



جامعة المستقبل  
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كلية العلوم

قسم الفيزياء الطبية

# Human Anatomy

**The upper respiratory system**

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# Anatomy of respiratory system

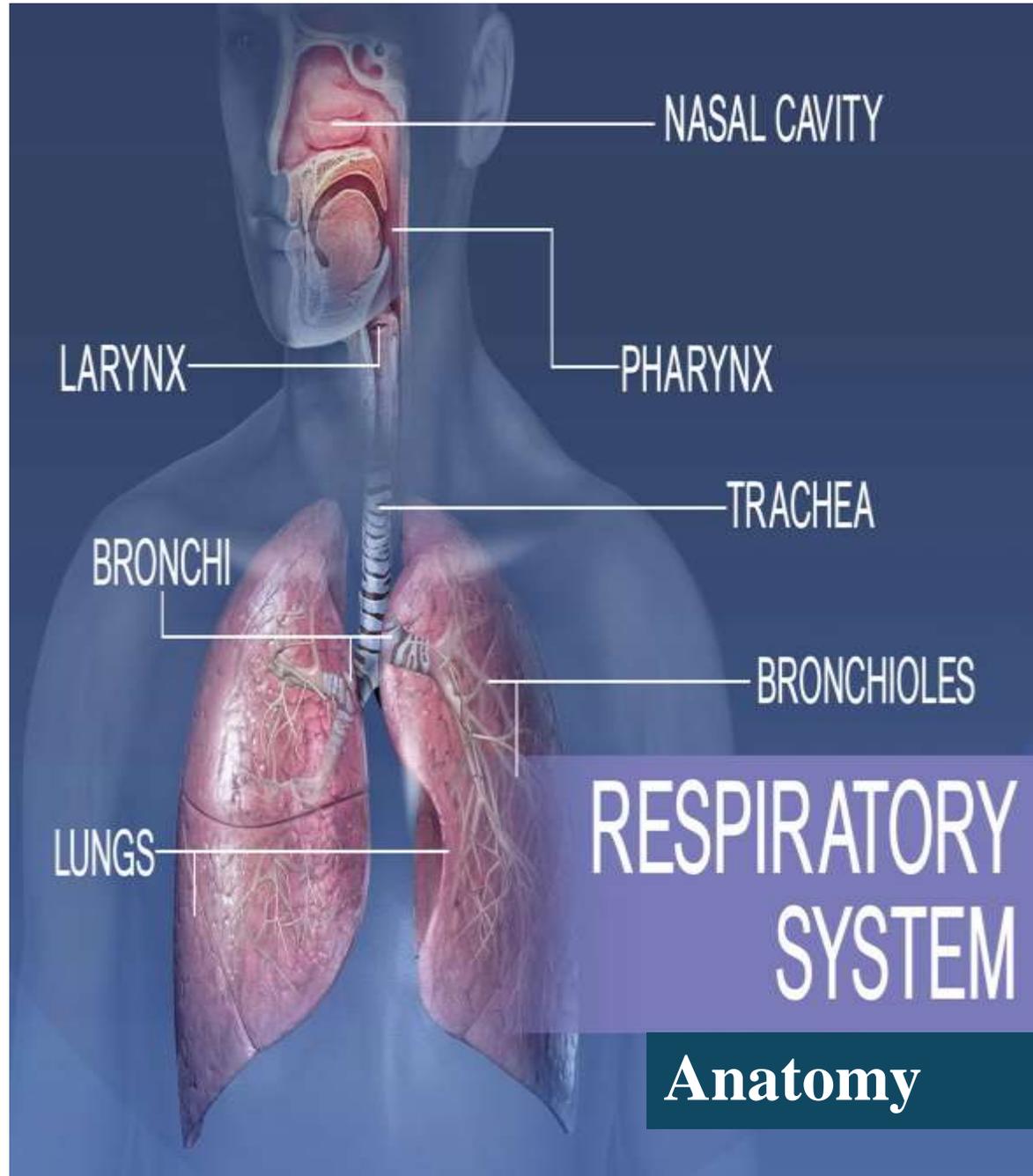
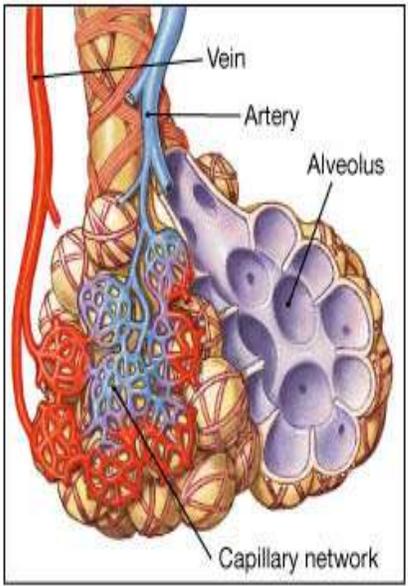
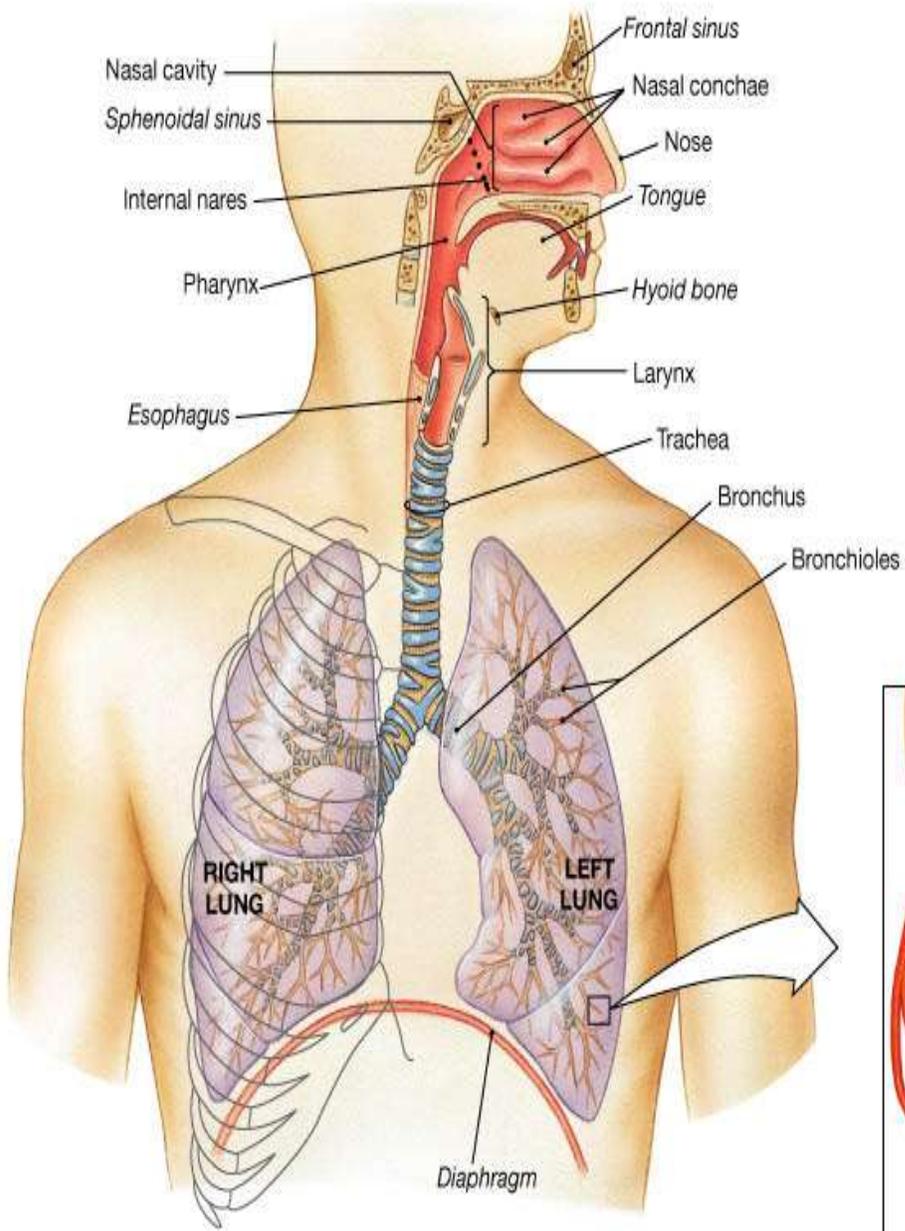
- The **respiratory system** consists of all the tissue and organs designed to bring air to the gas exchange surface where  $O_2$  is absorbed and  $CO_2$  is released.
- The respiratory system can be divided into:
- **Upper respiratory system** that includes the nose, nasal cavity, paranasal sinuses and pharynx
- **Lower respiratory system** that includes the larynx, trachea, bronchi and lungs.

The respiratory tract can be divided into-

- **Conducting portion** from the nasal cavity to the terminal bronchioles through which no gas exchange occurs.
- **Respiratory portion** that includes the respiratory bronchioles and alveoli where gas exchange occurs.

## Pathway of Air

- nose ---> pharynx ---> larynx ---> trachea ---> primary bronchi ---> secondary bronchi ---> tertiary bronchi ---> bronchioles ---> terminal bronchioles ---> respiratory bronchioles ---> alveolar duct ---> alveoli



The **nose** is an olfactory and respiratory organ. It consists of nasal skeleton, which houses the nasal cavity. The nasal cavity has four functions:

**Warms** and **humidifies** the inspired air.

Removes and traps **pathogens** and particulate matter from the inspired air.

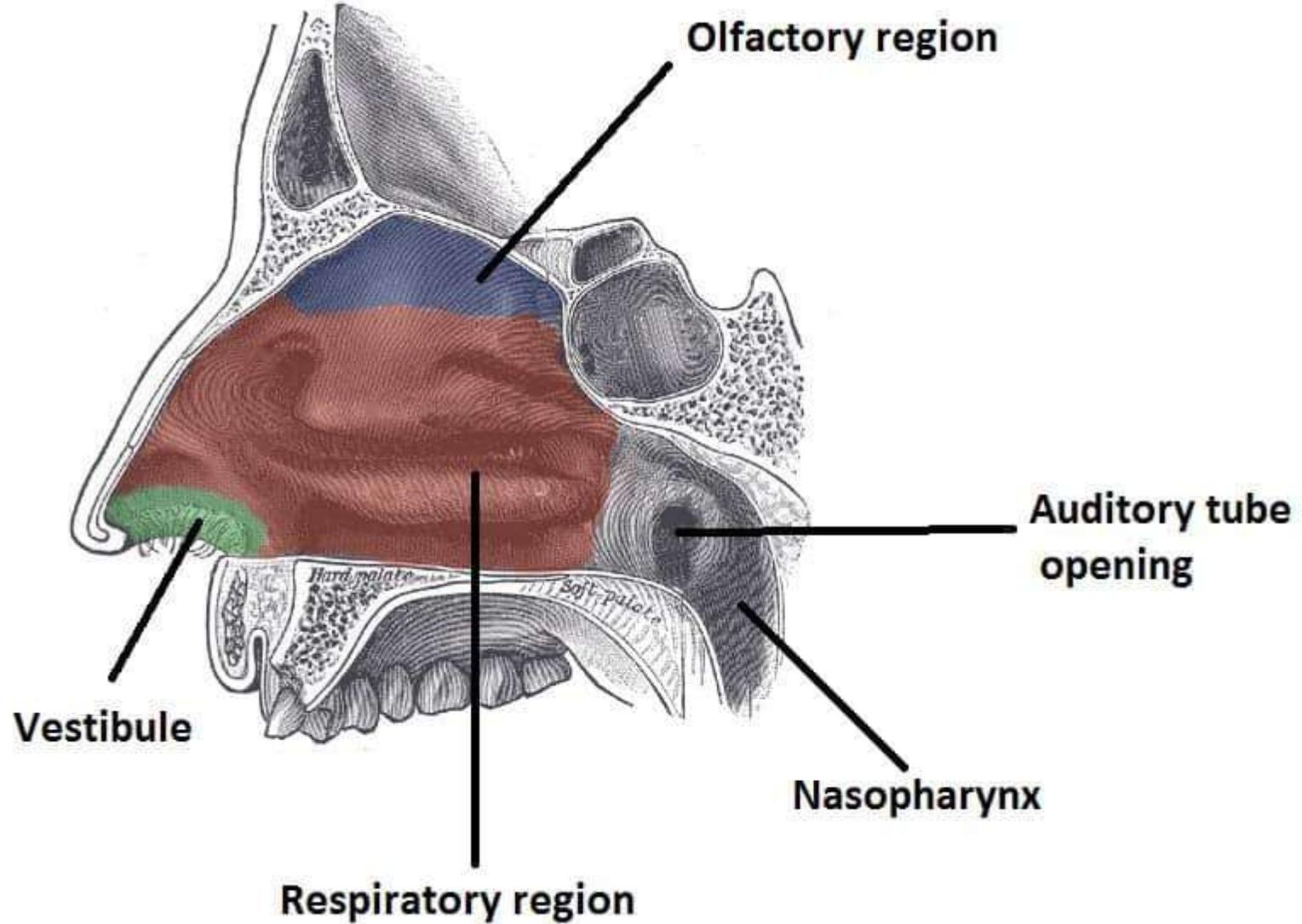
Responsible for sense of **smell**.

**Divisions** and clears the paranasal sinuses and lacrimal ducts  
The nasal cavity is the most superior part of the **respiratory tract**. It extends from the vestibule of the nose to the nasopharynx, and has three divisions:

**Vestibule** - the area surrounding the anterior external opening to the nasal cavity.

**Respiratory region** - lined by a ciliated psudeostratified epithelium, interspersed with mucus-secreting goblet cells.

**Olfactory region** - located at the apex of the nasal cavity. It



Nasal  
Cavity  
Divisions

The **pharynx** is a muscular tube that connects the oral and nasal cavity to the larynx and oesophagus.

The pharynx is comprised of three parts (superior to inferior):

Nasopharynx

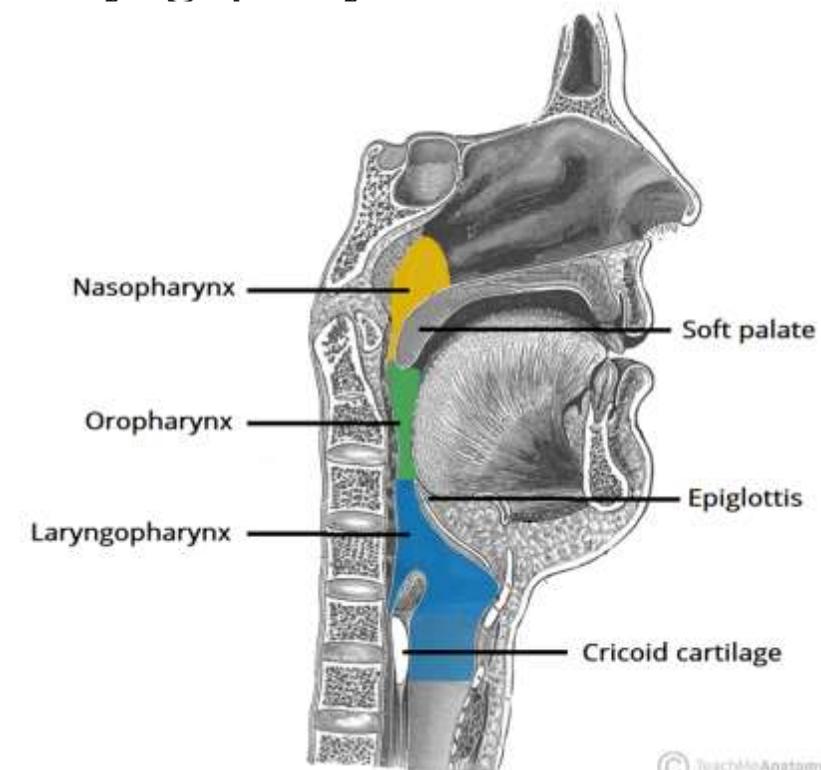
Oropharynx

Laryngopharynx

**The nasopharynx** is continuous with the nasal cavity and performs a respiratory function by conditioning inspired air and propagating it into the larynx. It is lined with respiratory epithelium; ciliated pseudostratified columnar epithelium with goblet cells.

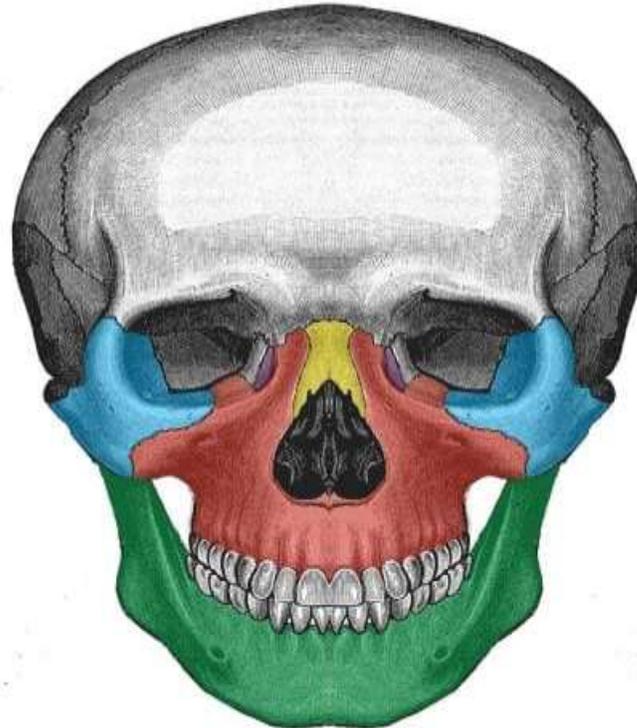
**The oropharynx** : The oropharynx is involved in the voluntary and involuntary phases of swallowing.

The most distal part of the pharynx, the **laryngopharynx** which is continuous inferiorly with the esophagus. It is posterior to the larynx.





# THANK YOU!



-  Zygomatic
-  Maxilla
-  Nasal
-  Lacrimal
-  Mandible