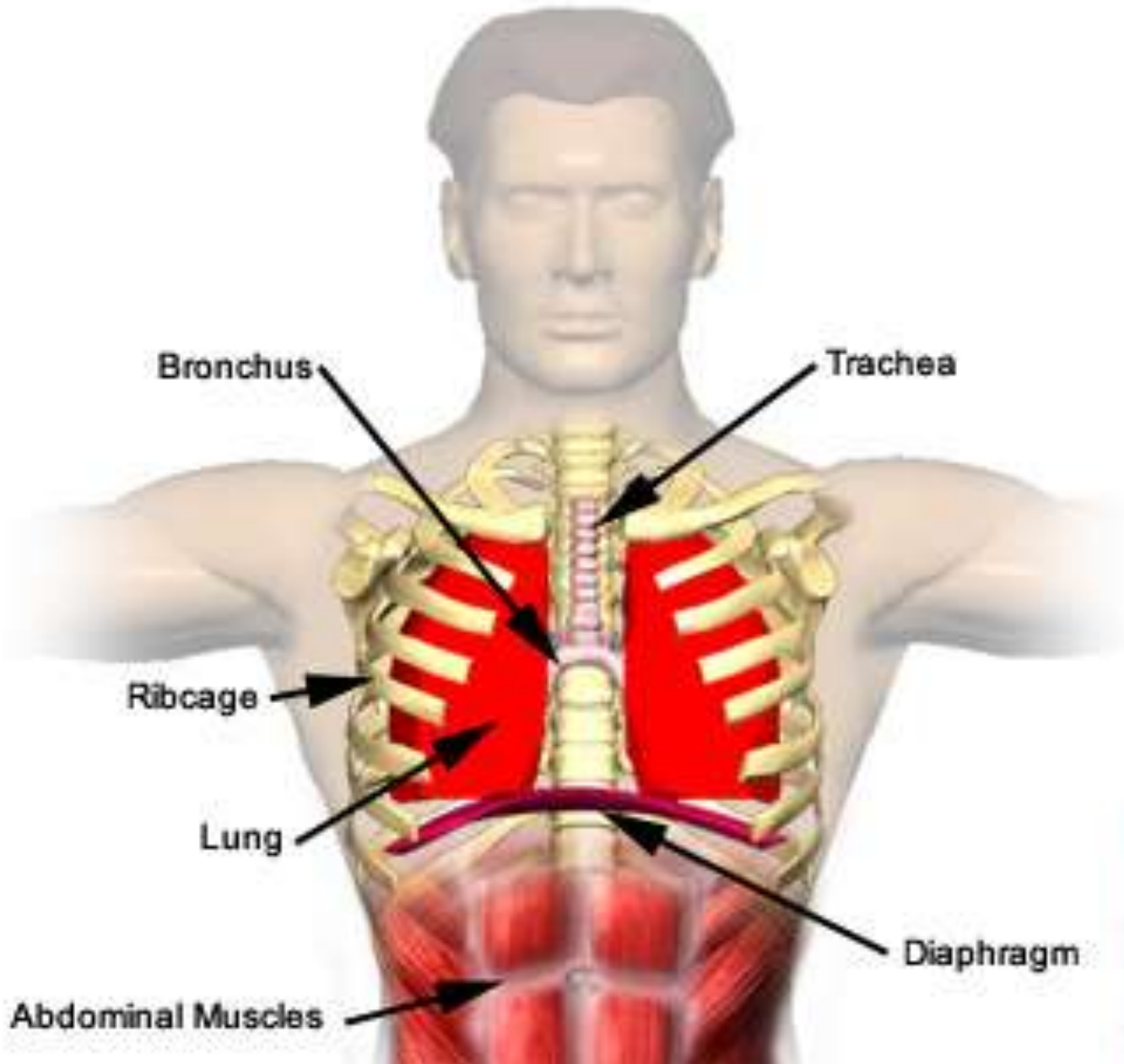


The Respiratory System



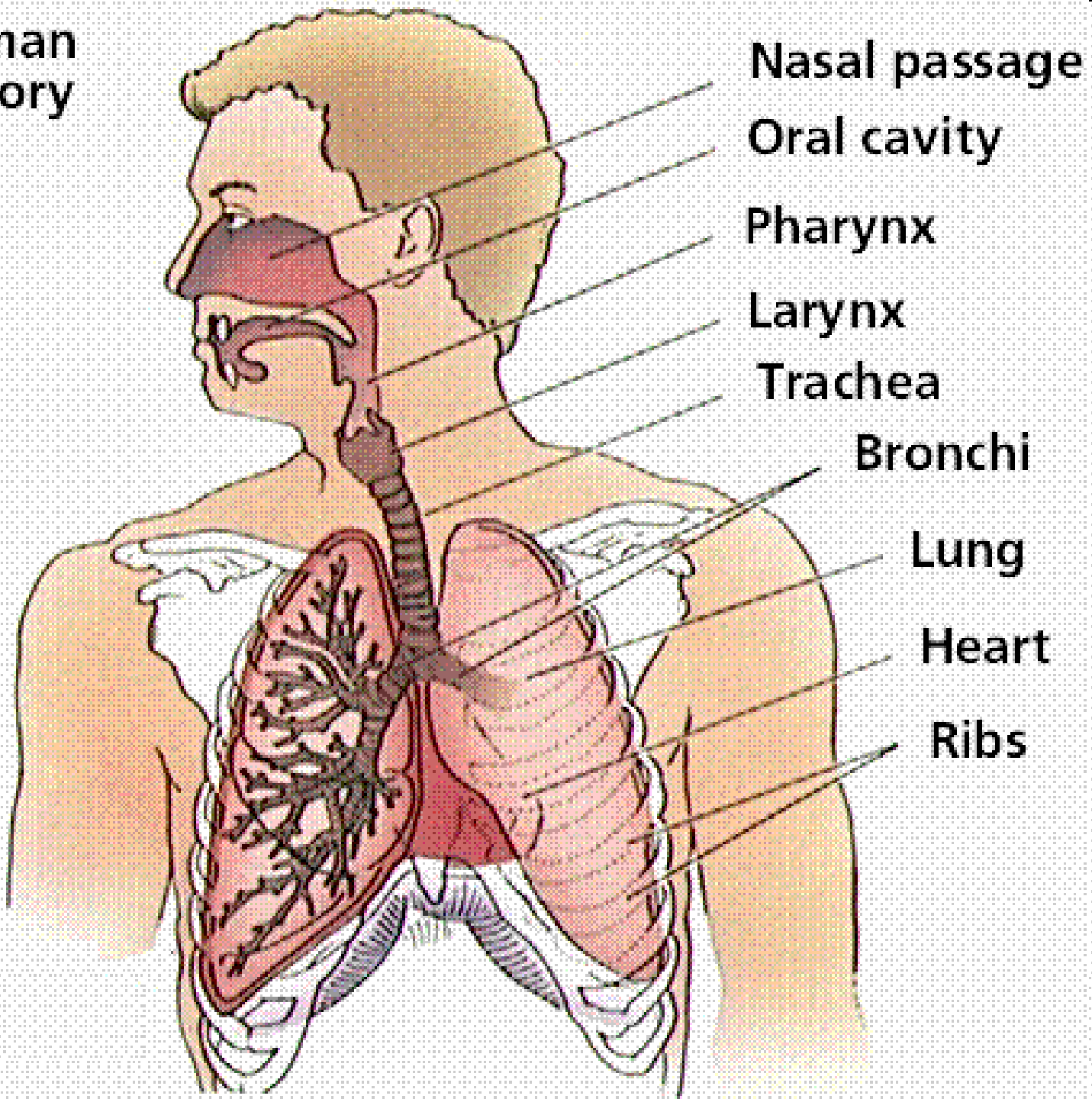
Major Functions.

- ✓ Breathing: Taking in and taking out oxygen.
- ✓ Eating and Drinking: Takes food down the epiglottis.
- ✓ Oxygenating Blood: Takes air to lungs which put oxygen into blood to go to the heart.
- ✓ Talking: Vocal chords help make noise and your mouth shapes the words.

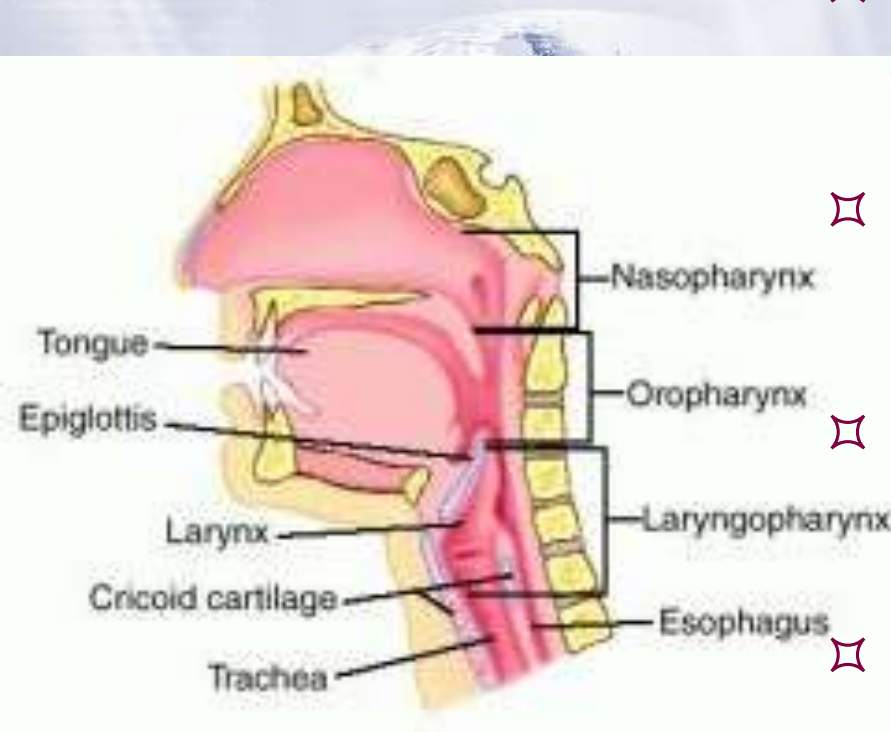
Helping Other Systems.

- Transports food to the **digestive system**.
- Helps oxygenate blood for the **circulatory system**.
- Helps **immune system** get clean oxygen.
- The **nervous system** needs oxygen from the **respiratory system** to give orders.

The Human Respiratory System



Parts of the Respiratory System.



✧ **Nasal Cavity:** The nasal cavities conditions the air to be received by the nose.

✧ **Oral Cavity:** In charge of talking, facial expression, eating, drinking, and breathing.

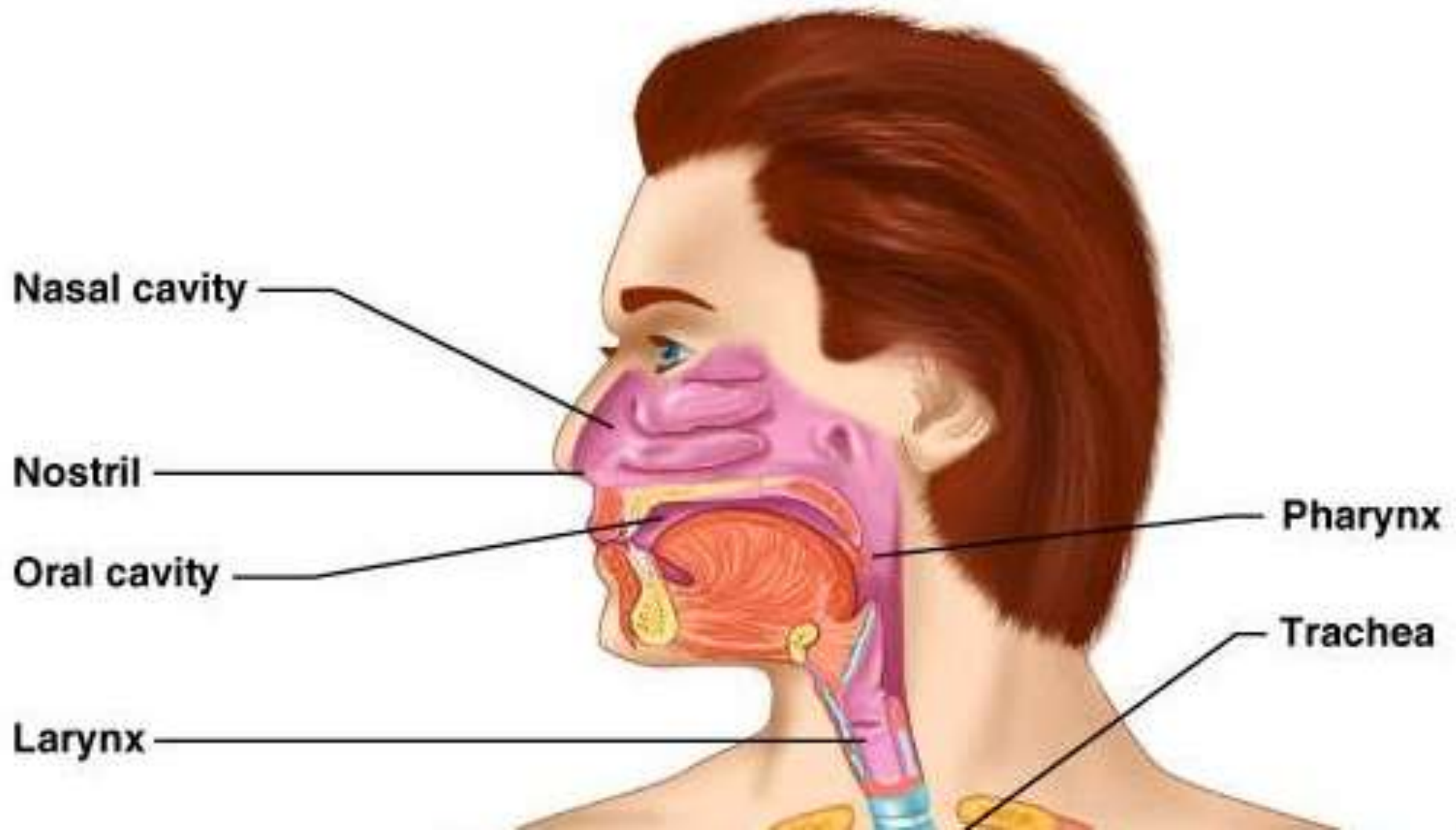
✧ **Pharynx:** Prevents food from going down the windpipe and choking you.

✧ **Larynx:** Manipulates pitch and volume as well as making us cough when food goes down it.

✧ **Epiglottis:** Prevents food from going into the Trachea.

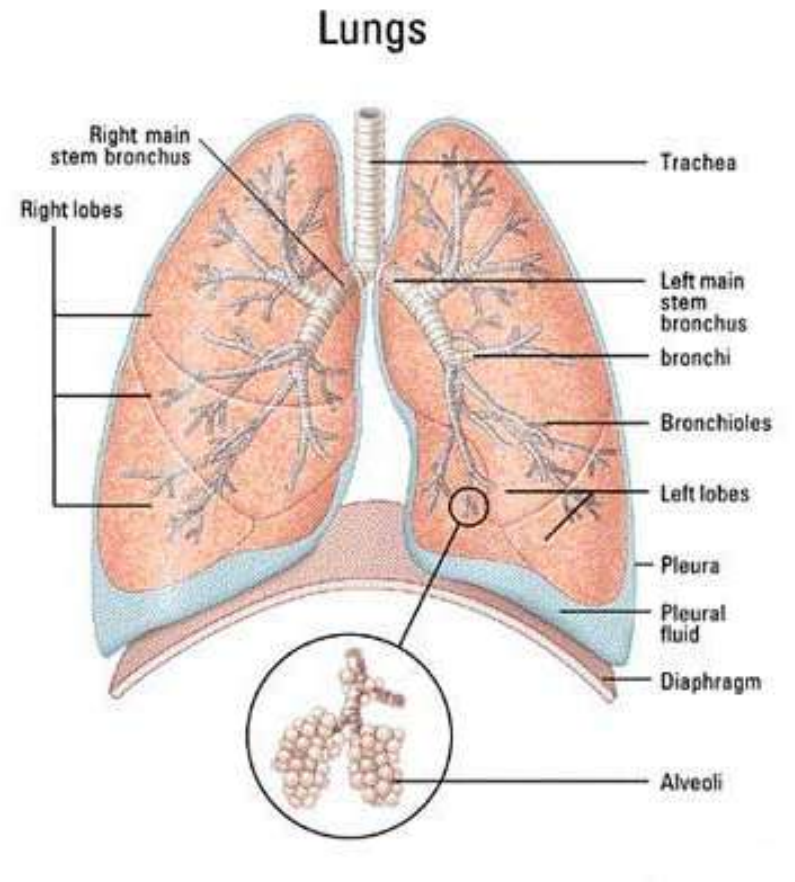
✧ **Vocal Chord:** Controls the flow of air coming from the lungs.

✧ **Esophagus:** Moves food down to the stomach.



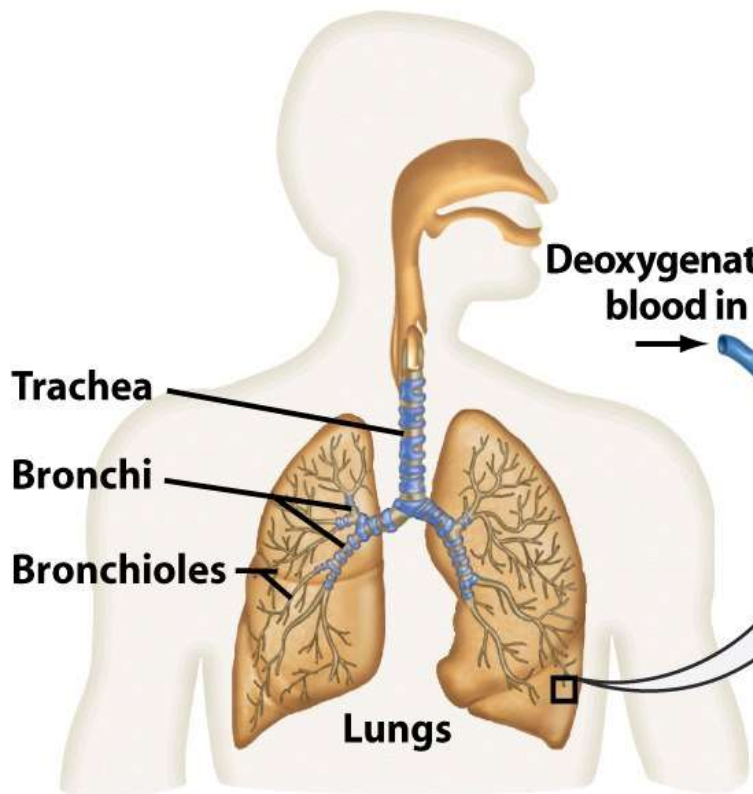
Parts of the Respiratory System. (cont.)

- **Trachea:** The windpipe. Takes oxygen to the lungs.
- **Bronchial tubes:**
- **Bronchi:**
- **Alveoli:**
- **Right Lung:** To breathe.
- **Left Lung:** To breathe.
- **Pulmonary Artery:** Carries blood from the heart to lungs.
- **Diaphragm:** Supports the lungs and helps them move.

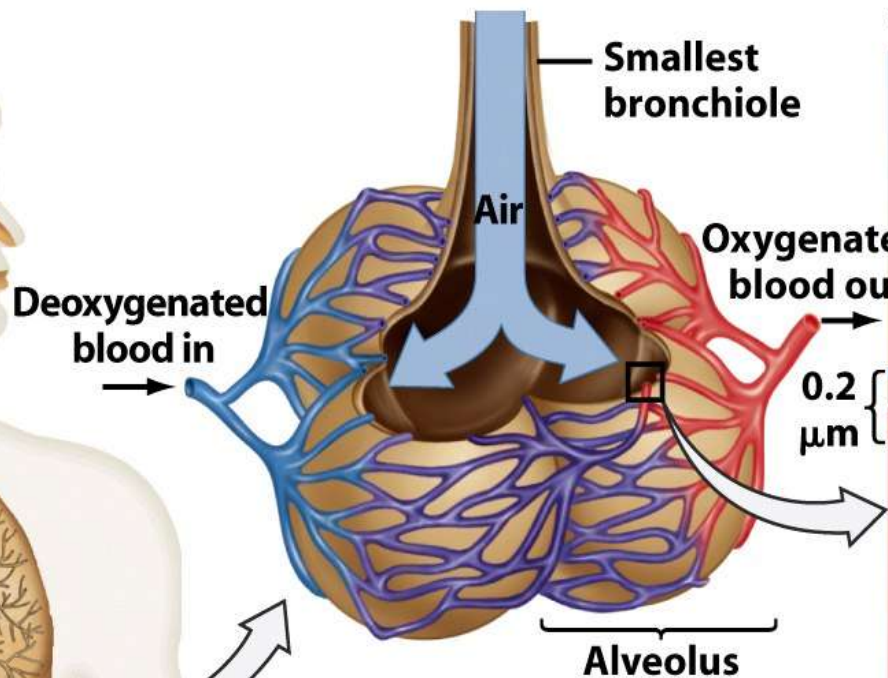




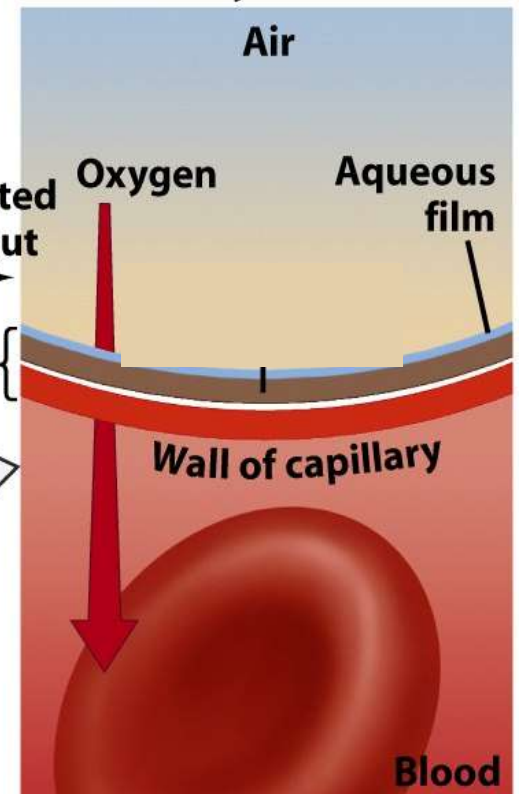
(a) Airways into the lung



(b) Alveoli



(c) The alveolar ventilatory surface



Lungs expand and contract in response to changes in pressure inside the chest cavity.

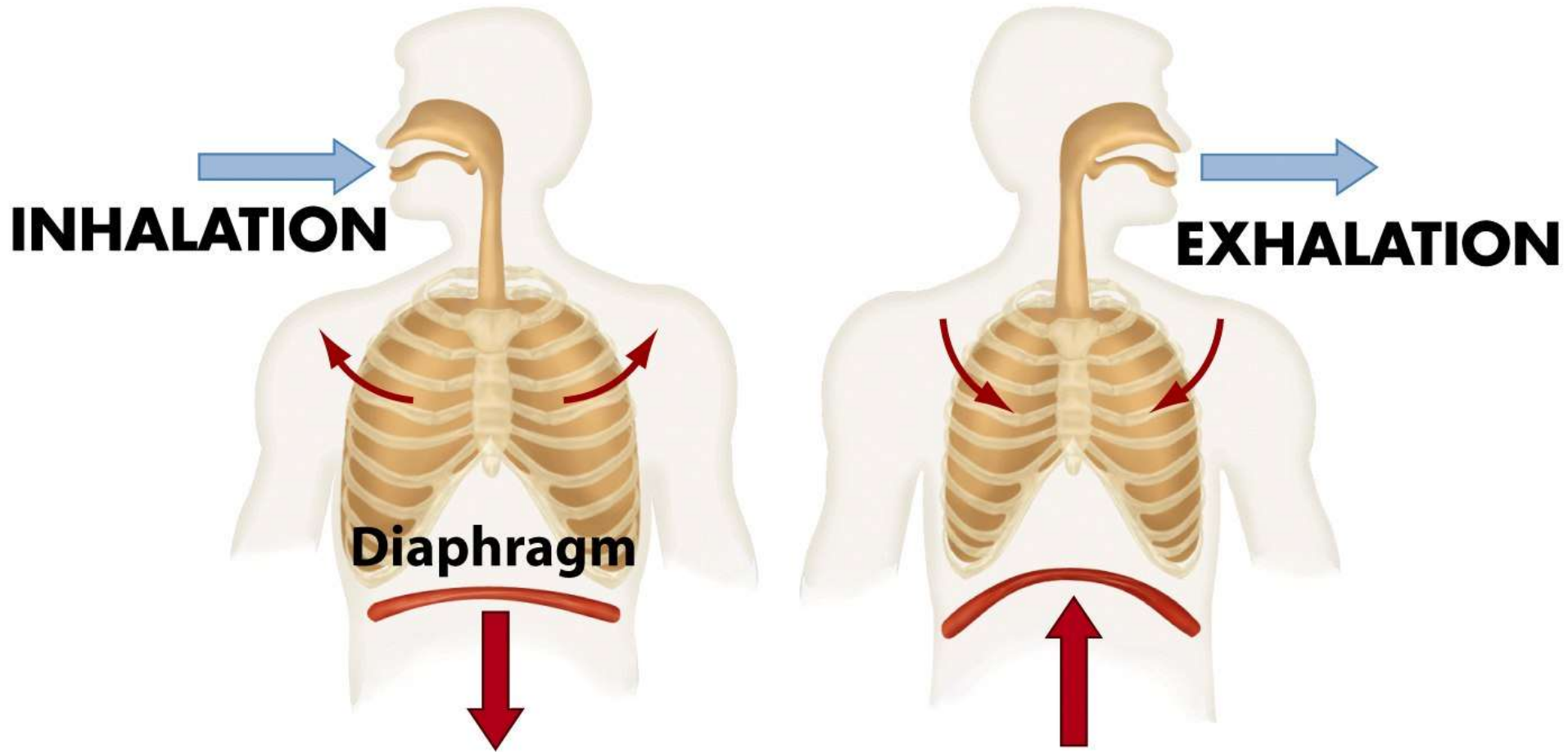
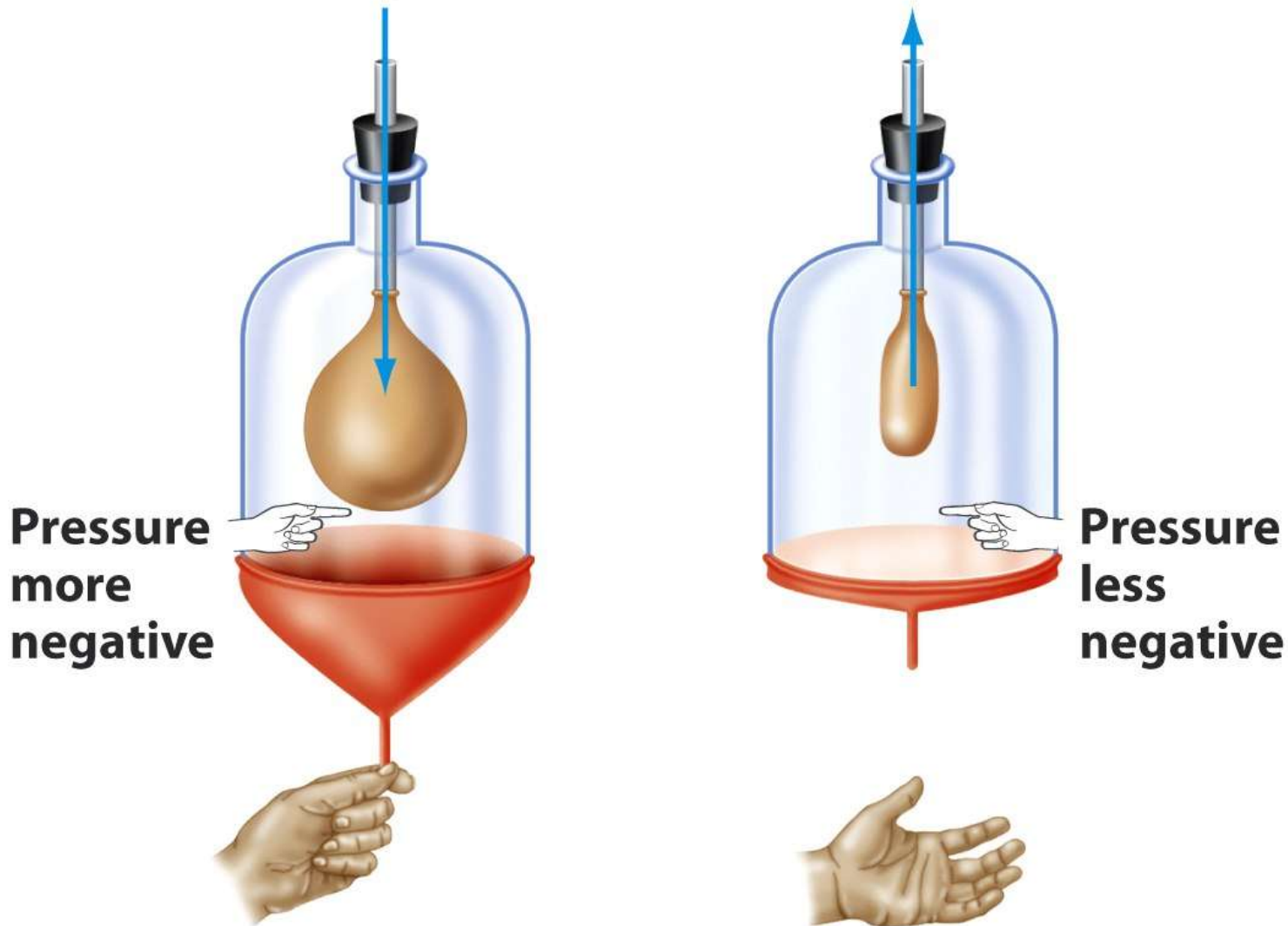


Figure 44-9a Biological Science, 2/e
© 2005 Pearson Prentice Hall, Inc.

Ventilatory forces can be modeled by a balloon in a jar.



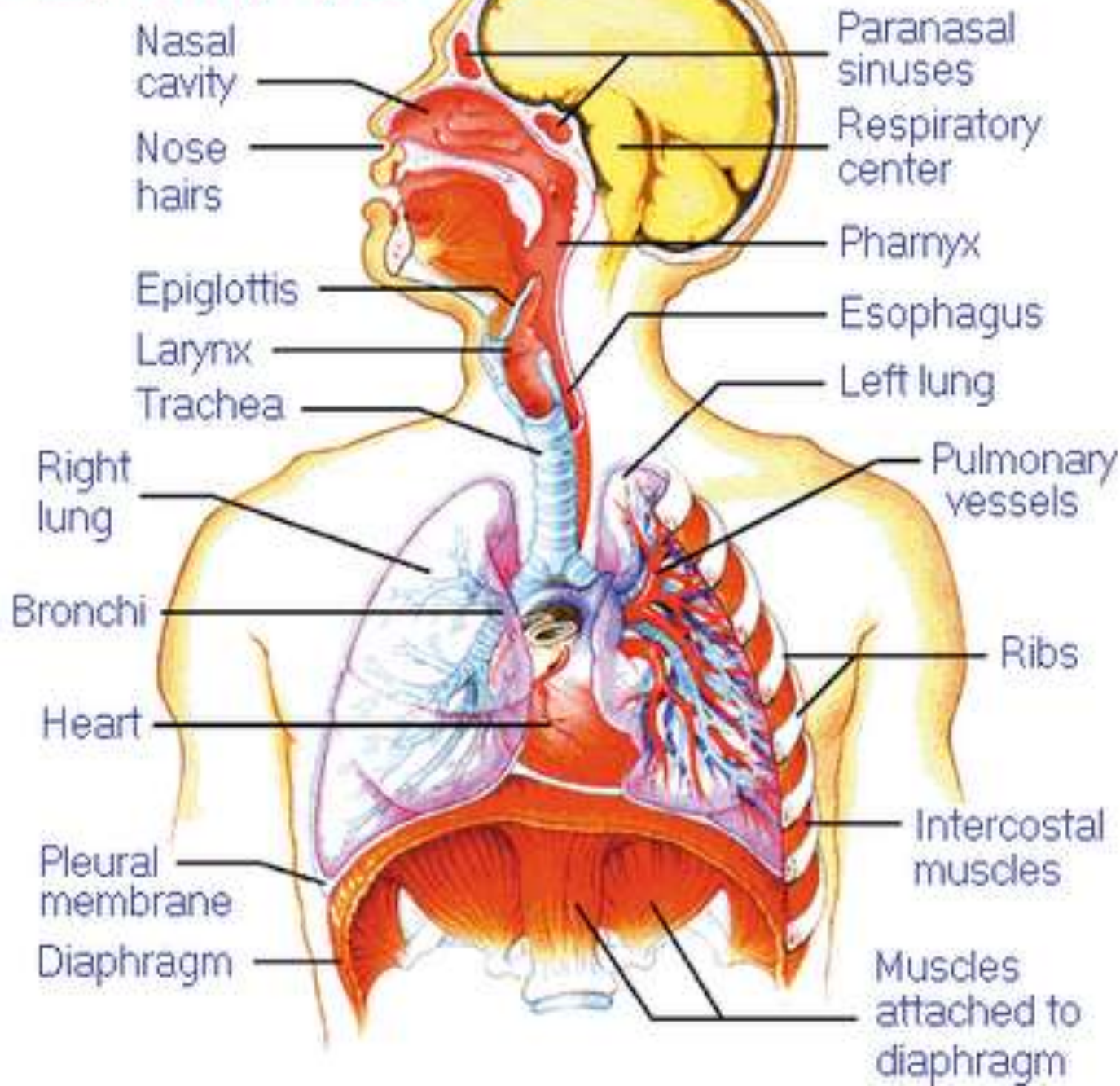
When the diaphragm is pulled down, the balloon inflates.

When the diaphragm is released, the balloon deflates.

Fun Facts.

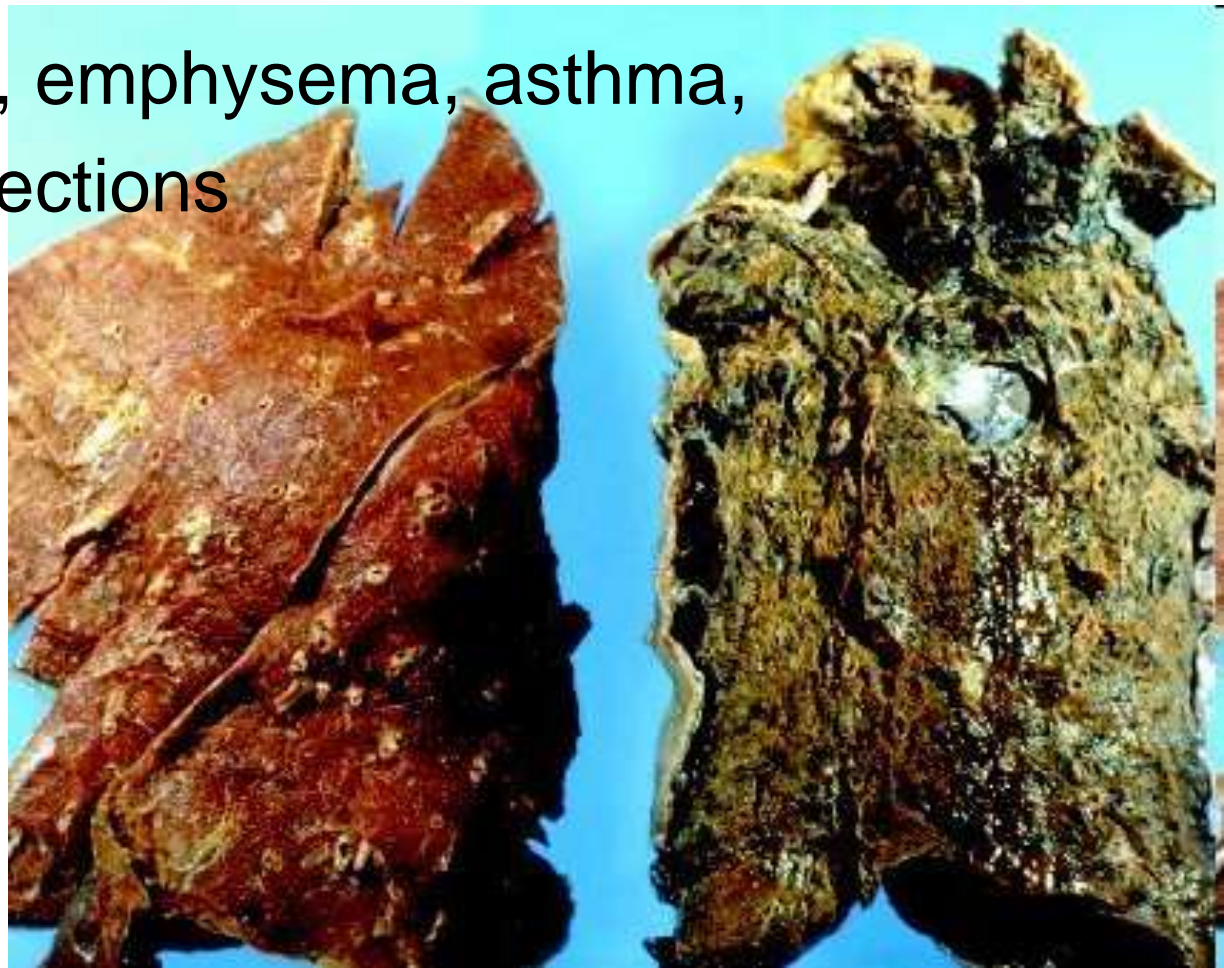
- ◆ Elastic bands cover the larynx.
- ◆ You sneeze because of pollen, irritation, cold breezes, etc.
- ◆ You yawn because you are sleepy and you don't take in enough air.
- ◆ Larynx is covered by mucus.
- ◆ When your vocal chords are larger, you will have a deep voice, but when you have small vocal chords, your voice will be higher.

Respiratory System

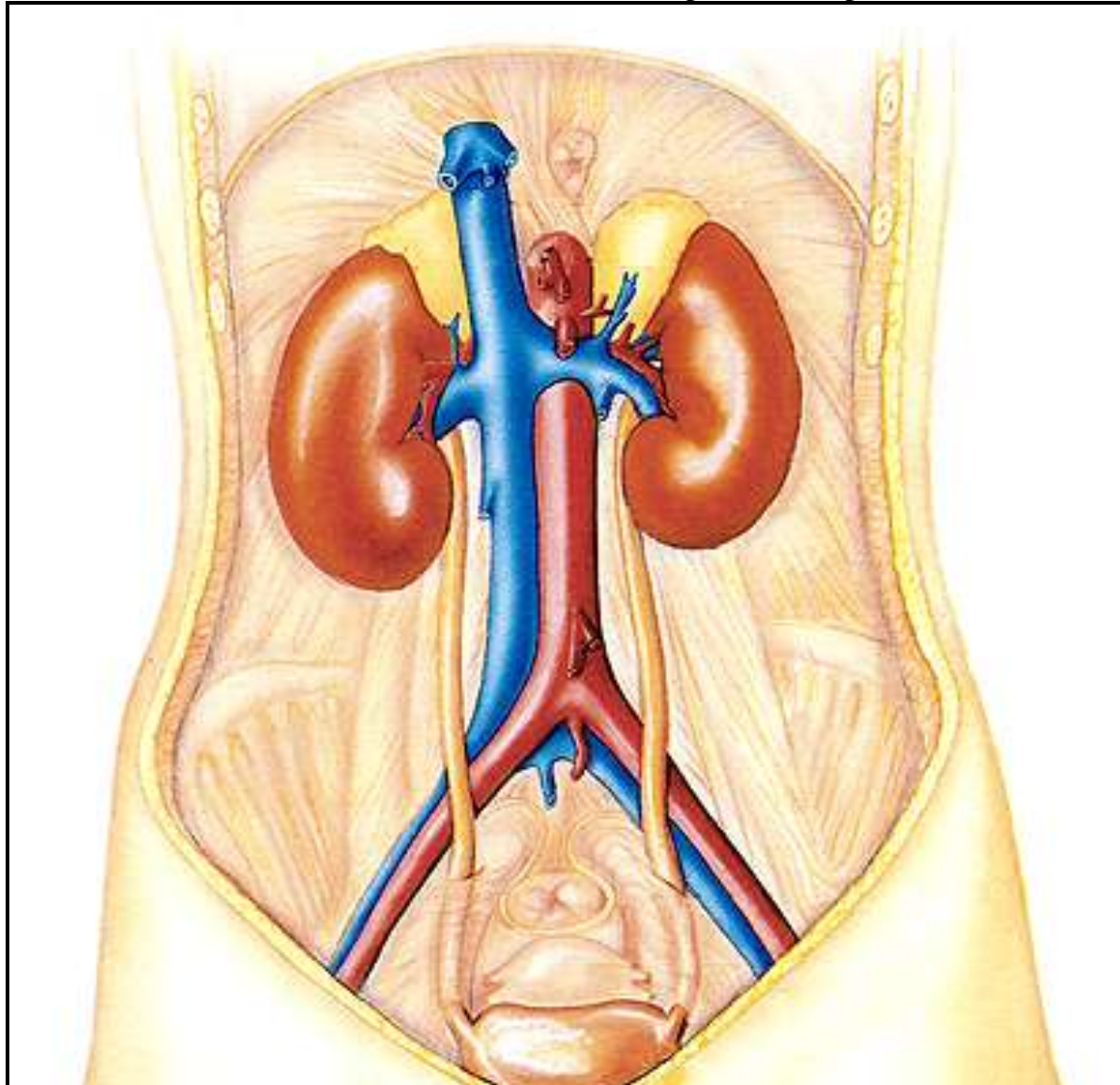


Diseases of the respiratory system

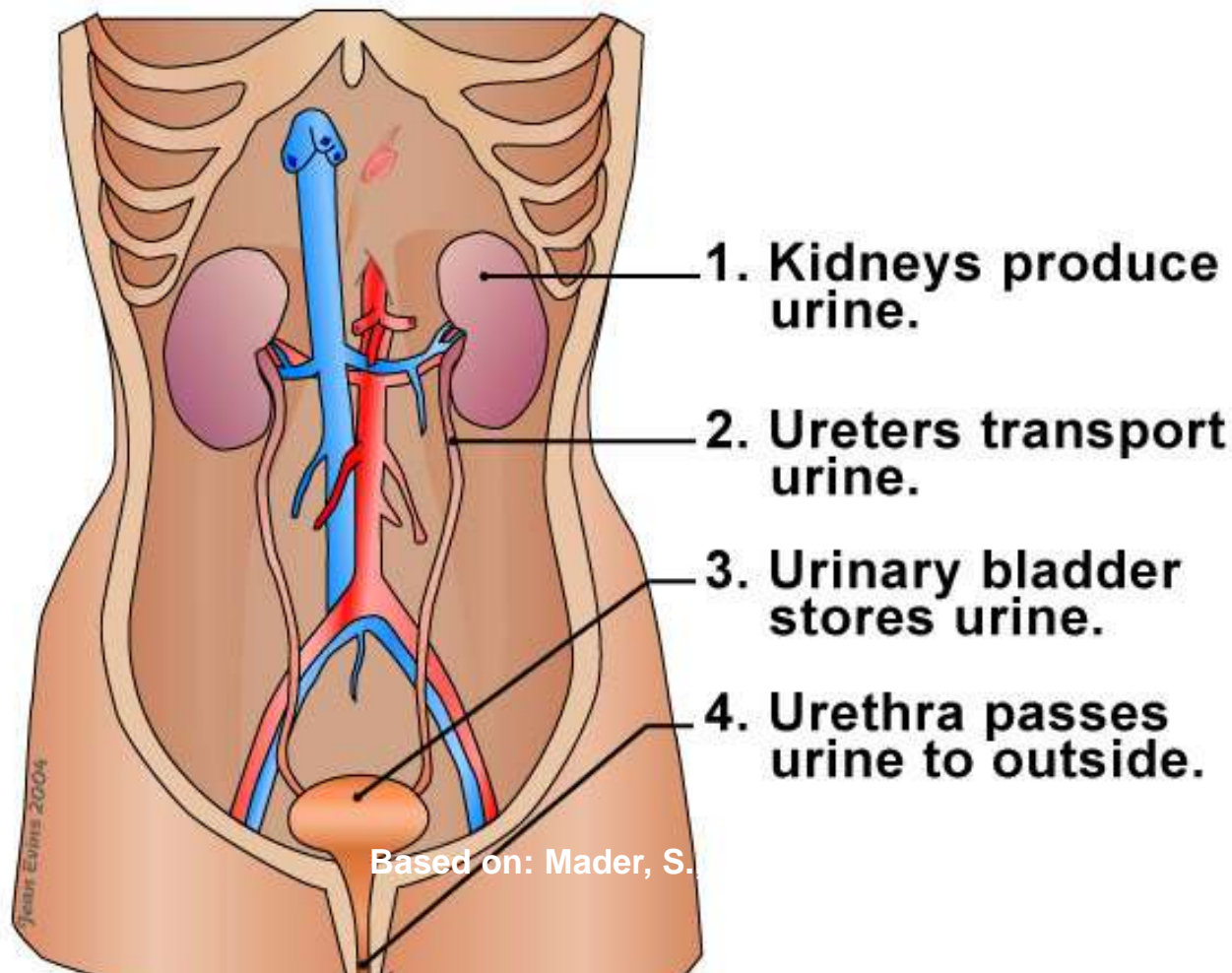
- Carcinogens and irritants such as
 - Smoke, carbon monoxide, pollution, coal dust, asbestos
 - Cause, cancer, emphysema, asthma,
 - Respiratory infections
 - Pneumonia
 - Bronchitis
 - Asthma



The Urinary System



Urine moves from the kidneys, through the ureters to the bladder and finally through the urethra

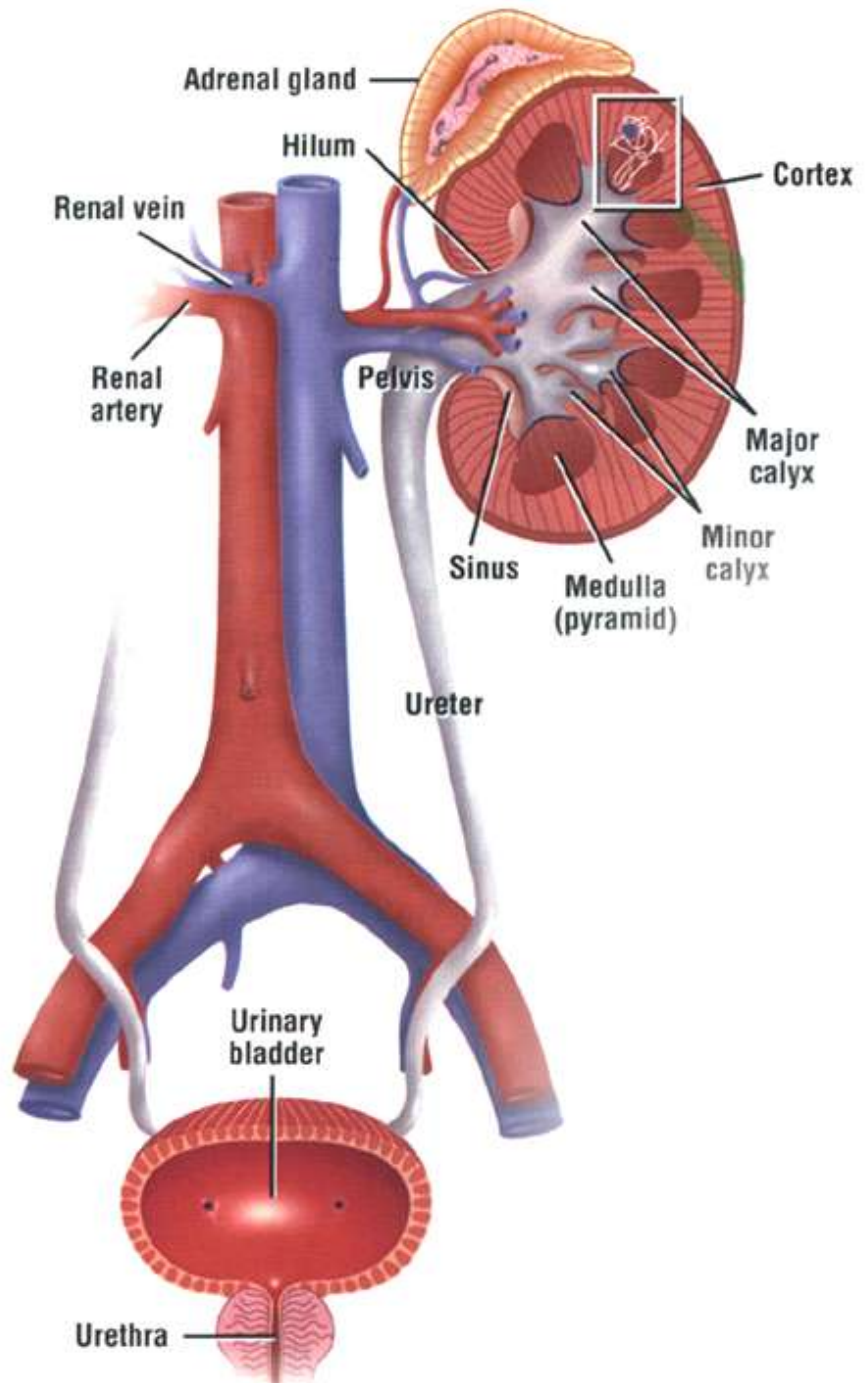


Functions of the urinary system

1. Rids the Blood of waste
2. Keeps the bodies water balanced
 - a) Regulates fluid levels

Organs of the Urinary System

1. Kidneys
 - a) Where the blood is filtered by nephrons and waste is removed and sent through the ureters.
2. Ureters – tubes that take urine from the kidneys to the urinary bladder
3. Urinary bladder – an elastic muscular sack that collects the urine until it exits the body through the urethra
4. Urethra is the tube that carries blood from the urinary bladder out of the body.

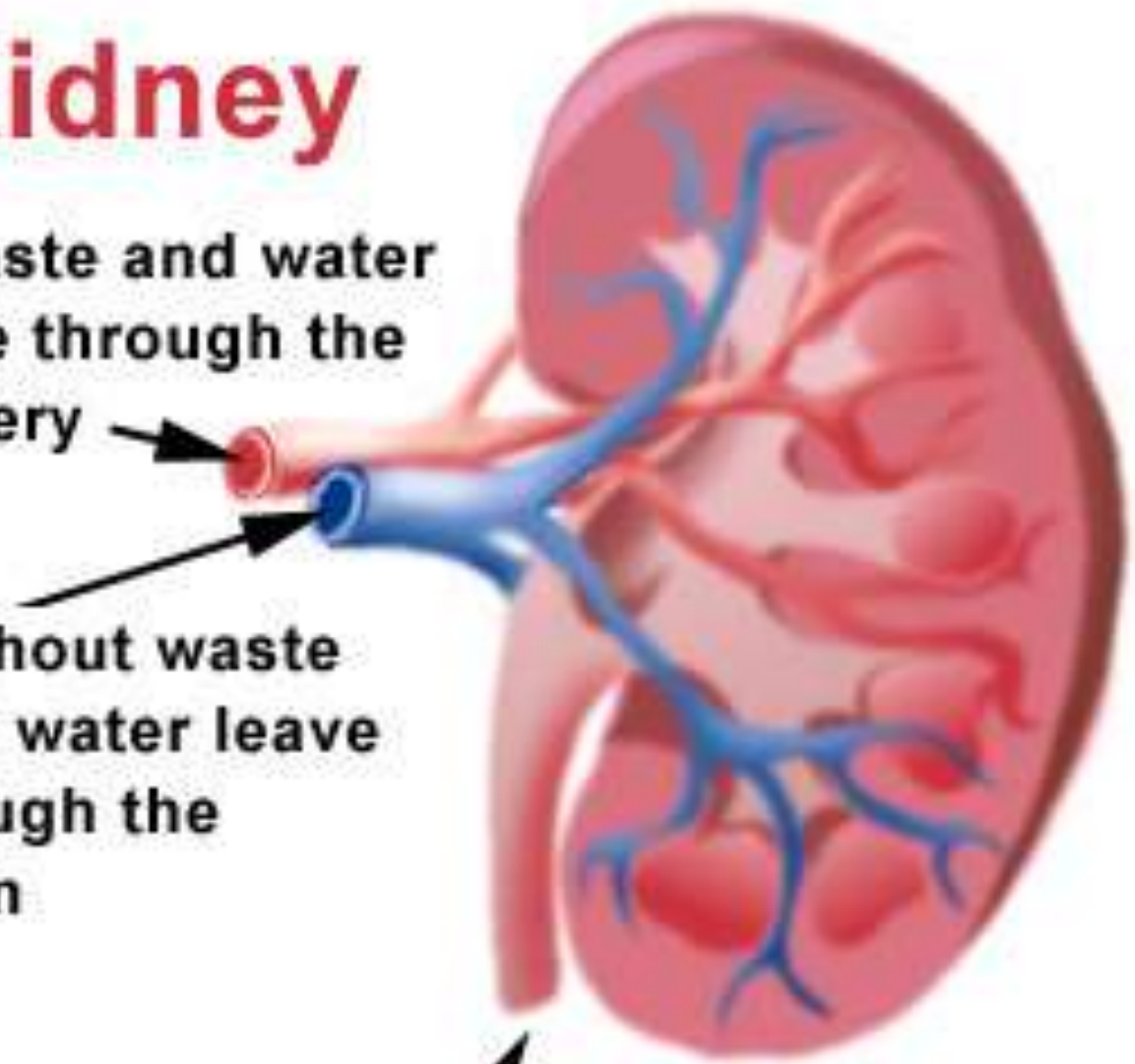


A Kidney

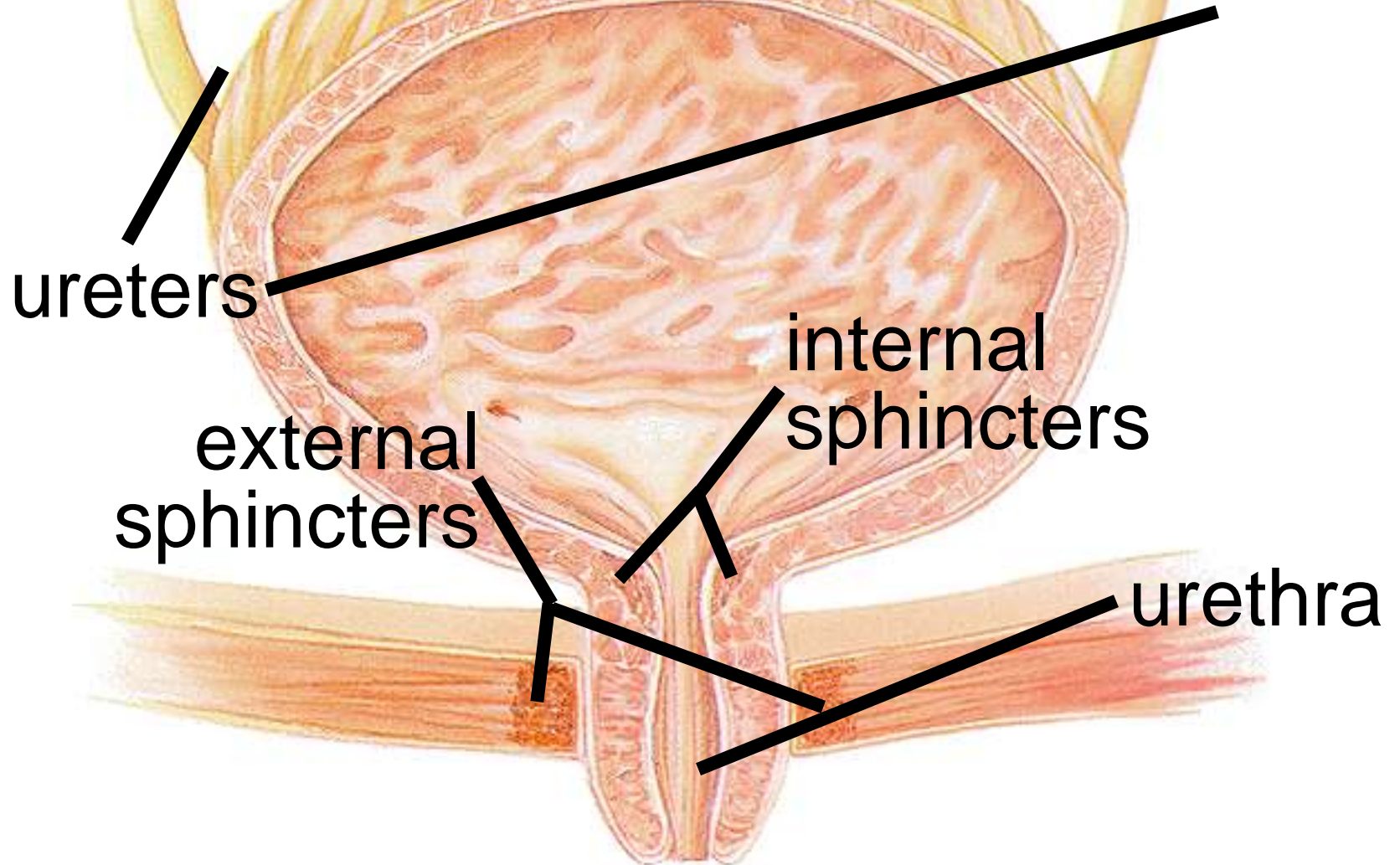
Blood, waste and water enter here through the Renal Artery

Blood without waste or excess water leave here through the Renal Vein

Excess water and Toxic Waste in the form of Urine leaves here via the Ureter



Urinary Bladder



Why do we need to excrete waste?

1. We eat many things that contain things harmful to the body.
2. There are waste released continually from the cells and removed or cell will be poisoned
3. Waste products must be removed continually or we cannot live.

Diseases of the Urinary System

- Kidney malfunction or failure
 - If the kidneys fail the person fails
 - Dialysis is what must be done if the kidneys fail
 - The only long term and effective treatment is a kidney transplant.
- Urinary tract infections.
 - Yeast
 - Bacterial

Dialysis

