

# MEDICAL TERMINOLOGY

## The Respiratory System

Dr. Ahmed M. Al-Samak

Consultant Ophthalmologist

The respiratory system is the organs involved in breathing, exchange oxygen and carbon dioxide.

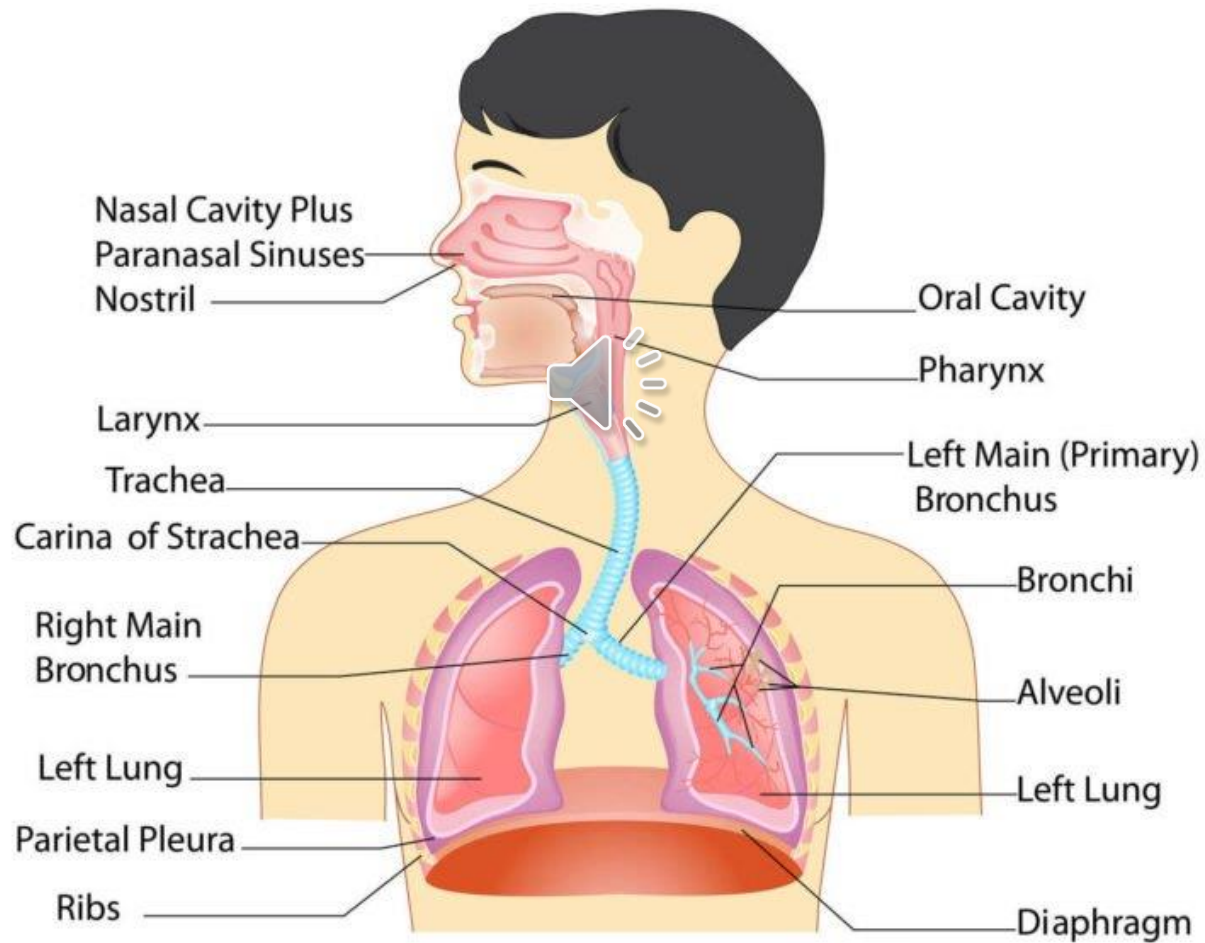
Your respiratory system includes your:

- Nose and nasal cavity
- Sinuses
- Mouth
- Throat (pharynx)
- Voice box (larynx)
- Windpipe (trachea)



- Diaphragm
- Lungs
- Bronchial tubes/bronchi
- Bronchioles
- Air sacs (alveoli)
- Capillaries



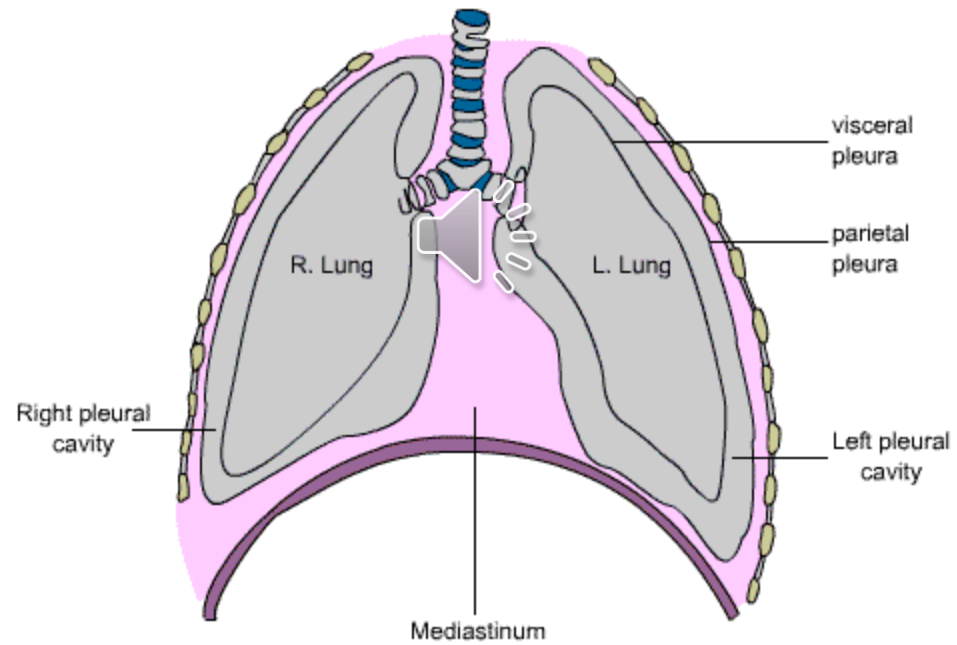


# Pleura

Visceral pleura Inner fold of pleura lying closer to the lung tissue



Parietal pleura Outer fold of pleura lying closer to the thoracic cavity



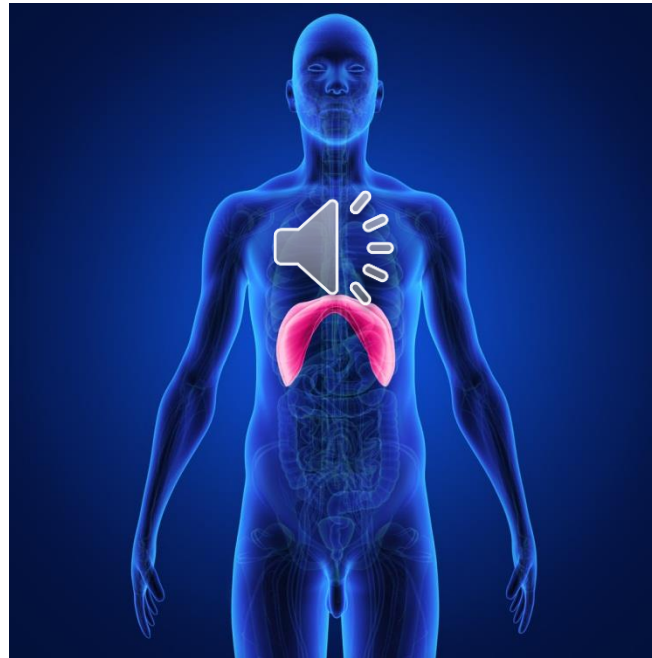
The functions of the respiratory system are:

1. Oxygen supplier
2. Elimination of carbon dioxide.
3. Gas exchange occur between the blood and the external environment.
4. Humidifier. Purify, humidify, and warm incoming air.




## Muscles of Respiration

1. The main muscle is *diaphragm*, a thin sheet of muscle that constitutes the bottom of the thorax. It pulls in air into the lungs by contracting several inches with each breath.
2. multiple *intercostal muscles* are located between the ribs and they also help compress and expand the lungs




## How Do We Breathe?

Breathing starts when you inhale air into your nose or mouth. It travels down the back of your throat and into your windpipe, which is divided into air passages called bronchial tubes

For your lungs to perform their best, these  
airways need to be open.  They should be free  
from inflammation or swelling and extra mucus

As the bronchial tubes pass through your lungs, they divide into smaller air passages called bronchioles. The bronchioles end in tiny balloon-like air sacs called alveoli. Your body has about 600 million alveoli


The alveoli are surrounded by a mesh of tiny blood vessels called capillaries. Here, oxygen from inhaled air  passes into your blood.

After absorbing oxygen, blood goes to your heart. Your heart then pumps it through your body to the cells of your tissues and organs

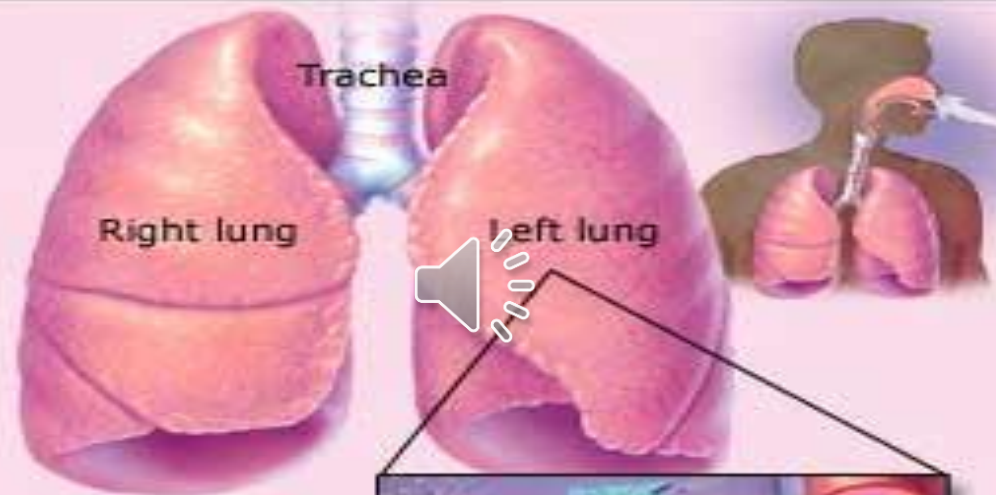
As the cells use the oxygen, they make carbon dioxide that goes into your blood. Your blood then carries the carbon dioxide back to your lungs, where it's removed from your body when you exhale.



***Automatic Breathing Control*** of breathing stems from poorly defined areas known as the respiratory CENTERS, located in the medulla oblongata and pons.

From there, impulses are sent down the spinal cord to the nerves that control the diaphragm, and to the  intercostal muscles. Chemical and reflex signals control these nerve centers

## The Lungs



Oxygen from inhaled air passes through the alveoli walls into the blood.




## How Does the Respiratory System Clean the Air?

Hairs in your nose help filter out large particles.

Tiny hairs, called cilia, along your air passages move in a sweeping motion to keep the passages clean.

But if you breathe in harmful things like cigarette smoke, the cilia can stop working. This can lead to health problems like bronchitis

Cells in your trachea and bronchial tubes make mucus that keeps air passages moist and helps keep things like dust,  bacteria and viruses, and allergy-causing things out of your lungs

Mucus can bring up things that reach deeper into your lungs. You then cough out or swallow them.



# Some Respiratory terms

## Oxygen

**Hypoxemia:** Insufficient oxygenation of the blood

**Hypoxia, anoxia:** Oxygen deficiency

**Oxyhemoglobin :** combined form of hemoglobin and oxygen (found in arterial blood)





## Carbon Dioxide

**Acapnia** : absence of carbon dioxide

**Hypercapnia**: increased amount of carbon dioxide in the blood

**Hypocapnia**: decreased amount of carbon dioxide in the blood

# Breathing

**Apnea** : without breath

**Bradypnea**: Slow breathing

**Dyspnea**: Difficulty breathing

**Eupnea**: Normal breathing



**Hyperpnea:** Increased respiratory rate of breathing

**Hypopnea:** Decreased respiratory rate of breathing



**Orthopnea:** Labored breathing while lying flat

**Tachypnea:** Rapid breathing

## Sound

**Aphonia:** loss of speech

**Dysphonia :** difficulty speaking: hoarse

## Nose



**Rhinitis :**Inflammation of the nasal mucosa

**Rhinorrhea :** Thin watery discharge from the nose

**Rhinoplasty:** Repair of the nose

**Sinus** sinusitis: Inflammation of a sinus

# Pharynx

**Pharyngitis:** Inflammation of the mucous membranes and lymphoid tissues of pharynx



# Larynx (voice box)

**laryngitis:** Inflammation of larynx

**laryngectomy:** Removal of part of the larynx

# Trachea



**Tracheitis:** Inflammation of trachea

**Endotracheal intubation :** Placement of a tube through the mouth into the pharynx larynx and the trachea to establish an airway

**Tracheostomy:** the surgical opening of the trachea to provide and secure and open airway

## bronchi/bronchiole

**Bronchitis:** Inflammation of the mucous membranes of the bronchial airways

**Bronchiectasis:** Chronic dilation of bronchus or bronchi

**Bronchospasm:** an abnormal narrowing with partial obstruction of lumen of the bronchi



**Bronchodilator:** a drug that expands the bronchi by relaxing bronchial muscles.



## Alveoli (air sacs in the lungs)

**Alveolitis** : Inflammation of the alveoli

## Lung

**Pneumonia**: Inflammation of the lungs

**Pneumothorax**: air or gas in pleural cavity

**Thoracentesis**: Surgical puncture of chest wall to remove fluids

## Pleura

**Pleurisy**: Inflammation of the pleura

**Asphyxia** : Condition caused by insufficient intake of oxygen

**Asthma** : increase responsiveness of the trachea bronchia to various stimuli

**Chronic bronchitis:** Inflammation of bronchi persisting over a long time 

**Cyanosis:** Blue or dark purple discoloration of the skin

**Cough:** Forceful and sometimes violent expiratory effort

**Emphysema:** pathological distention of interstitial tissue by gas or air 

**Epistaxis** : hemorrhage from the nose

**Influenza** : an acute contagious respiratory infection

**Sneezing:** is a semi-autonomous, convulsive expulsion of air from the lungs through the nose and mouth, usually caused by foreign particles irritating the nasal mucosa

**Snoring:** noise produced while breathing through the mouth during sleep

**Sore throat:** is a painful, dry, or scratchy feeling in the throat





# Corona

COVID-19, is respiratory tract infection. It can [affect upper respiratory tract](#) (sinuses, nose, and throat) or lower respiratory tract (windpipe and lungs).



The virus can lead to pneumonia, respiratory failure, septic shock, and death.



## Respiratory symptoms:

Sneezing : sometime

Sore throat: common

Cough: common

Dyspnea: rare

Respiratory failure : rare



For your safety

Stay home



**THANK YOU**



**FOR YOUR ATTENTION**

*memegenerator.es*