

The Digestive System must accomplish the following tasks

- Ingestion [Take in food]
- Mechanical breakdown
- Chemical breakdown
- Absorption
- Elimination

Know where occurring
at each part

Occurs in small intestine!

Mouth

- Teeth bite off and chew food into a soft pulp that is easy to swallow. Chewing mixes the food with watery saliva, from 6 salivary glands around the mouth and face, to make it moist and slippery.



- **Amylase** ^{← -found in saliva} is an enzyme that breaks down starch into sugars * Carbs begin chemical digestion in mouth
- **Pharynx** - a cavity that connects the mouth to the esophagus, it also connects the nose and mouth (via the larynx) with the trachea

Bolus → mixture of chewed food, partially digested [saliva and chewed food]

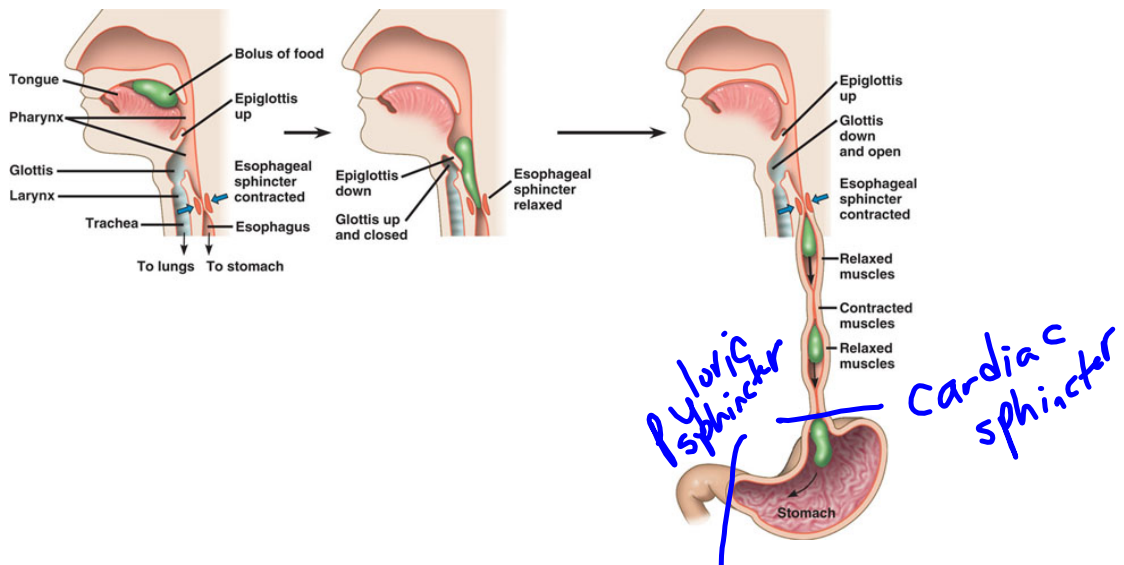
Two types of digestion

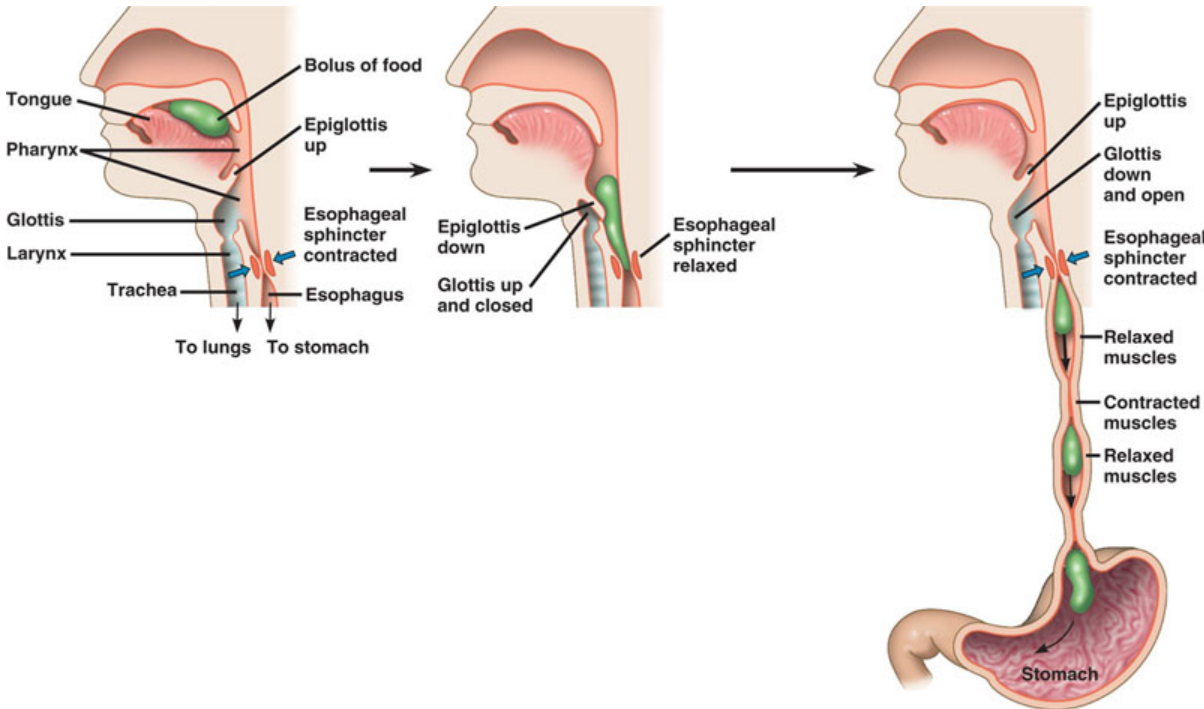
1) mechanical

2) chemical

Esophagus

- The esophagus, or gullet, is a muscular tube. It takes food from the throat [pharynx] and pushes it down through the neck, and into the stomach. It moves food by waves of muscle contraction called **peristalsis**





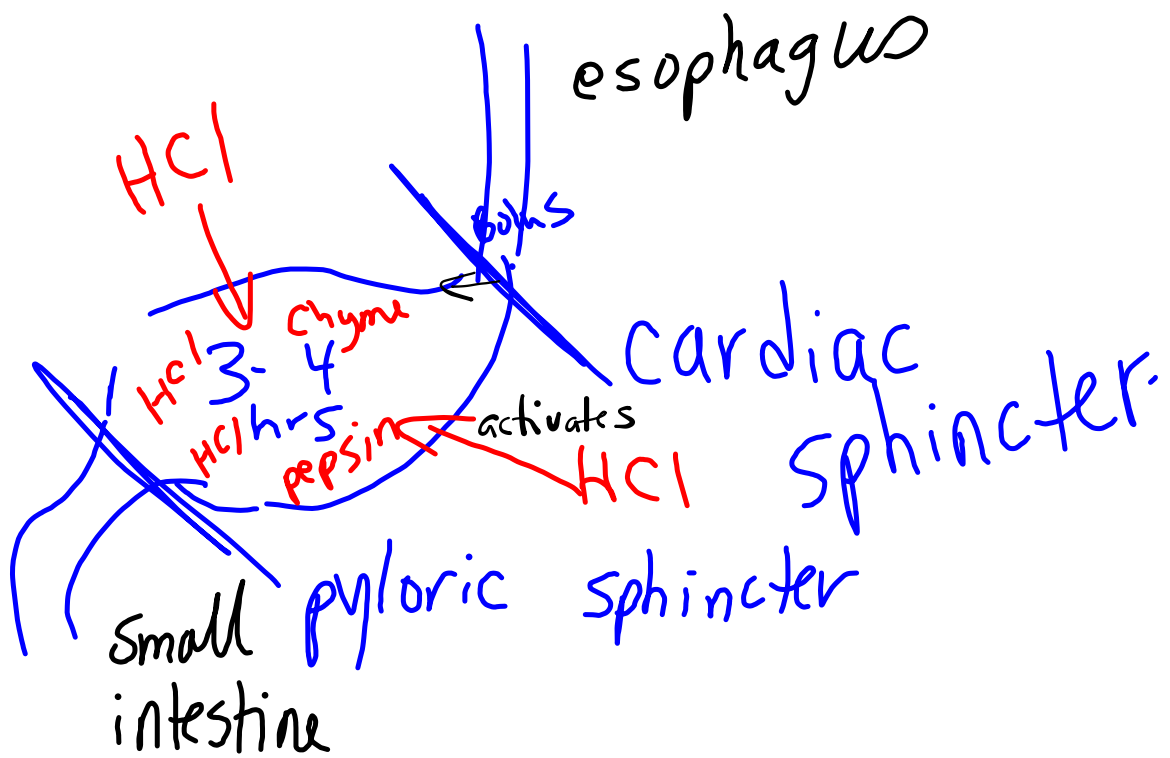
Stomach

- The stomach has thick muscles in its wall.
- These contract to mash the food into a sloppy soup.
- Also the stomach lining produces strong digestive juices.
- These attack the food in a chemical way, breaking down and dissolving its nutrients. **Protein begins chemical digestion**
- Two valves control the entrances of food into and out of the stomach
 - **Carbs/fats mechanically digested**
- Cardiac [Esophageal] Sphincter - opening between esophagus and stomach. It stops the acid in the stomach from flowing back up (reflux) into the esophagus. If there is damage or weakness to this valve, stomach contents, including hydrochloric acid, flow up into the esophagus and cause injury to the lining of the esophagus. This causes pain, commonly called "heartburn" or "acid reflux". **HCl**
- Pyloric Sphincter - opening to the small intestine
- A layer of mucus prevents the stomach from digesting itself.
- Food in the stomach is converted into a thick acidic liquid called **chyme**, which then moves into the small intestine (via peristaltic contractions)
- Some substances are absorbed directly into the blood stream from the stomach - alcohol and water.

Chemical digestion

An enzyme called pepsin is in the stomach. In the presence of HCl pepsin is activated and will start to begin digestion of the protein.

- Mechanical Digestion of protein, fats and carbohydrates is by **churning** of the stomach.



Attachments

digestionreview09.notebook