

Histology

Respiratory system

Respiratory is divided in to two parts:

A- Conducting portion consists •

- 1- Nosal cavity •
- 2- Nasopharynx •
- 3- Larynx •
- 4- Trachea •
- 5- Bronchi •
- 6- Bronchioles •



- with two functions •

- 1- provide a passage through which air moves to and for lungs. •
- 2- to condition the respired air •

Q/ What is that mean? •

B- Respiratory portion consists: •

1-Bronchioles •

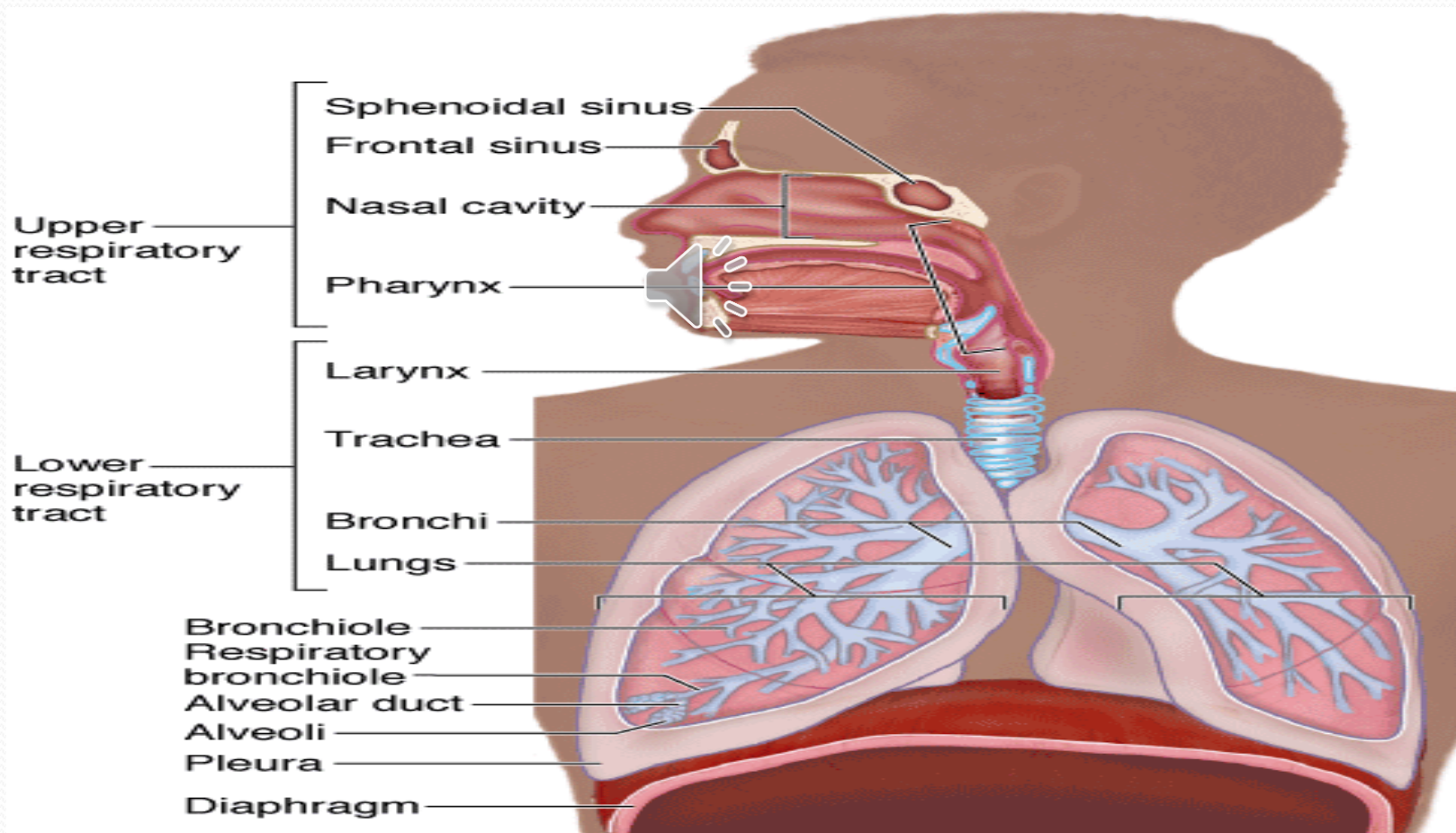
2- Alveolar ducts •

3-Alveoli •



-Function is the exchange of O₂ and Co₂ in blood •

Q/ Where is the gases exchange occur ? In which organ? •



Respiratory Epithelium What is it?

- is a ciliated pseudostratified columnar epithelium tissue . •
 - this tissue is lining most respiratory organs . •
 - the tissue has at least five cell types on it •
- basement membrane which are .
- 1- ciliated columnar cells Abundant . •
 - 2- goblet cells with mucin glycoproteins -Abundant •
 - 3- Brush cells -less, scattered •
 - 4- small granule cells •
 - 5- Basal cells -stem cells ,that give rise to other cell types •



Notes: to insure an un interrupted supply of air . ●



A combination of cartilage , elastic and ,collagen fibers ●

and smooth muscle to provide the system with rigid and ●

flexibility criteria. ●

The trachea (12-14) long •

- lined with respiratory epithelium mucosa •
- the lamina propria with sero- mucus gland •
- the submucosa with c- shaped rings of hyaline • cartilage
- function to keep the trachea open . •
- with smooth muscle in posterior surface against • esophagus
- the entire trachea is surrounded by adventitia •



Notes : ●

Trachea relaxes during swallowing to facilitate the • passage of food in esophagus . In the cough reflex the muscle contract to narrow the trachea lumen and provide for increased velocity of the expelled air and material.



Smell(olfaction) •

-smelling receptors are located in the epithelium (10cm³) •

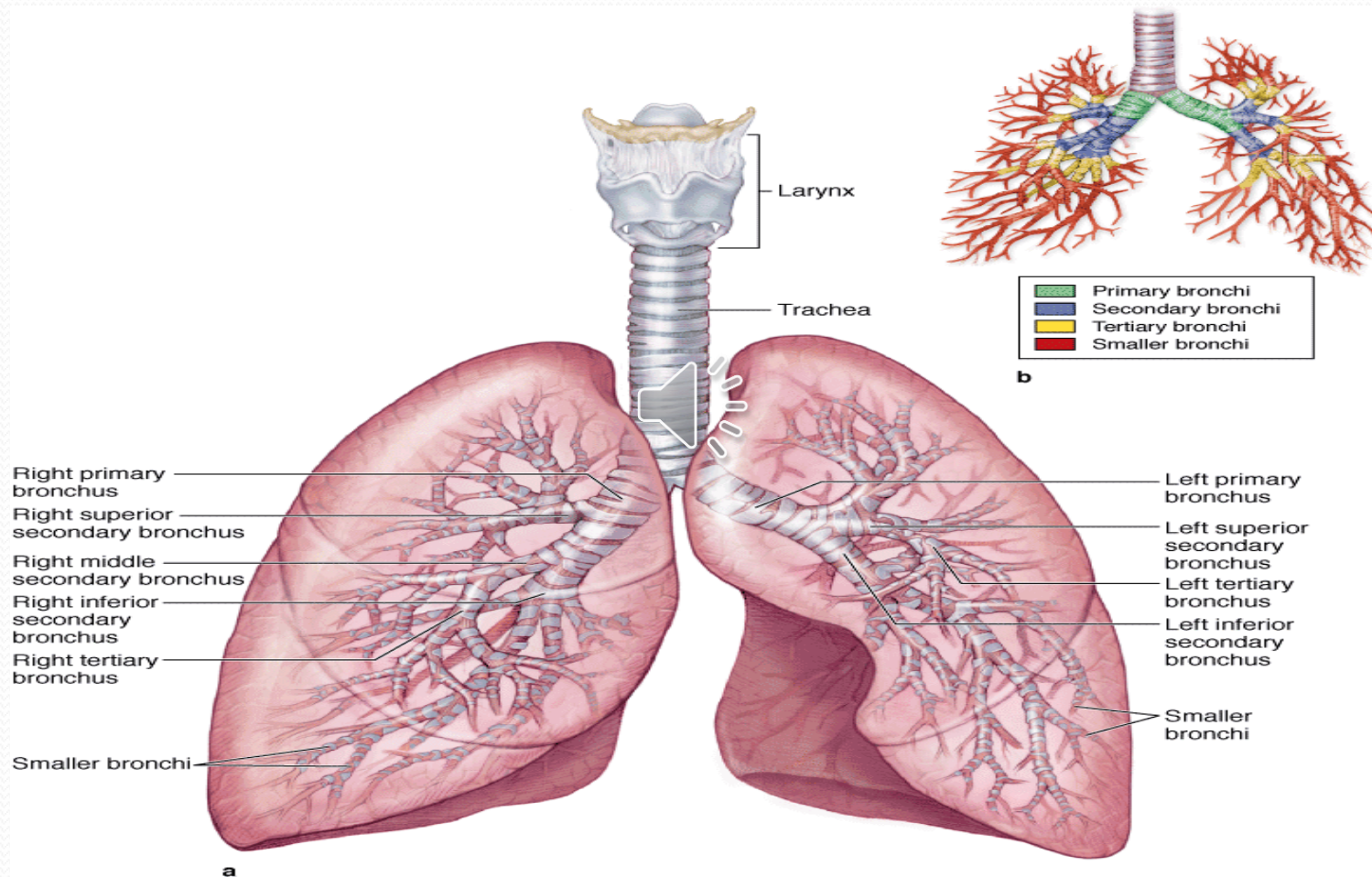


- **Three types of cells** •

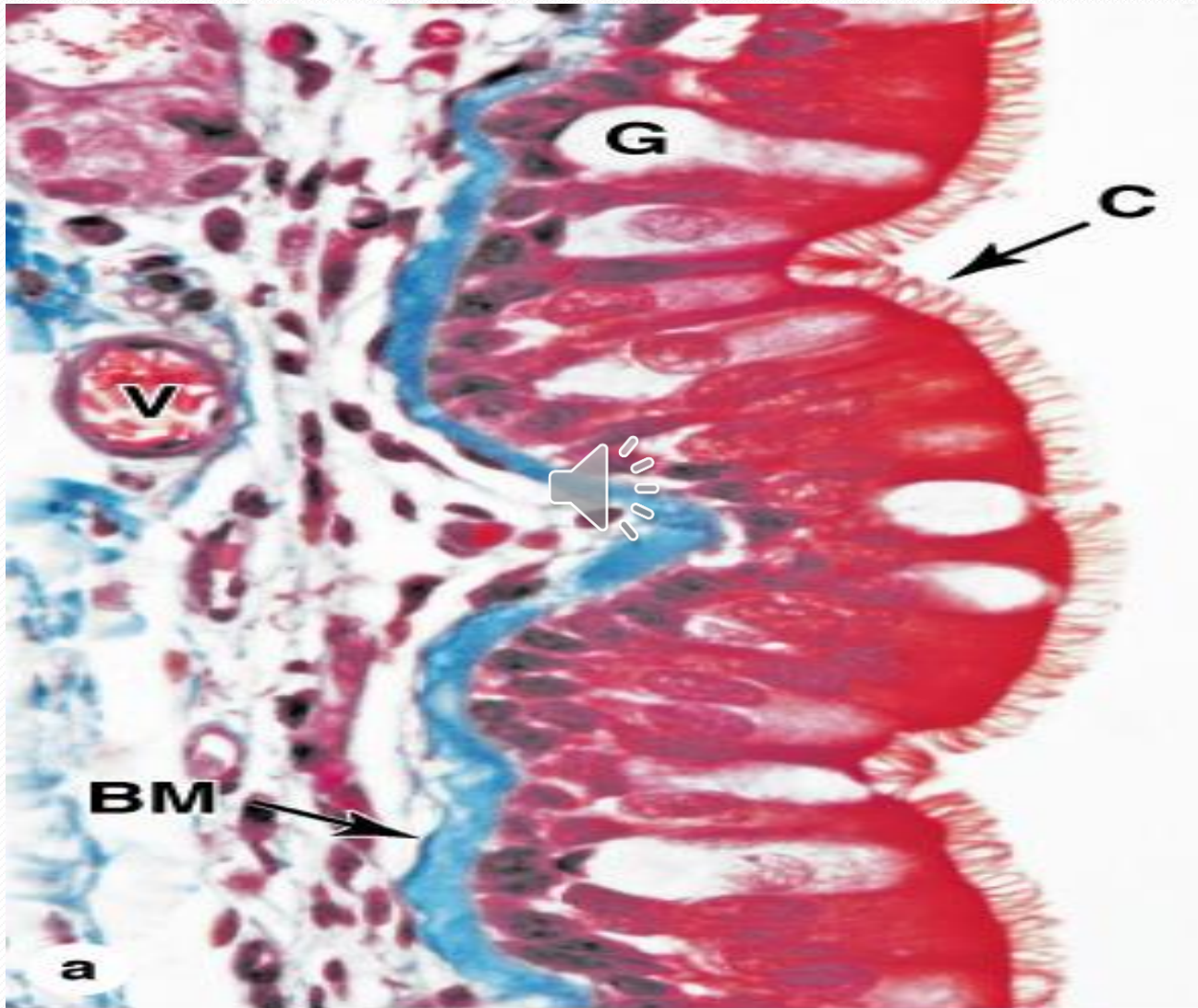
1- basal cells = stem cells •

2- supporting cells •

3- olfactory neurons •



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