



HISTOLOGY PRACTICAL REVISION

RESPIRATORY BLOCK



@HISTO433

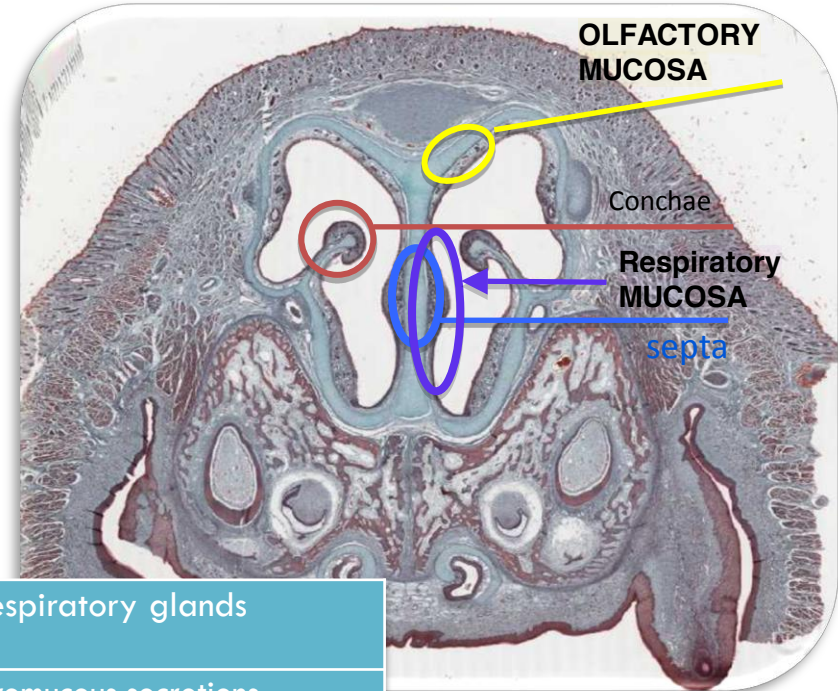
Histology.team@gmail.com

OSPE

- There will be 2 stations.
- Q: Identify ?
- Q: Lining epithelium ?
- Q: Type of cartilage ?
- You should write the 8 words instead of Respiratory Epithelium.

NASAL SEPTUM

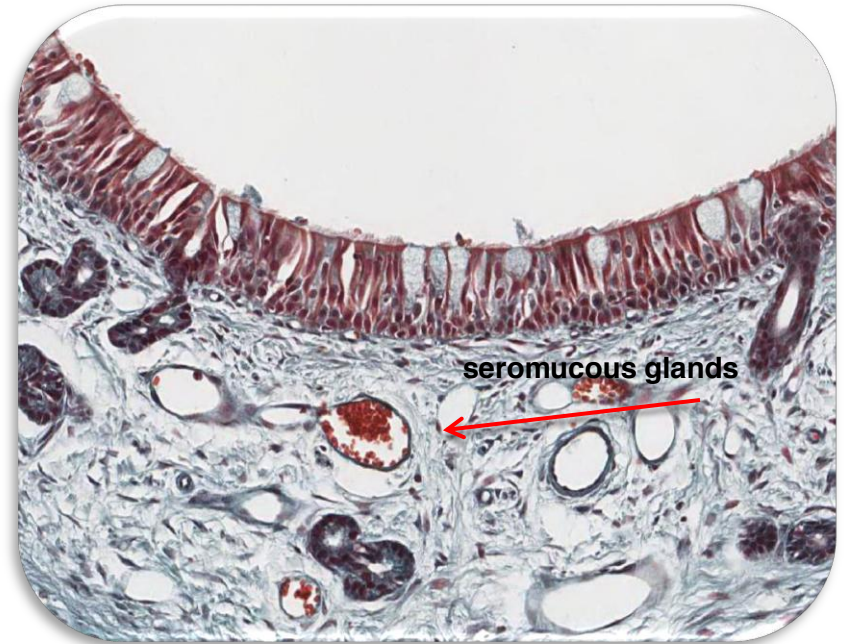
- ❑ Pseudo-stratified ciliated columnar epithelium with goblet cells (Respiratory epithelium).
- ❑ Hyaline cartilage.
- ❑ The main feature of the olfactory mucosa is the bipolar nerve cells (olfactory cells).
- ❑ Respiratory lamina propria is:
 - A) Rich of blood vessels (Called plexus)
 - B) Rich of lymphoid elements.



	Olfactory Glands (or Bowman's Glands)	Respiratory glands
Secretions	Serous secretions	Seromucous secretions
Function	Dissolve odor-containing gases	Sticky, filters and conditions the air we breathe

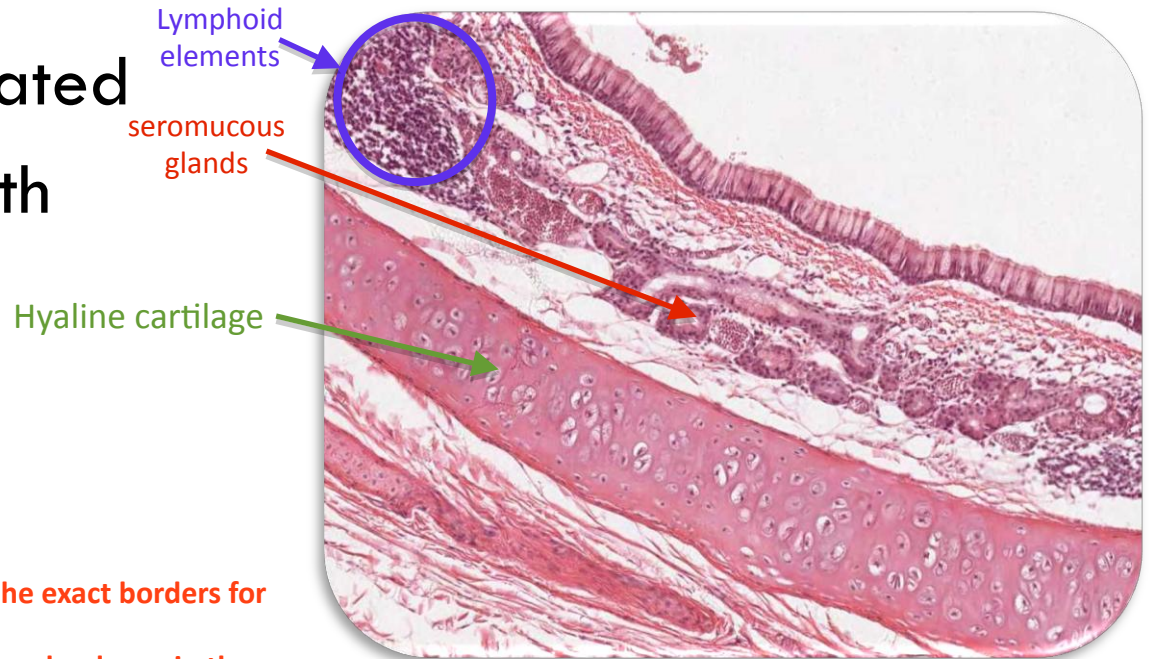
NASAL MUCOSA

- Pseudo-stratified ciliated columnar epithelium with goblet cells.
- Lamina propria.



TRACHEA

□ Pseudo-stratified ciliated columnar epithelium with goblet cells

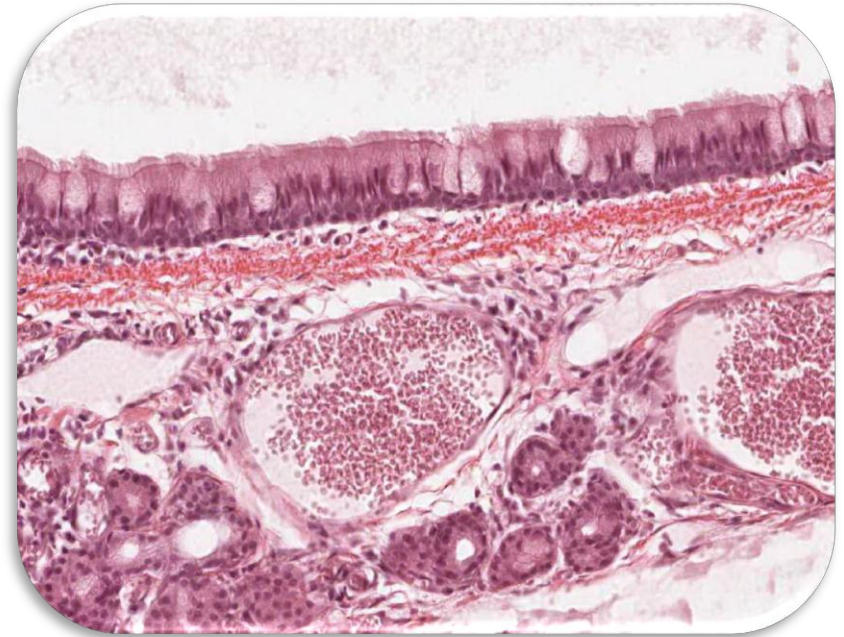


□ Hyaline cartilage.

Note: you can go back to the main slides to know the exact borders for each layer
know that : the lymphoid elements and seromucous glands are in the submucosal layer

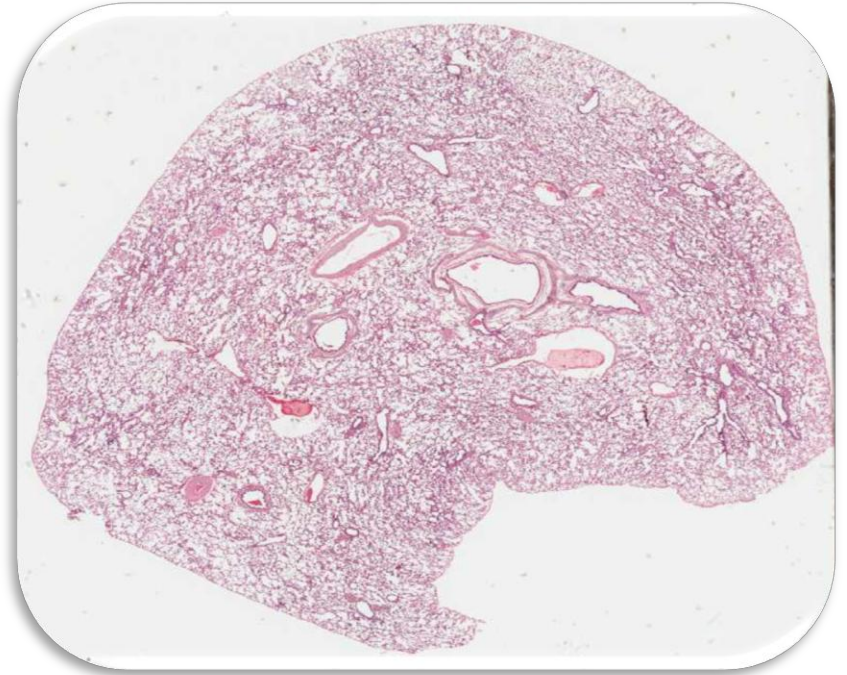
TRACHEAL MUCOSA

- Pseudo-stratified ciliated columnar epithelium with goblet cells
- Submucosa.



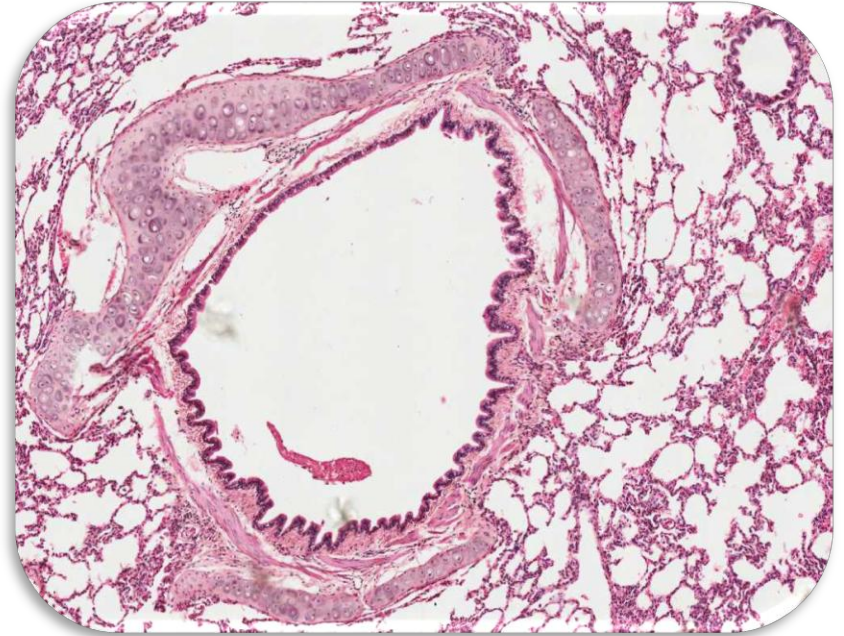
LUNG

- Intrapulmonary bronchus
- Bronchioles
- Pulmonary alveoli



INTRAPULMONARY BRONCHUS

- ❑ Pseudo-stratified ciliated columnar epithelium with goblet cells
- ❑ Hyaline cartilage.



The different between intrapulmonary and extrapulmonary bronchus

Intrapulmonary:
Plates of cartilage

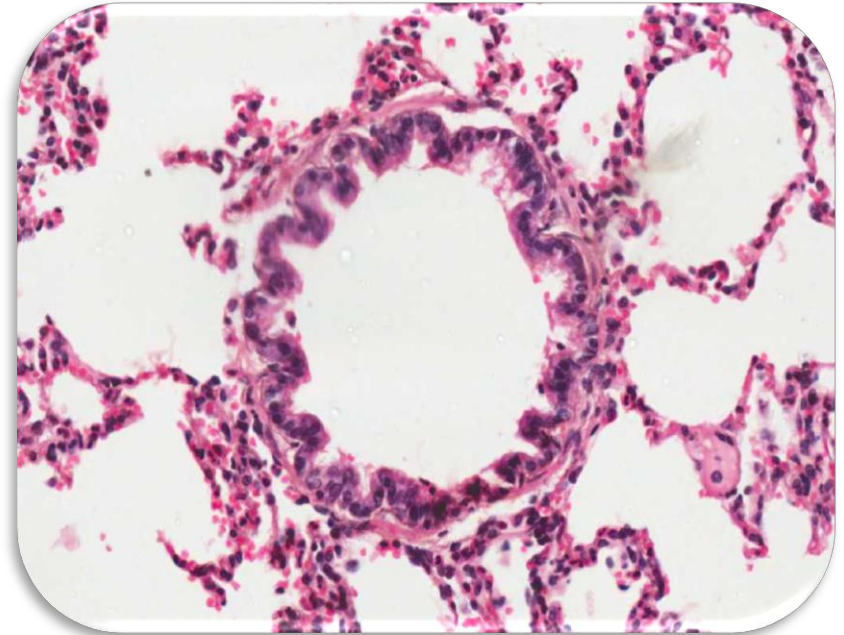
Extrapulmonary:
C-shaped cartilage

TERMINAL BRONCHIOLE (TS)

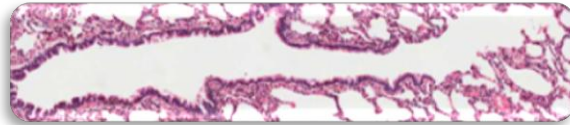
- Simple cuboidal partially ciliated epithelium

With **Clara cells**.

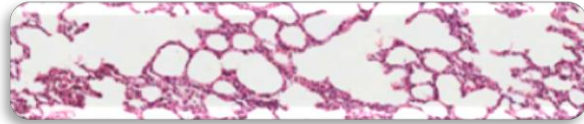
- Its simple columnar(larger bronchioles) OR cuboidal partially ciliated epithelium with clara cells
- It's wall is thin and highly folded to increase surface area and because it's not supported with cartilage .
- **FUNCTIONS OF CLARA CELLS:**
- 1- Degrade toxins in inhaled air.
- 2- Divide to regenerate the bronchiolar epithelium.
- 3- Produce surfactant-like material.



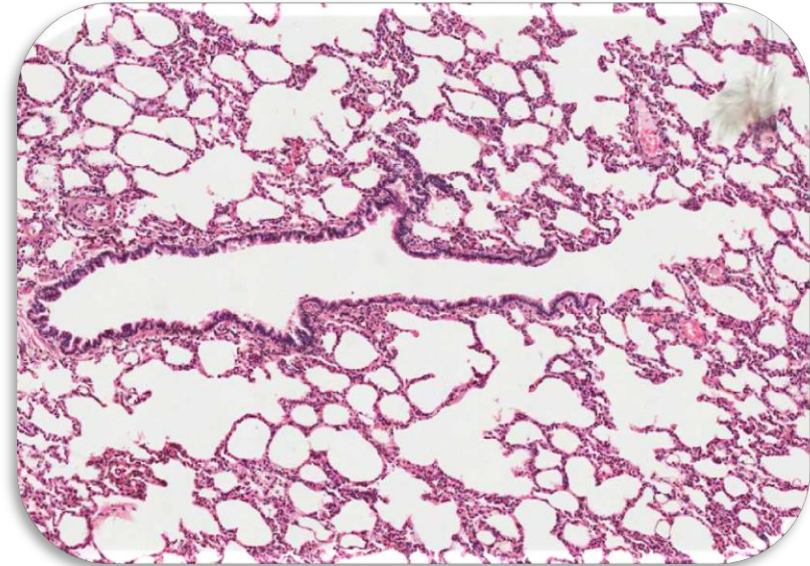
LUNG – BRONCHIOLE (LS)



BRONCHIOLE (LS)



PULMONARY ALVEOLI



LUNG

□ Lining epithelium:

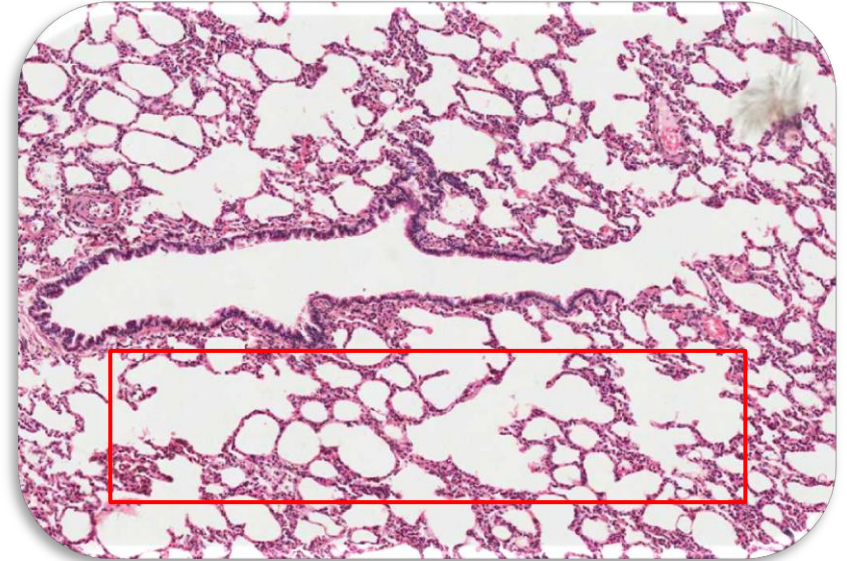
Bronchus : Pseudo-stratified columnar

large bronchioles : simple columnar

smaller bronchioles : cuboidal

PULMONARY ALVEOLI

- Type of epithelium:
 - Simple squamous epithelium
- Type of cells:
 - Type I Pneumocytes → gas exchange
 - Type II Pneumocytes → secret surfactant
- Blood-Air barrier (or Blood-Gas barrier):
 - 1) Thin layer of surfactant.
 - 2) Type I pneumocyte epithelium.
 - 3) Fused basal laminae of type I pneumocytes epithelium and endothelial cells of the pulmonary capillary.
 - 4) Endothelial cells of the pulmonary capillary.



Work Done By:

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