

الصيدلة	الكلية
العلوم المختبرية السريرية	القسم
Histology	المادة باللغة الانجليزية
علم الانسجة	المادة باللغة العربية
الاولى	المرحلة الدراسية
م.م علاء عماد عبدالرزاق	اسم التدريسي
Respiratory System	عنوان المحاضرة باللغة الانجليزية
الجهاز التنفسي	عنوان المحاضرة باللغة العربية
الخامسة	رقم المحاضرة
Junqueira's Basic Histology: Text and Atlas	المصادر والمراجع

محتوى المحاضرة

❖ Upper respiratory system

Nose, pharynx and associated structures

❖ Lower respiratory system

Larynx, trachea, bronchi and lungs

❖ Conducting portion

Nose, pharynx, larynx, trachea, bronchi, bronchioles and terminal bronchioles

❖ Respiratory portion

main site of gas exchange Respiratory bronchioles, alveolar ducts, alveolar sacs, and alveoli

The Nasal Cavities

The nasal cavities are lined by a **ciliated pseudostratified columnar epithelium** containing the cell bodies of bipolar nerve (olfactory) cells. these olfactory cells contain proteins that act as odorant receptors.

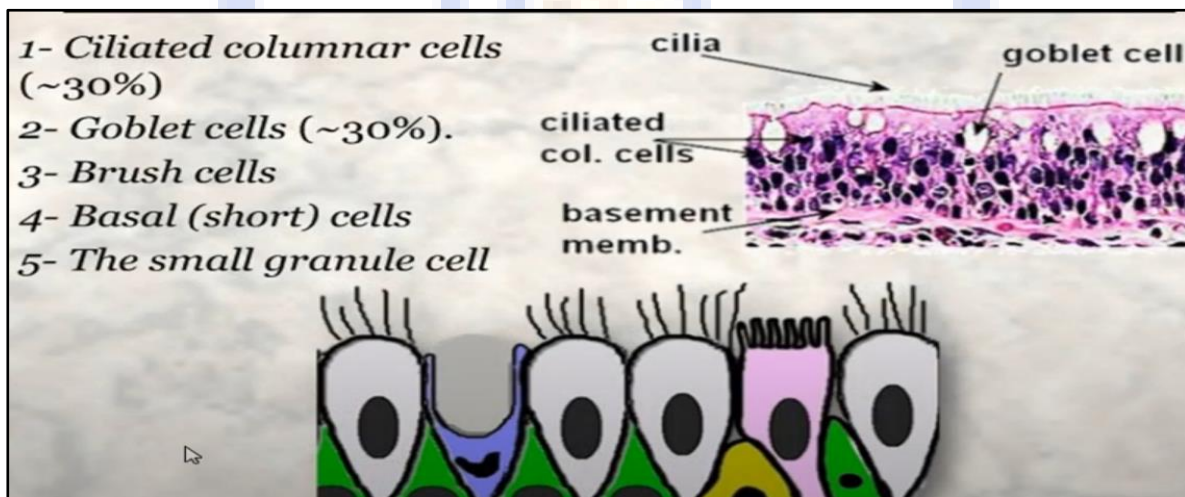
Mucosa of The Nasal Cavities

The mucosa of the nasal cavities has:

- **Olfactory Nerves**
- **Olfactory Glands** that secrete onto the epithelial surface a proteinaceous substance, that keeps the surface moist and provides a trap for aromatic substances.

Trachea

- Trachea: connects larynx to primary bronchi
- ❖ Mucosa: respiratory epithelium ciliated pseudostratified columnar epithelium and lamina propria
- ❖ **Ciliated cells, goblet cells, basal cells, and neuroendocrine cells**



- ❖ Submucosa: dense connective tissue and seromucous glands
- ❖ Hyaline cartilage: C-shaped; some smooth muscle (trachealis) to stabilize opening

- ❖ Adventitia: connective tissue that covers cartilage

Primary Bronchi (Extra Pulmonary Bronchi)

- Similar structure to trachea except the cartilaginous ring completely encircle the lumen
- Right is wider and more vertical than the left

Secondary Tertiary (Intra Pulmonary Bronchi)

- **Mucosa:** respiratory epithelium as seen in trachea and primary bronchi
- **Smooth muscle** band between submucosa and mucosa
- **Submucosa:** seromucous glands
- **Hyaline cartilage:** plates discontinues
- **Adventitia:**

Respiratory

- **Respiratory bronchioles:** tubes between alveoli
- The bronchioles are lined by simple cuboidal ciliated epithelium, have no hyaline cartilage or submucosal glands, Clara cells are also present.

Respiratory Portion: Alveolar ducts and alveoli

- Ducts are lined by squamous alveolar cells (type I pneumocytes) with knobs of cuboidal cells
- Each duct functions as a corridor to connect several alveoli