

Lab / Fourth Week

- 1. Pleura.**
- 2. Lungs.**

✦ Lungs

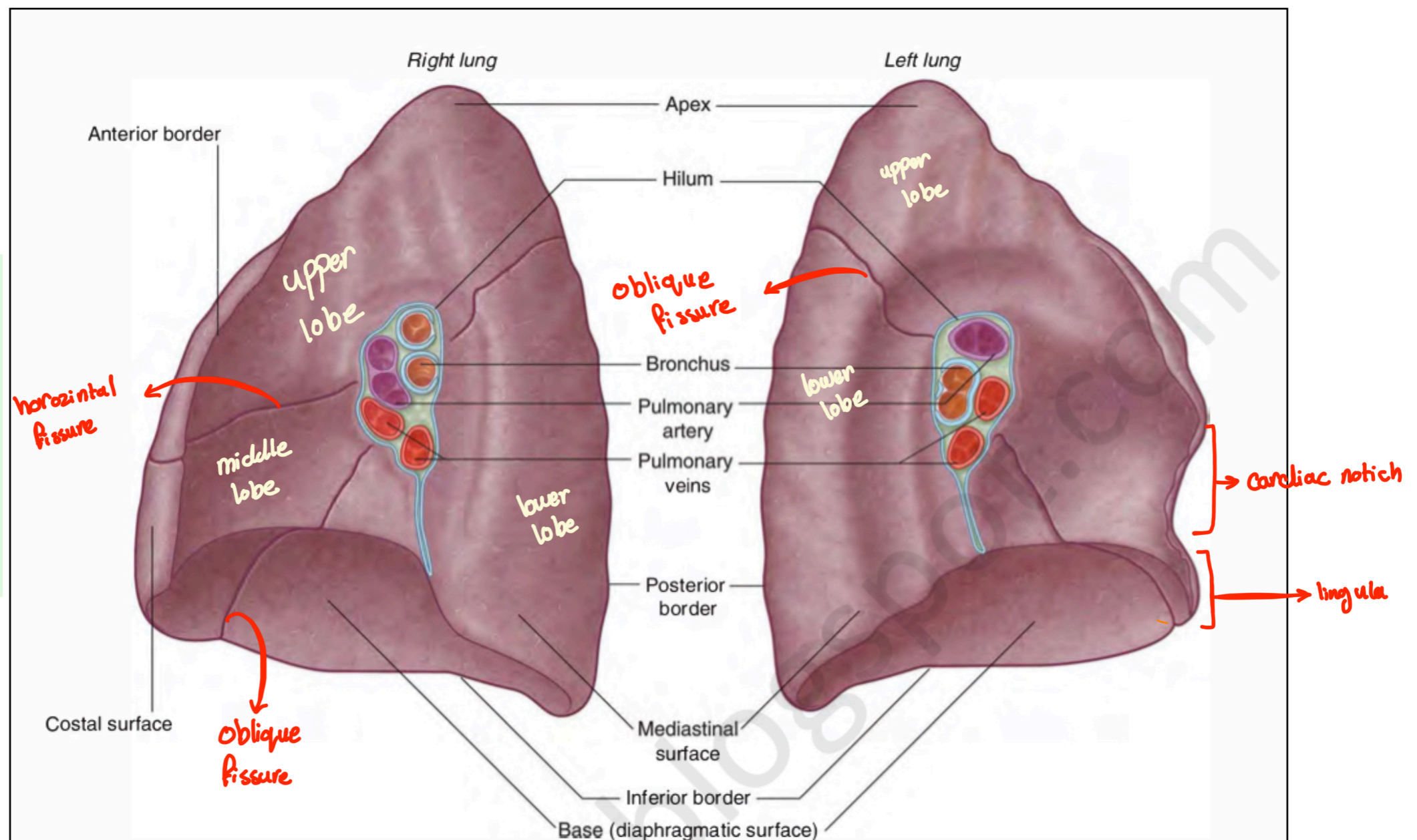
- The students should observe the base, apex, two surfaces and three borders of lungs
- The students should know the different between the right and left lung

Right lung:

- wider
- shorter
- 3 lobes
- 2 fissures

Left lung:

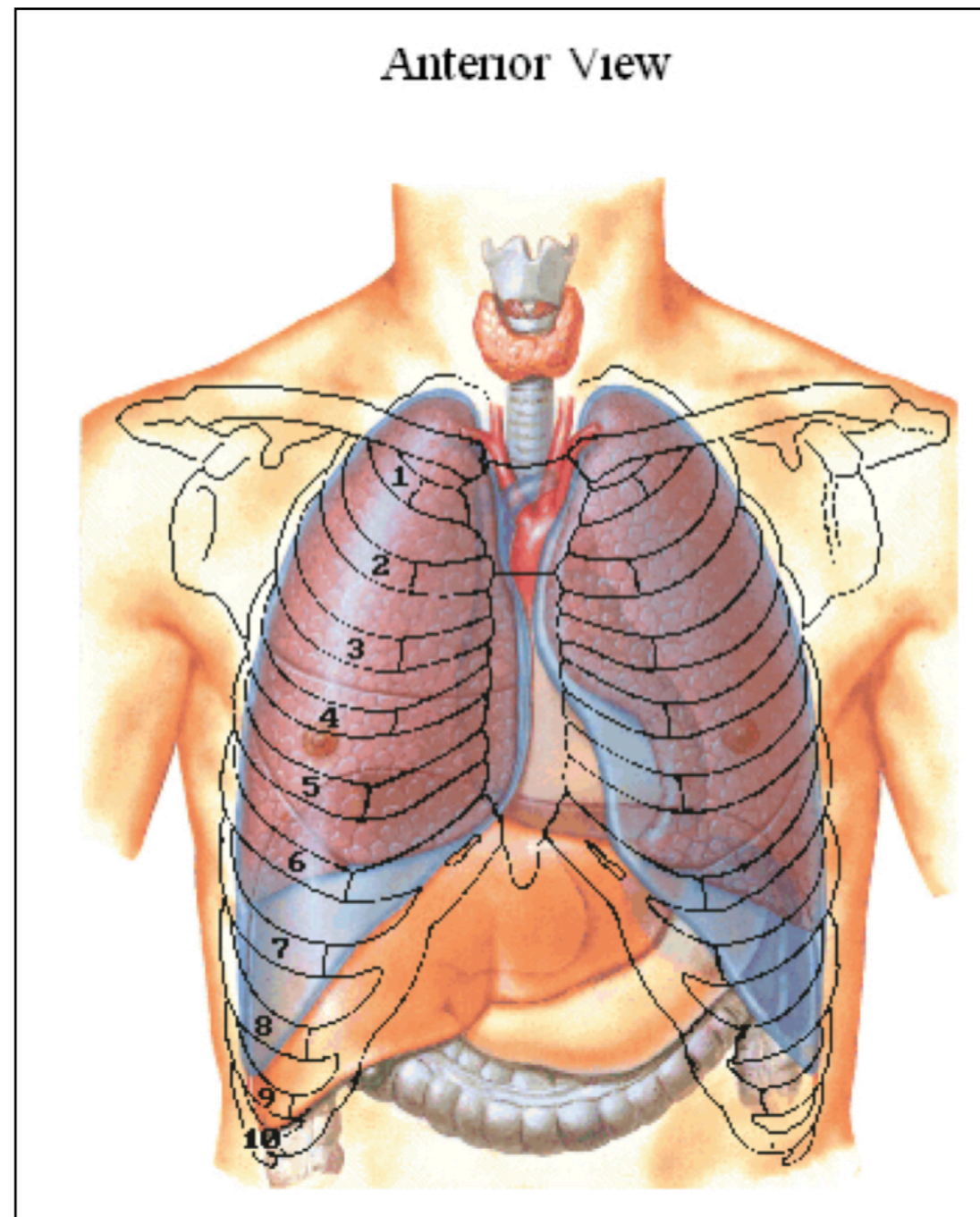
- narrow
- longer
- 2 lobes
- 1 fissure
- have a cardiac notch, lingula and apical artery



cardiac notch: between 4th & 6th costal, one cm to the left, on inche in length

✦ Lungs

- The students should know the surface anatomy of the lungs



posterior border: it starts from the apex and descends posteriorly until it reaches T10

anterior border: It starts from the apex → to the sternoclavicular joint → to the sternal angle. It descends down until it reaches the 6th costal cartilage in the midline

the apex is found 1 inch above the medial end of the clavicle

the base crosses the midclavicular line at the 6th rib, crosses the midaxillary line at the 8th rib, then posteriorly at the level of T10

oblique fissure: Starts from the dorsal spine of T4, then runs along the 6th rib until it reaches out anteriorly

horizontal fissure: start from the 4th intercostal space anteriorly and then go along the 5th rib

✦ Root and hilum Of the lungs

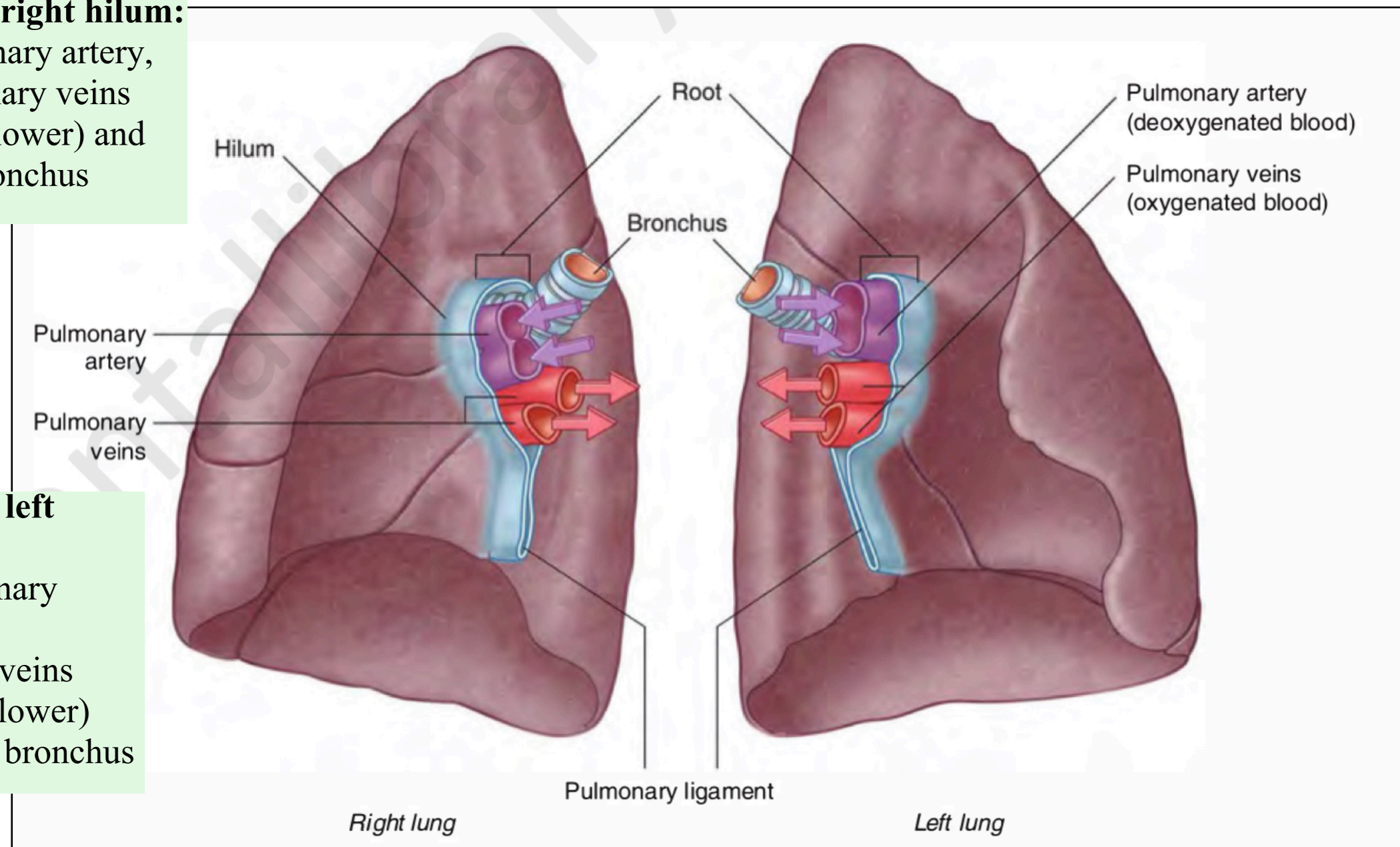
- The students should observe the root of the lungs and content of the hilum:

Content of right hilum:

One pulmonary artery, two pulmonary veins (upper and lower) and the right bronchus

Content of left hilum:

One pulmonary artery, two pulmonary veins (upper and lower) and the left bronchus

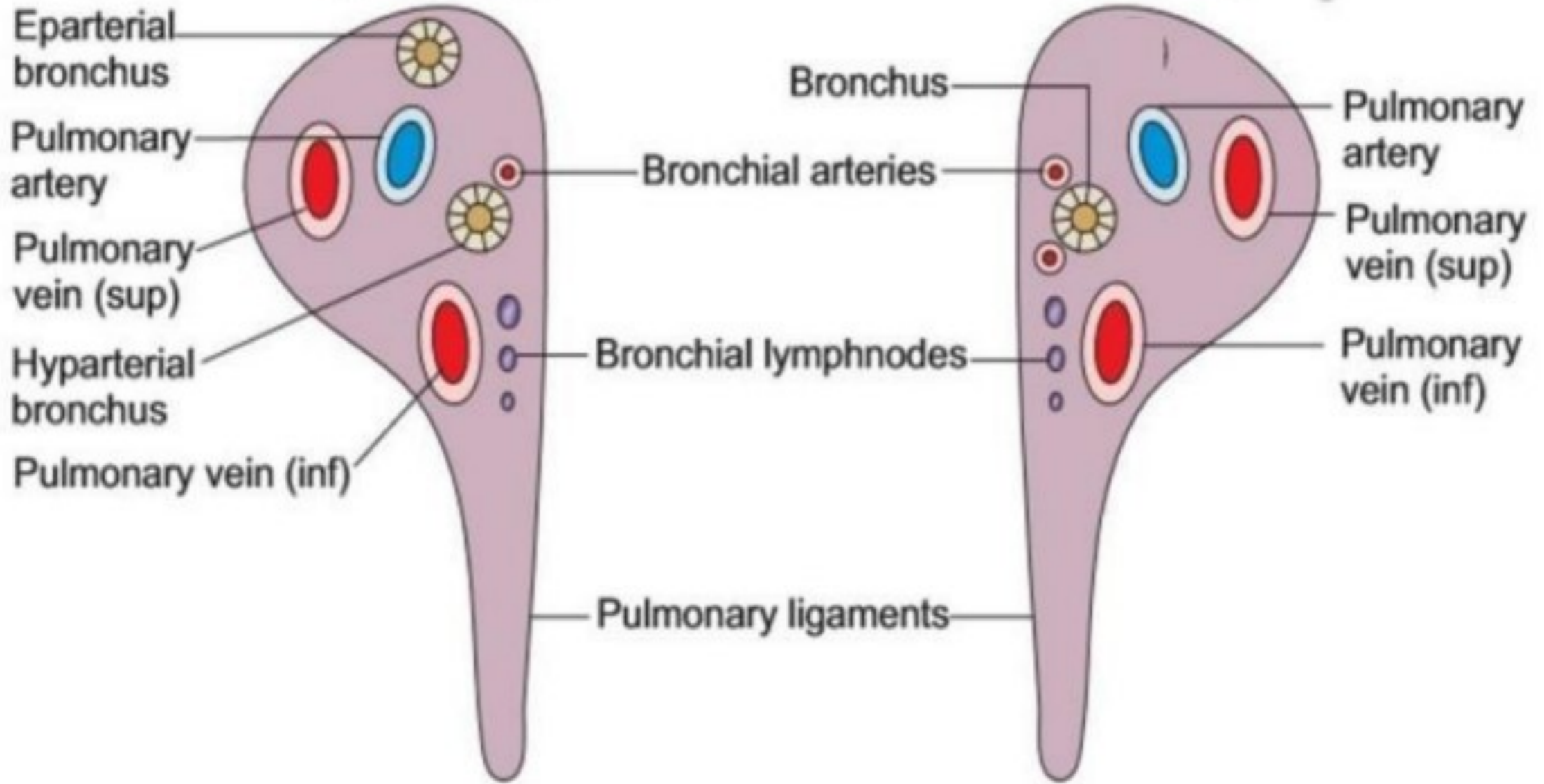


- Within each root, and located in the hilum:

1-Pulmonary artery. 2-Two pulmonary veins. 3-Lymph nodes and vessels. 4-Nerves (sympathetic and parasympathetic). 5-Bronchial vessels. 6-Bronchus. 7- pulmonary Ligaments

Right Lung

Left Lung



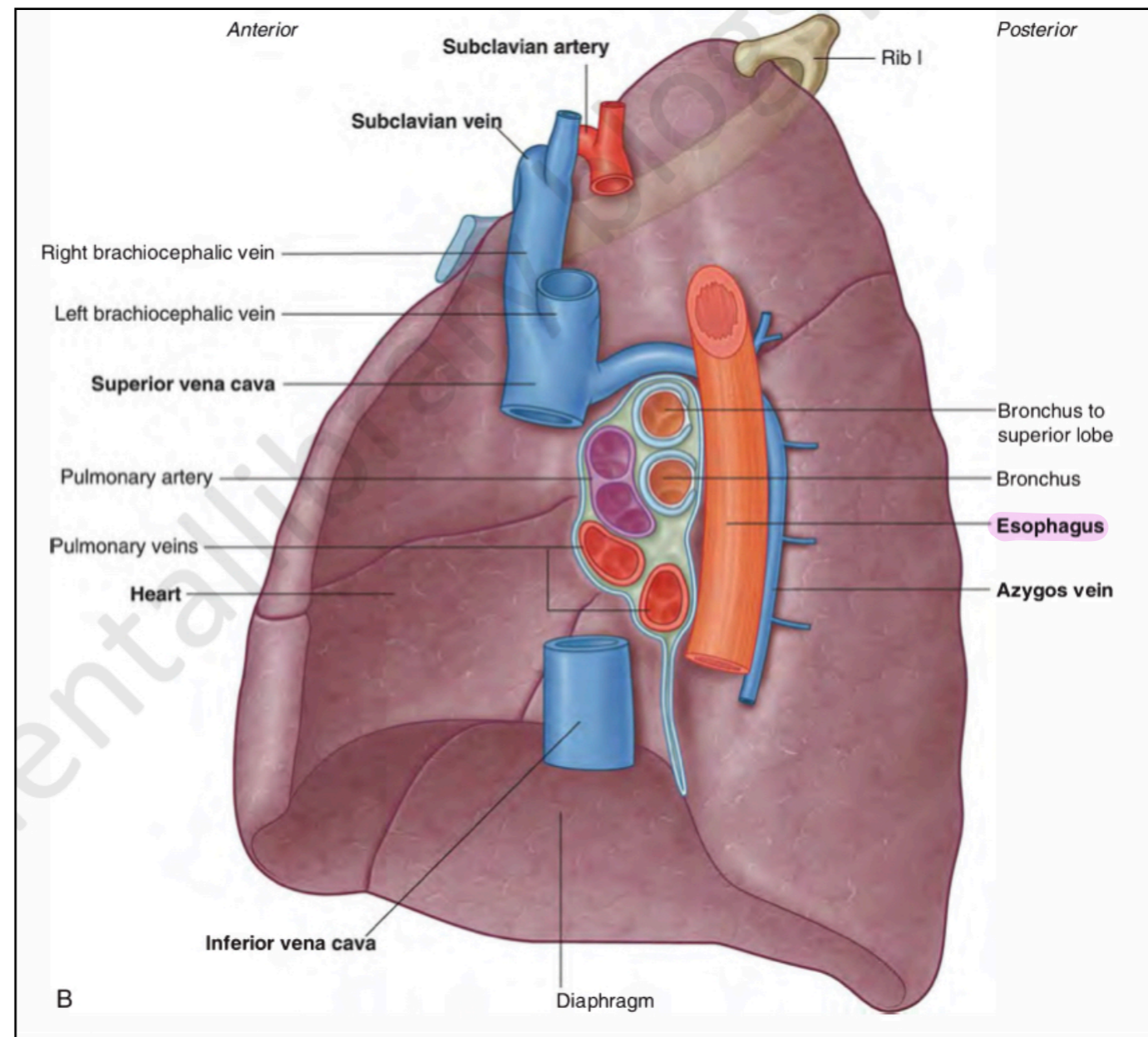
✦ Lungs

- The students should know the impression on the right lung:

- inferior vena cava
- superior vena cava
- Right atrium
- Arch of azygos vein
- esophagus.
- Trachea

- *Impression by the contents of the hilum*

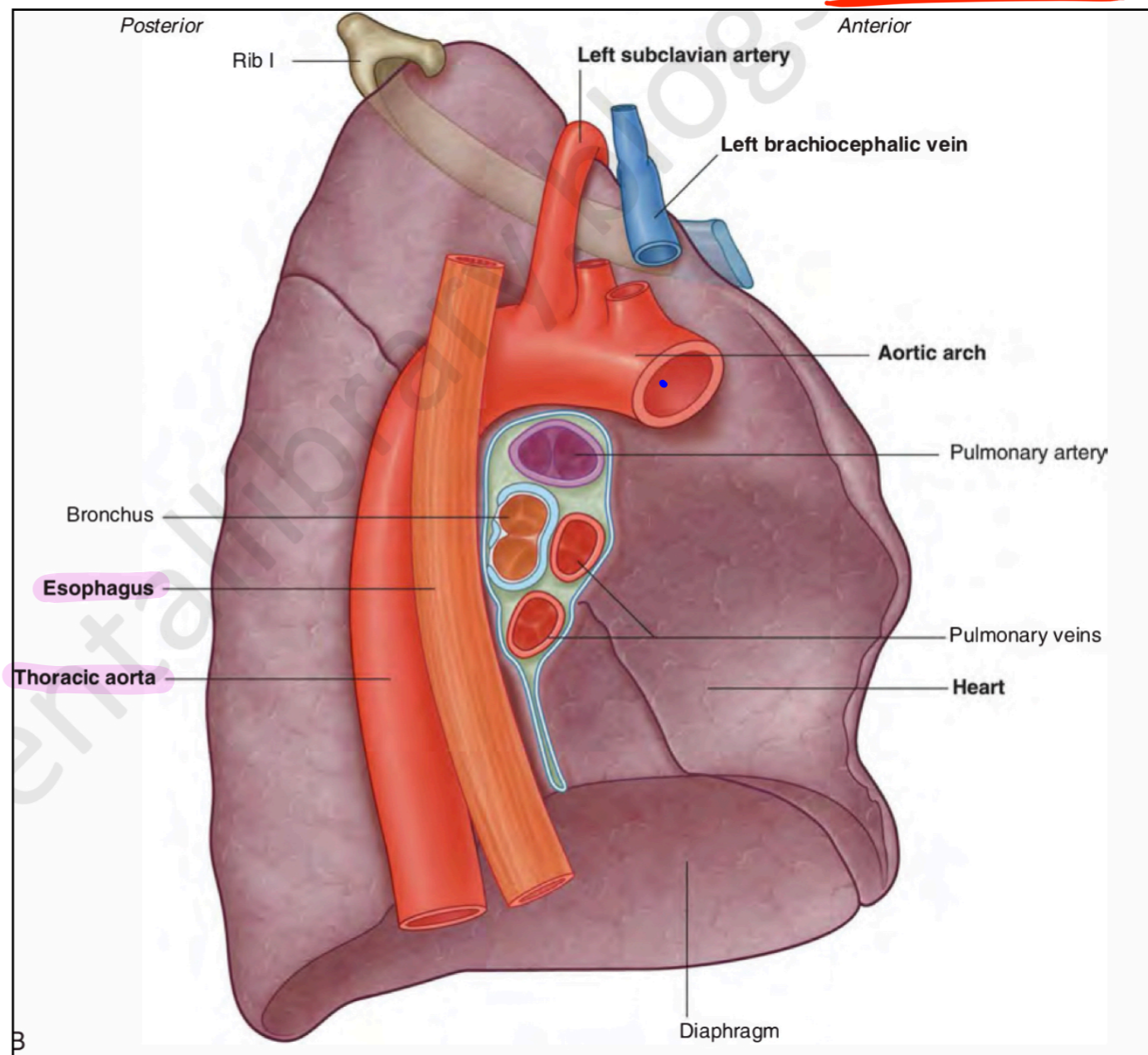
very important



✦ Lungs

- The students should know the impression on the left lung:
 - heart (pericardium covering left ventricle)
 - aortic arch
 - thoracic aorta (*Decending aorta*)
 - esophagus
 - Left common carotid
 - Left subclavian

very important



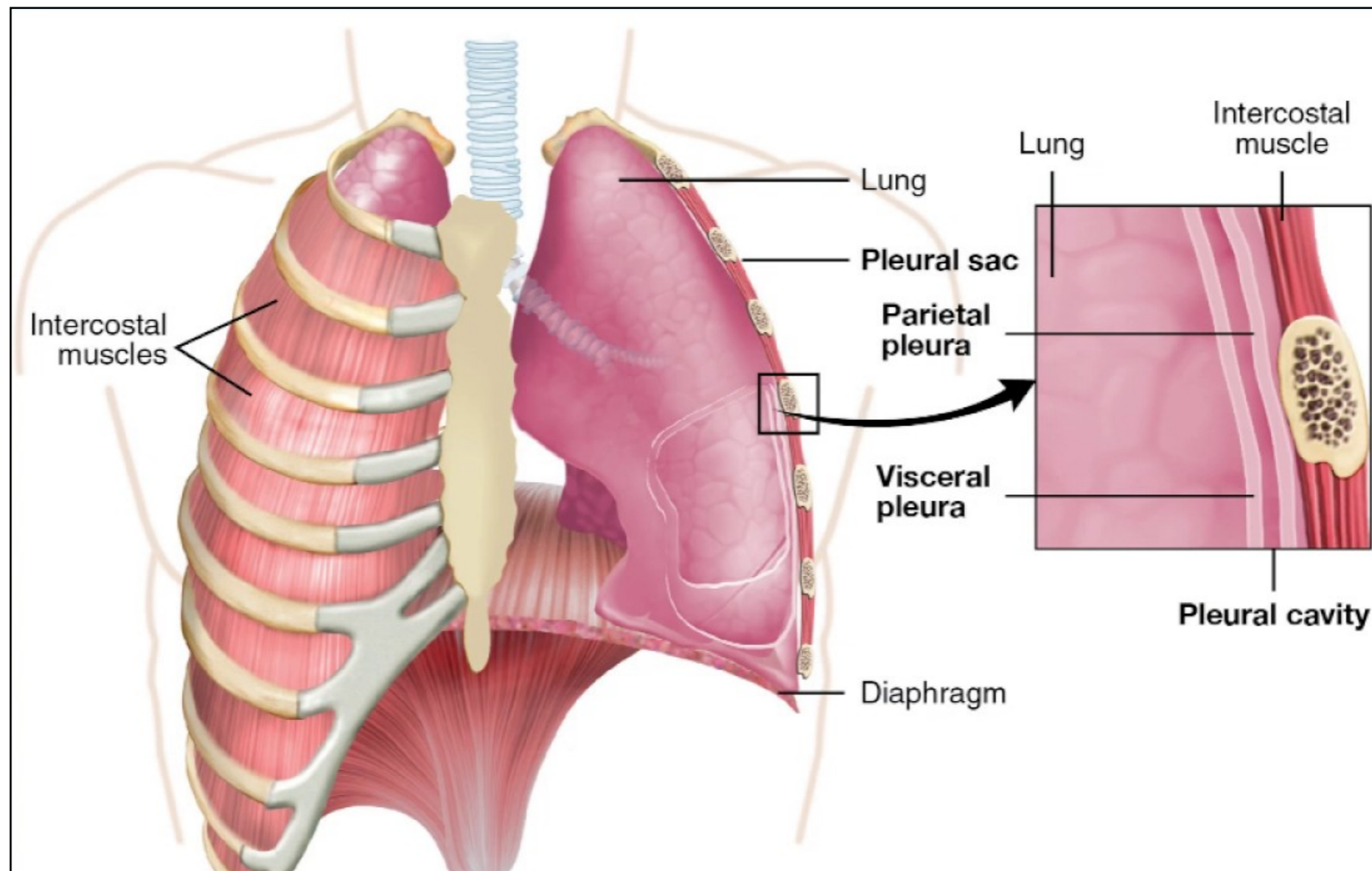
✦ Pleura

Divided into two layers based on location: the parietal pleura and visceral pleura.
Parietal/ lines thoracic wall from inside (sensitive for pain)
Visceral/ adherent to the lungs (autonomic no pain).
Between these two layers is a potential space known as the pleural cavity or pleural space

- The students should know that pleura is divided into two major types:

- parietal pleura
- visceral pleura

Adherent to each other at the apex and at the hilum (around the hilum)

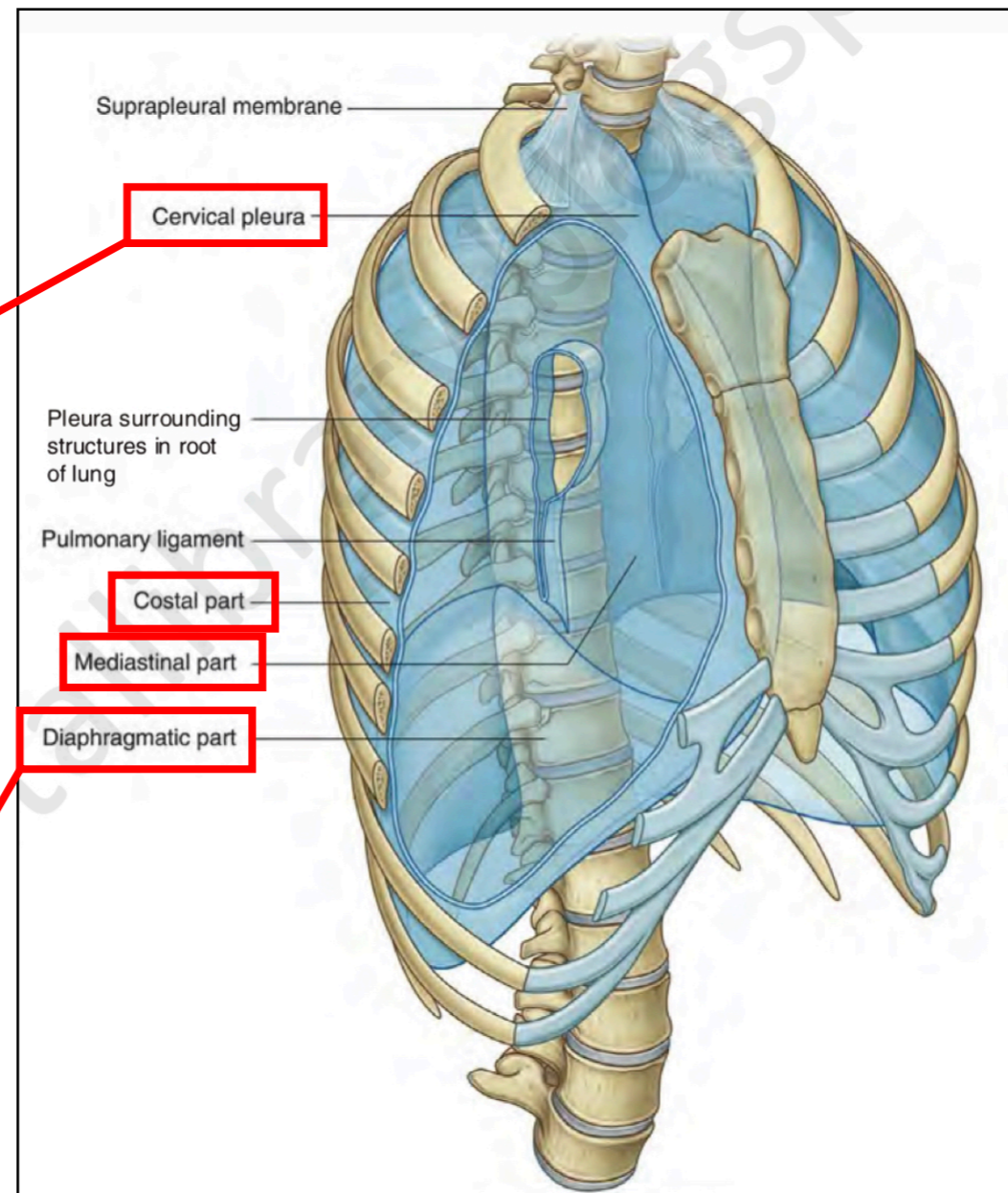


✦ Pleura

- The students should know parts of parietal pleura:
 - Cervical
 - Mediastinal
 - Diaphragmatic
 - Costal

Covers the apex of the lung. The parietal pleura here is adherent to the visceral pleura and the lungs, which means there's no pleural space. This pleura is covered by suprapleural membrane (also called Sibson's fascia) is part of the deep fascia at the root of the neck, it acts like a roof to the thoracic cavity and adherent to the apex of the lung

at the base of the lung covers the diaphragmatic surface of the lung



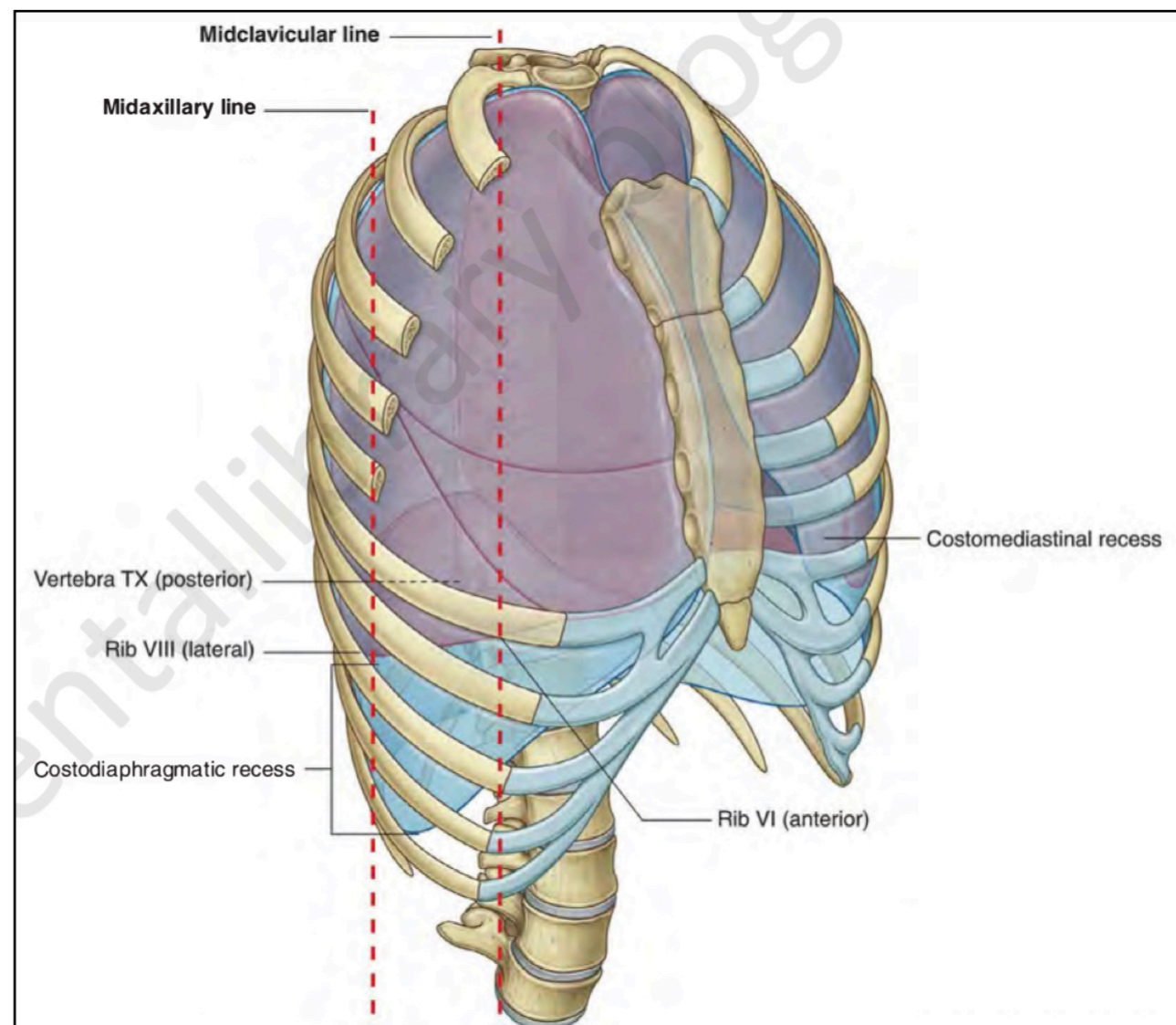
The two pleural layers (visceral and mediastinal) become one and sleeve around the hilum of the lung (at level T5-T7), and at the lower part forms the pulmonary ligament below the hilum

✦ Pleura

Costal pleura + diaphragmatic pleural junction > costodiaphragmatic recess (the largest and most clinically important recesses)

Costal + mediastinal pleural junction > costomediastinal recess (on the medial and lateral side)

- The students should know Pleural recesses:
 - Costomediastinal recesses
 - Costodiaphragmatic recesses → preferred place for aspiration



The recess locations where the needle to be inserted. The needle inserted at the lower border of intercostal space to avoid the injury if the vein, artery or nerve

The difference between surface anatomy of lung and parietal pleura:

The anterior border of parietal pleura reach 7th costal cartilage.

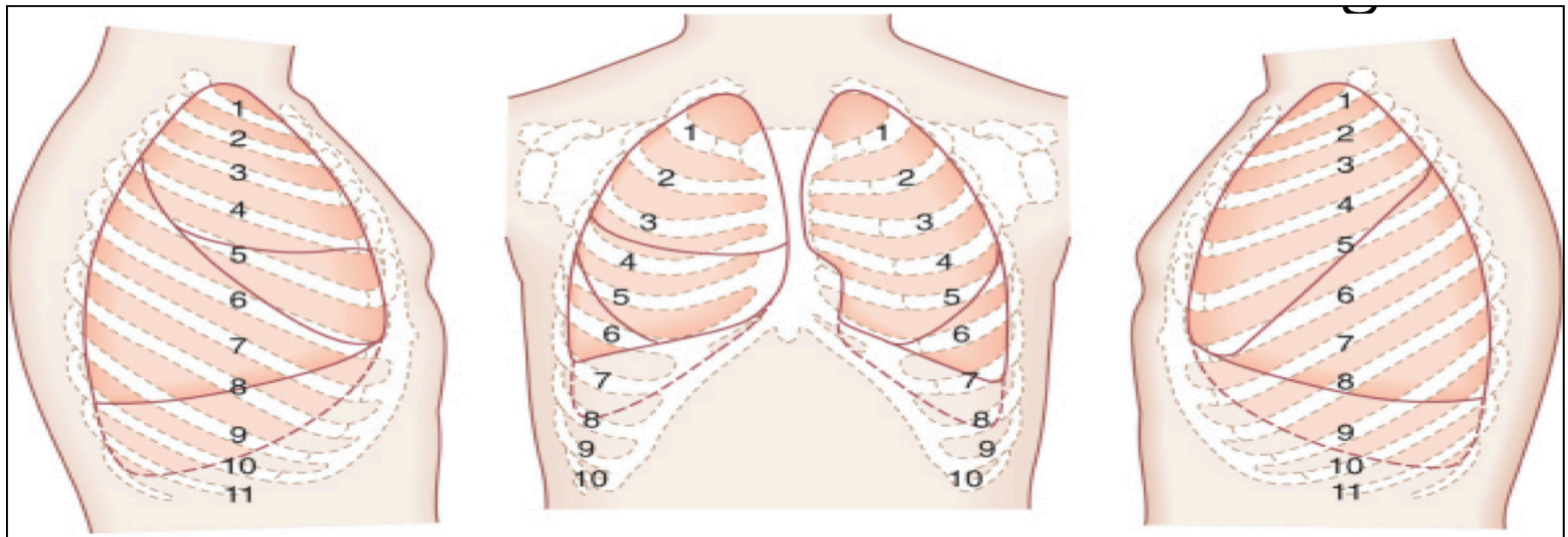
The surface anatomy of the base (lower border) of the pleura is always lower than the lungs by two intercostal spaces:

- 8th rib midclavicular
- 10th rib midaxillary
- posteriorly at the level of T12

✦ Pleura

- The students should know the surface anatomy of pleura:
 - at the midclavicular line, the recess is between rib spaces 6 and 8,
 - at the midaxillary line between 8 and 10
 - at the paravertebral line between 10 and 12.

Between the end of inferior surface of lung and the end of inferior surface of parietal pleura

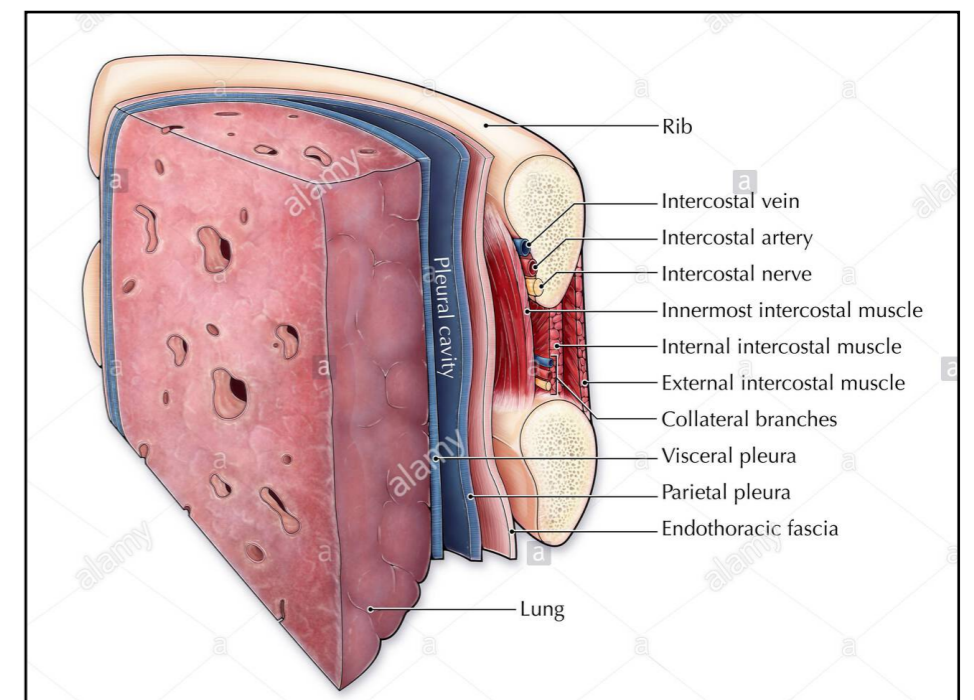
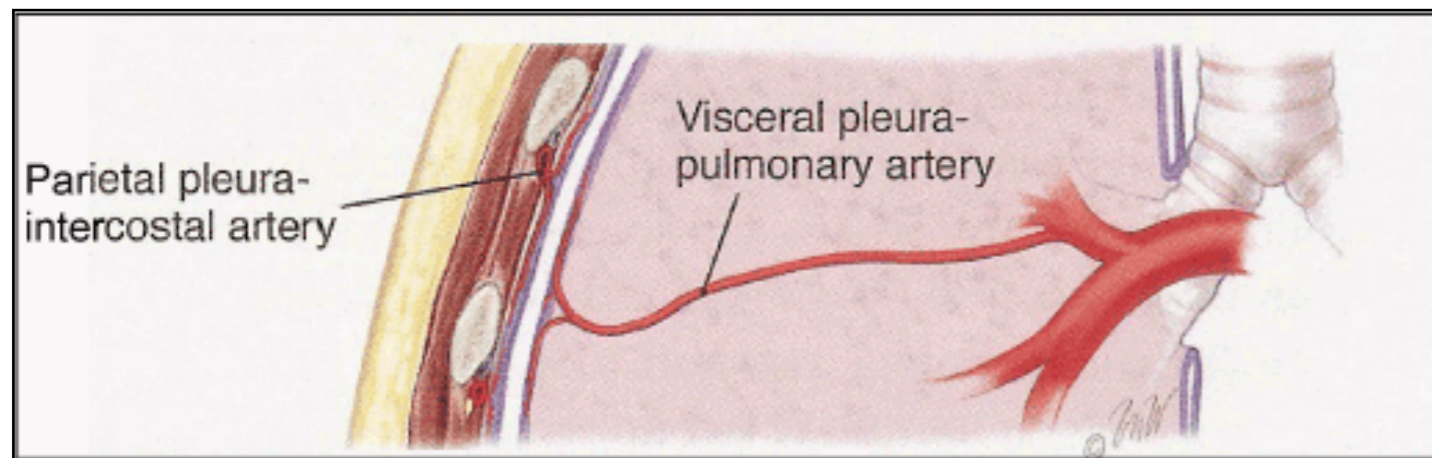


So we can put the needle or canula in 7th intercostal space in midclavicular or in 9th intercostal space in midaxillary or in 11th intercostal space in paravertebral (scaular) line.

In these locations the lung will not be affected during aspiration.

✦ Pleura

- The students should know the arterial supply of the parietal pleura:
 - Intercostal arteries(ant& post)
 - Internal thoracic
 - Musculophrenic arteries
- The students should know the arterial supply of the visceral pleura:
 - Bronchial arteries **2 in the left lung**
1 in the right lung



supply of the pulmonary tissues (bronchial walls and glands, walls of large vessels, lungs and visceral pleura).

✦ Pleura

- The students should know the Lymphatic drainage of pleura:

Parietal pleura:

1-Mediastinal pleura (with hilum)

by:

a- mediastinal LN

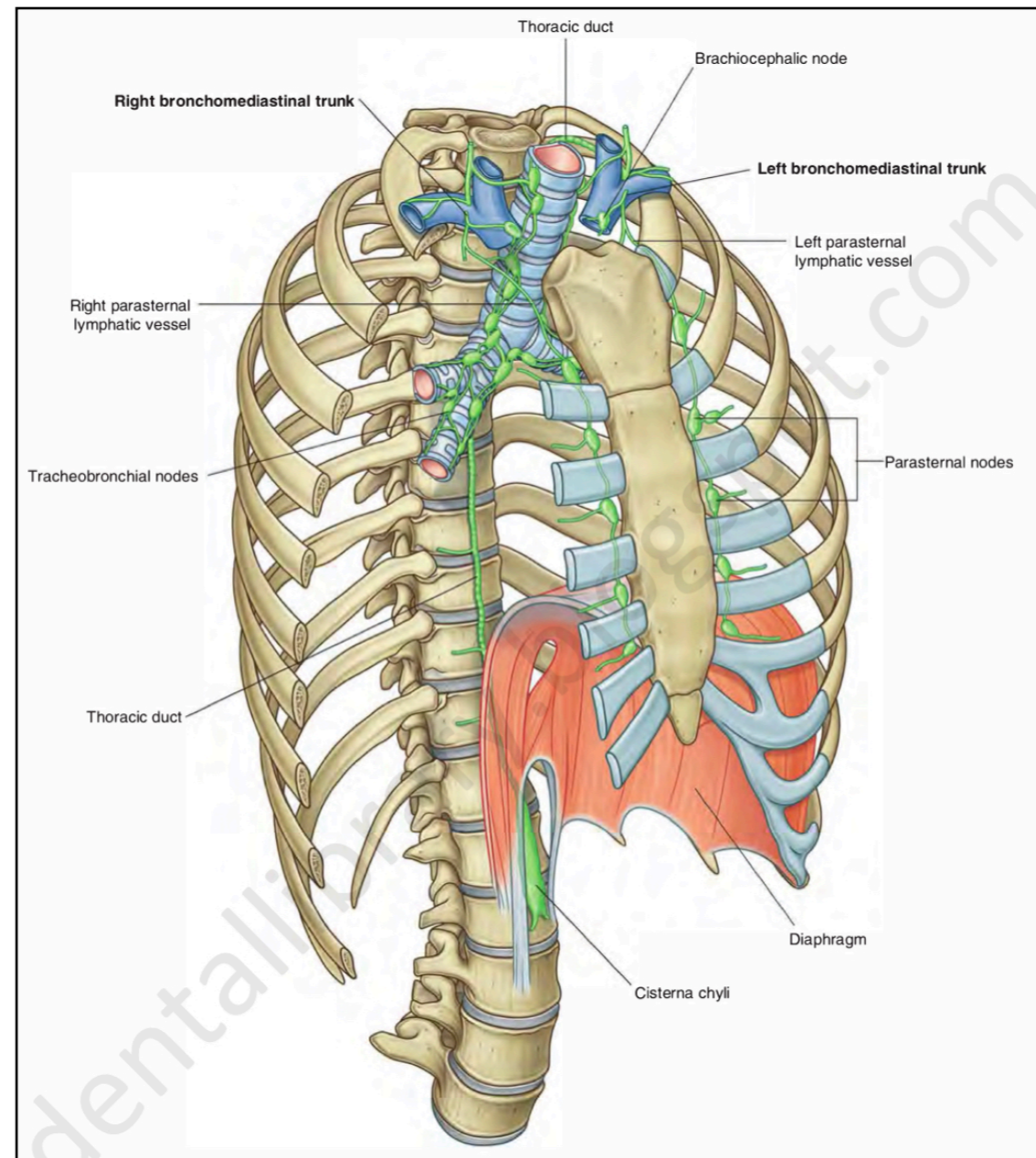
b- Tracheobronchial LN

c- Intercostal LN

2-Diaphragmatic pleura by:

a- Parasternal LN

b- Posterior mediastinal LN



Visceral pleura:

Bronchopulmonary LN

>> Mediastinal LN

✦ Pleura

- 1-Intercostal nerves > supply costal pleura
- 2-Lower 6 intercostal nerves > supply peripheral pleura
- 3-Phrenic nerve> supplies mediastinal pleura+ diaphragmatic pleura

- The students should know the nerve supply of pleura:

