

Thorax

Lecture 2

- **Thoracic cavity.**

Thoracic cavity

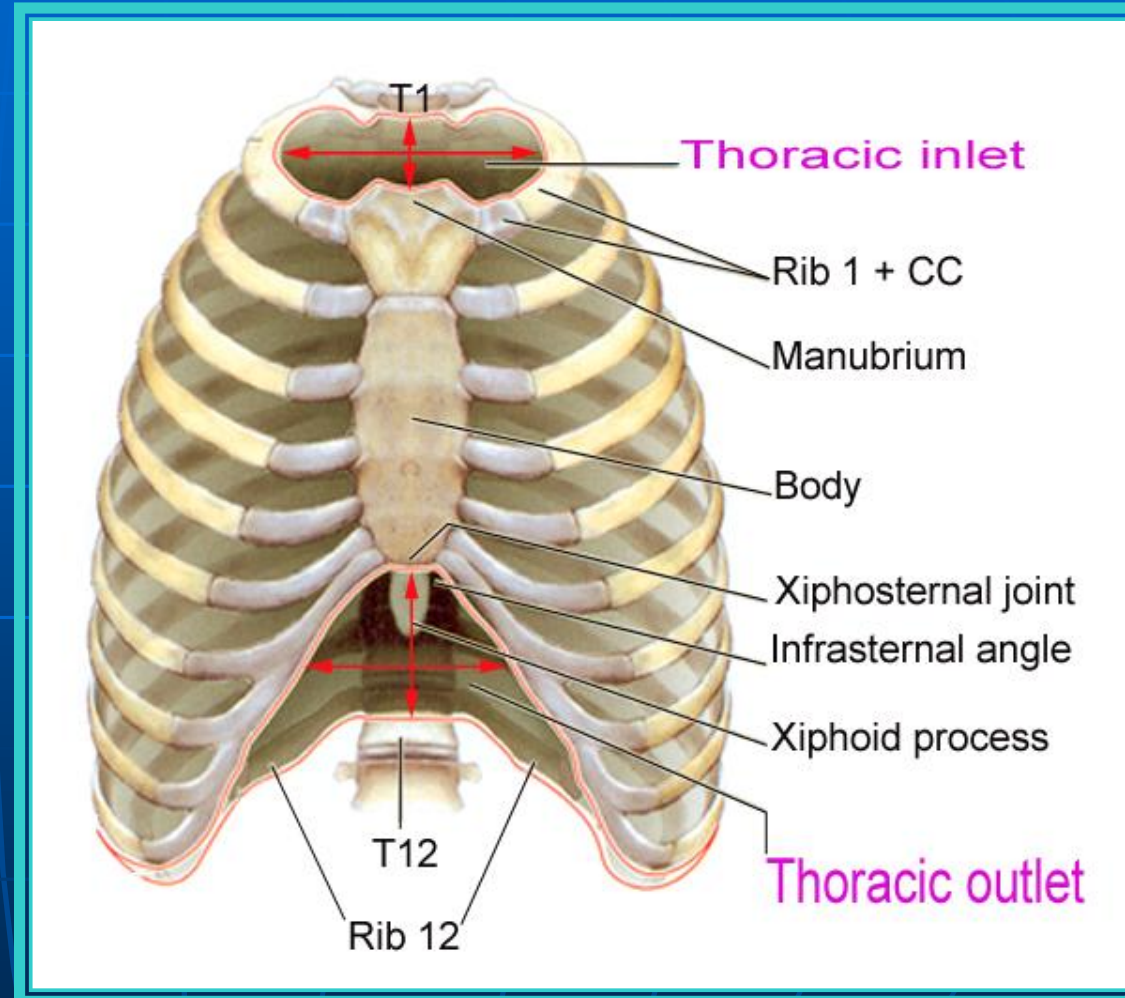
- Enclosed by the thoracic wall.
- Extends between (thoracic inlet) & (thoracic outlet).

Thoracic inlet →

At root of the neck.

Thoracic outlet →

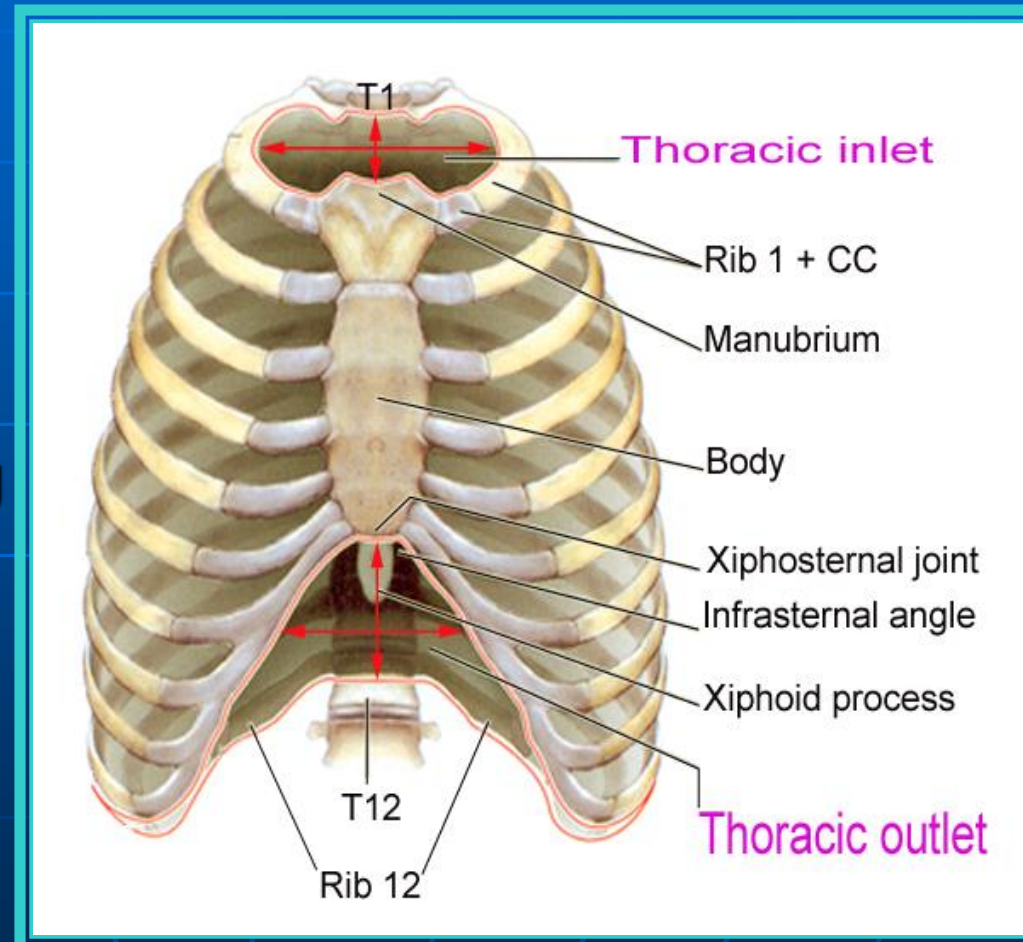
Close by the diaphragm.



Thoracic cavity

Borders:

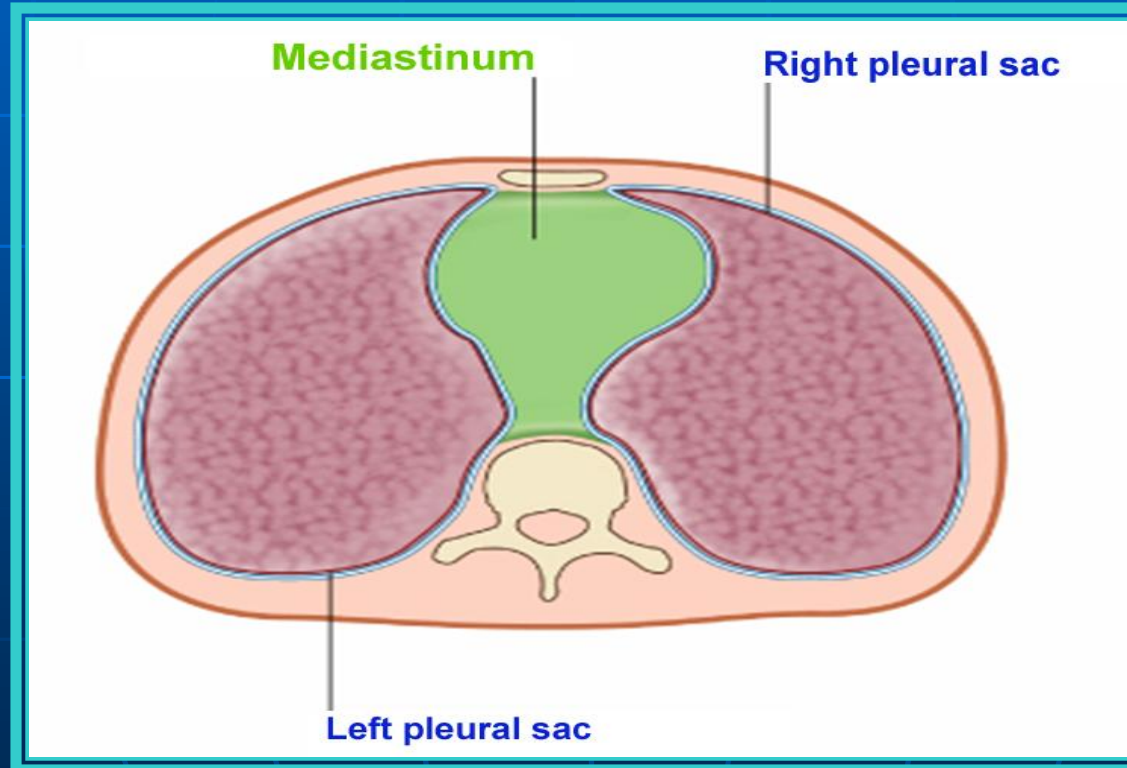
- Ant. → Sternum.
- Post. → 12 vertebrae.
- Lateral → The curving ribs, costal cartilages.
- Their coverings and linings.

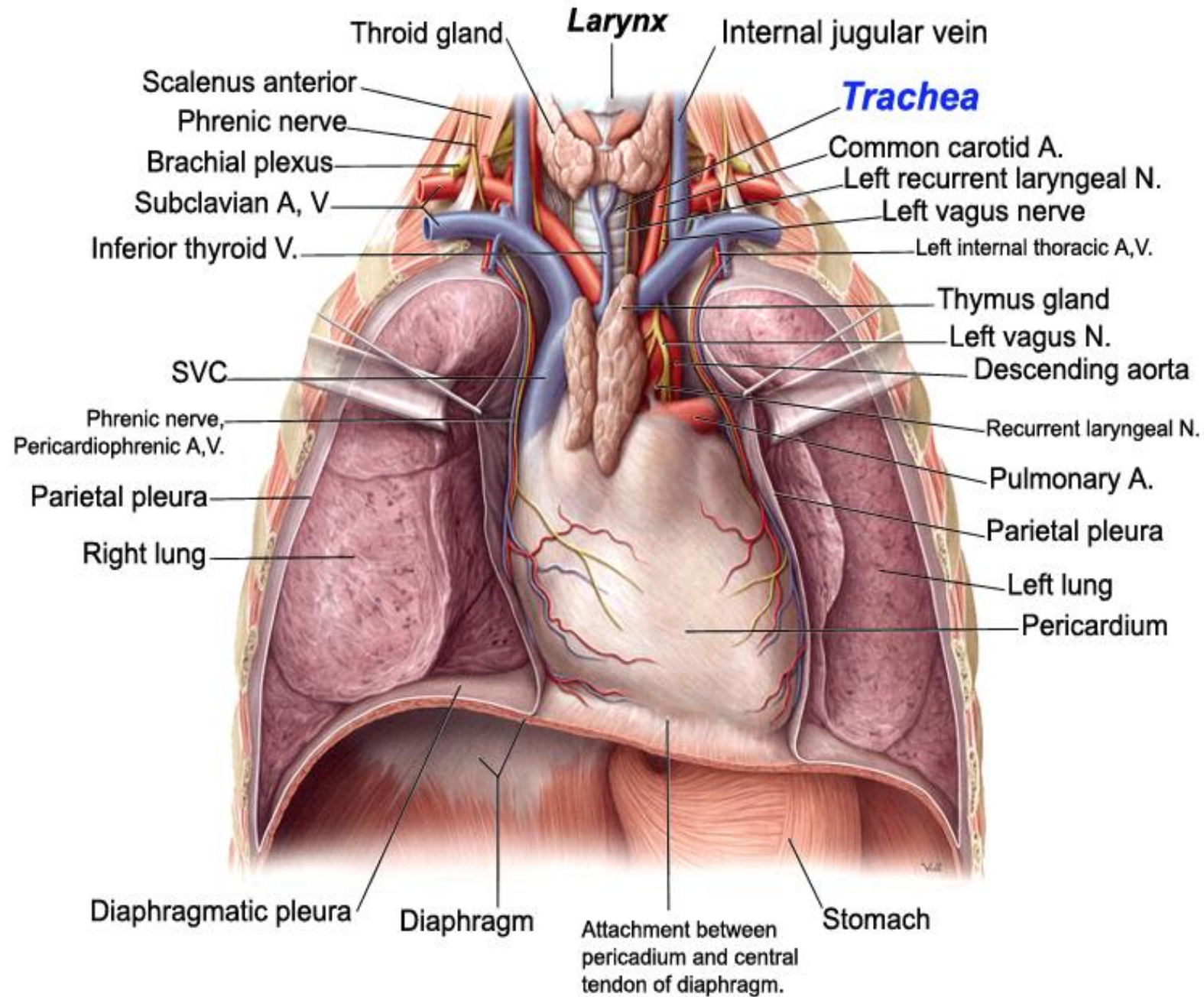


Thoracic cavity

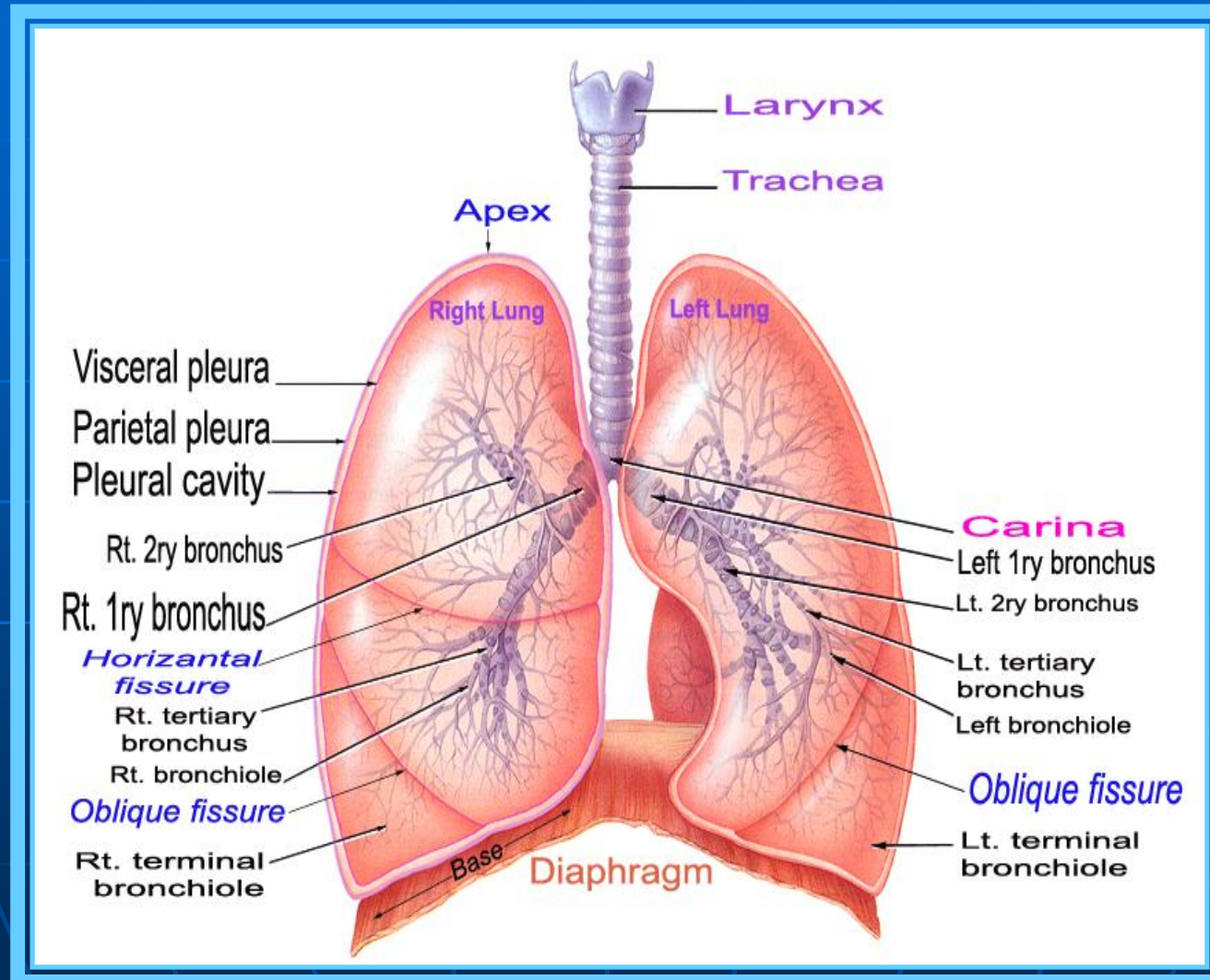
Divided into 3 major compartments:

- **Two** Peripheral pleural sacs, right and left, each enclosing a lung.
- **One** Central, Mediastinum.





Pleura and Lungs



Pleura

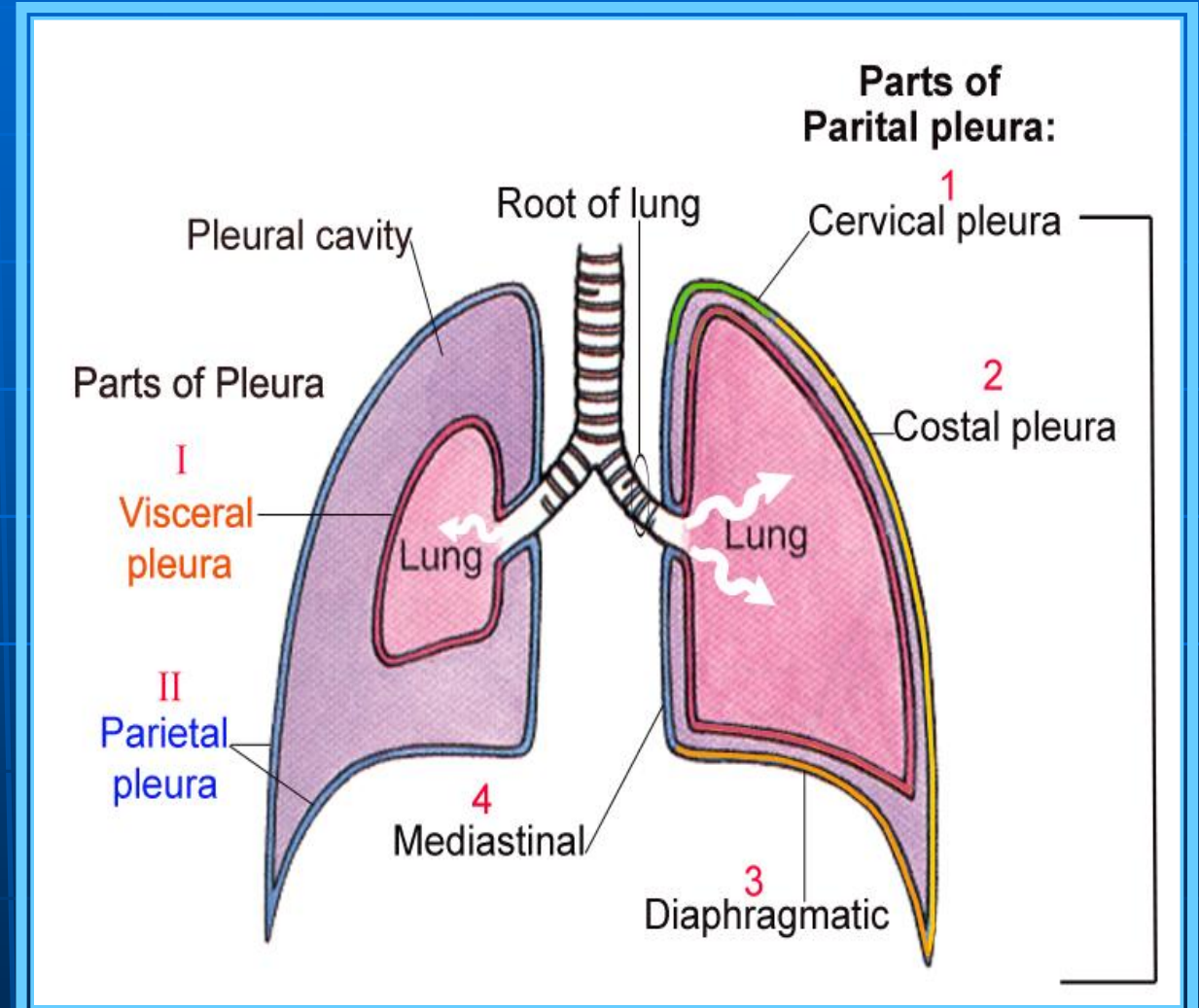
- Thin continuous membrane that covers lungs and lines thoracic wall.

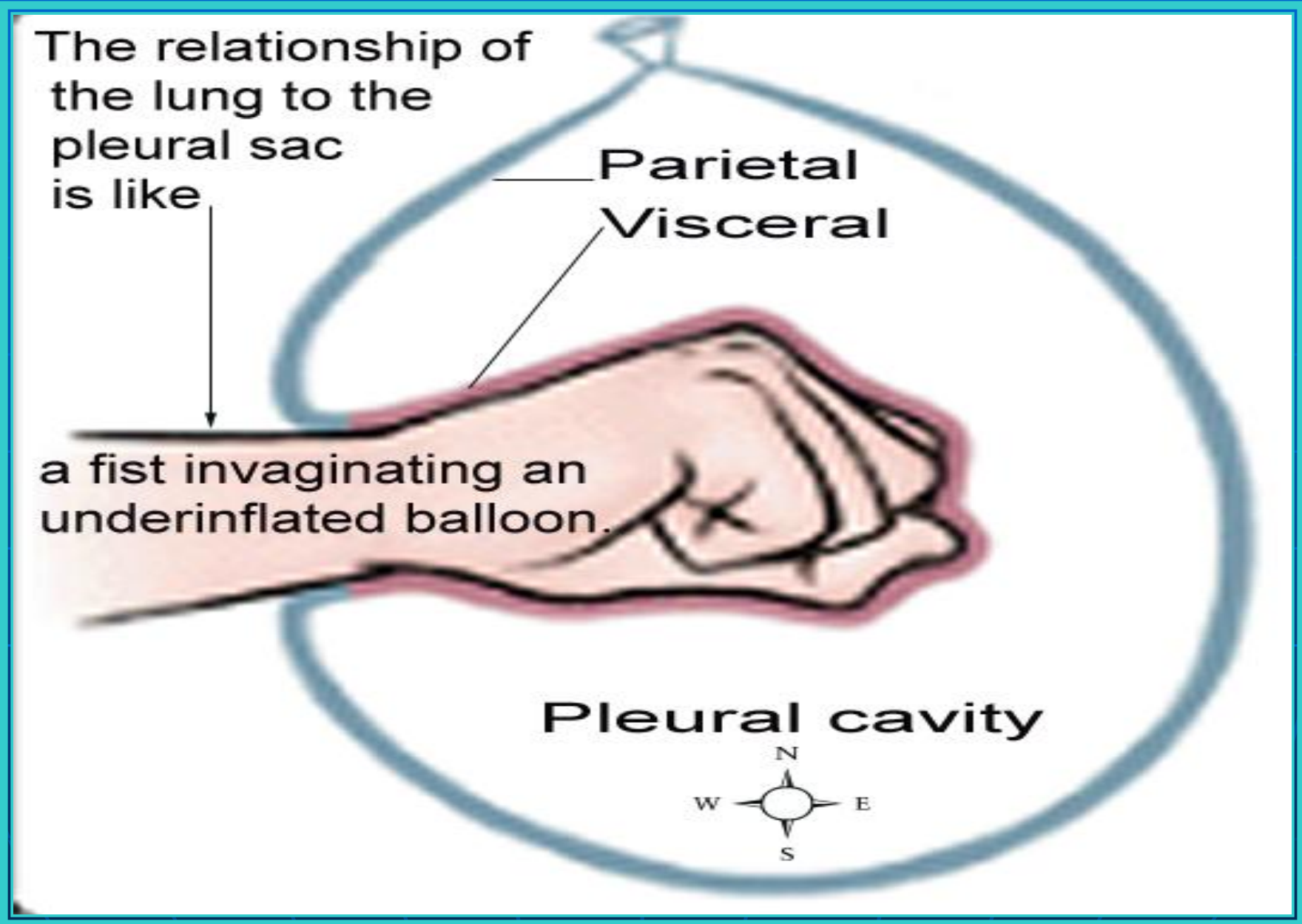
Parts:

- **Parietal**, line wall of thoracic cavity. Parts: 1-4
- **Visceral**, cover the lungs.

➤ Pleural cavity:

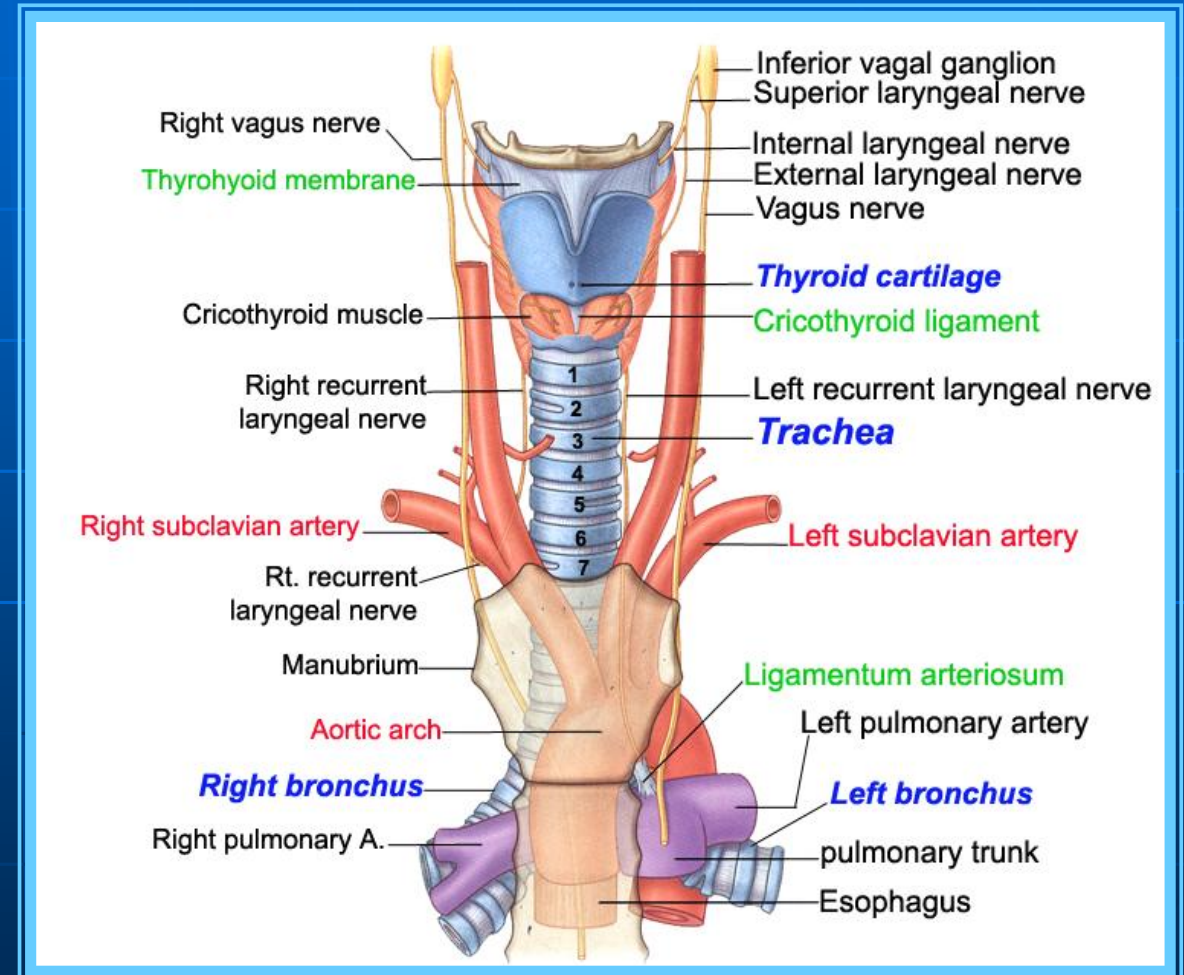
Potential space between parietal and visceral pleura that contains pleural fluid for soundless & frictionless movements of the lungs. Become true in diseases.





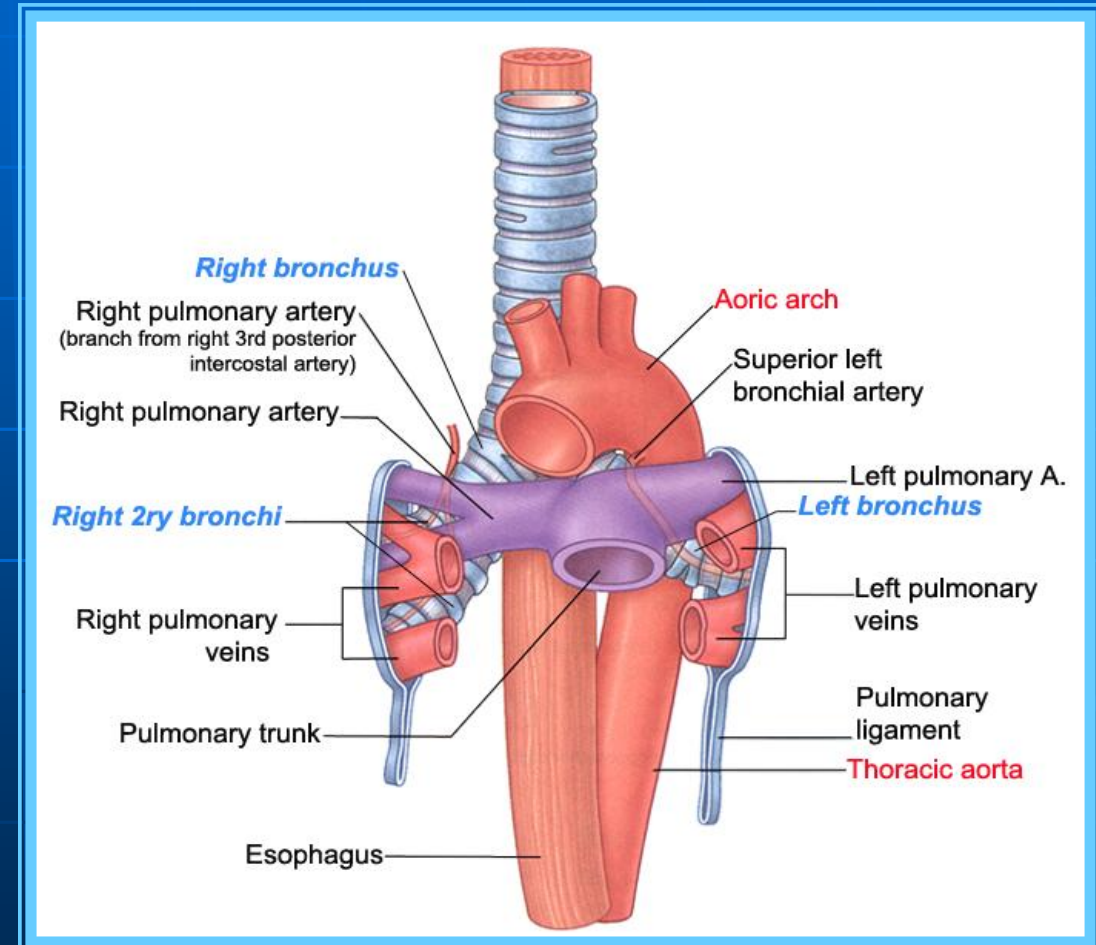
Trachea

- About 13 cm long.
- Extends from lower end of larynx to sternal angle.
- Pass within 2 regions neck and thorax.
- Divides into 2 lry bronchi at sternal angle level.



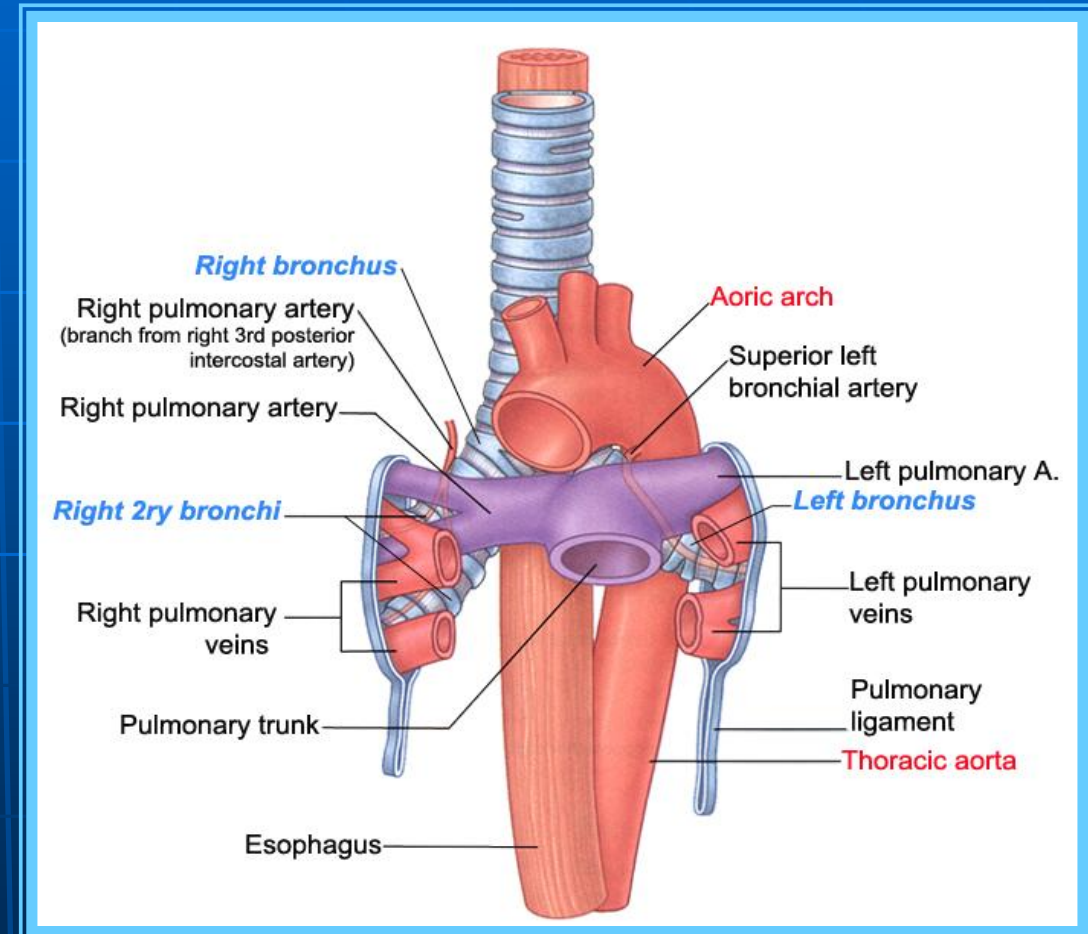
Right 1ry bronchus

- **Shorter**
 - **Wider**
 - **Vertical** than left.
 - **About 1 inch long.**
- Therefore, inhaled foreign bodies that enter trachea are commonly trapped in it.



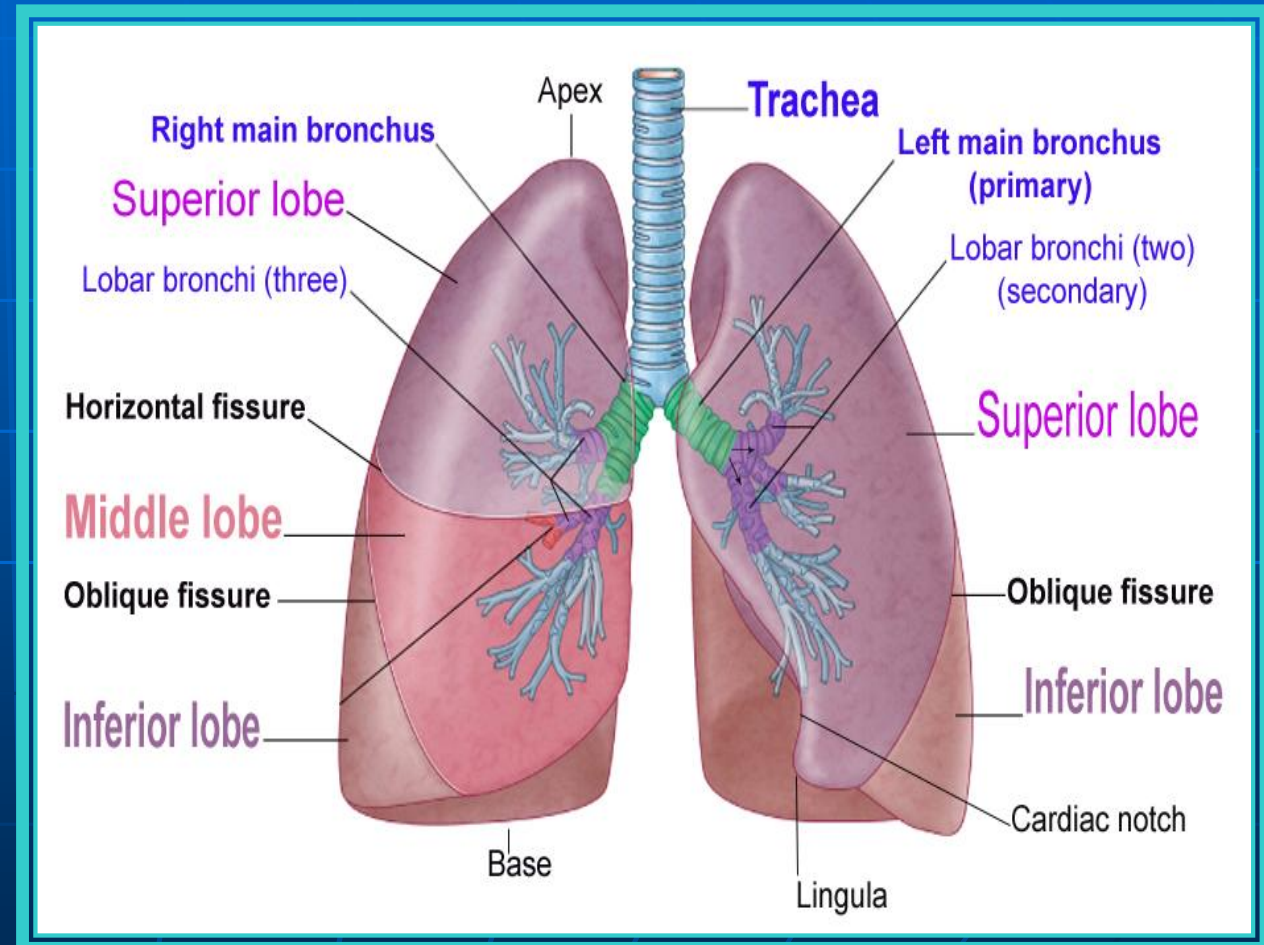
Left primary bronchus

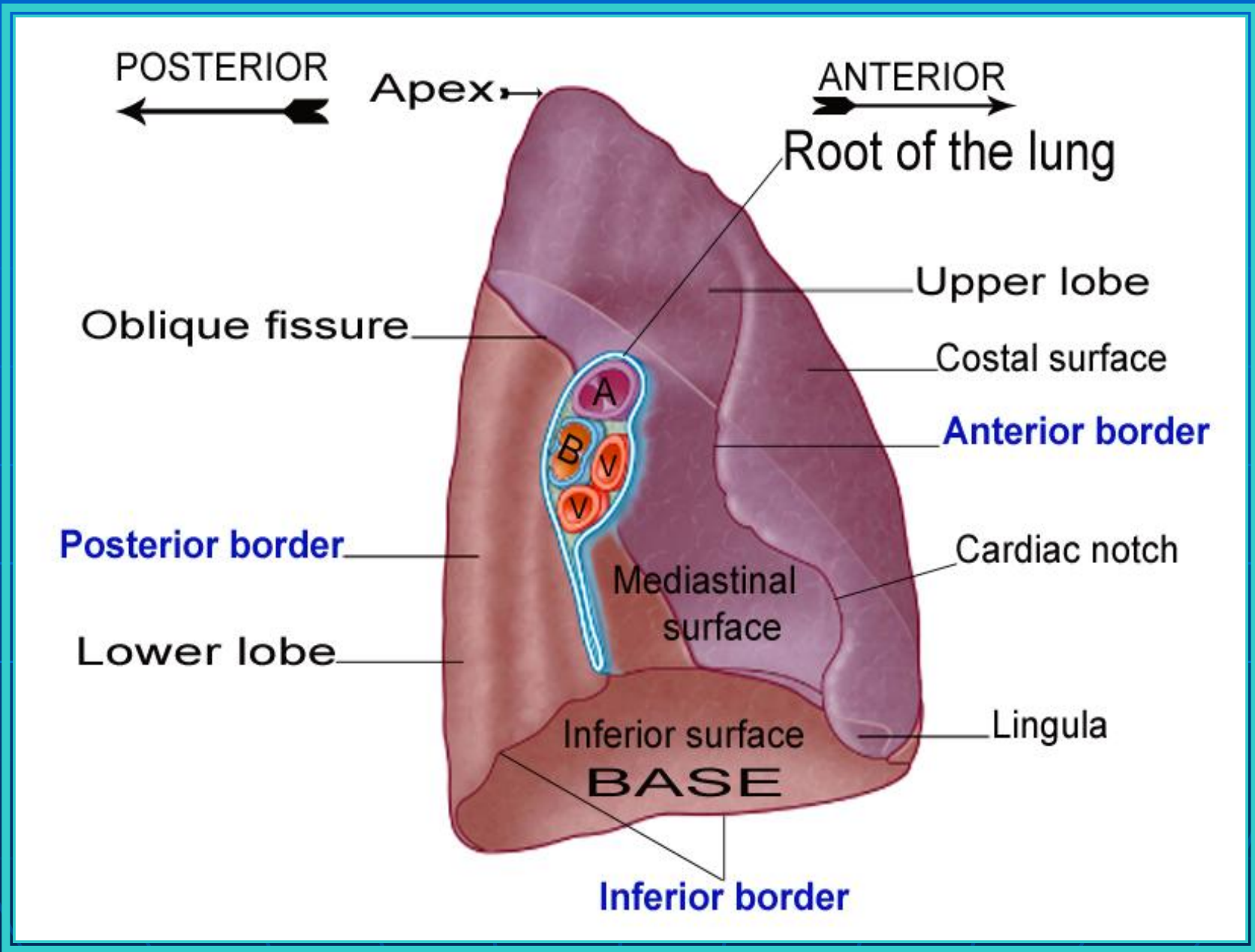
- Narrower
- Longer
- More horizontal.
- About 2 inch long.



Lungs

- Conical-shaped spongy organs.
- Lie on both sides of mediastinum.
- Attach to mediastinum by its root.
- Suspended free within its own pleural cavity.

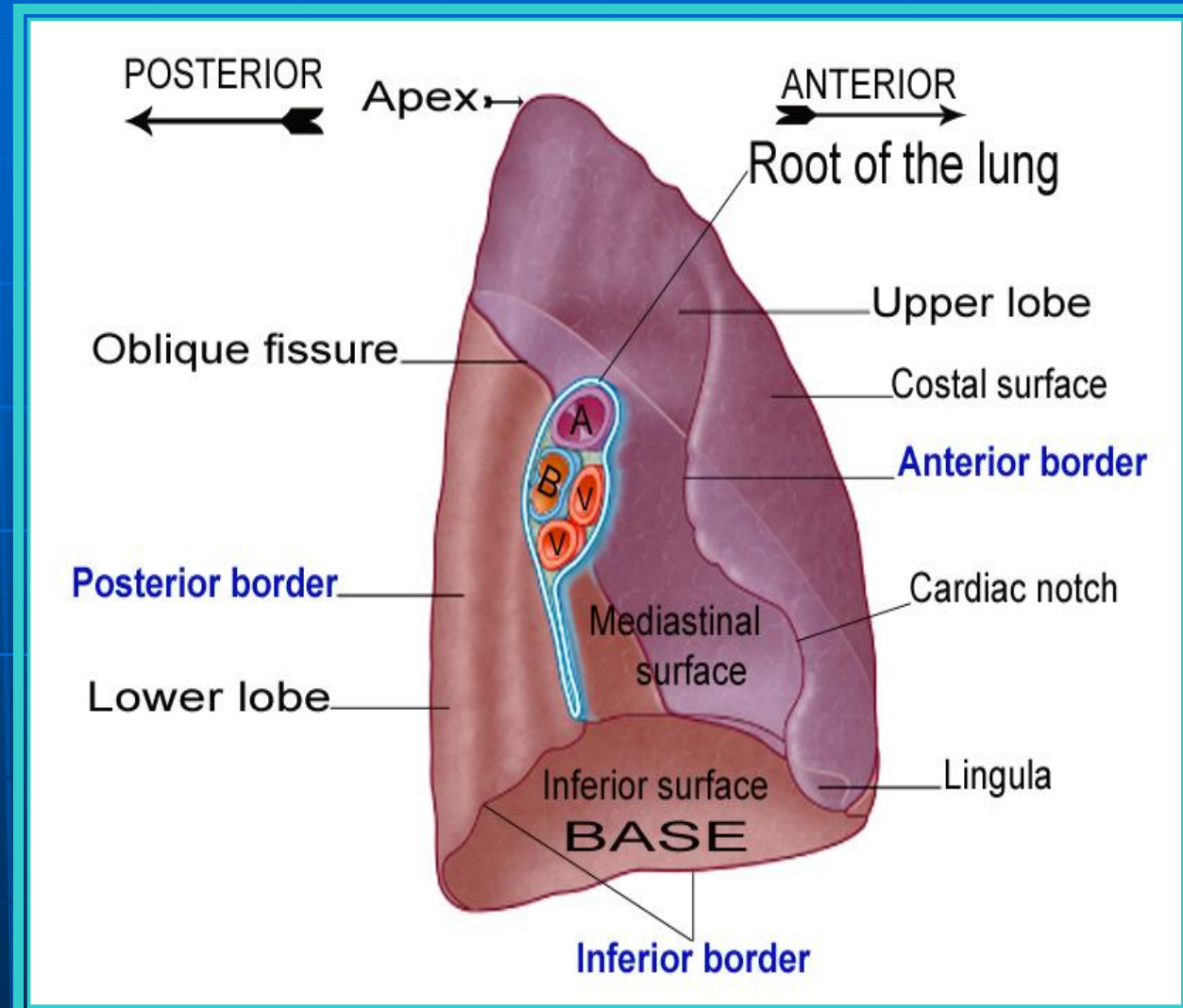




Lungs

Parts, each lung has:

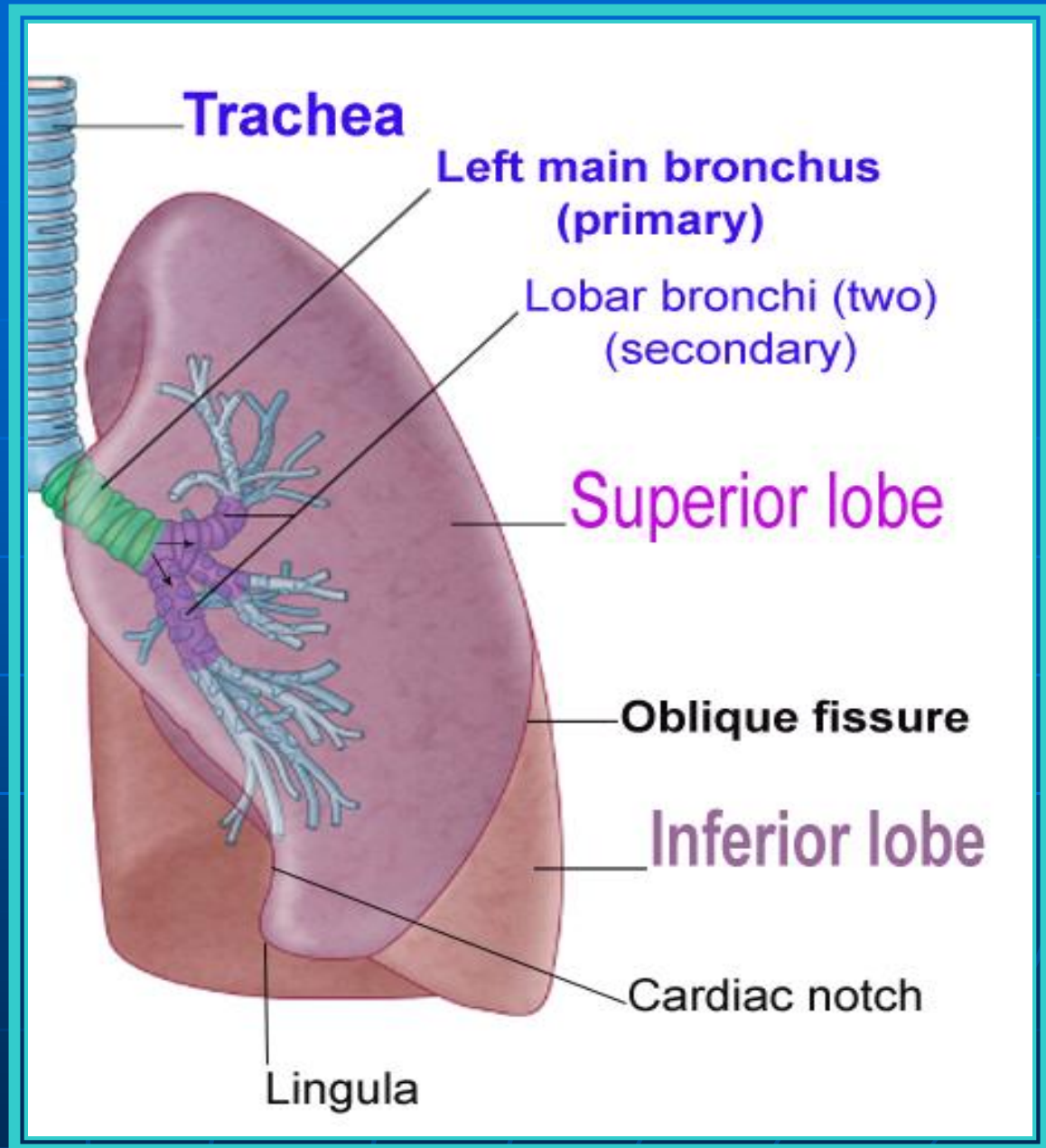
- Apex (projects up).
- Base (concave).
- **3 borders:**
 - Anterior (narrow & overlap the heart).
 - Posterior (rounded, on both sides of the vertebral column).
 - Inferior (narrow).
- **3 surfaces:**
 - Diaphragmatic (concave), rest on the diaphragm.
 - Costal (wide and convex).
 - Mediastinal, related to mediastinal structures.



Left Lung

Characteristics:

- Has one oblique fissure.
- Has 2 lobes:
 - Superior lobe.
 - Inferior lobe.
- Has Cardiac notch at its anterior border, notched by the heart.



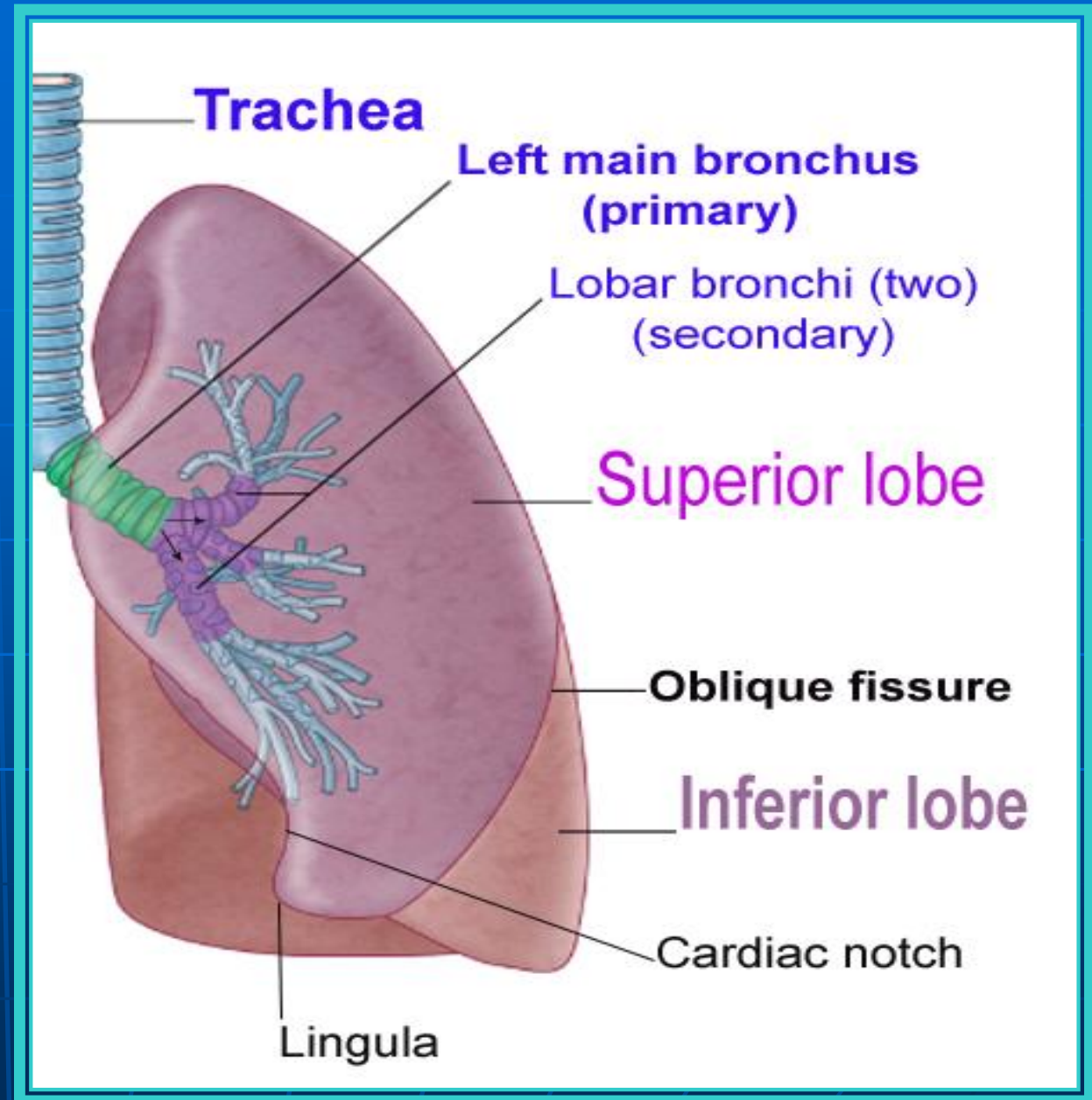
Left Lung

Characteristics:

Since it develop in a smaller space.

It is:

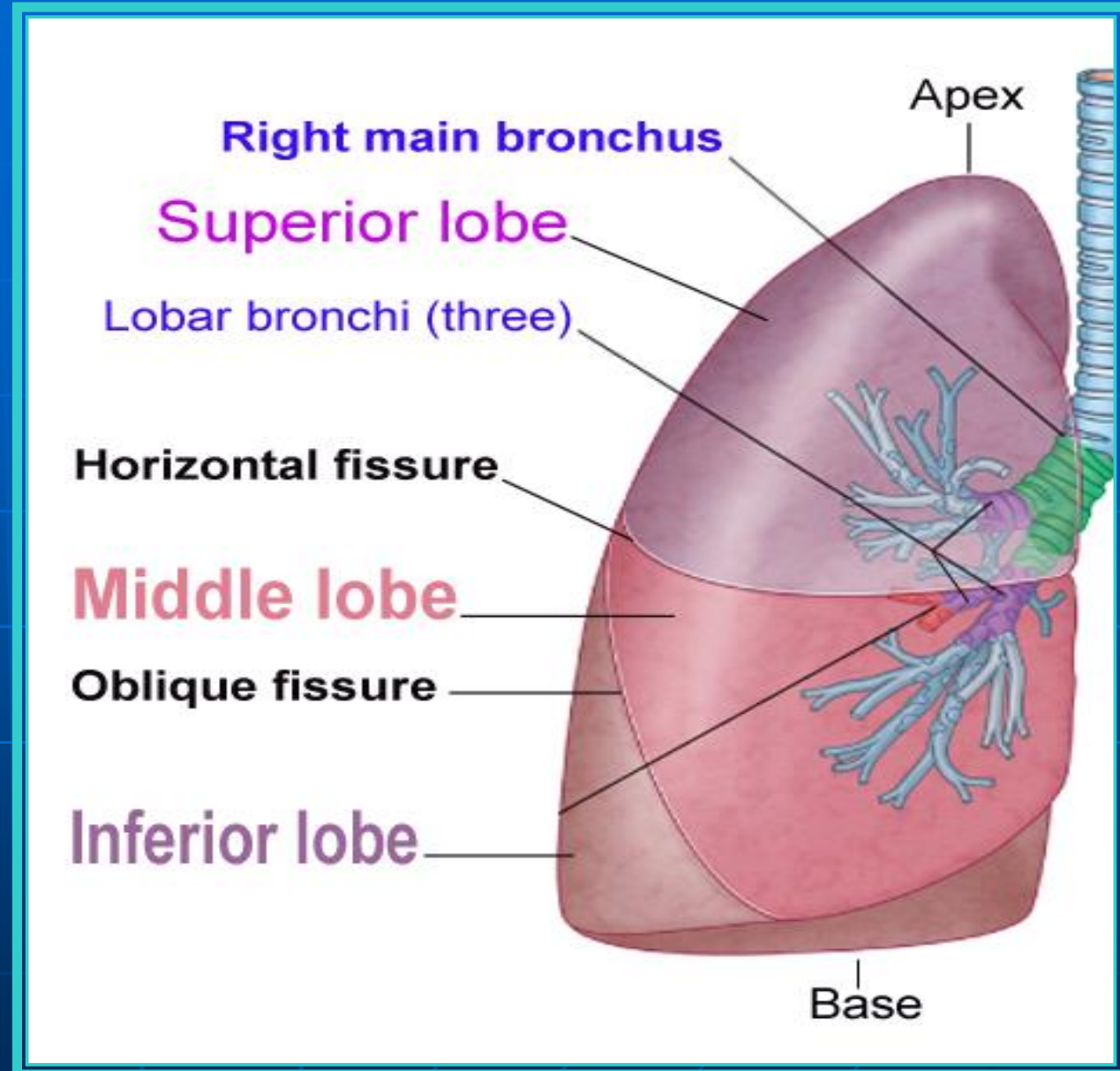
- Longer
- Narrower
- Lighter
- Less functional than the right.
- Related to the high pressure arterial side of the heart.



Right Lung

Characteristics:

- Has 2 fissures:
 - Oblique.
 - Horizontal.
- Has 3 lobes:
 - Superior lobe.
 - Middle lobe.
 - Inferior lobe.



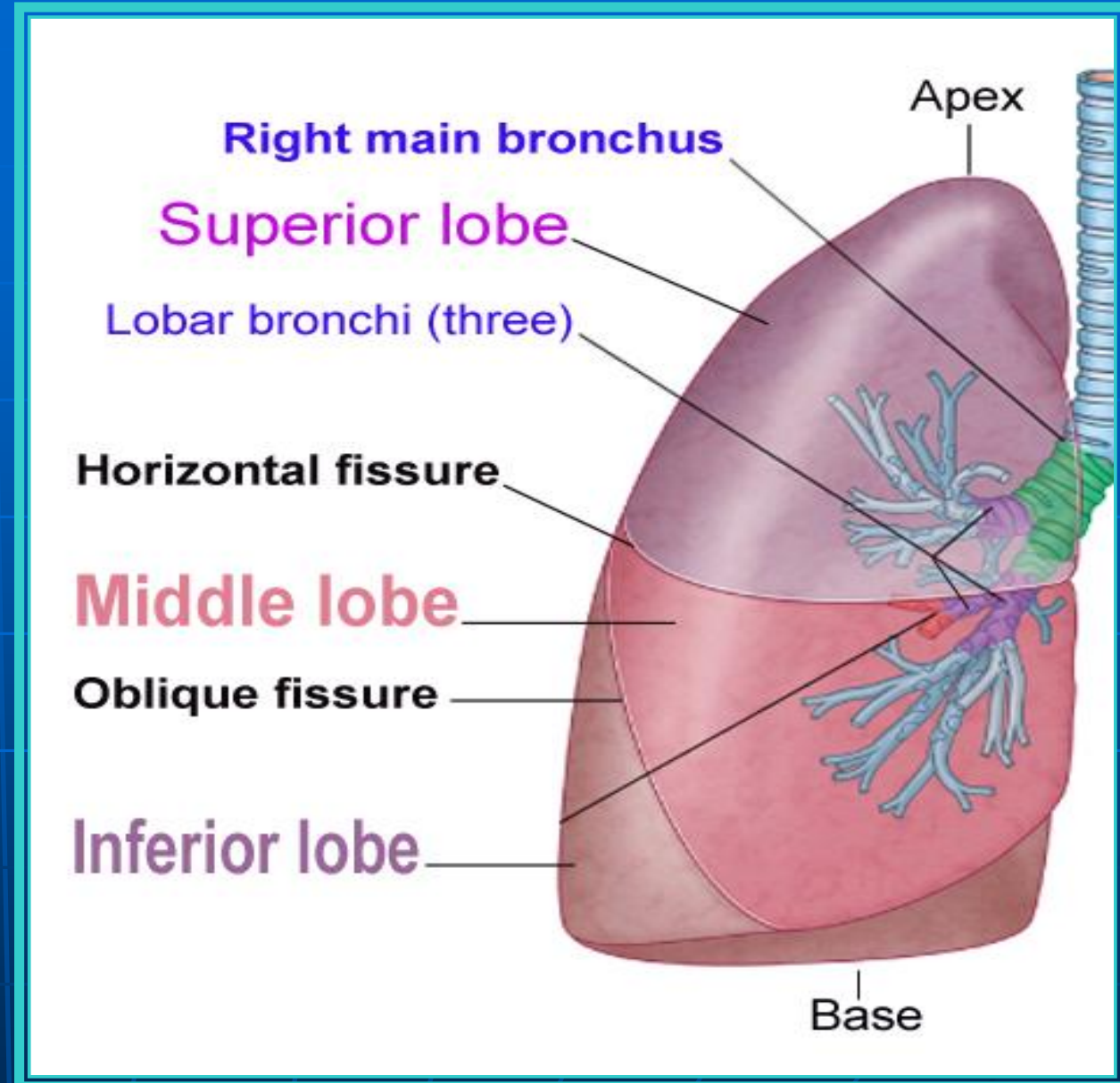
Right Lung

Characteristics:

Since it develop in a larger space.

It is:

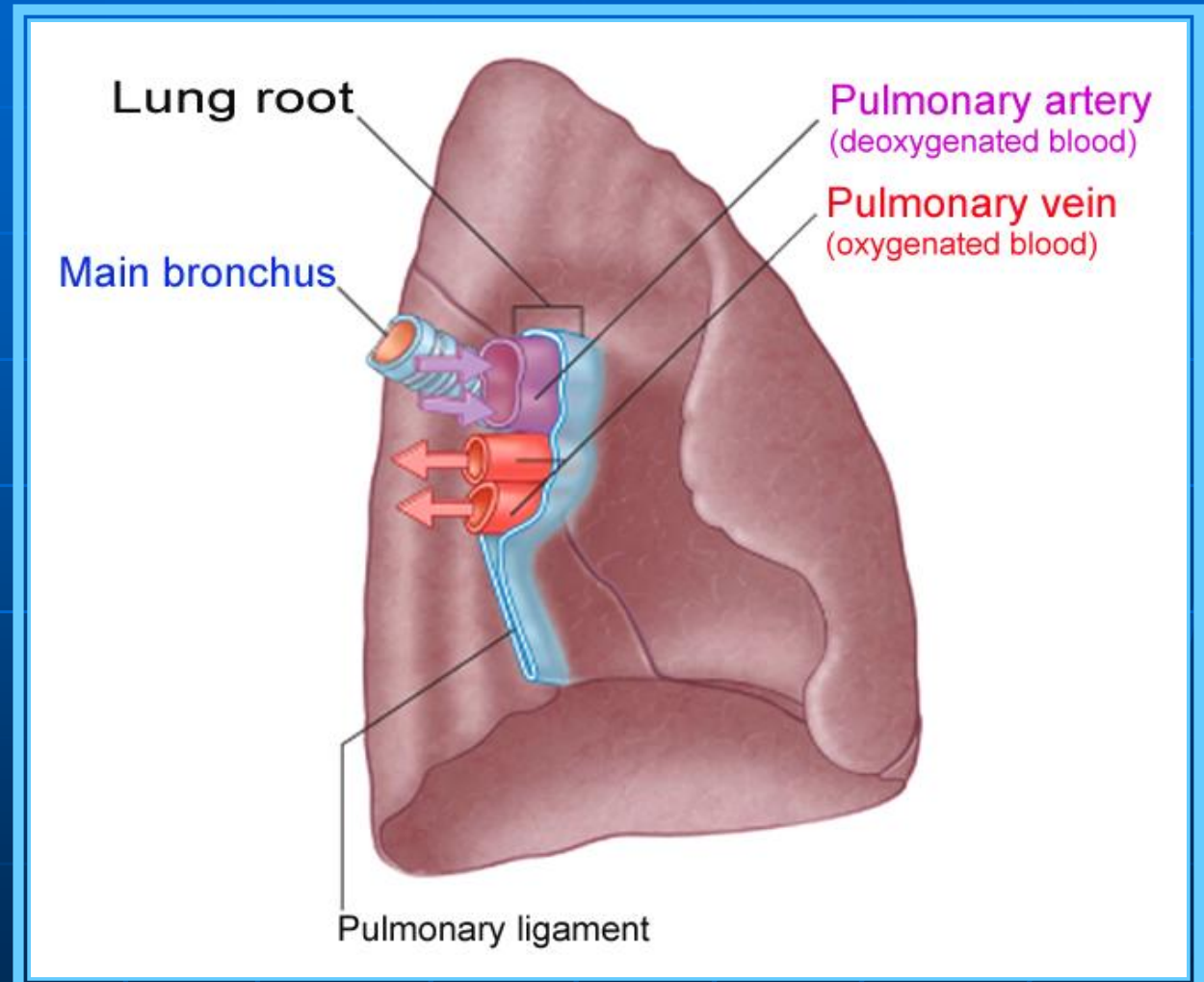
- Wider.
- Shorter.
- Heavier.
- More functional than the left.
- Related to the low pressure venous side of the heart.



Root of the Lung

- Connect lung to the mediastinum.
- Surrounded by pleural sleeve.
- **Contents:**
 - 1 Main bronchus.
 - 1 Pulmonary artery.
 - 2 pulmonary veins,
 - Superior
 - Inferior
 - Nerves.
 - lymphatics.
- **Arterial supply:**

The lung tissue itself, supplied by bronchial arteries from thoracic aorta.



Bronchial Tree

- 1ry bronchi → 2 lobar bronchi in the left lung and 3 in the right lung, each for a pulmonary lobe.
- Lobar bronchi divide repeatedly, → lobular bronchioles for pulmonary lobules → Terminal bronchioles.
- Each terminal bronchiole subdivides into → respiratory bronchioles, → numerous saclike alveoli where gas exchange occurs.

