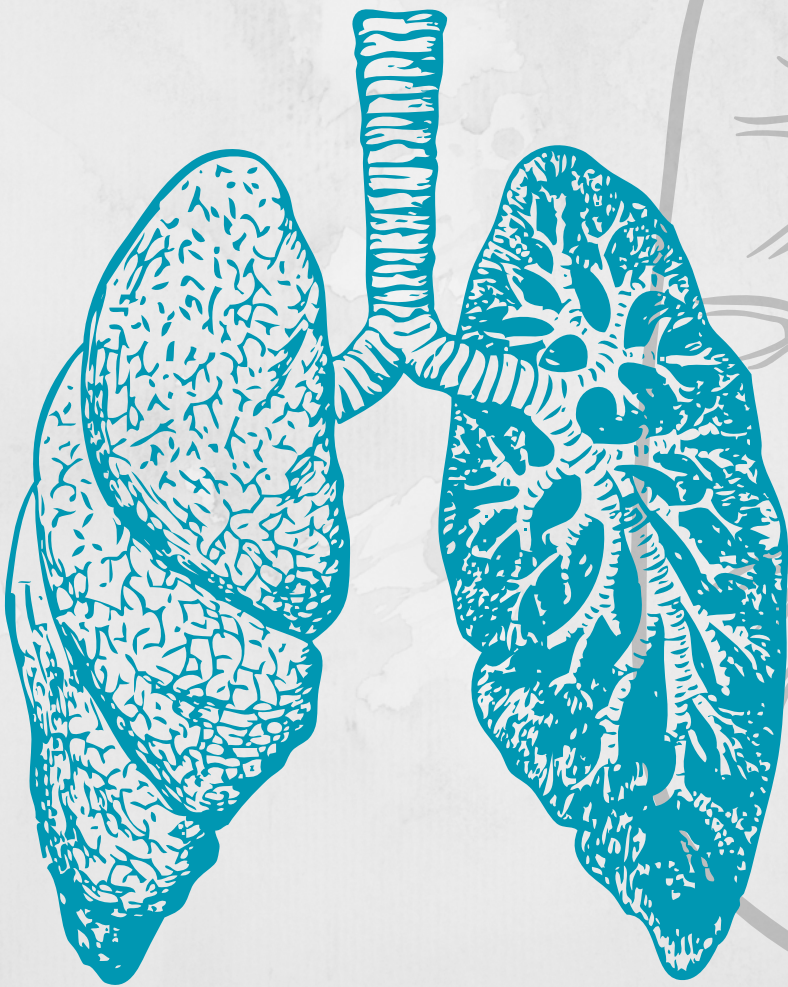


# Antomy

## Lab



**Done by**  
Layan Lafi

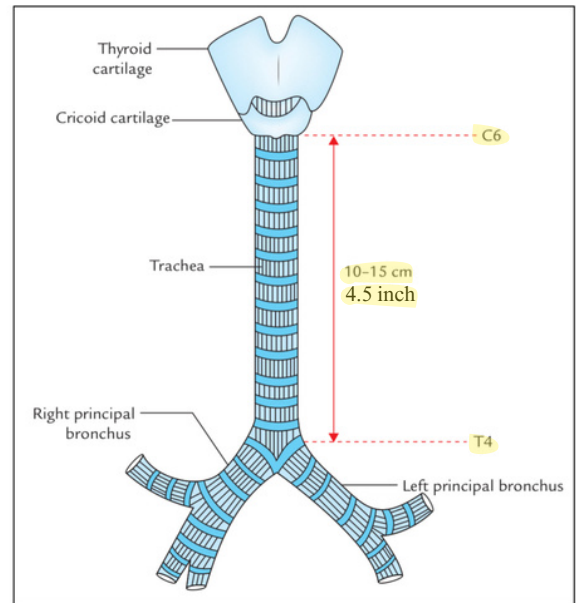


# Anatomy Lab

## 3rd Lab: Trachea and Bronchi

### Trachea:

You should observe the beginning, length and ending of the trachea:



### Relations of Trachea:

#### Anteriorly

- Aortic arch
- Thymus
- thyroid
- Origin of brachiocephalic artery
- Manubrium sterni

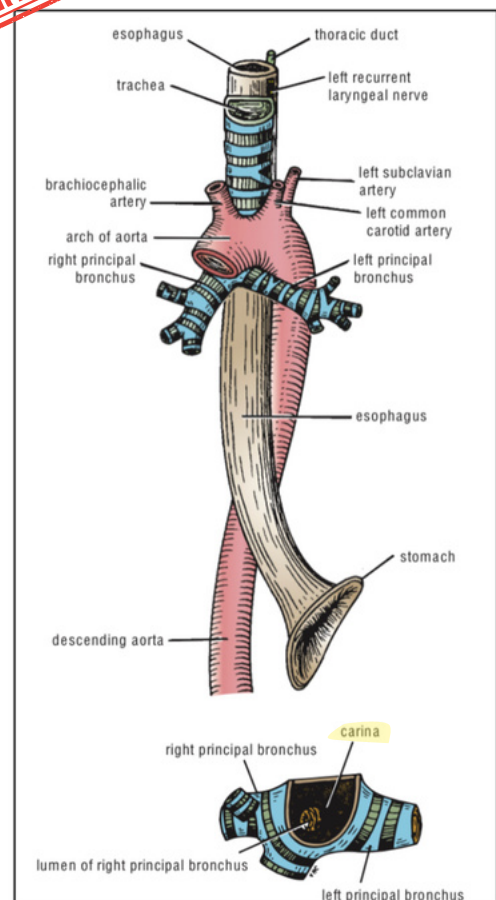
#### Left

- Arch of aorta
- Lt. subclavian art.
- LT. common carotid art.
- Lt. Phrenic n.
- Lt. Vagus n.
- Lt. main bronchus

#### Right

- Azygous arch (It terminates in SVC)
- Brachiocephalic artery
- Rt. Vagus
- Rt. Phrenic
- Rt. main bronchus

**IMPORTANT**

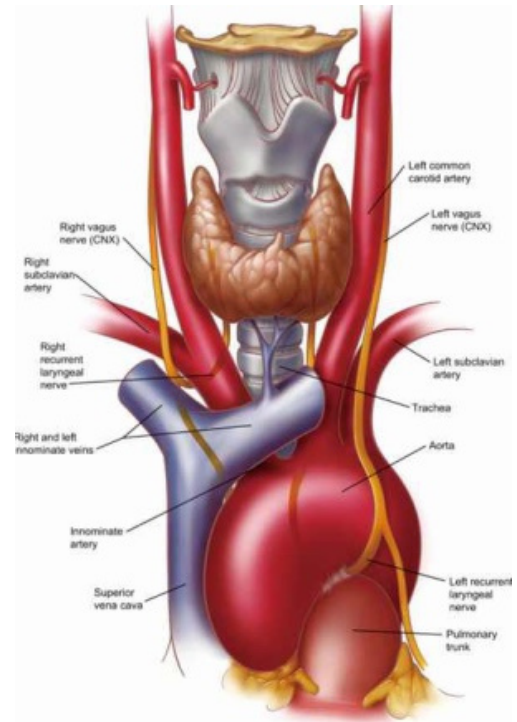
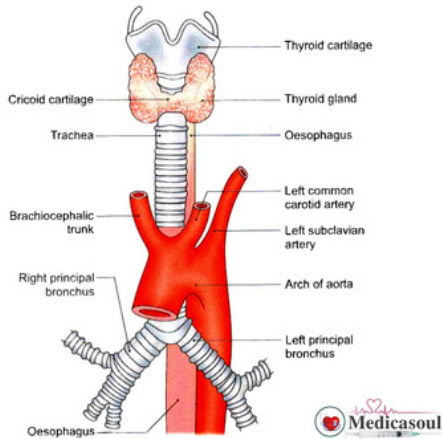


# Anatomy Lab

## Posterior

- Esophagus
- Thoracic duct.
- left recurrent laryngeal nerve

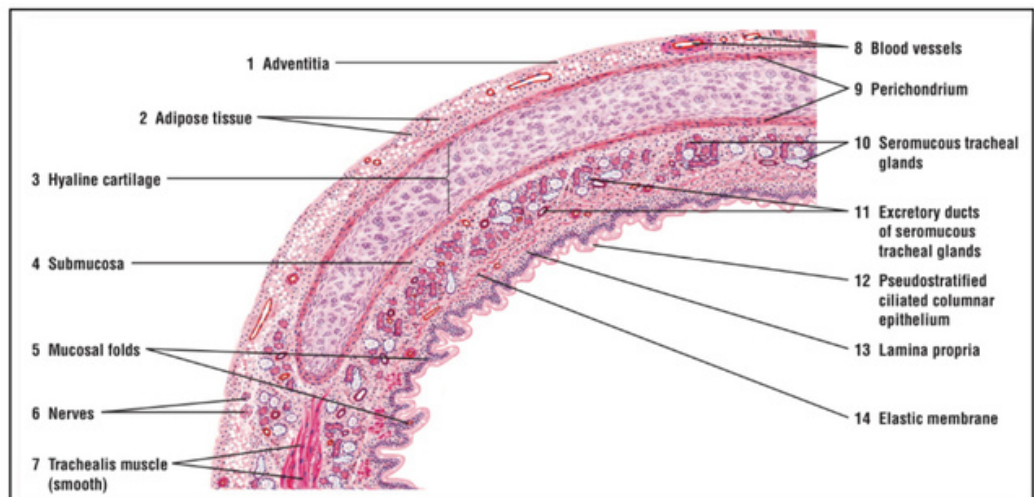
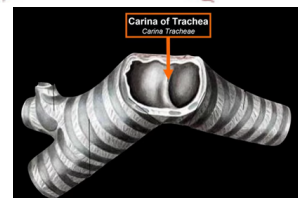
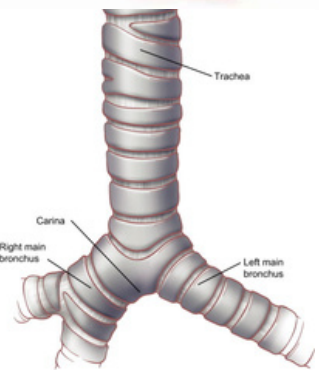
### Trachea and its relations



**Carina:** runs anteroposteriorly between the two primary bronchi at the site of the tracheal bifurcation (T4-T5).

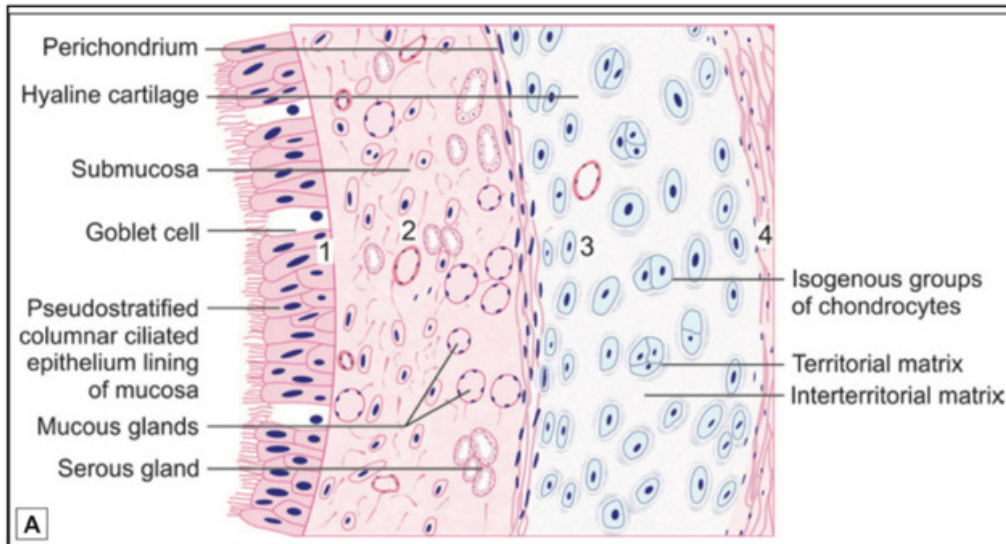
- The mucous membrane of the carina is the **most sensitive area** of the trachea and larynx for triggering a cough reflex.

- The trachea is a fibroelastic cartilaginous tube.
- The trachea consists of four layers:
  - Mucosa
  - Submucosa
  - Cartilage and Smooth Muscle Layer
  - Adventitia



## Anatomy Lab

- Mucous Membrane
  - The lumen of the trachea is lined by pseudostratified ciliated columnar.
  - It contains numerous goblet cells, and basal cells that lie next to the basement membrane.
  - Numerous lymphocytes are seen in deeper parts of the epithelium.



- Submucosa
  - made up of loose connective tissue containing mucous glands and serous glands, blood vessels and ducts.
- C' shaped plate of hyaline cartilage
  - Perichondrium has outer fibrous and inner chondrogenic layers.
  - Observe that the cartilage is absent posteriorly and replaced by trachealis muscle.
- Adventitia
  - is made of fibroelastic connective tissue containing blood vessels and nerves.

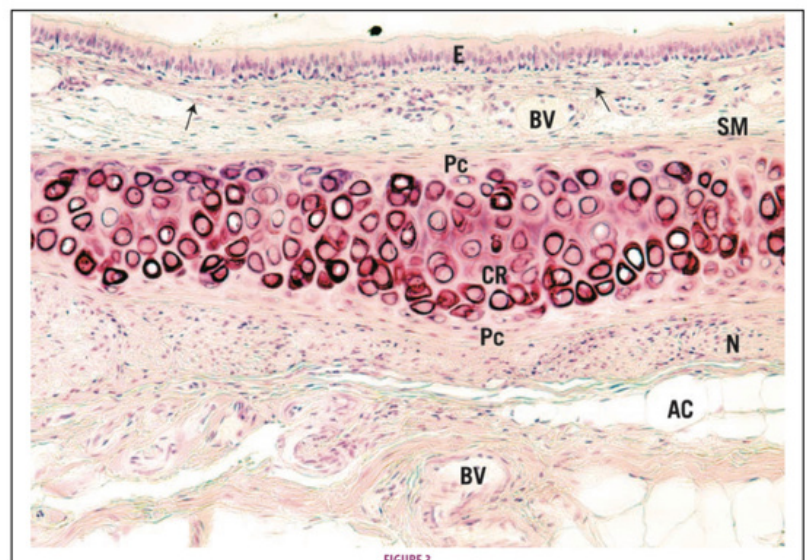
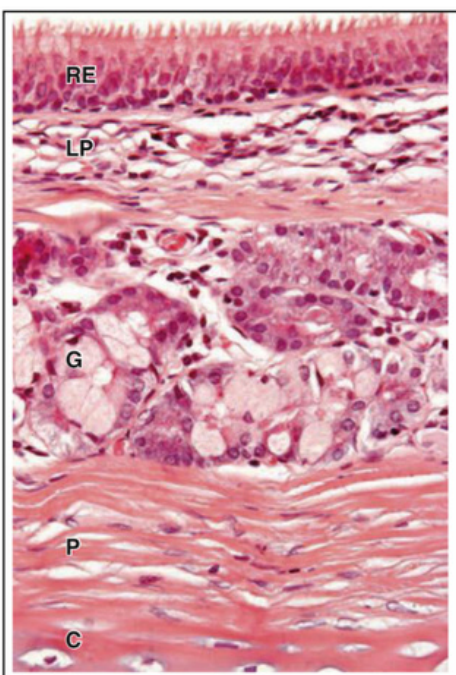
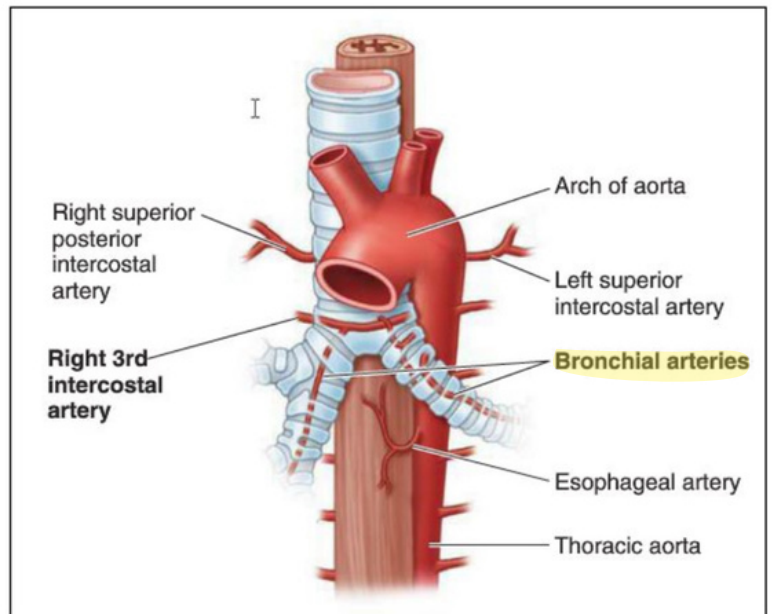
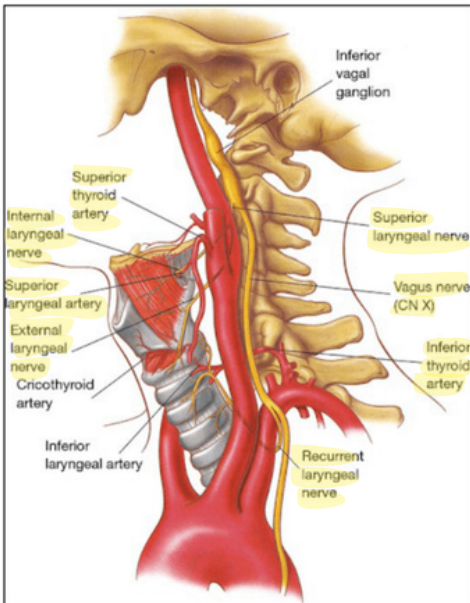


FIGURE 3

# Anatomy Lab

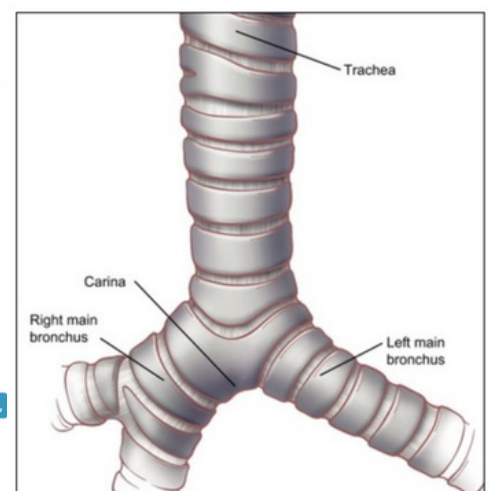
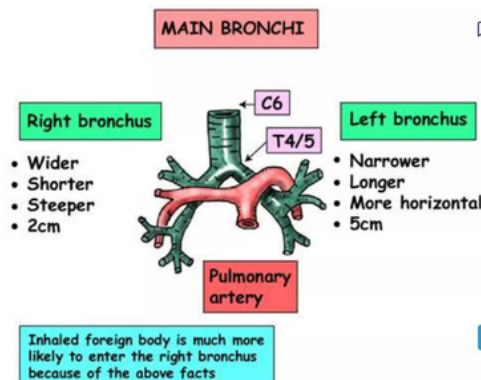
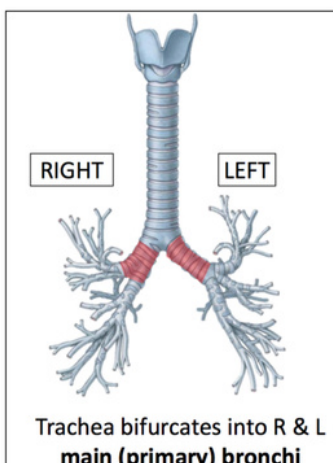
## Blood supply

- The upper two thirds are supplied by the inferior thyroid arteries
- The lower third is supplied by the bronchial arteries



## Bronchi:

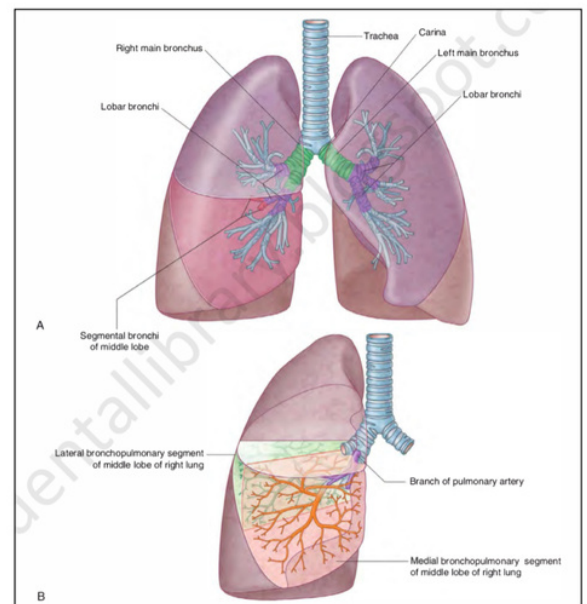
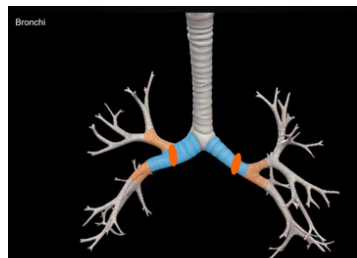
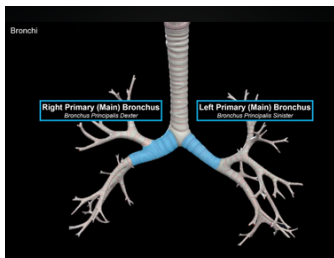
	Right main bronchus	Left main bronchus
Length	Shorter (1 inch) and wider	Longer (2 inch) and narrower
Alignment	More vertical	More horizontal
Lobar bronchi	In the hilum, it divides into eparterial and hyparterial bronchi	In the hilum, it remains as one lobar bronchus



# Anatomy Lab

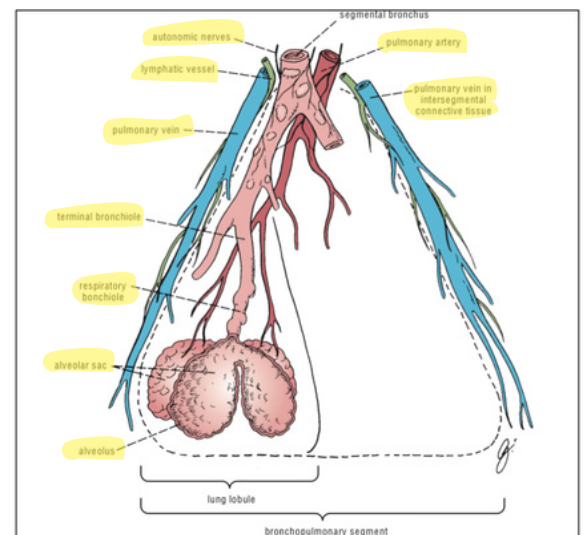
- The bronchial tree:

	Right	Left
Primary (main) bronchi Extrapulmonary bronchi	gives off the superior lobar bronchus then on the entering of the hilum, it divides into a middle and inferior lobar bronchi	divides into a superior and an inferior lobar bronchi
secondary bronchi (lobar)	3	2
Tertiary bronchi (bronchopulmonary segment)	10	10 in adults 8 before birth



- Bronchopulmonary segment:**

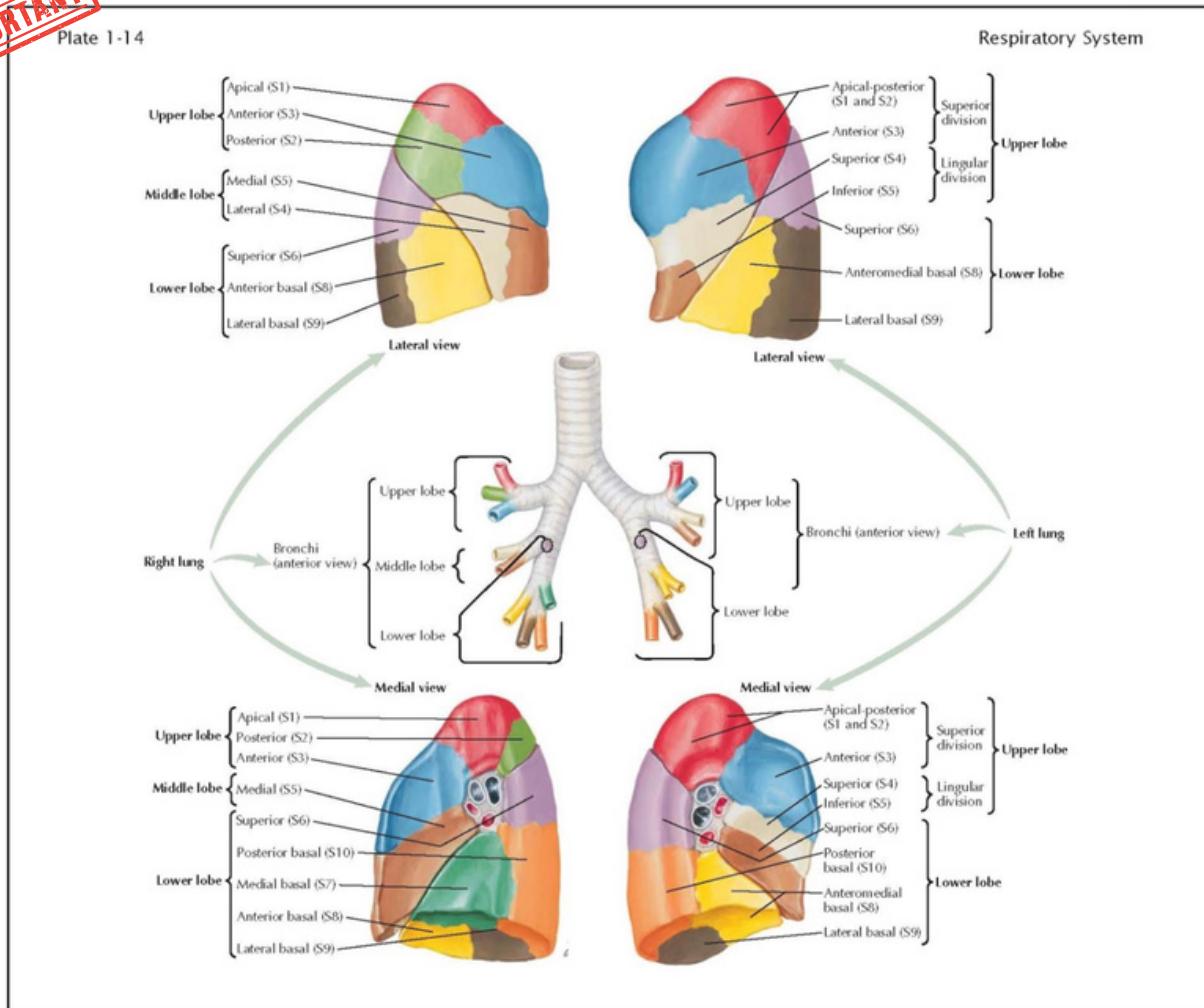
- It is pyramid shaped, with its apex toward the lung root.
- It is surrounded by connective tissue.
- It has a segmental bronchus, an intra-segmental artery, lymph vessels, and autonomic nerves.
- The segmental vein lies in the connective tissue between adjacent bronchopulmonary segments.
- Because it is a structural unit, a diseased segment can be removed surgically instead of the entire lobe.



# • Anatomy Lab •

- The distribution of the bronchopulmonary segments in each lung:
  - Rt. Lung 10 segments (upper, middle, basal lobes)
  - Lt. lung 10 segments (upper, basal lobes)

**IMPORTANT**



## • Clinical points:

- Foreign body is usually descend in the right main bronchus.
- The foreign body in erect Poisson usually descend to the posterior basal segment.
- In recumbent Poisson (patient and dentist) the extracted tooth descend to the lower lobe to the apico-basal segment.
- During emergency, suprasternal tracheostomy is performed, does bleeding happen?

Yes, because of the inferior thyroid vein, or anterior jugular vein, thyroid ima artery, or the jugular arch.