

THE RESPIRATORY SYSTEM

The respiratory system consists of the nose (nasal cavity), the pharynx, the larynx, bronchi, bronchioles, alveoli and the lungs. The primary function of this system is to supply the body with oxygen and remove gaseous waste products (mainly carbon dioxide).

Structures & functions:

The pharynx:

The pharynx which is also known as the throat has 3 divisions: The nasopharynx: lies posterior to the nasal cavity.

The oropharynx: is the middle portion located behind the mouth. The laryngopharynx: the lower portion behind the larynx.

Associated with the pharynx are 3 pairs of lymphoid tissue called the tonsils,

The 3 pairs of **tonsils** include:

a-the adenoids (also known as the pharyngeal tonsils).

b-the palatine tonsils.

c-the lingual tonsils.

The larynx:

It is a cartilaginous structure located between the pharynx and the trachea. It contains the vocal cords.

Glottis: the space between the vocal cords.

The epiglottis: a piece of cartilage that has a leaf shape and covered with mucous membrane, located at the root of the tongue

The trachea:

It is a cartilaginous tube extends from the pharynx to the main bronchi.

The bronchi, bronchioles and alveoli:

The bronchi (single: bronchus): are cartilaginous tubes (right & left) branching off from the trachea and into the lungs.

Bronchioles: very small branches of the bronchi that extend into the lungs.

Alveoli (single: alveolus): small cavities in which oxygen is removed from the air delivered by the bronchioles.

The lungs:

They lie on either side of the heart and protected by the rib cage. The right lung has 3 lobes and the left lung has 2 lobes. The lungs are enclosed by the pleura which is a membrane composed of 2 layers: the parietal (inner layer) and the visceral (outer layer).

The mediastinum: it is the space between the 2 lungs that contains the heart, the aorta, the trachea, the esophagus and the bronchi.

Practice and practitioners:

Pulmonology: medical specialty concerned with the diagnosis and treatment of respiratory disorders.

Pulmonologist: a physician who specializes in the diagnosis and treatment of respiratory disorders.

Otolaryngologist (oto=ear; laryngo=larynx) or otorhinolaryngologist (oto=ear; rhino= nose; laryngo=larynx): both terms refer to physicians concerned with the diagnosis and treatment of the diseases and disorders of the ear, nose and throat.

Sometimes the ear, nose and throat specialty is referred to as ENT (E: ear, N=nose, T=throat)

Disorders & treatments:

Normal breathing is termed eupnea. Any abnormality in breathing may indicate a disease.

The abnormalities in respiration include:

Tachypnea: rapid rate of respiration. May be considered normal in some cases such as during exercise.

Bradypnea: abnormal slowness of respiration.

Apnea: cessation of respiration.

Dyspnea: difficult or painful respiration.

Orthopnea: discomfort or difficulty in breathing while lying flat, difficulty is relieved by sitting up.

Infectious disorders affecting the respiratory system:

Common cold (infectious rhinitis): it is caused by viral infection. The symptoms include fever, cough and sneezing.

Sinusitis: bacterial infection of the sinuses, it is usually secondary to cold or allergy.

Influenza(flu): it is a viral infection that may affect the upper and lower respiratory tracts.it is highly contagious and may be fatal in some cases. The symptoms include fever, ache and pain, tiredness, sore throat hemoptysis (means spitting blood).

Pneumonia: it is inflammation of a lung caused by infection, chemical irritation or trauma.

Laryngitis: inflammation of the larynx.

Dysphonia: means weak voice or loss of voice commonly due to inflammation of the vocal cords.

Tuberculosis (TB): it is an infectious disease caused by a bacterium. It commonly affects the lungs but can occur in other body parts.

Asthma: bronchial obstructive disease resulting from hypersensitive airways.

Pharmacology

Antipyretics means against fever,

Bronchodilators: means to dilate or open up the bronchioles.

Decongestant: reduce nasal congestion and blockage