



The Respiratory System

Combining Form	Meaning	Combining Form	Meaning
Ox/i/o	oxygen	Chron/o	time
Tuss/o-	cough	Cyan/o	blue
Bronch/o	Bronchus	pulmon/o	lung; air
dilat/o	to enlarge; expand	Muc/o	mucus
Ventil/o	To oxygenate	thorac/o	chest

Prefix

Meaning

a-

not; without

dys-

painful; difficult

Brady-

slow

Hyper-

above

Tachy-

fast

De-

Removal of

Suffix	Meaning
-pnea	breathing
-itis	inflammation
-lytic	Breakdown or destruction
-ia	condition
-osis	Abnormal condition
-rrhea	flow; excessive



What are the meanings of the following word parts?

➡ **nas/o**

nose

➡ **-pnea**

breathing

➡ **Brady-**

slow

➡ **Ventil/o-**

to oxygenate

Functions of the Respiratory System



Inhaling
fresh air



Exchang
ing
carbon
dioxide
for
oxygen



Exhaling
old,
stale air

- **Ventilation**—the process by which air moves in and out of the lungs
- **Respiration**—the process of gas exchange
- **Inspiration**—breathing in
- **Expiration**—breathing out



The Lungs

- The lungs are the *major organs* of the respiratory system
- Respiratory rate- **12-20** times per minute
 - Number of breaths a person takes per minute
- **FACT:** the tissue in your lungs can tell a story. Cigarette smoking produces tar, a toxic chemical residue that infiltrates the lungs and causes them to turn black. Tar and nicotine from secondhand smoke also harms the lungs

A close-up, slightly out-of-focus shot of a woman with a shaved head. She is looking off-camera to the right with a serious expression. She is wearing a purple and white plaid shirt and a large, round, yellow pendant necklace. The background is a blurred indoor setting with a white chair visible on the right.

A TIP FROM A
FORMER
SMOKER

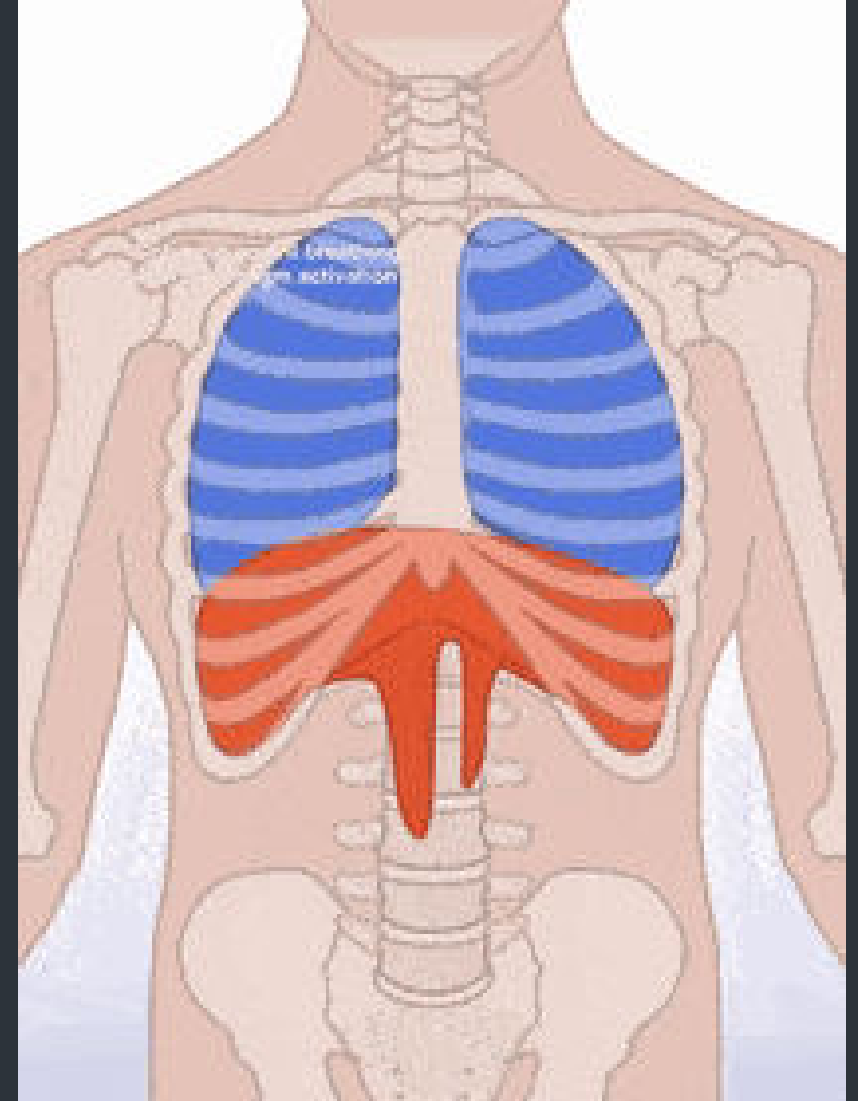
• When I was a smoker,

A TIP FROM A
FORMER
SMOKER



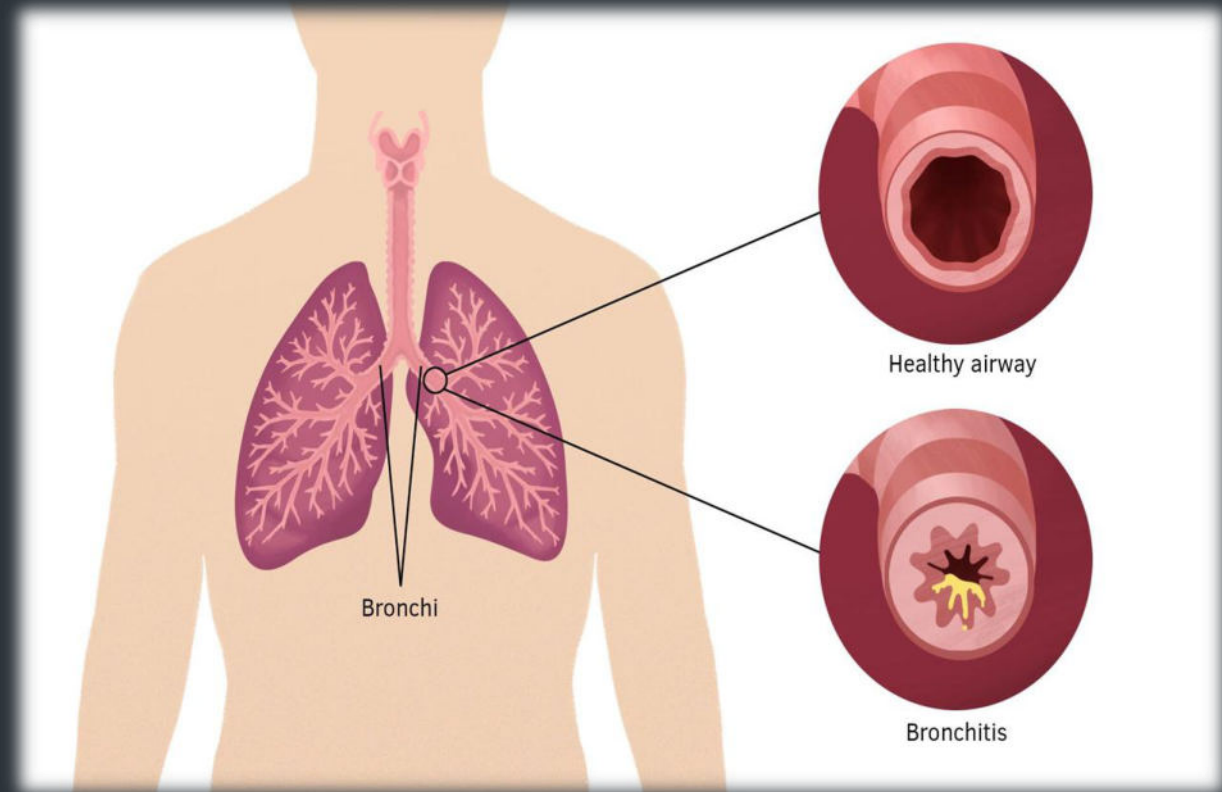
The Act of Breathing

- Breathing is controlled in the medulla oblongata.
- You inhale oxygen and exhale carbon dioxide



Diseases and Conditions

- **Bradypnea**- slower than normal breathing
- **Tachypnea**- faster than normal breathing
- **hyperventilation**- breathing is faster and deeper than normal
- **Bronchitis**- inflammation of the mucous membranes of the bronchial tubes



The background of the slide features a dark, textured surface with numerous spherical particles, each covered in small, protruding spikes, resembling the morphology of coronavirus particles.

Asthma- sudden, periodic attacks of dyspnea & wheezing. Spasm of bronchial tubes

Chronic obstructive pulmonary disease (COPD)- reduced ability of the lungs to perform their function of ventilation; dyspnea, >50% of capacity

Cyanosis- bluish tint to the skin due to lack of oxygen

Influenza- acute, contagious viral infection of the respiratory tract; fever, chills, headache aka?? The FLU!

- **Pneumonia**- inflammation of the lungs, caused by a bacterium, virus, fungus or chemical irritant.
- **Pulmonary embolism (PE)**- traveling blood clot that becomes lodged in the lung
- **Sleep apnea**- stoppage of breathing during sleep for periods of time
- **Tuberculosis (TB)**- serious contagious disease caused by bacterial infection of the lungs.



Procedures and Therapeutics

- ▶ **Oximetry**- use of device to measure blood oxygen level
- ▶ **Cardiopulmonary resuscitation (CPR)**- emergency treatment given to someone who is not breathing, or heart has stopped.
- ▶ **Heimlich maneuver**- technique in which the airway is cleared by putting pressure on the diaphragm
- ▶ **Ventilator**- machine that delivers artificial respiration for a patient who is unable to breathe effectively on their own



Therapeutic Drug Treatments



- **Antitussive**- suppressive cough
- **Decongestant**- drug that reduces congestion
- **Expectorant**- produces thinner mucus
- **Mucolytic**- loosens mucus

A sneeze can radiate as far as *5 feet* and travel fast as *100mph!!*