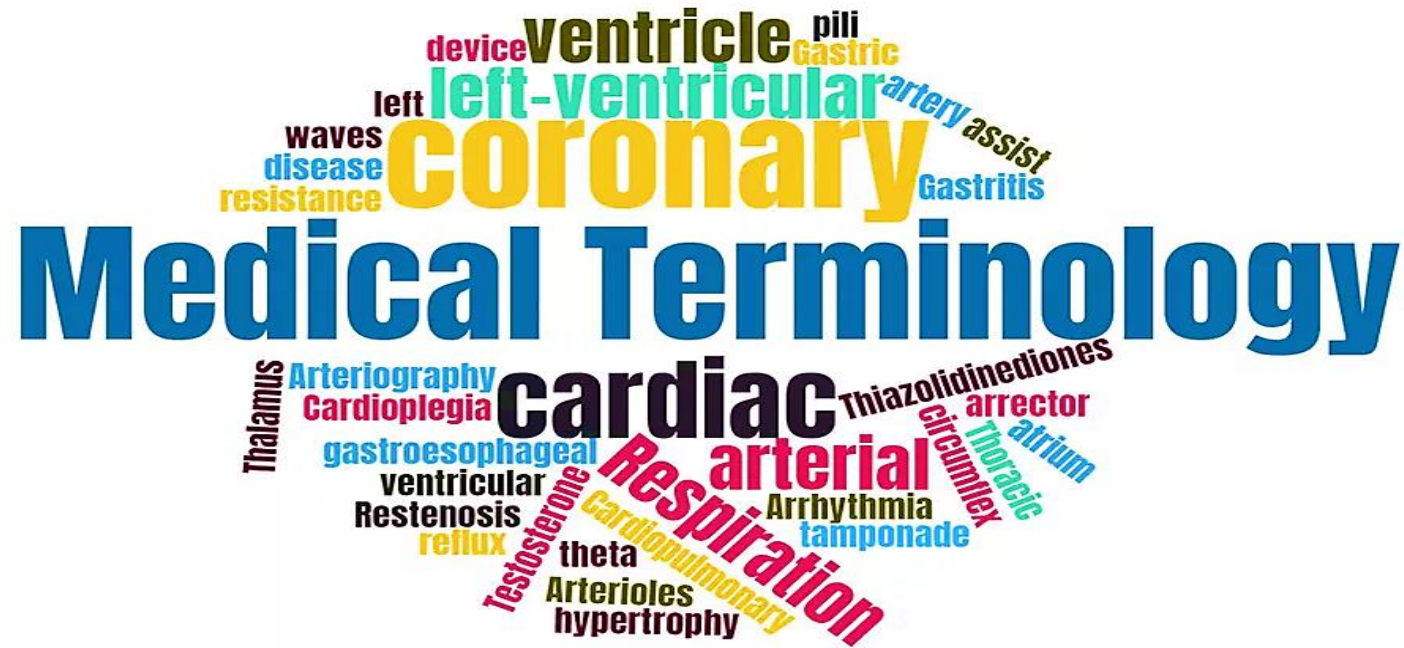




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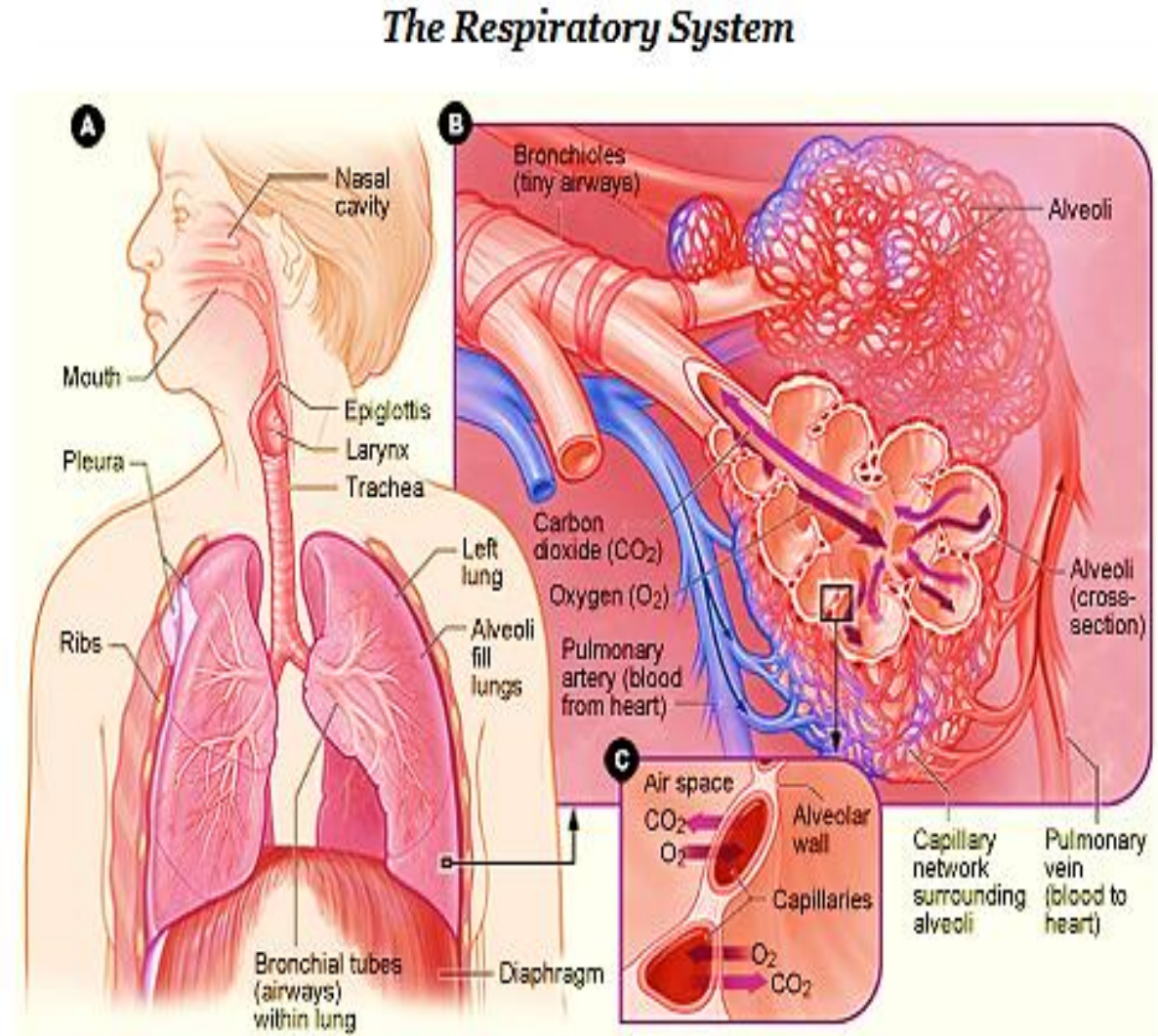


(L4) Respiratory System Terminology

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Functions of the Respiratory System

The main role of the Respiratory System is the inhalation of fresh oxygen (O_2) needed by the body's cells and the exhalation of waste carbon dioxide (CO_2). It also helps maintain body temperature and eliminate excess water from the body. The Respiratory system is dependent on the proper functioning of the [circulatory system](#) as the O_2 and waste CO_2 are carried in the blood stream.



The nose

is a PASSAGEWAY FOR AIR and is also a sensory organ. It warms and moistens air, and hair like processes (cilia) filter the air before it reaches the lungs.

The pharynx

or "throat" is a funnel shaped tube acting as a passage way for air and food. The lowest portion of the pharynx joins the esophagus (food tube).

The larynx

or "voice box" is lined with mucous membrane, two folds of membrane divide the larynx in two, between these is the GLOTTIS which is the narrowest part of the air passage. The glottis is protected by a lid of fibro cartilage (the EPIGLOTTIS), this closes over the glottis when you swallow.

The trachea

or "windpipe" is a tube composed of cartilage and lined with mucus membrane lying in front of the esophagus. The trachea diverges into the right and left bronchi.

The bronchi

are "C" shaped rings of cartilage lined with ciliated mucus membrane that 'sweeps' out dust particles. The bronchi branch into SECONDARY BRONCHI as they enter the lungs, these further divide into BRONCHIOLES. As the secondary bronchi and bronchioles divide the walls become thinner and more elastic, branching into minute ALVEOLI which transfer gases in the lungs.

The lungs

are the main organ of respiration. In the lungs millions of ALVEOLI and blood Capillaries exchange Oxygen and carbon dioxide. Each lung is housed in a separate PLEURAL CAVITY (which in turn are located in the larger THORACIC CAVITY). PLEURA are SACS of membrane that line the pleural cavity to lessen friction caused by breathing. **The pleural space** is defined as the thin, fluid-filled space between the parietal pleura lining the rib cage and the visceral pleura covering the lungs.

The diaphragm

is the main muscle of respiration located at the base of the thoracic cavity. The muscle contracts and flattens so that the thorax and lungs have room for incoming air causing you to INHALE, it then relaxes causing you to EXHALE

Roots, suffixes, and prefixes

Most medical terms are comprised of a root word plus a suffix (word ending) and/or a prefix (beginning of the word). Here are some examples related to the Respiratory System.

component	meaning	example
A- , An-	lack of	Anosmia (osm: smell) = lack of the sense of smell
-PNEA	breath, breathing	dyspnea (dys: difficult, painful)= difficult or painful breathing
BRONCH-	bronchi	Bronchoscope = instrument to examine the bronchi
LARYNG-	larynx	laryngitis = inflammation of the larynx
PULMO-	lung	pulmonary metastases = lung secondaries
PNEUM-	lung / Air	pneumonia = severe infection of the lungs
RHINO-	nose	rhinoplasty = cosmetic surgery, a 'nose job'

bronchoplasty

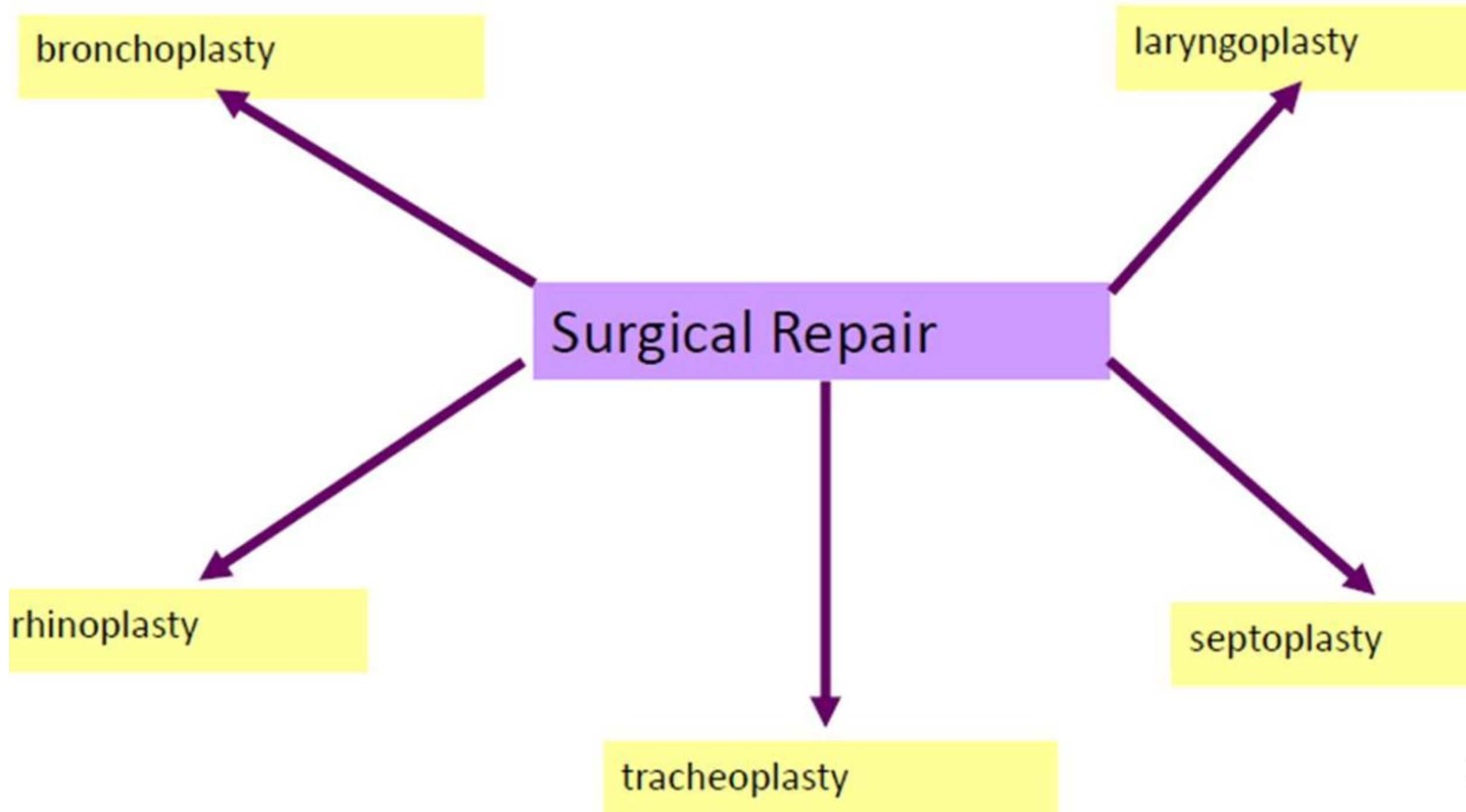
laryngoplasty

Surgical Repair

rhinoplasty

septoplasty

tracheoplasty



eu-	good, normal	eu/pnea (ūp-NĒ-ă): normal, unlabored breathing -pnea: breathing <i>The normal range for a resting adult respiratory rate is 12 to 20 breaths/minute.</i>
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Apnea	A- =without, -pnea= breathing	Without breathing
Bradypnea	Brady- =slow, -pnea= breathing	abnormally slow breathing rate
Dyspnea	Dys- = difficult or painful, -pnea= breathing	Painful or difficult breathing
Orthopnea	Ortho- = straight, -pnea= breathing	Difficulty or discomfort in breathing while lying flat, relieved by sitting or standing.
Tachypnea	Tachy- =fast, -pnea= breathing	Abnormally rapid breathing
Dysphonia	Dys- =abnormal or difficult or painful, -phonia= voice	having an abnormal voice (difficult or painful speech)

Element	Meaning	Word Analysis
lob/o	lobe	<p>lob/ectomy (lō-BĔK-tō-mē): surgical removal of a lobe of an organ or gland (such as the lungs, liver, and thyroid gland)</p> <p>-ectomy: excision</p> <p><i>A lobectomy is performed when a malignancy is confined to a single lobe of the lung.</i></p>
orth/o	straight	<p>orth/o/pnea (or-THŎP-nē-ă): condition in which the patient experiences difficulty breathing in any position other than sitting or standing erect</p> <p>-pnea: breathing</p>
ox/o	oxygen	<p>hyp/ox/emia (hī-pŏks-Ē-mē-ă): abnormal decrease of oxygen in arterial blood resulting in hypoxia</p> <p>hyp-: under, below, deficient</p> <p>-emia: blood condition</p>
ox/i		<p>ox/i/meter (ŏk-SĪM-ě-tēr): device used to measure the oxygen saturation of arterial blood</p> <p>-meter: instrument for measuring</p> <p><i>The oximeter is usually attached to the tip of a finger but may also be placed on a toe or earlobe.</i></p>

pector/o	chest	pector/algia (pěk-tō-RĀL-jē-ă): pain in the chest <i>-algia: pain</i>
steth/o		steth/o/scope (STĚTH-ō-skōp): instrument used to evaluate the sounds of the chest and abdomen <i>-scope: instrument for examining</i>
thorac/o		thorac/algia (thō-răk-ĀL-jē-ă): pain in the chest wall; also called <i>thoracodynia</i> <i>-algia: pain</i>
phren/o	diaphragm; mind	phren/o/ptosis (frĕn-ōp-TŌ-sīs): abnormal downward displacement of the diaphragm <i>-ptosis: prolapse, downward displacement</i>
spir/o	breathe	spir/o/meter (spī-RŌM-ět-ěr): instrument that measures how much air the lungs can hold (vital capacity) as well as how much and how quickly air can be exhaled <i>-meter: instrument for measuring</i>

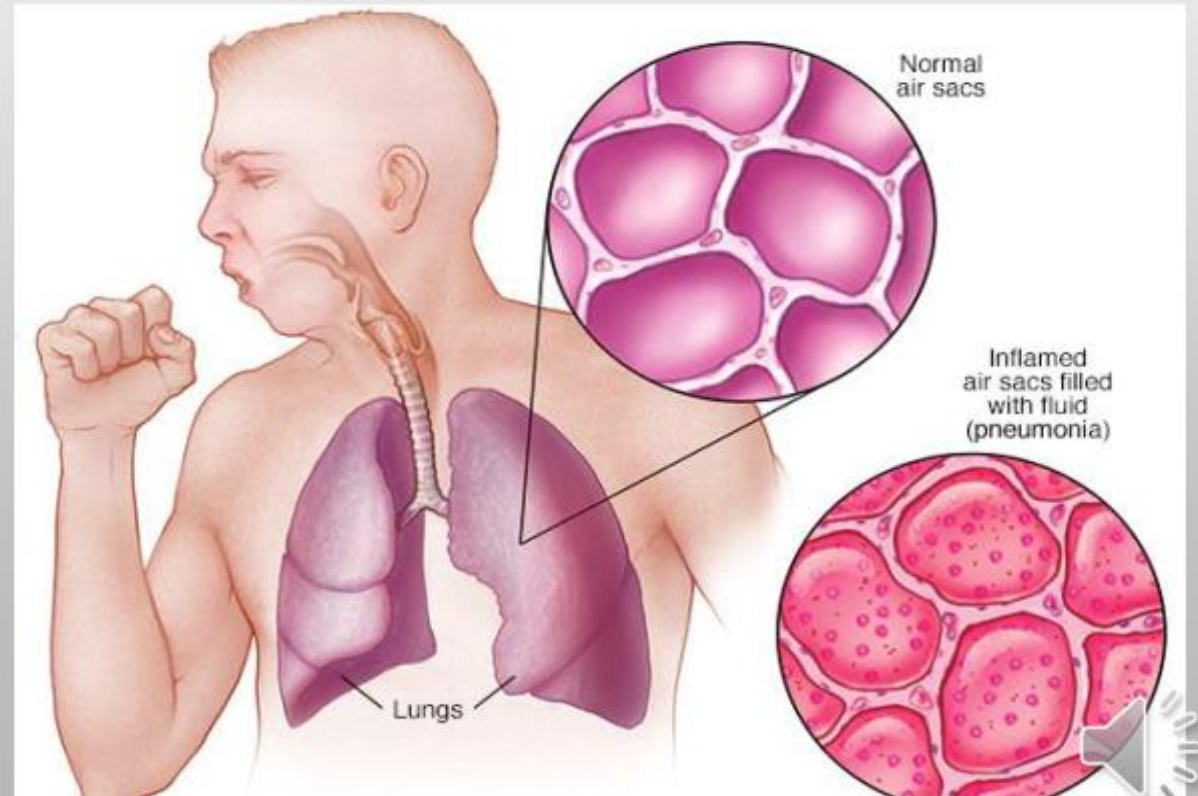
HEMOPTYSIS

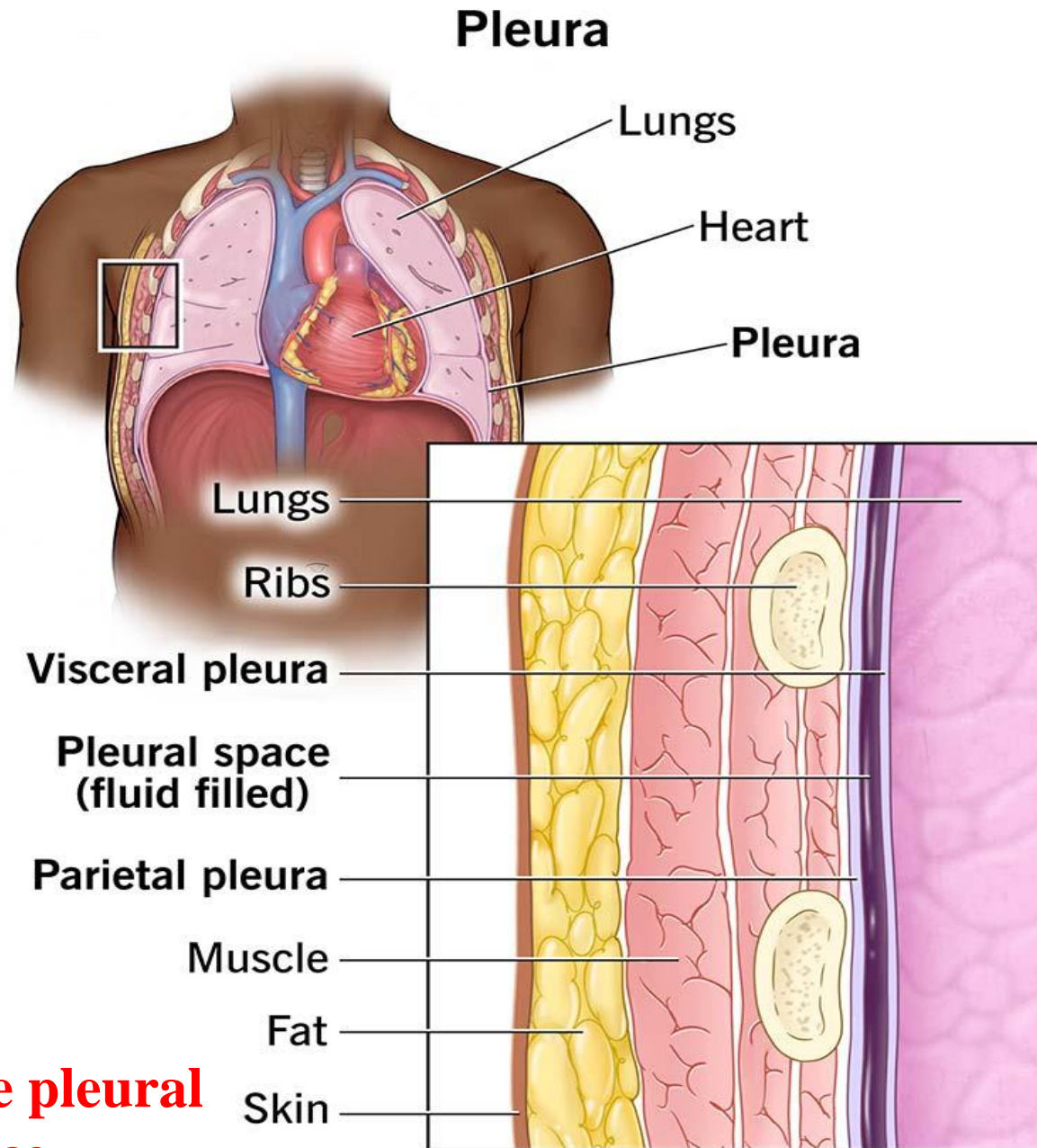
Hem/o (blood); -ptysis (spitting). Lung or bronchial hemorrhage that results in the spitting of blood.



PNEUMONIA

Pneumon/o (air, lung); ia (condition, state). Inflammation of a lung caused by infection, chemical inhalation or trauma.

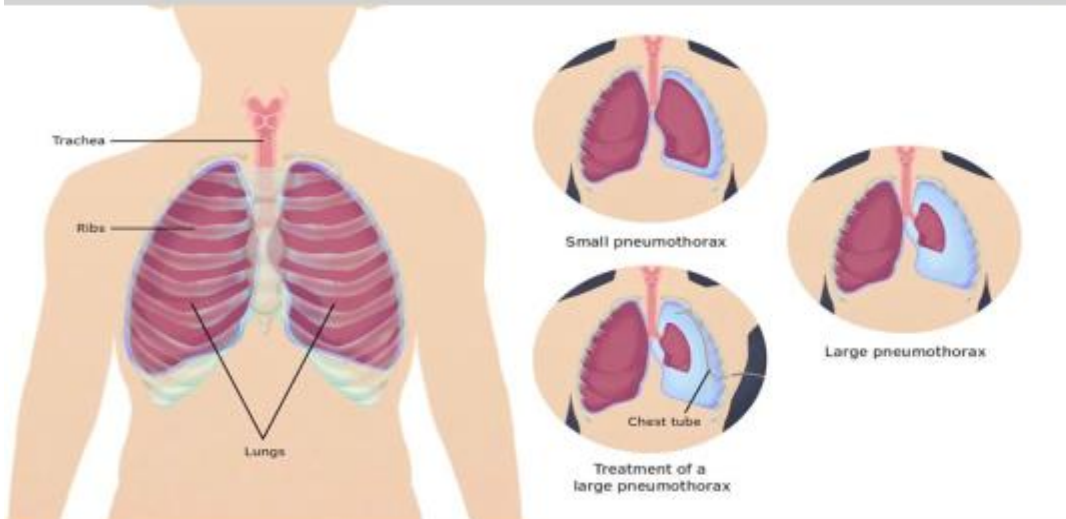




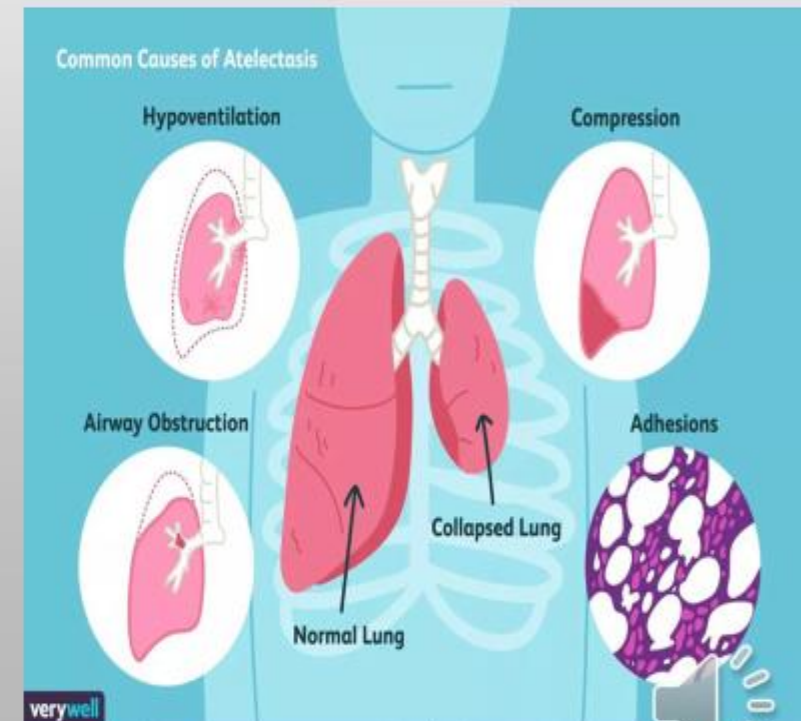
EXPANSION DISORDERS

Atelectasis: atel- means incomplete or imperfect, -ectasis means expansion. It is a complete or partial collapse of the entire lung or area (lobe) of the lung.

Pneumothorax: pneumo- means air or lung, -thorax means chest. It is an abnormal collection of air in the pleural cavity.



Pneumothorax



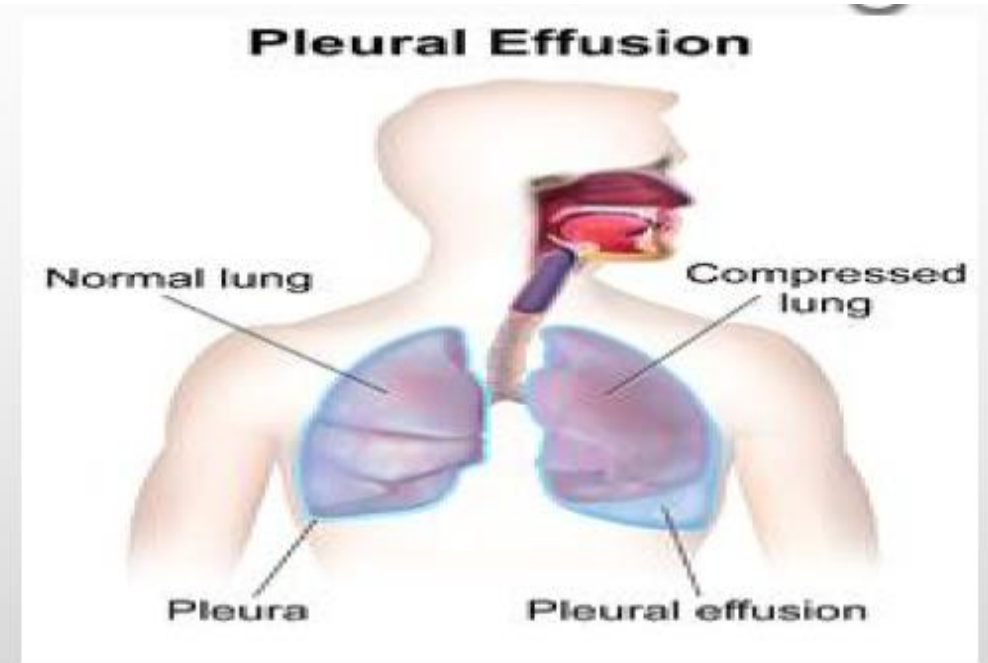
atelectasis

Hemothorax occurs when there is blood in the pleural space

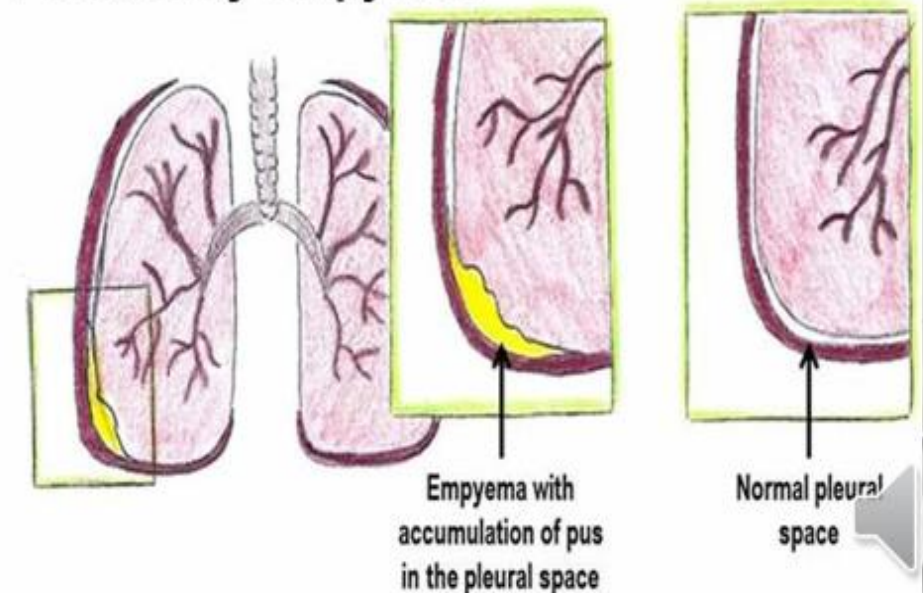
Hemopneumothorax is a combination of two medical conditions: pneumothorax and hemothorax.

Pleural effusion: is the build-up of excess fluid between the layers of the pleura outside the lungs.

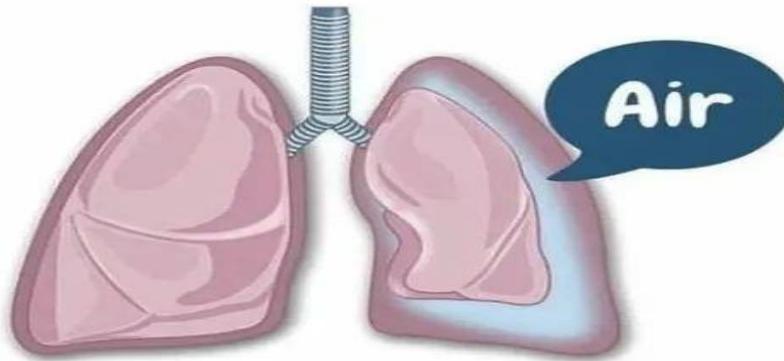
Empyema: a condition in which pus accumulates in the pleural cavity. It is originated from the Greek word “empyein” which means pus producing.



Pulmonary empyema

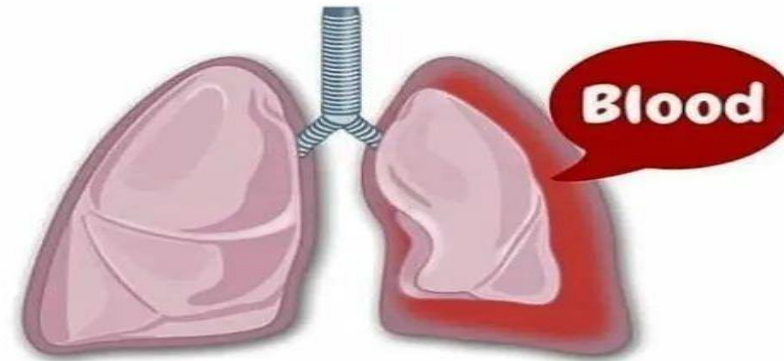


Respiratory Disorders



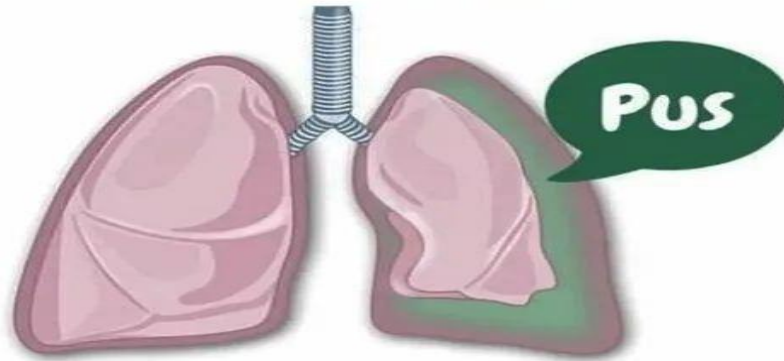
Pneumothorax

Air in the pleural space
causing lung collapse



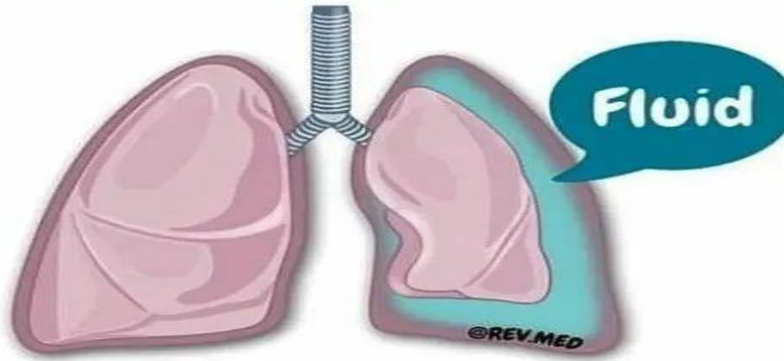
Hemothorax

Accumulation of blood
in the pleural space



Empyema

Collection of pus in
the pleural space



Pleural Effusion

Accumulation of fluid
in the pleural space

OTHER DISORDERS

Bronchiectasis: chronic dilation of bronchi.

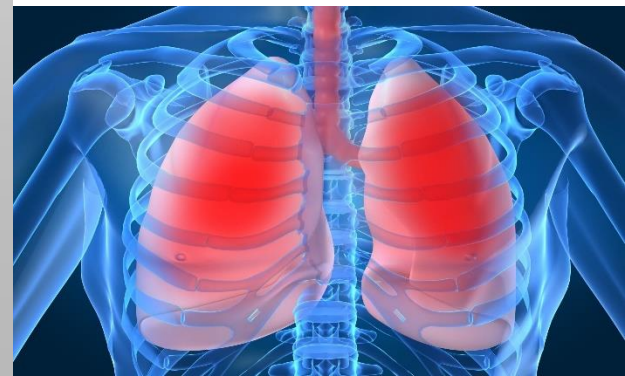
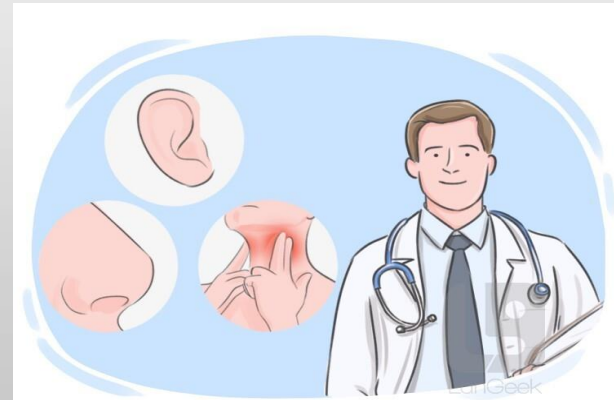
Bronchostenosis: narrowing of bronchial tube.

Bronchospasm: abnormal contraction of bronchi.

PHYSICIAN TERMS

Otolaryngologist: ot/o (ear) physician who specializes in diagnosis and treatment of ear, nose and throat diseases.

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



PHARMACOLOGY

Medications that may be used to treat respiratory disorders include:

Note: Anti- = against

Antibiotics: Agents that treat bacterial infections.

Antihistamines: Agents used to treat histamine mediated reactions like allergies.

Antipyretics: Agents that reduce fever.

Anticoagulants: Agents used to prevent blood from clotting.

Bronchodilators: drugs that dilate the bronchial walls by relaxing bronchial muscles.

Expectorants: drugs that promote coughing and expulsion of mucus.

Antitussives: drugs relieve the cough by blocking cough reflex.

Corticosteroids: drugs that reduce inflammation, used to treat respiratory diseases such as asthma.

Agents Used to Treat Respiratory Conditions



Antitussive

(relieves coughing)



Decongestants

(decreases and prevents
mucus buildup)



Expectorants

(promotes coughing
and expelling of mucus)





THANK YOU!

