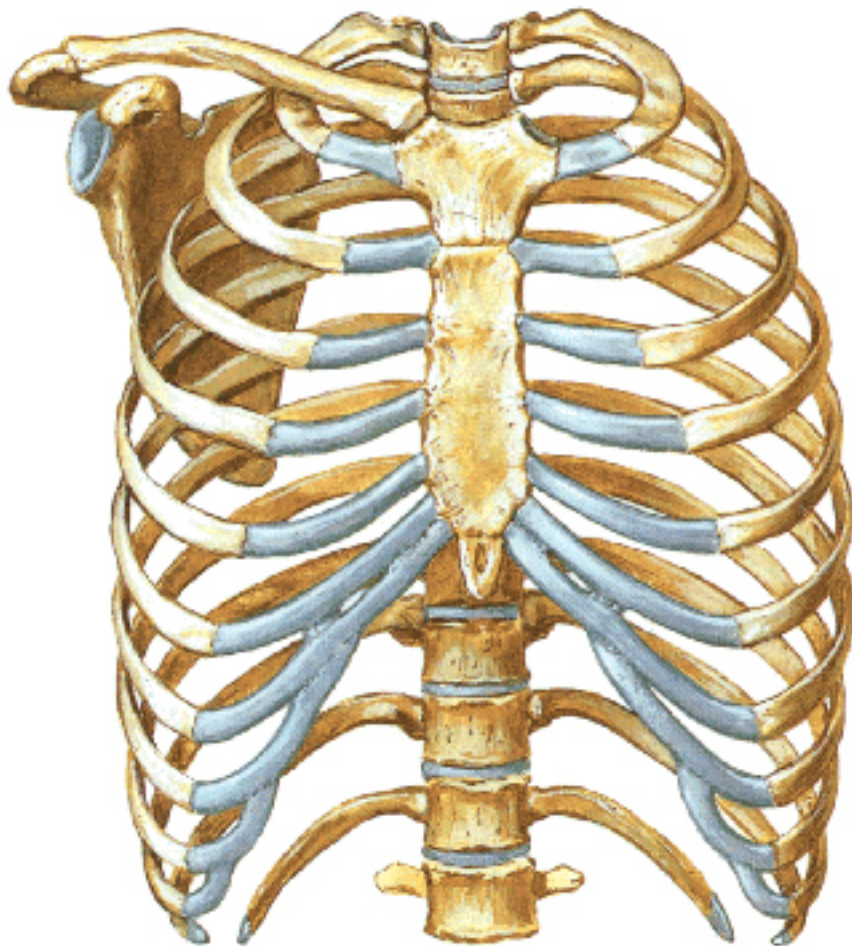


Circular in children
(below 2 yrs.)

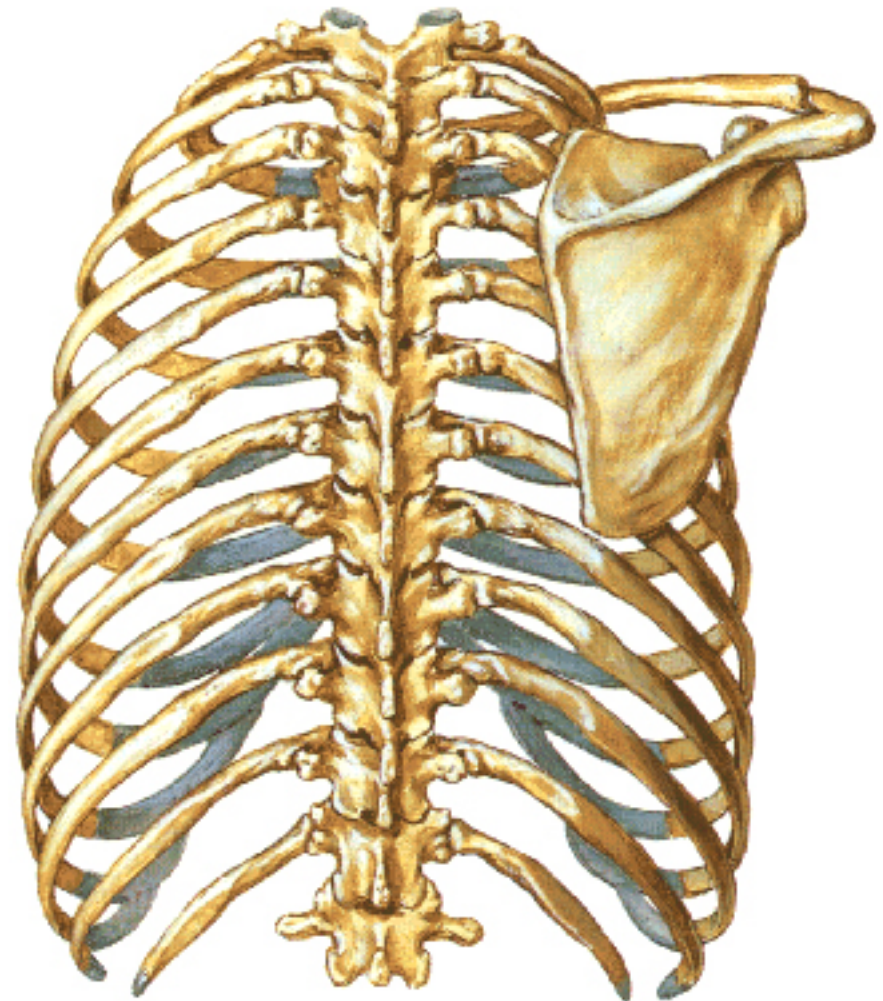


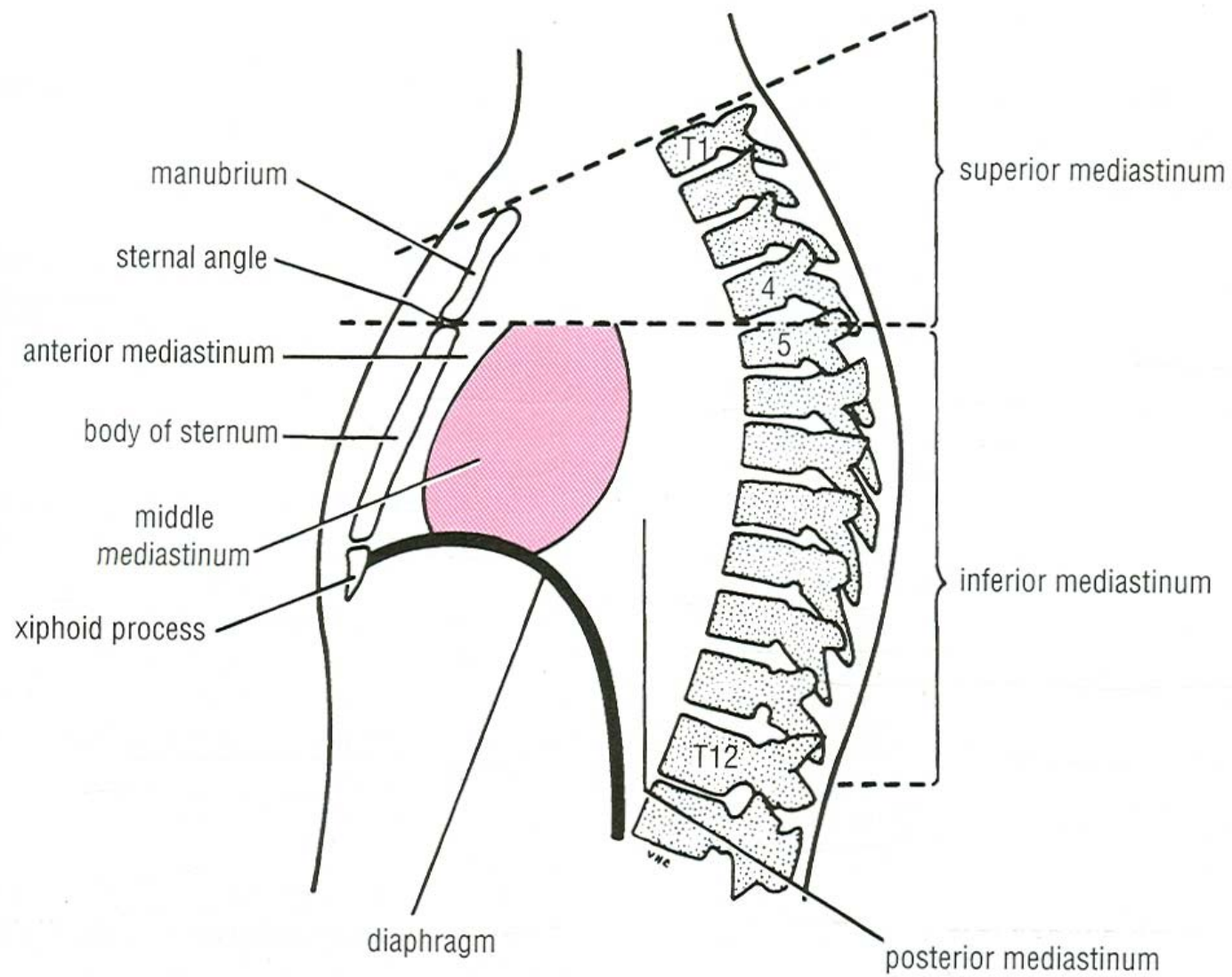
Thoracic Cage - Formation

Bony Framework of Thorax
Anterior View



Bony Framework of Thorax
Posterior View





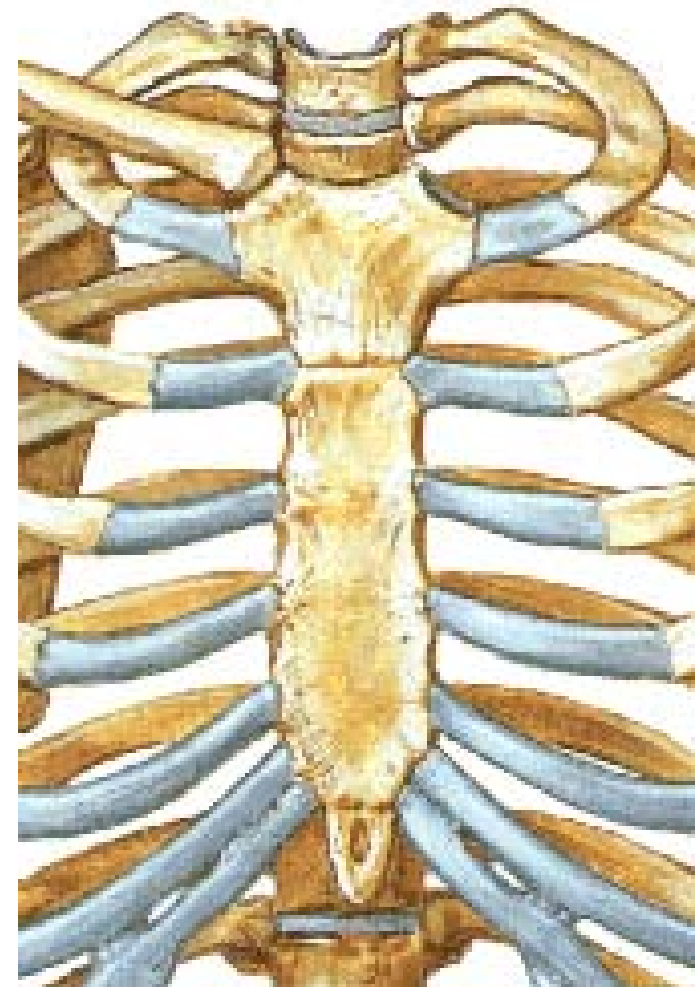
Sternum

Parts

- Manubrium Sterni
- Body
- Xiphoid process

Other features

- Suprasternal notch (jugular)
Interclavicular notch
- Facet for clavicle
- Sternal angle (angle of Louis)
- Facet for costal cartilages



Thoracic Vertebra(12)

- Body - anteriorly
- 7 processes

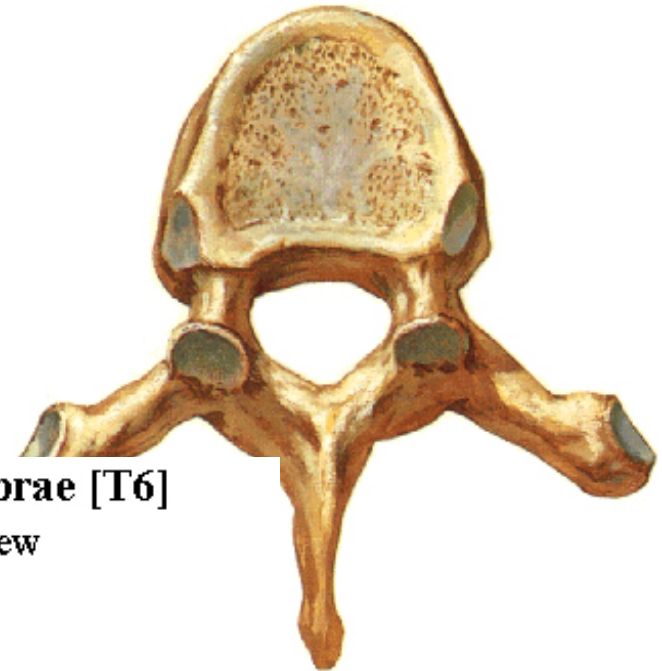
Feature for identification

Costal facets on body

2-8 – typical

1st & last 4 are atypical

Thoracic Vertebrae [T6]
Superior View



Thoracic Vertebrae [T6]
Lateral View

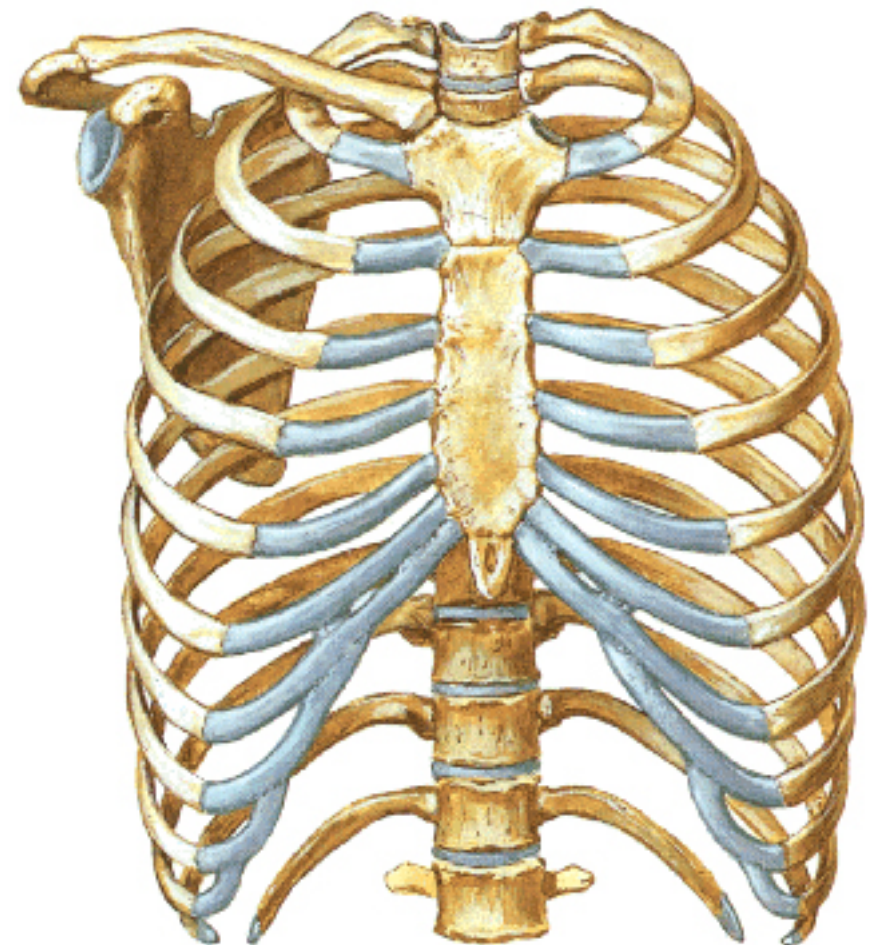


Bony Framework of Thorax

Anterior View

Ribs

- 12 pair , Bony arches placed obliquely & arranged one below the other
- Gaps in b/w called **intercostal spaces (11)**

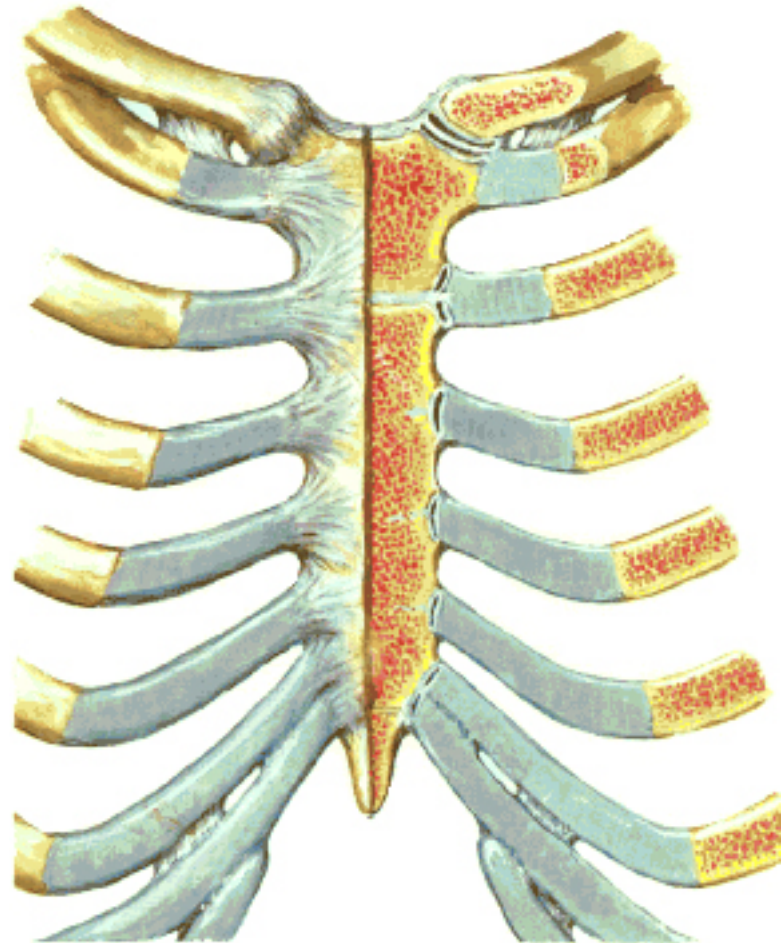


Ribs

- First seven connected anteriorly to lateral side of sternum through their costal cartilages called **true (vertebrosternal) ribs**
- Rest 5 are **false ribs** of which 8th , 9th & 10th Joined to each other (**vertebrochondral**) ribs

Sternocostal Articulations

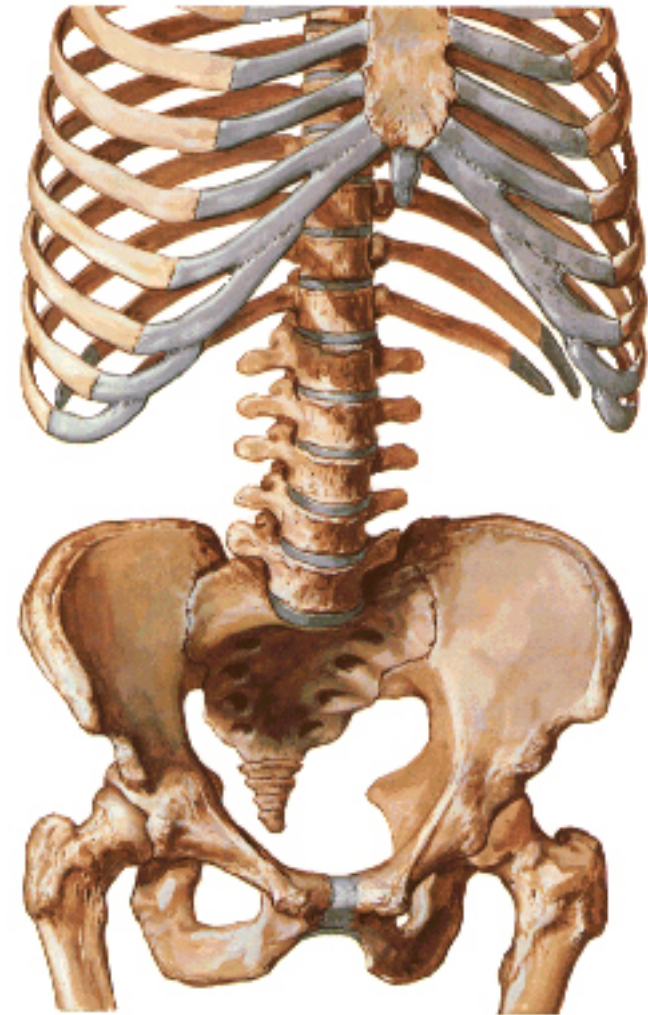
Anterior View



Bony Framework of Abdomen

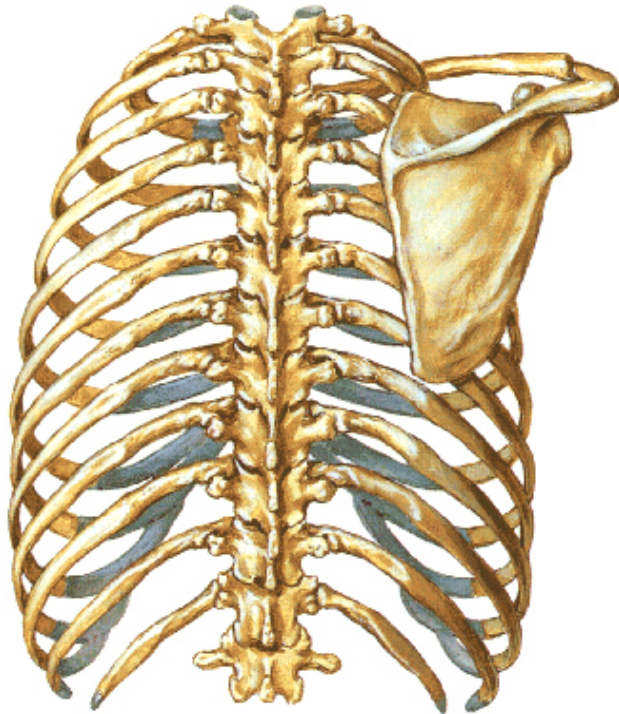
Ribs

- Anterior end of 11th & 12th are free (Floating) ribs
- First two & last 3 has special features (Atypical)
rest 3 – 9 (Typical ribs)



Ribs

Bony Framework of Thorax
Posterior View



Parts of Rib

Two Ends –

Ant.(sternal) & Post(vertebral)

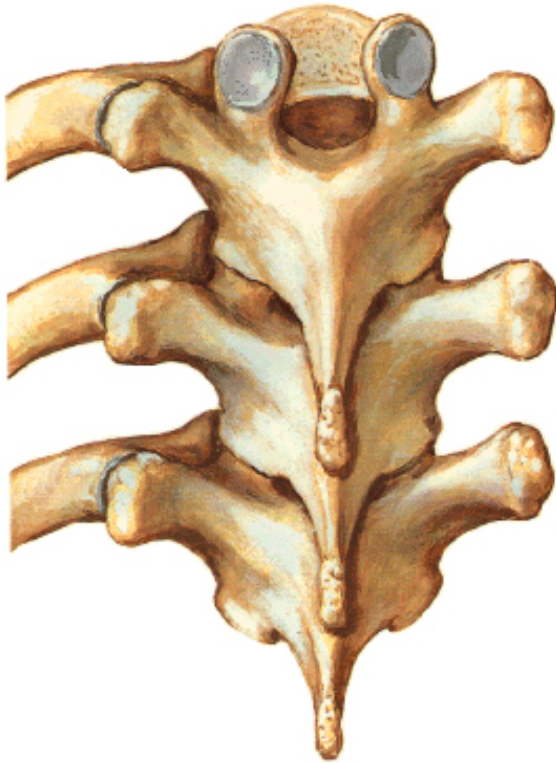
Head with two facets (upper small &
Lower large)

Neck

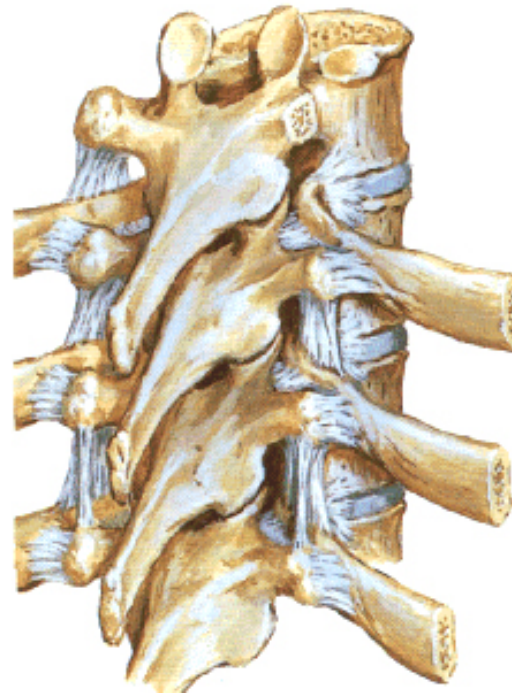
Tubercle

Shaft with costal groove

Thoracic Vertebrae [T7-T9] - Assembled
Posterior View



Costovertebral Joints
Right Posterolateral View



Costovertebral Joints
Left Lateral View



Thoracic inlet

Boundaries

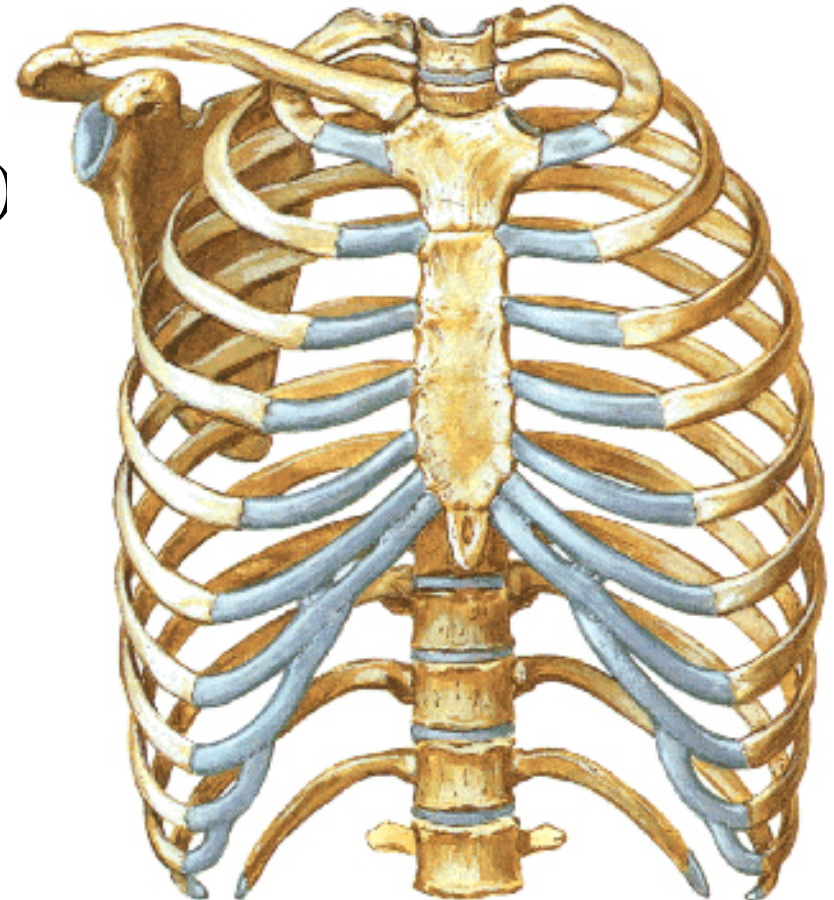
- **Anterior** – upper border of Manubrium sterni (T3 – Upper)
- **Posterior** – Superior surface of body of T1(Upper)
- **On each side** – first rib with its cartilage

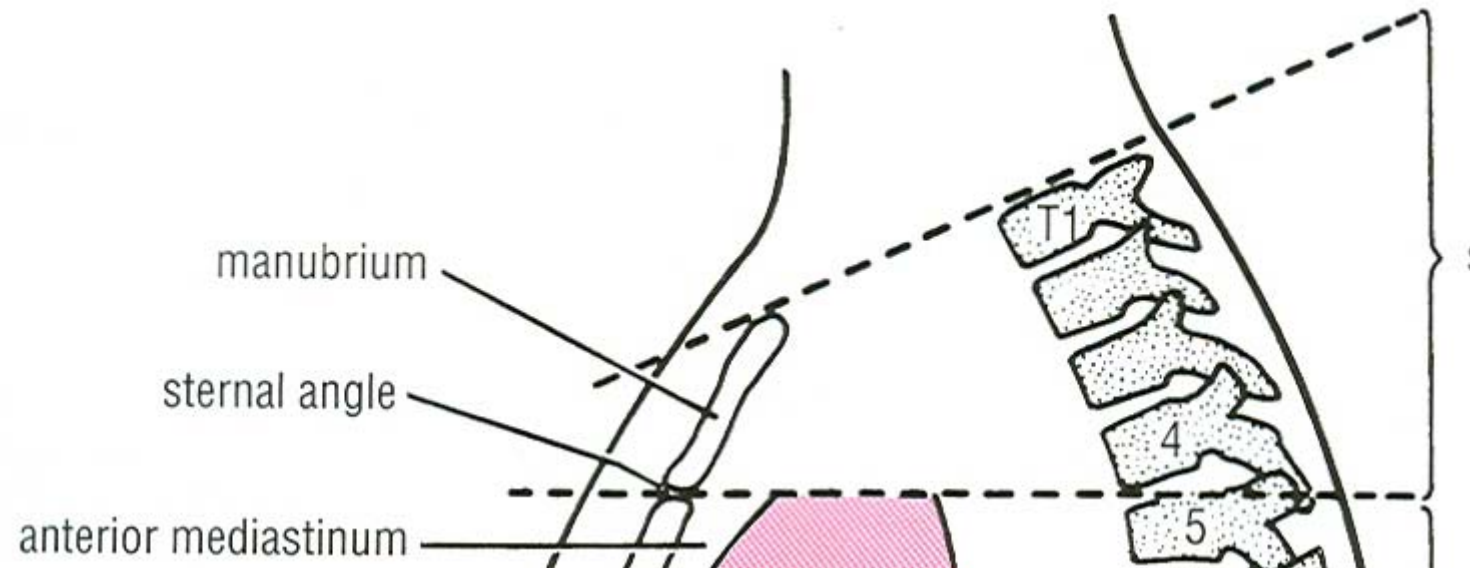
Dimensions

- Transverse dia – 4-5 inches
- Anteropost. dia – 2-2.5 inches

Bony Framework of Thorax

Anterior View



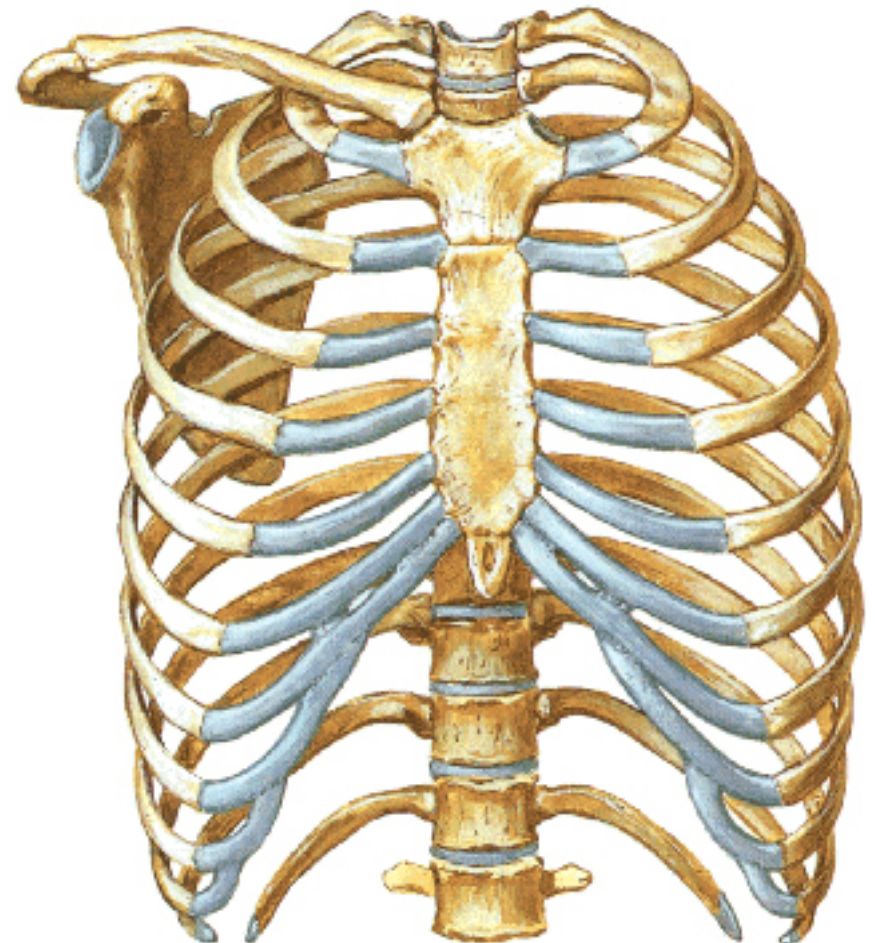


- Slope – ant. Part 1.5 cm below than post. Part
ant. Part lies at T3(U)
- Obliquity approx 45 degree

Supra Pleural Membrane

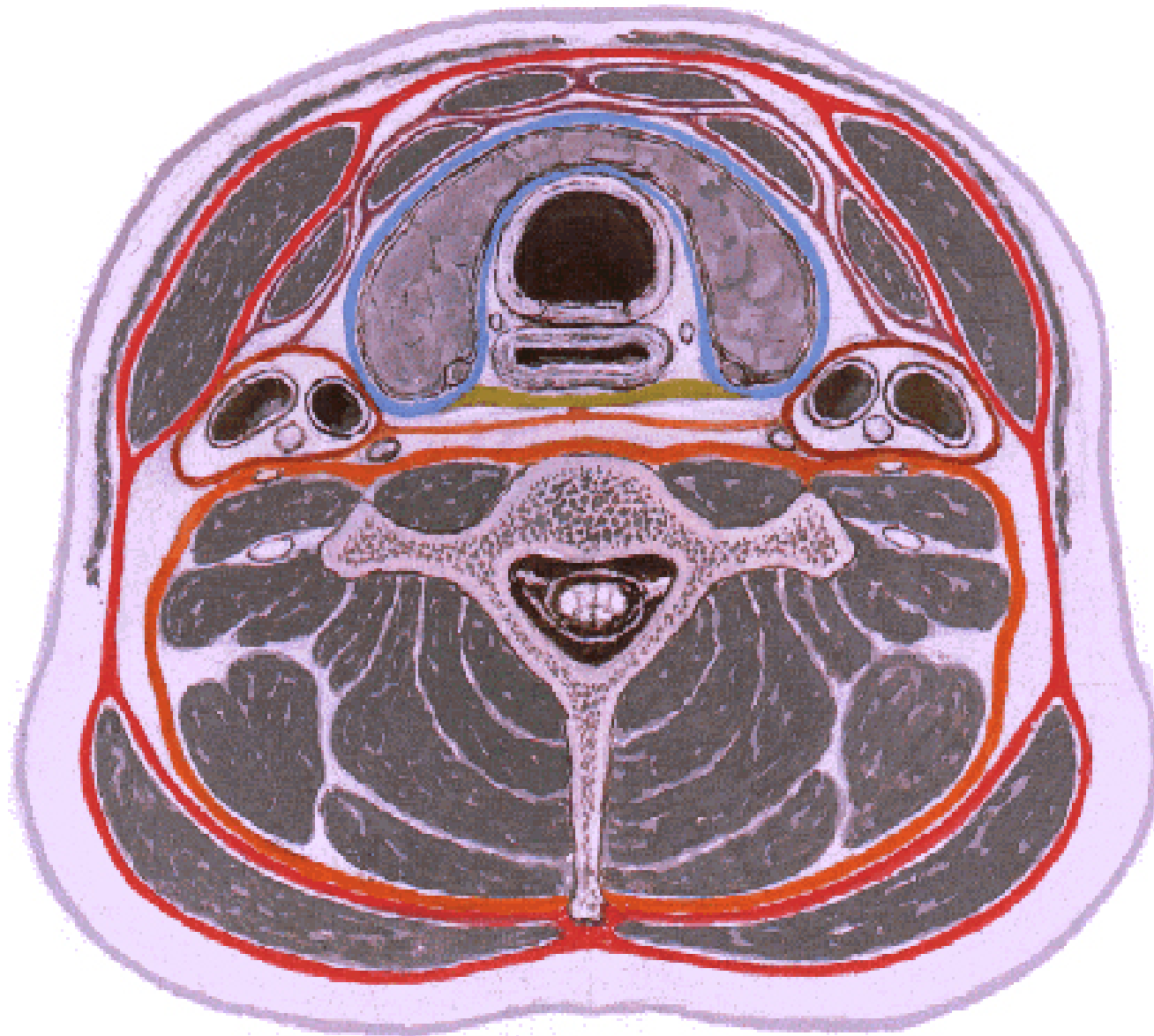
- Triangular in shape
- Apex attached to tip of tr. Process of C7
- Base to inner border of the first rib & its cartilage
- Functionally provides rigidity to thoracic cage
- Inferior surface is fused to cervical pleura
- Superior surface is related to subclavian vessels & other structures of root of neck

Bony Framework of Thorax
Anterior View



Fascial Layers of Neck

Cross Section



Thoracic Inlet

In median plane

- Sternohyoid , sternothyroid , remains of Thymus, inferior thyroid veins , trachea , oesophagus , left recurrent laryngeal nerve, ant. Longitudinal. Ligment of vertebral column, longus coli muscle

On right side

- Right internal thoracic artery , rt. Phrenic nerve , rt. Brachiocephalic vein , brachiocephalic artery , rt. Vagus , rt. Sympathetic chain , rt first post intercostal vein , rt. Superior intercostal artery , rt. First thoracic nerve , rt. Pleura , apex of rt. Lung

On left side

- Left internal thoracic artery , lt. Phrenic nerve , lt. Brachiocephalic vein , lt. Vagus nerve , lt. Common carotid artery , lt. Subclavian artery , thoracic duct , lt. Sympathetic chain , lt. First post. Intercostal vein , lt. superior intercostal artery , lt. First thoracic nerve , lt. Pleura , apex of lt. lung

Inferior aperture (outlet)

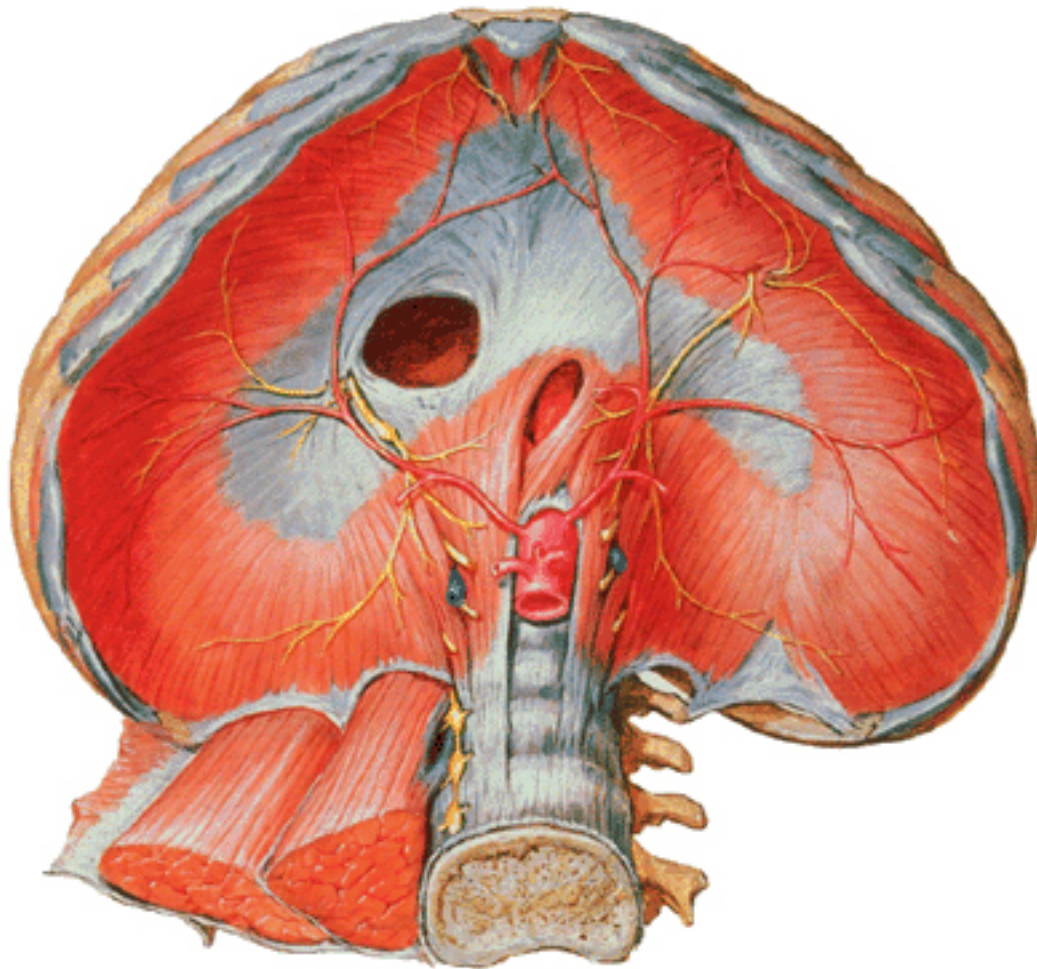
- Broad lower end of thorax surrounding upper part of abdominal cavity & is separated by diaphragm

Boundaries

- **Anterior** – infrasternal angle between two costal margins
- **Posterior** – inferior surface of body of T12
- **On each side** – costal margins formed by cartilages of 7th, 8th, 9th & 10th ribs & 11th, 12th ribs

Diaphragm

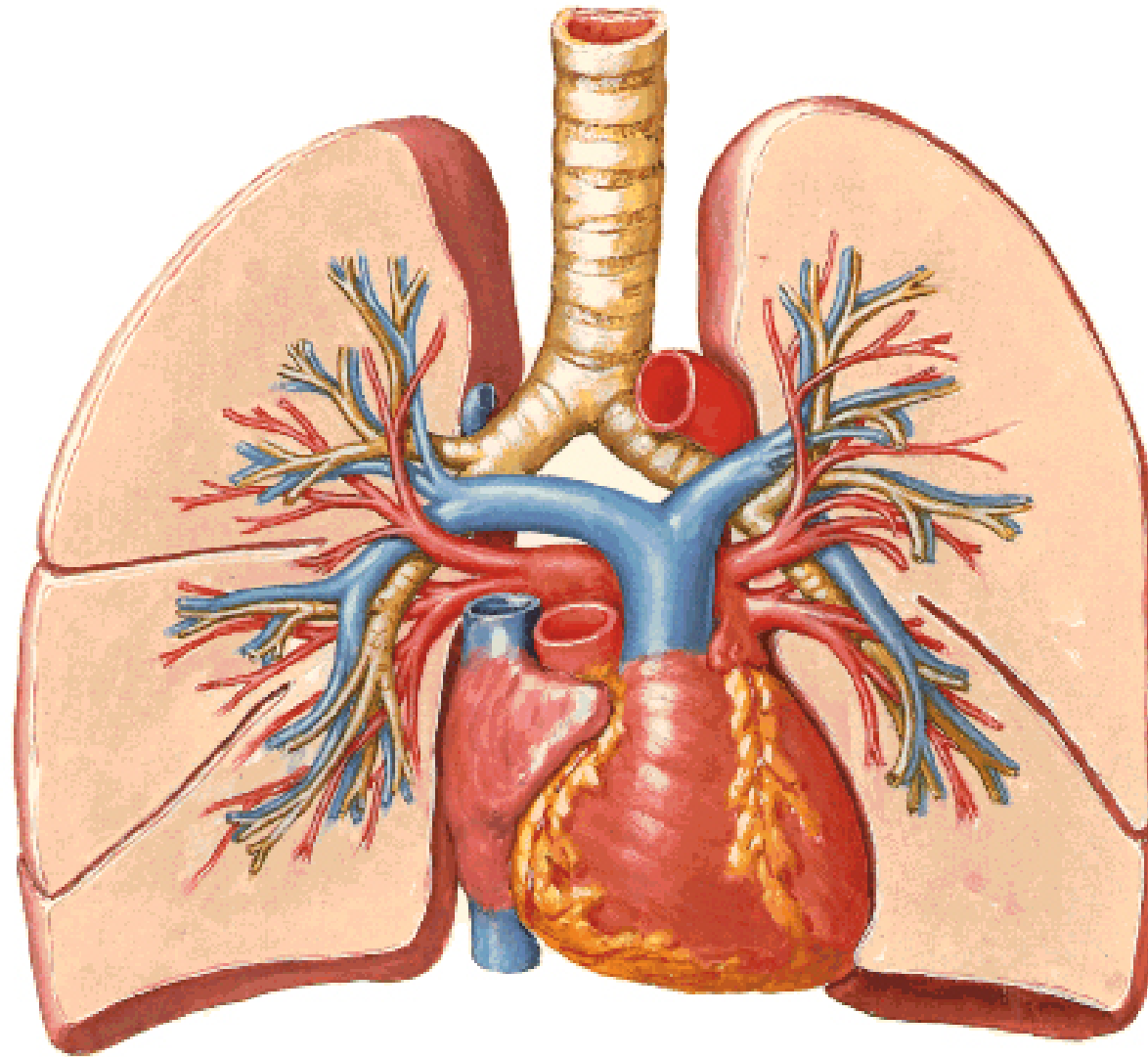
Abdominal Surface



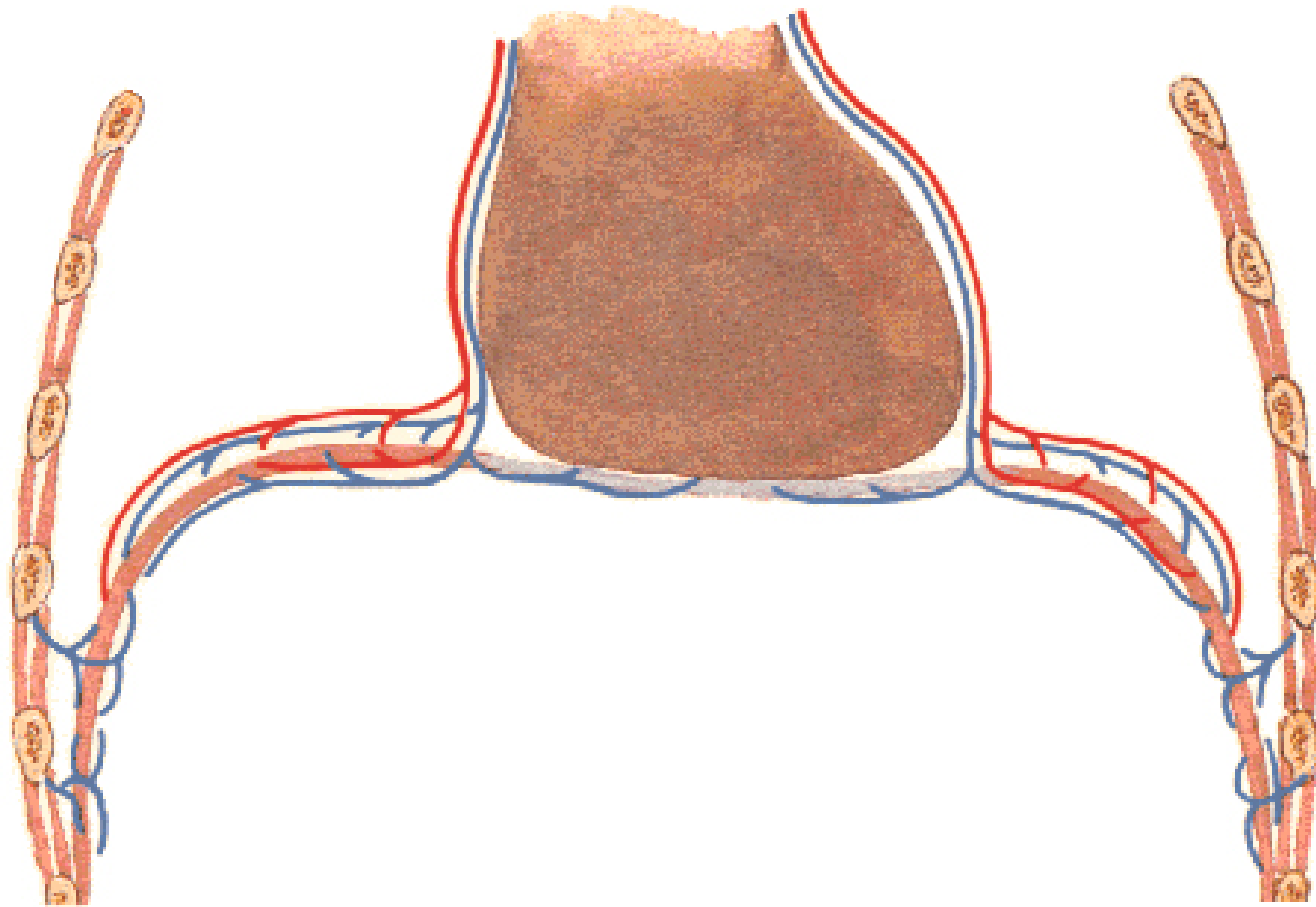
3 Large openings

- Aortic – T12
- Oesophageal – T10
– in muscular part
- Venacaval – T8 –
in central tendon

Pulmonary Arteries and Veins

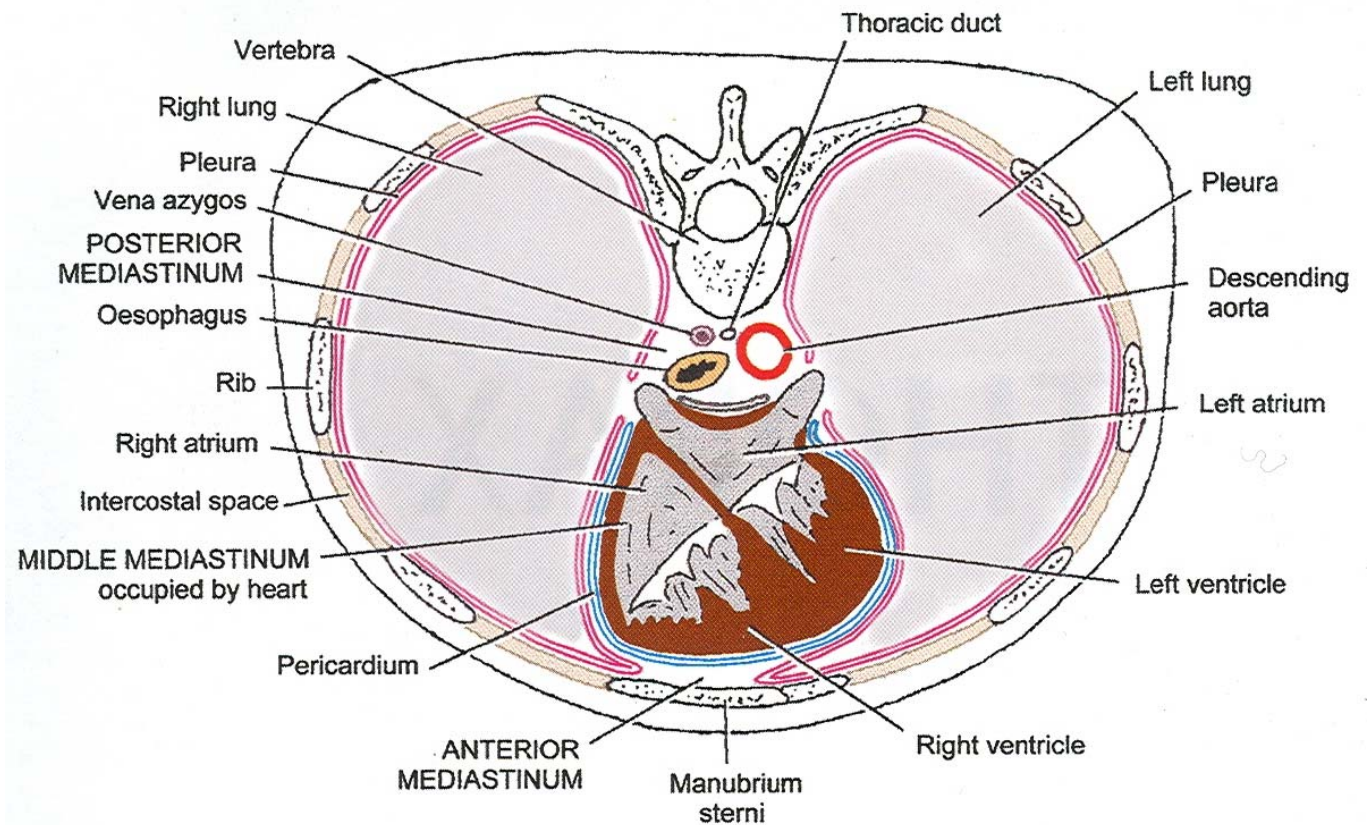


Phrenic Nerve Schema



Thoracic Cavity

- Mediastinum
- Pair of pleural cavities

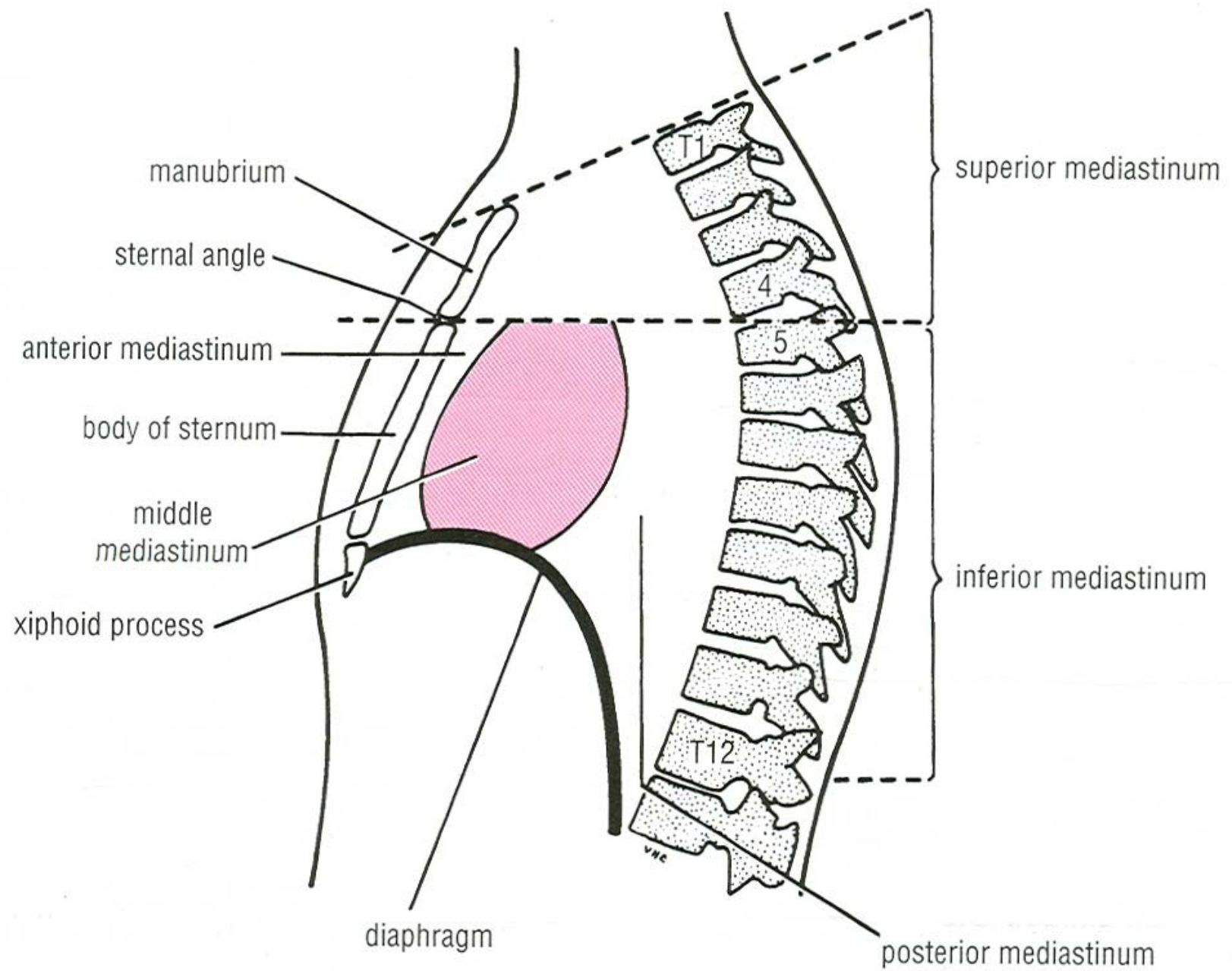


Mediastinum

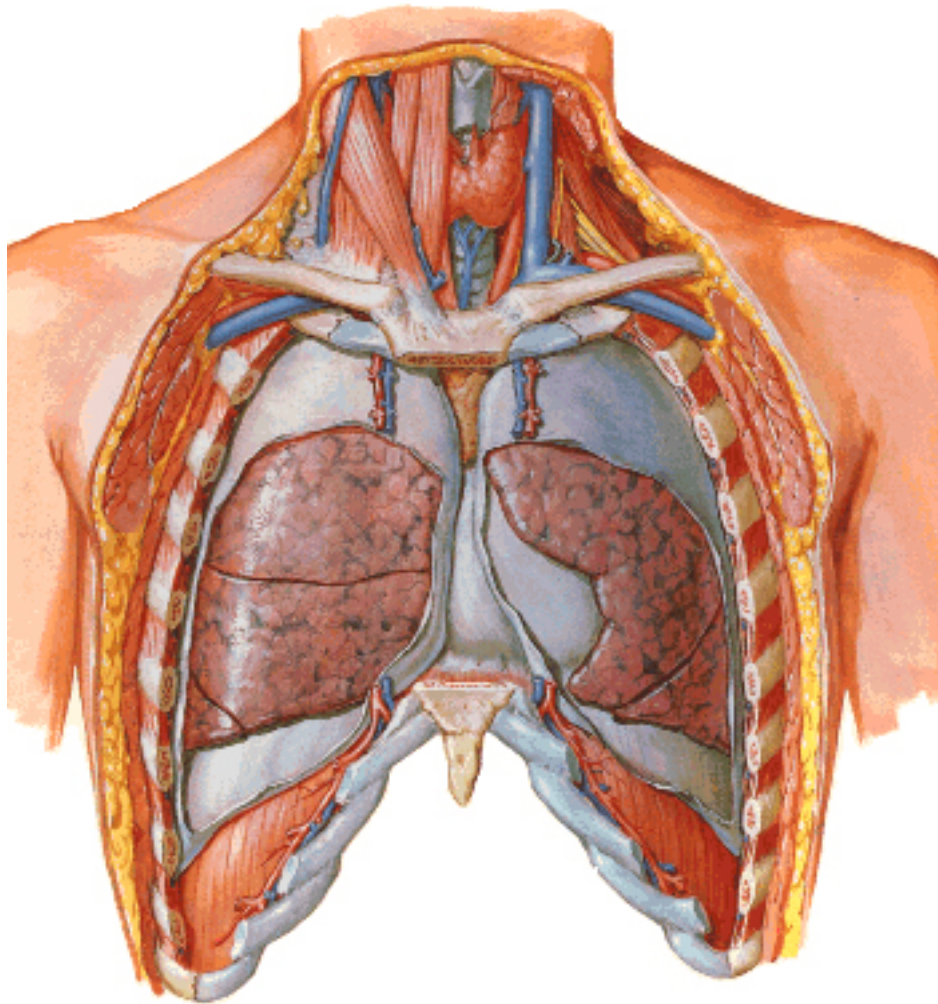
Cross Section



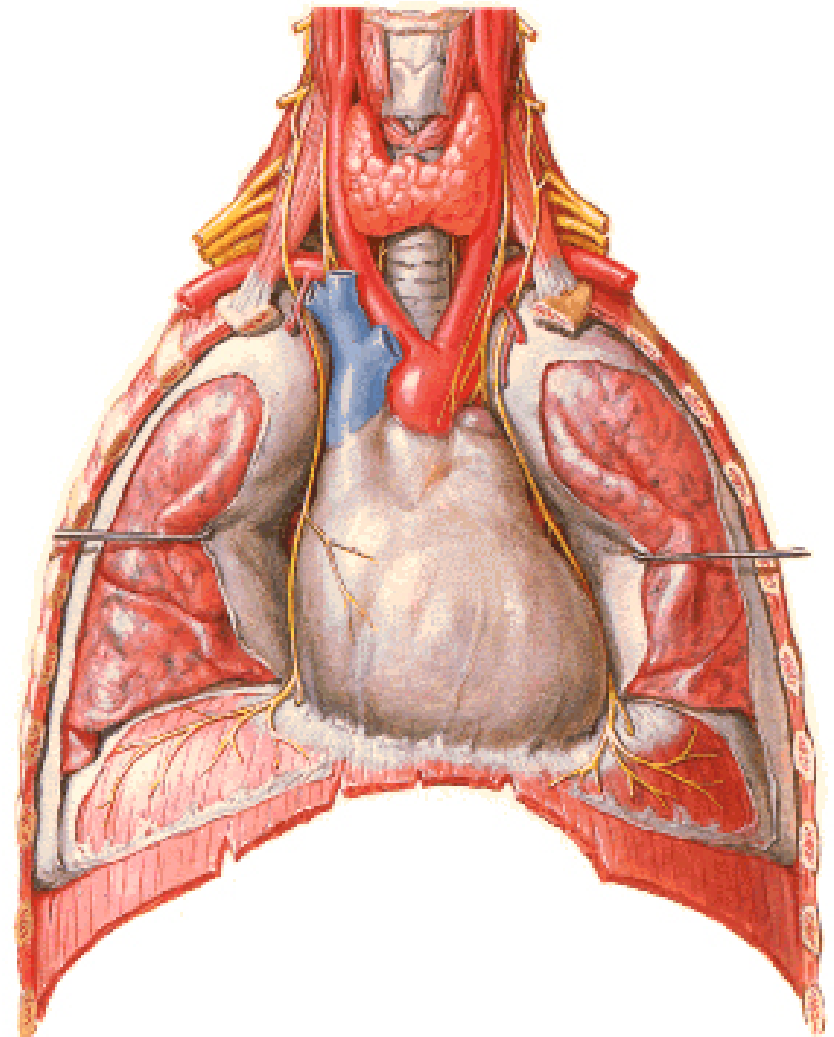
Superior view



Lungs in Situ
Anterior View



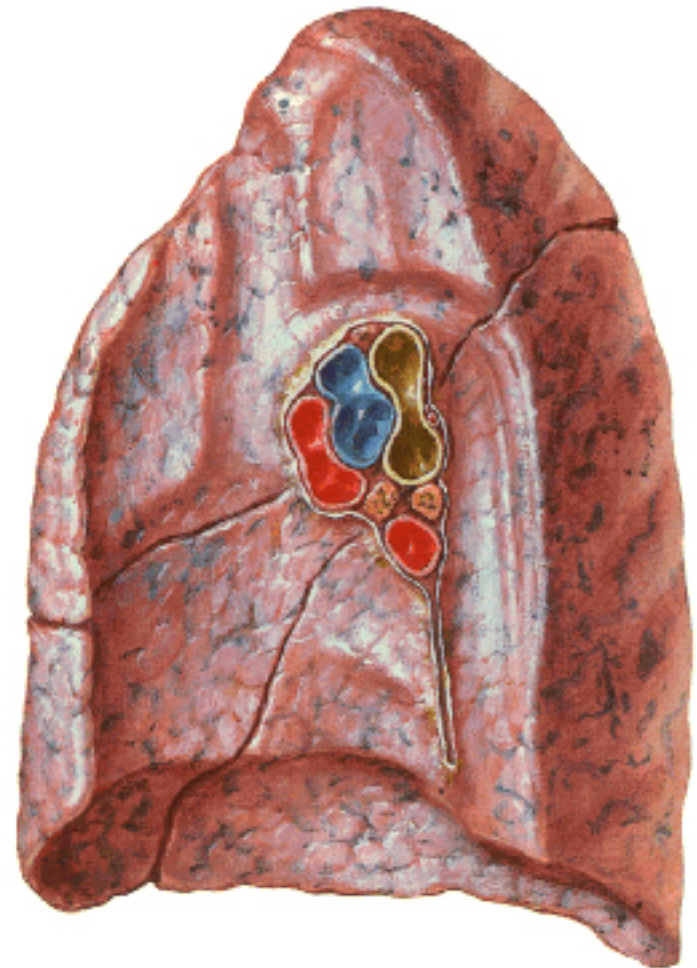
Phrenic Nerve in Situ



Left Lung
Medial View

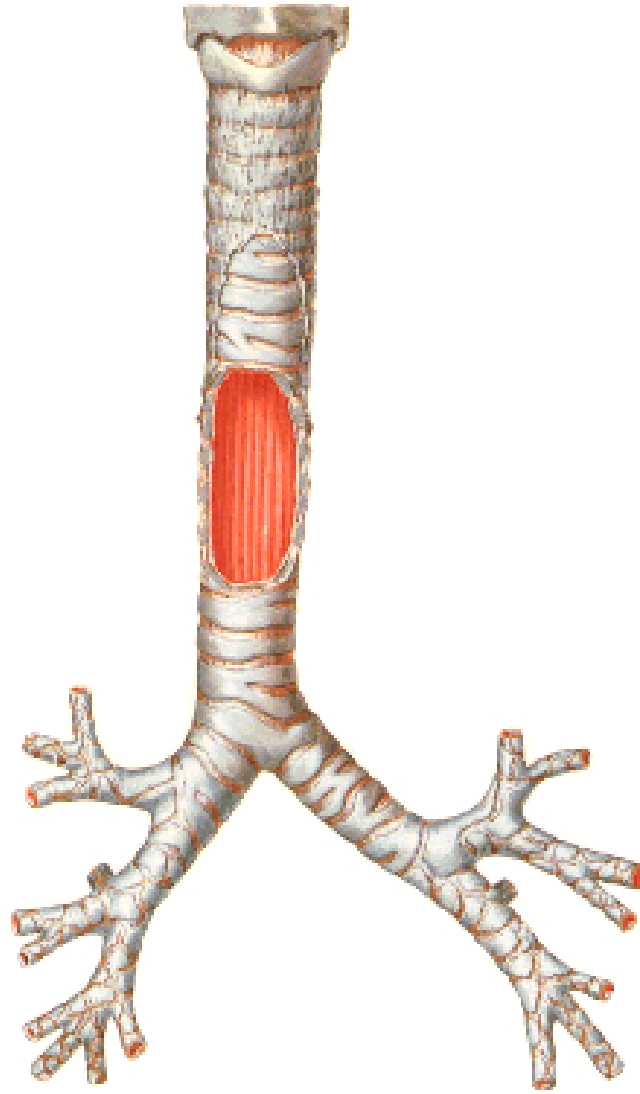


Right Lung
Medial View

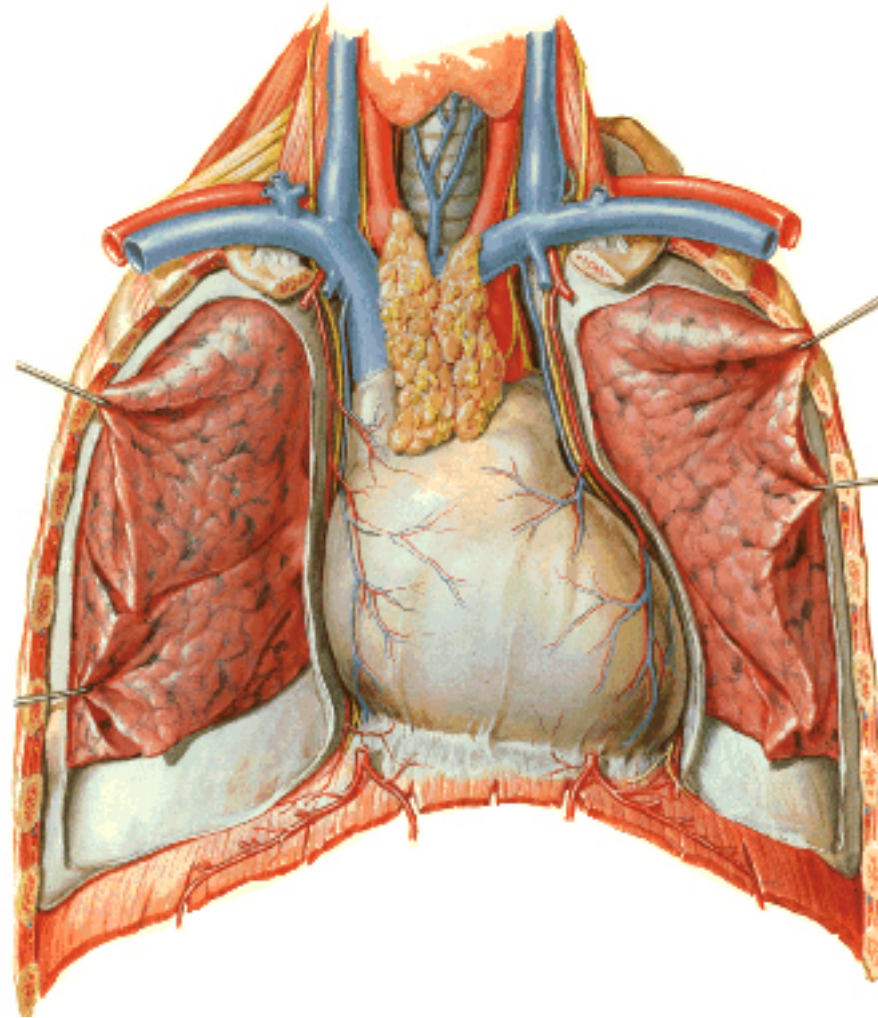


Trachea and Major Bronchi

Anterior View

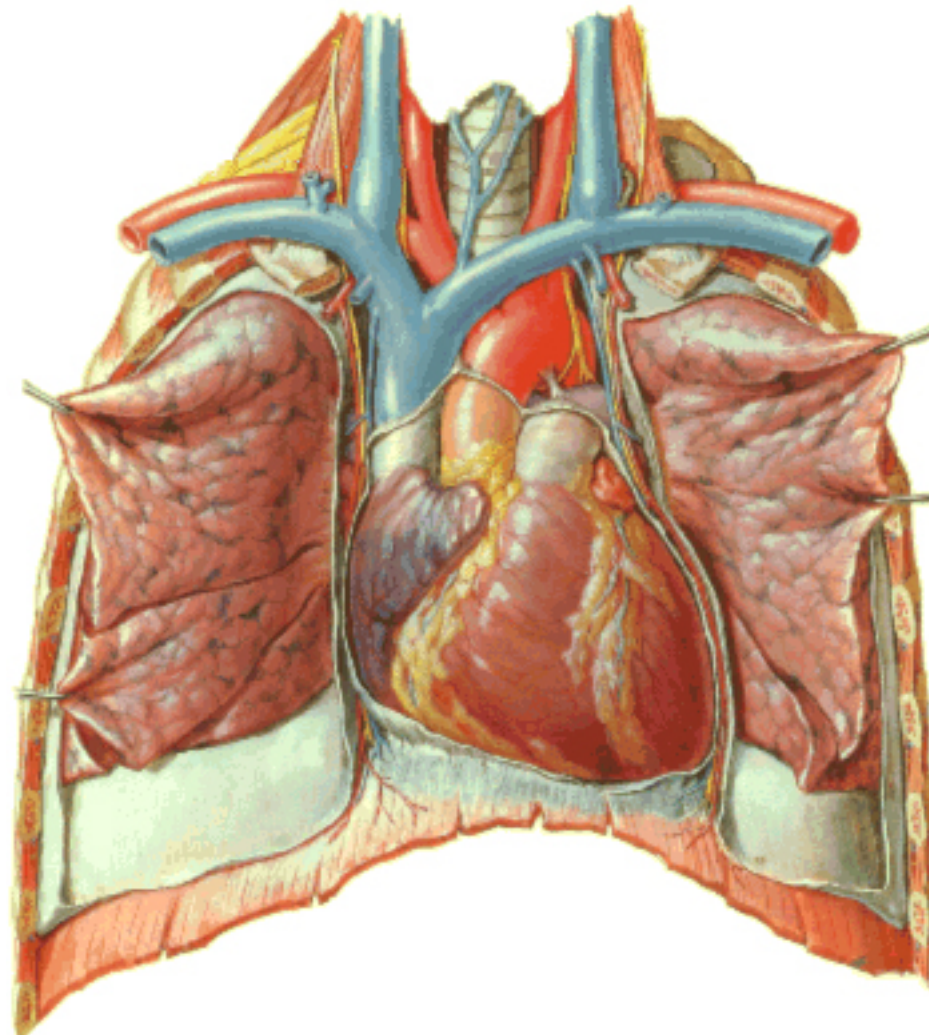


Heart in Situ

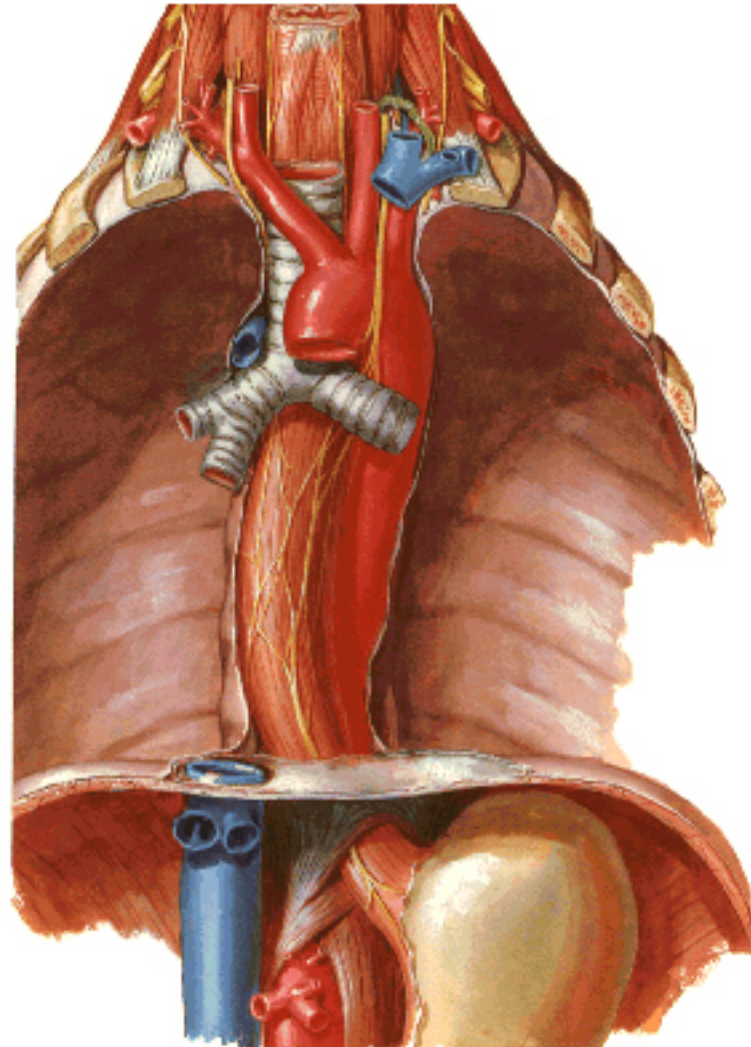


Heart

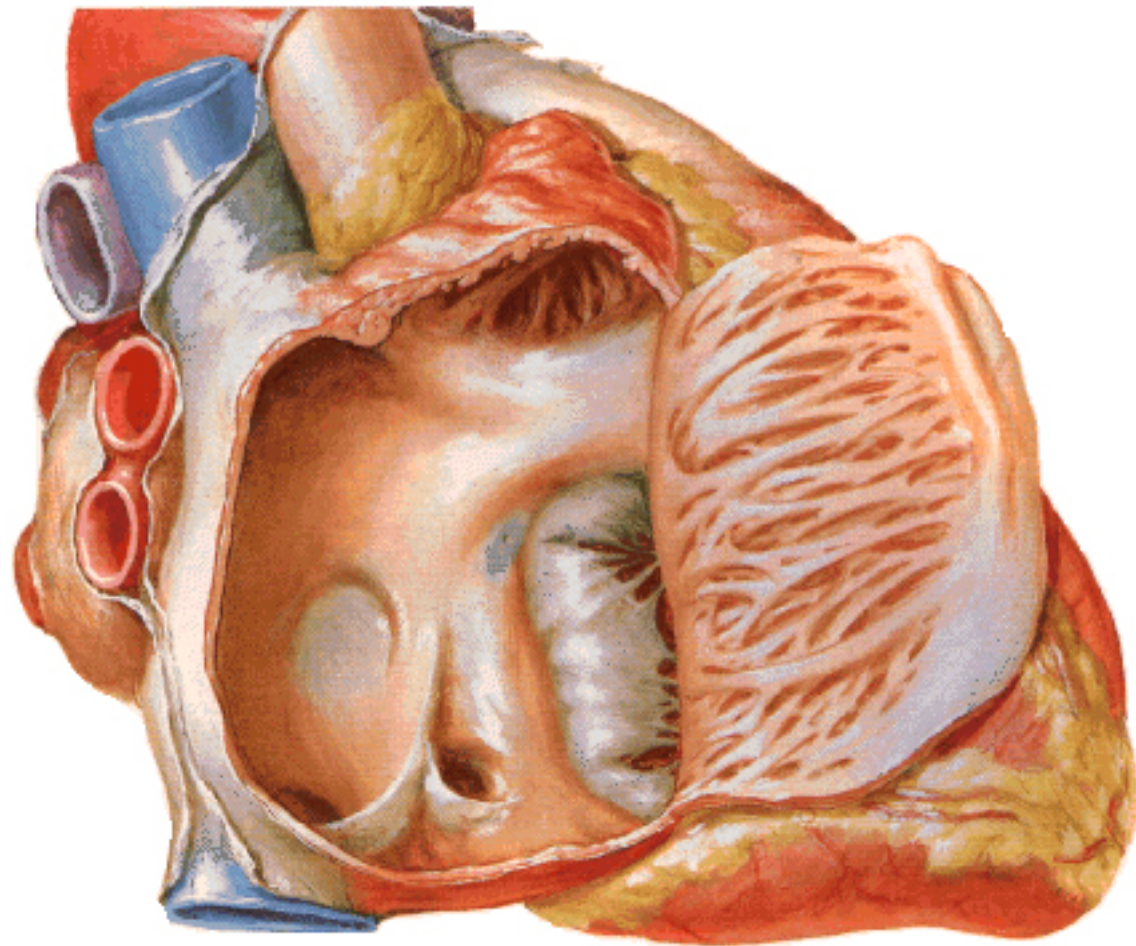
Anterior Exposure



Esophagus in Situ

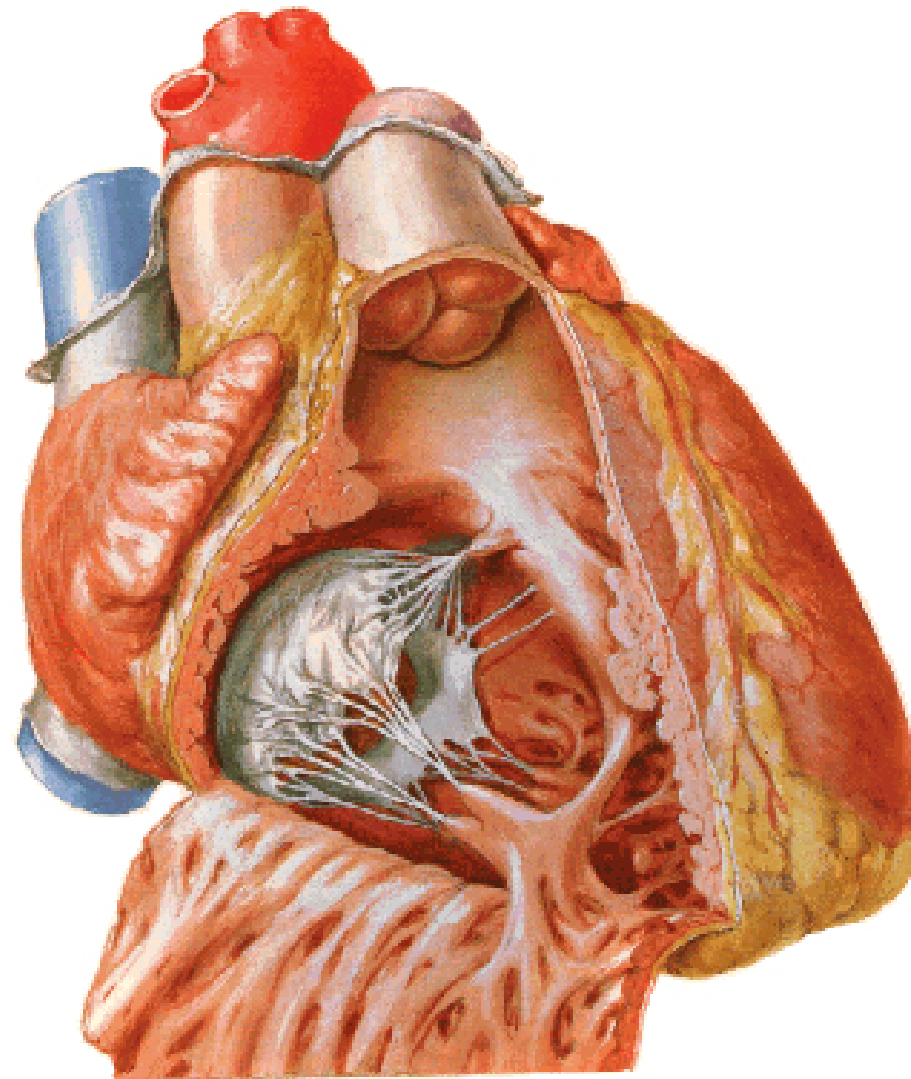


Opened Right Atrium
Right Lateral View



Opened Right Ventricle

Anterior View



Diaphragm

Thoracic Surface

