

Biomedical Terminology

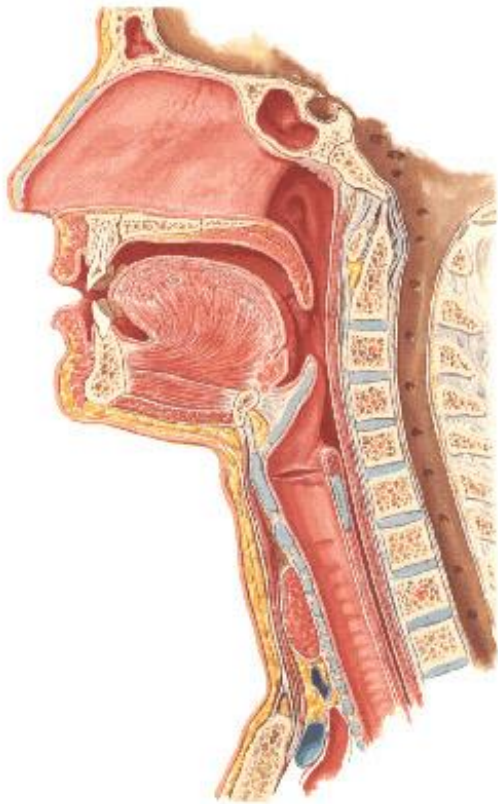
Respiratory System Terminology

Respiratory Structure

- Nose
- Pharynx
- Larynx
- Trachea
- Bronchi
- Bronchioles
- Alveoli

The Pharynx (pharyng/o)

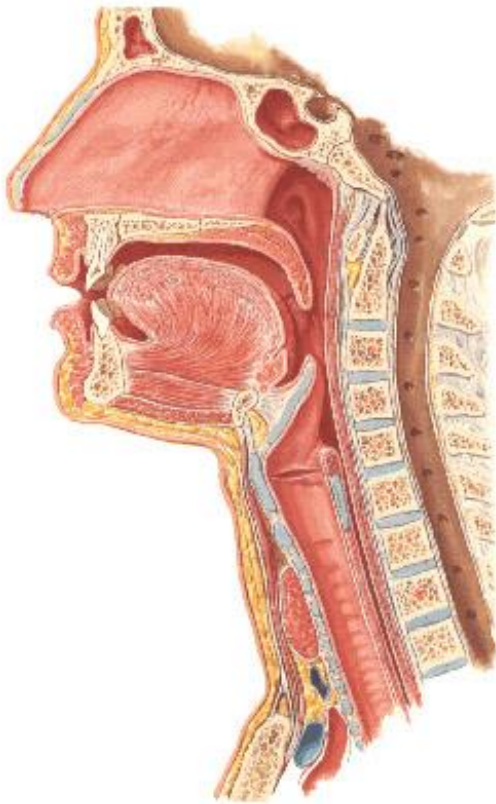
Pharynx
Sagittal Section



- The pharynx is a common passageway for air and food

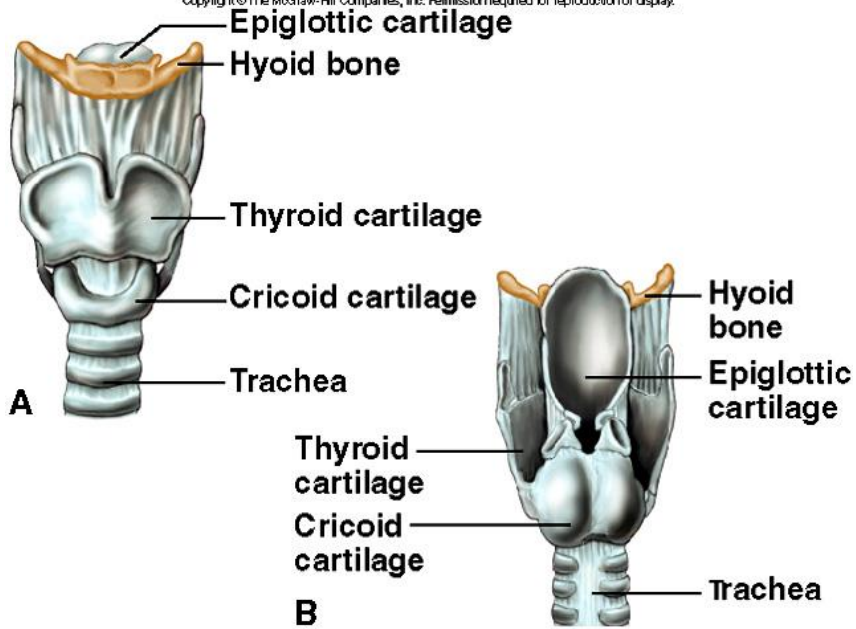
The Larynx (laryng/o)

Pharynx
Sagittal Section

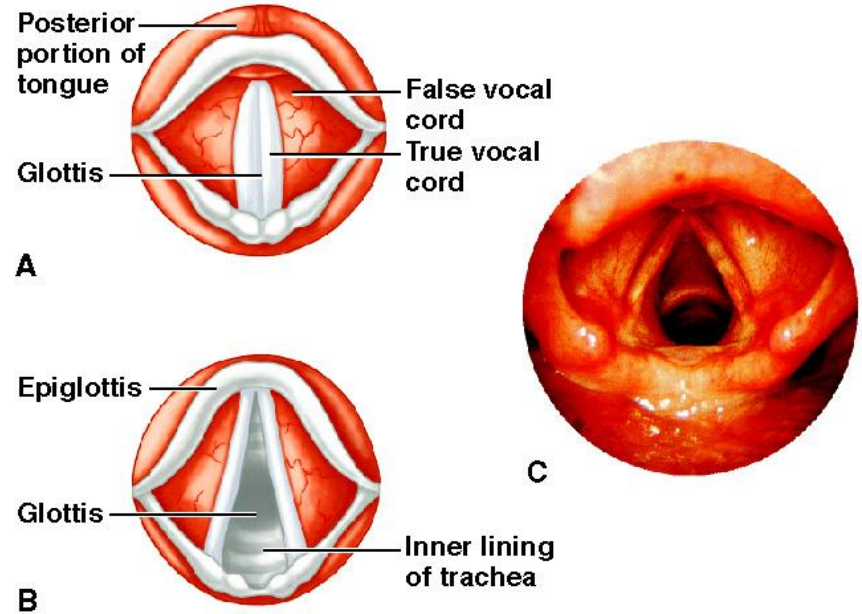


- The larynx is an enlargement in the airway superior to the trachea and inferior to the pharynx
- It helps keep particles from entering the trachea and also houses the vocal cords
- Consists of the vocal cords and the epiglottis (epiglott/o)
 - During normal breathing, the vocal cords are relaxed and the glottis is a triangular slit.
 - During swallowing, the false vocal cords and epiglottis close off the glottis

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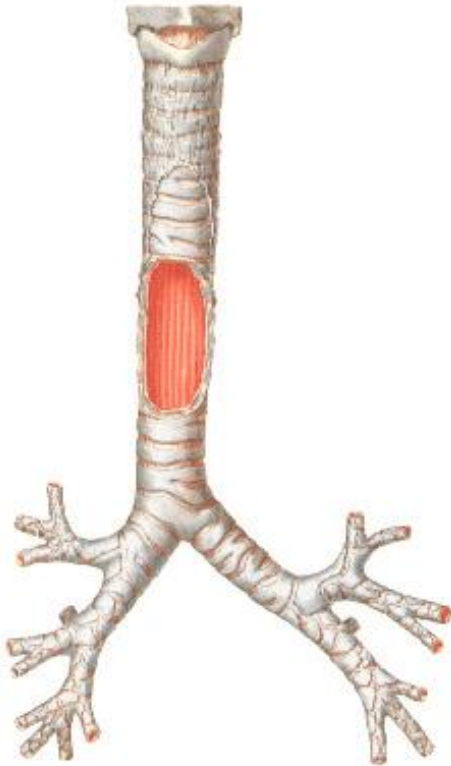


The Trachea

(trache/o)

Trachea and Major Bronchi

Anterior View



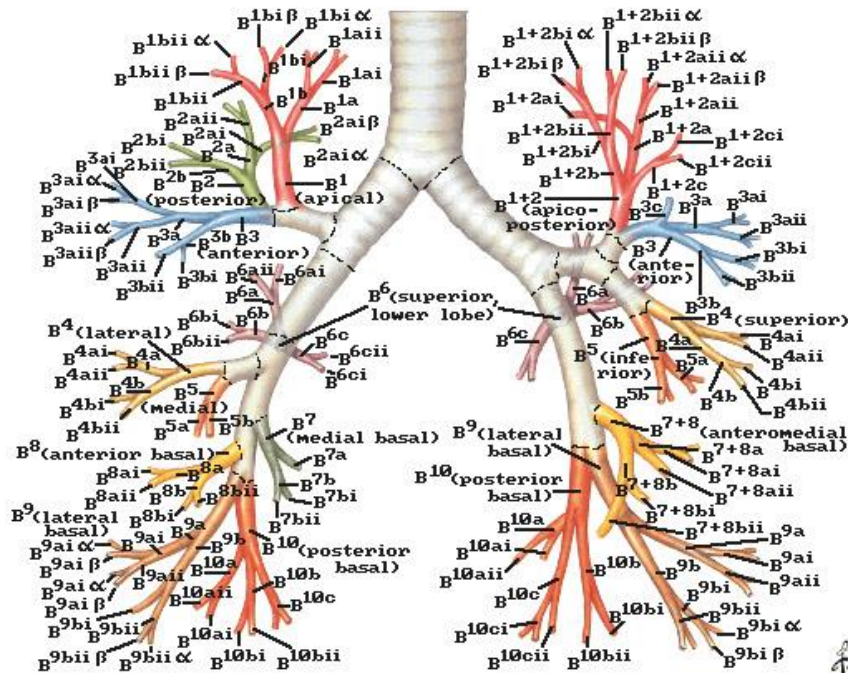
- The trachea extends downward anterior to the esophagus and into the thoracic cavity, where it splits into right and left bronchi
- The inner wall of the trachea is lined with ciliated mucous membrane with many goblet cells that serve to trap incoming particles
- The tracheal wall is supported by 20 incomplete cartilaginous rings

The Bronchial Tree

- The bronchial tree consists of branched tubes leading from the trachea to the alveoli

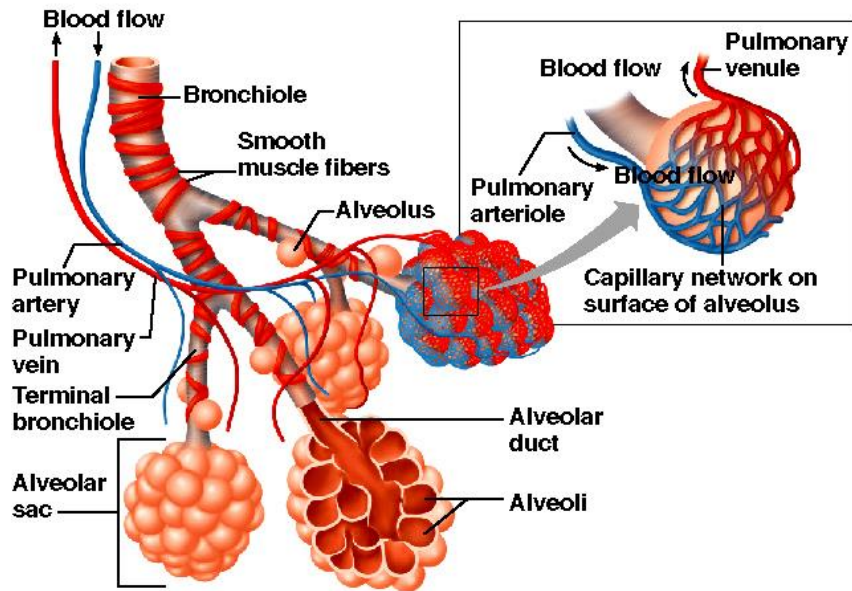
Nomenclature of Bronchi

Schema

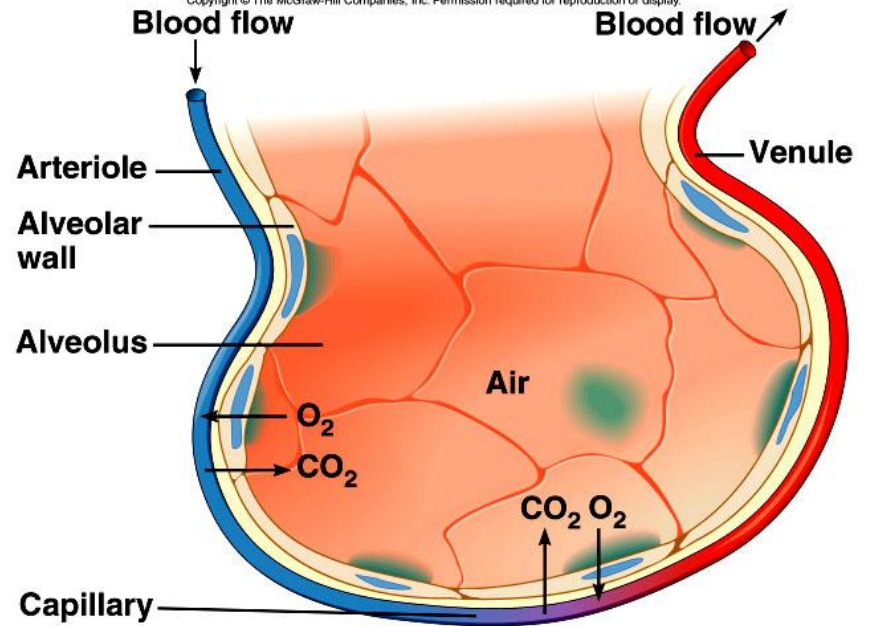


- The bronchial tree begins with the two primary bronchi, each leading to a lung
- The branches of the bronchial tree from the trachea are right and left primary bronchi; these further subdivide until bronchioles give rise to alveolar ducts which terminate in alveoli
- It is through the thin epithelial cells of the alveoli that gas exchange between the blood and air occurs
- Combining forms
 - Alveolus – alveol/o
 - Bronchus – bronch/o, bronch/i

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Intrapulmonary Airways

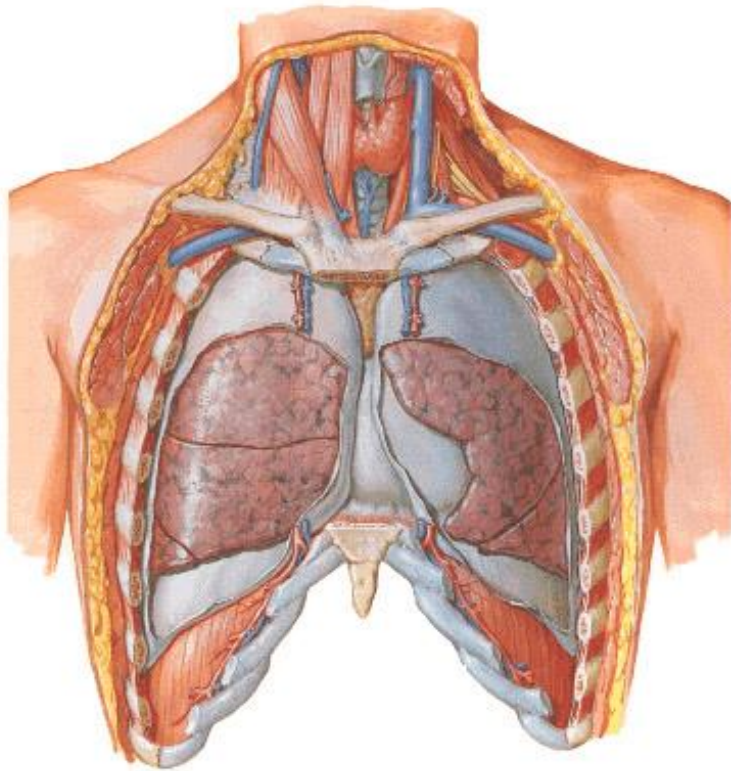
Schema



Lungs (pulmon/o, also pneum/o, pneumat/o, pneumon/o)

Lungs in Situ

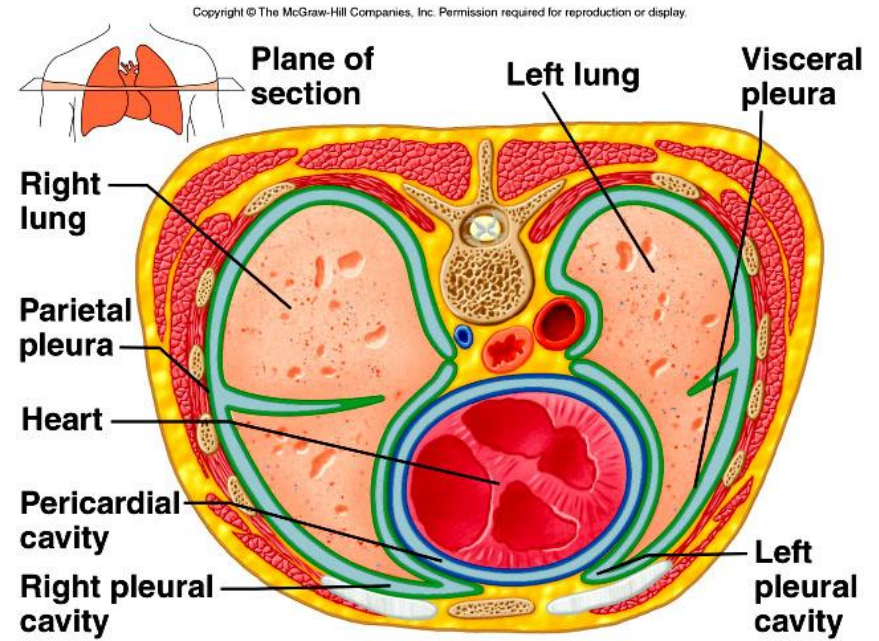
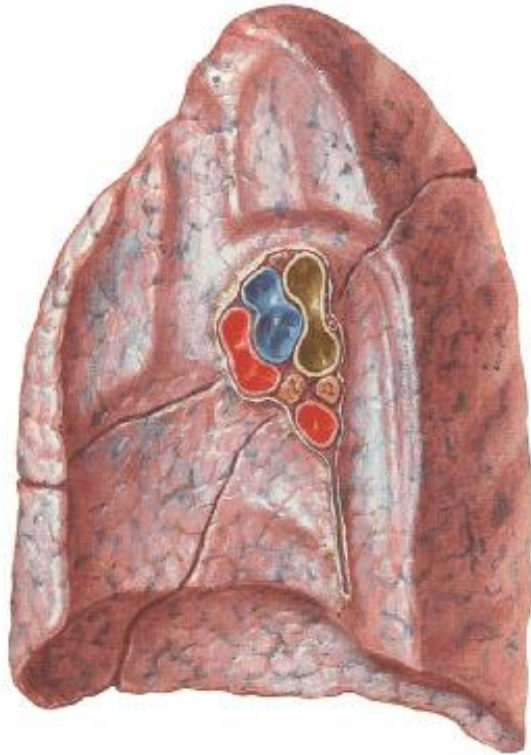
Anterior View



- The right and left soft, spongy, cone-shaped lungs are separated medially by the mediastinum and are enclosed by the diaphragm and thoracic cage
- The bronchus and large blood vessels enter each lung
- A layer of serous membrane, the visceral pleura (pleur/o), folds back to form the parietal pleura
- The visceral pleura is attached to the lung, and the parietal pleura lines the thoracic cavity; serous fluid lubricates the "pleura cavity" between these two membranes
- The right lung has three lobes, the left has two
- Each lobe is composed of lobules that contain air passages, alveoli, nerves, blood vessels, lymphatic vessels, and connective tissues

Right Lung

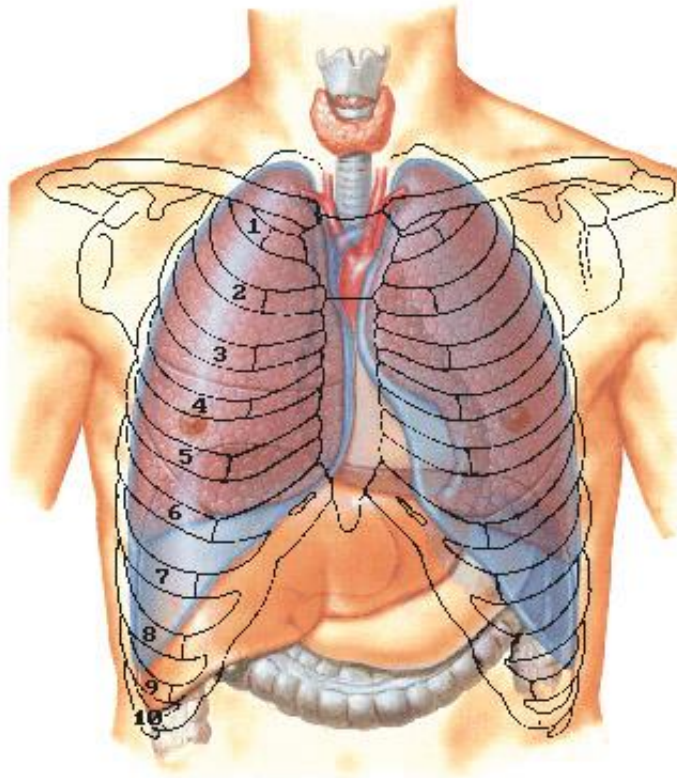
Medial View



Lungs

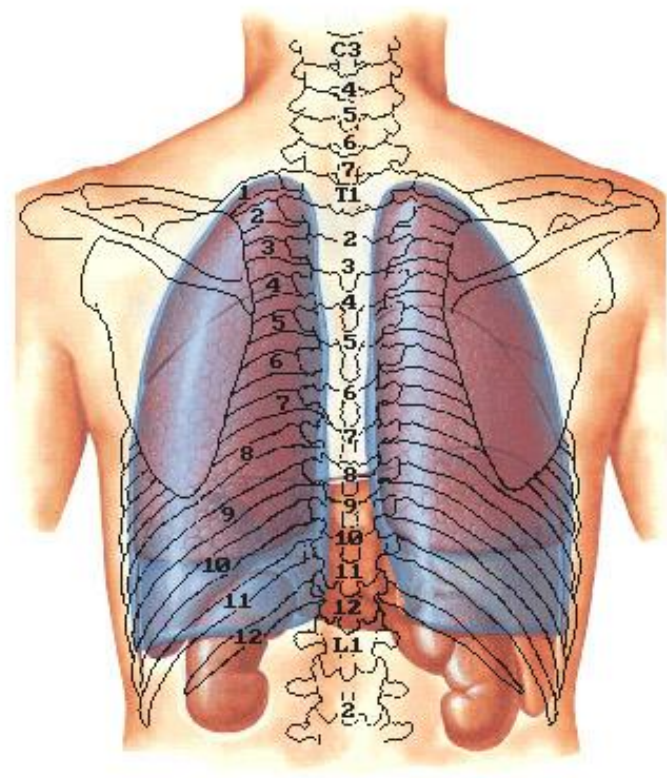
Topography of Lungs

Anterior View



Topography of Lungs

Posterior View



Respiratory System

Information Relevant to Test

Combining Forms of the Respiratory System

- adenoid/o
 - adenoids
 - Ex) adenoiditis
 - Inflammation of the adenoids
- alveol/o
 - alveolus
- bronch/i, bronch/o
 - Bronchus
 - Ex)
bronchopneumonia
 - Diseased state of the bronchi and lungs
- diaphragmat/o
 - Diaphragm
 - Ex)
diaphragmatocele
 - Hernia of the diaphragm
- epiglott/o
 - Epiglottus
 - Ex) epiglottitis
 - Inflammation of the epiglottis

Combining Forms of the Respiratory System

- laryng/o
 - Larynx
 - Ex) laryngitis
 - Inflammation of the larynx
 - Ex) laryngotracheobronchitis
 - Inflammation of the larynx, trachea, and bronchi
 - The acute form is called croup
- lob/o
 - Lobe
 - Ex) lobar pneumonia
 - Pertaining to the lobe(s); diseased state of the lung
 - Infection of one or more lobes of the lung
- nas/, rhin/o
 - Nose
 - Ex) rhinitis
 - Inflammation of the (mucous membrane) nose
- pharyng/o
 - pharynx
 - Ex) nasopharyngitis
 - Inflammation of the nose and pharynx

Combining Forms of the Respiratory System

- pleur/o
 - Pleura
 - Ex) pleuritis
 - Inflammation of the pleura
 - Also called pleurisy
- pneum/o, pneumat/o, pneumon/o
 - lung, air
 - Ex) pneumonia
 - Diseased state of the lung
 - Infection and inflammation can be caused by bacteria (*Pneumococcus*, *Staphylococcus*, *Streptococcus*, *Haemophilus*), viruses, and fungi)
 - Ex) pneumoconiosis
 - Abnormal condition of dust in the lungs
- pulmon/o
 - lung
 - Ex) Pulmonary neoplasm
 - Pertaining to (in) the lung, new growth (tumor)
 - Tumor in the lung
- sept/o
 - septum
 - Ex) septoplasty
 - Surgical repair of the (nasal) septum

Combining Forms of the Respiratory System

- sinus/o
 - sinus
 - Ex) sinusotomy
 - Incision of a sinus
- thorac/o
 - thorax (chest)
 - Ex) pneumothorax
 - Air in the chest (pleural space)
 - This causes a collapse of the lung
- tonsill/o
 - Tonsil
 - Ex) tonsillitis
 - Inflammation of the tonsils
- trache/o
 - Trachea
 - Ex) tracheostenosis
 - Narrowing of the trachea

Combining Forms Commonly Used with the Respiratory System

- Atel/o
 - Imperfect, incomplete
 - Ex) atelectasis
 - Incomplete expansion (of the lung of a newborn or collapsed lung)
 - Ex) bronchiectasis
 - Dilation of the bronchi
- Capn/o
 - Carbon dioxide
 - Ex) capnometer
 - Instrument used to measure carbon dioxide (levels in expired gas)
- Hem/o, hemat/o
 - Blood
 - Ex) hemothorax
 - Blood in the chest (pleural space)
- Muc/o
 - Mucus
- Orth/o
 - Straight

Combining Forms Commonly Used with the Respiratory System

- Ox/o, ox/i
 - Oxygen
- Py/o
 - Pus
- Somn/o
 - Sleep
- Spir/o
 - Breathe, breathing

Prefixes

- a-, an-
 - without, absence of
- endo-
 - within, (*Note: intra- also means within*)
- eu-
 - normal, good
- pan-
 - all, total
- poly-
 - many, much

Suffixes

- -algia
 - Pain
 - Ex) thoracalgia
 - Pain in the chest
- -ar, -ary, -eal
 - pertaining to
 - Ex) lobar pneumonia
 - Pertaining to the lobe(s); diseased state of the lung
 - Infection of one or more lobes of the lung
- -cele
 - hernia, protrusion
 - Ex) diaphragmatocele
 - Hernia of the diaphragm
- -ectasis
 - stretching out, dilation, expansion
 - Ex) bronchiectasis
 - Dilation of the bronchi
- -emia
 - blood condition
- -oxia
 - oxygen

Suffixes

- -phonia
 - sound or voice
- -pnea
 - Breathing
 - Ex) apnea
 - Absence of breathing
 - As in sleep apnea,
- -rrhagia
 - rapid flow of blood
 - Ex) rhinorrhagia
 - Rapid flow of blood from the nose
 - *Also called epistaxis*
- -spasm
 - sudden, involuntary muscle contraction
- -stenosis
 - constriction or narrowing
 - Ex) tracheostenosis
 - Narrowing of the trachea
- -thorax
 - chest
 - Ex) pneumothorax
 - Air in the chest (pleural space)
 - This causes a collapse of the lung

Surgical Terminology

- -centesis
 - surgical puncture to aspirate fluid
 - Ex) thoracocentesis
 - Surgical puncture to aspirate fluid from the chest cavity
- -ectomy
 - excision
 - Ex) tonsillectomy
 - Excision of the tonsils
- -plexy
 - surgical fixation, suspension
 - Ex) pleuroplexy
 - Surgical fixation of the pleura

Surgical Terminology

- **plasty**
 - surgical repair
 - Ex) septoplasty
 - Surgical repair of the (nasal) septum
- **-stomy**
 - creation of an artificial opening
 - Ex) laryngostomy
 - Creation of an artificial opening into the larynx
- **-tomy**
 - cut into or incision
 - Ex) tracheotomy
 - Incision of the trachea

Diagnostic Terms

- -metry
 - measurement; (-meter – instrument used to measure)
 - Ex) capnometry
 - Measurement of carbon dioxide (levels in expired gas)
- -scopy
 - visual examination; (-scope - instrument used for visual examination)
 - Ex) bronchoscopy
 - Visual examination of the bronchi