

Stomach

by Sophia



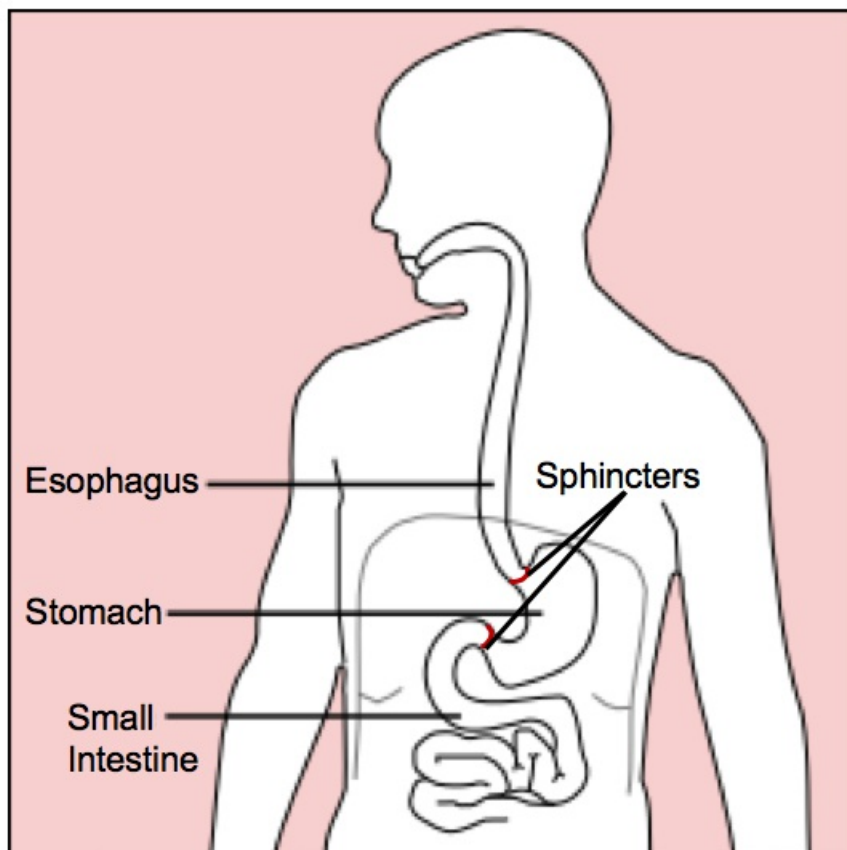
WHAT'S COVERED

In this lesson, you will learn about the structure and function of the stomach and the stomach's role in digestion. Specifically, this lesson will cover:

1. Storing Food

One of the functions of the **stomach** is to store food that will enter through the esophagus. Remember, the esophagus is the tube that connects your mouth and your throat to your stomach and carries food down to your stomach after it's been chewed and swallowed.

After food enters, the stomach will help to chemically and mechanically break it down. Afterward, it will also let food into the small intestine. It's able to control the amount of food that enters the small intestine, which ensures food isn't passed along faster than it can be processed.



You have sphincters associated with your stomach. These sphincters are circular muscles that will open and close and allow food to enter or exit the stomach.

The sphincter between the esophagus and the stomach allows food to enter from the esophagus and into the stomach, but also helps prevent chyme from backing up in the esophagus. Sometimes, if the sphincter isn't working properly, chyme will back up into the esophagus and cause what is commonly known as heartburn. Generally, the sphincter allows for the flow of food from the esophagus into the stomach, but not the other way around.

The other sphincter allows for the passage of food from the stomach to the small intestine. This sphincter will help the stomach control how much food is passed along at a time so that not too much is passed through at a time where it can't be processed efficiently.



TERM TO KNOW

Stomach

An organ of digestion and part of the alimentary canal that is located in the upper middle/left abdomen; the stomach mechanically and chemically digests food into a soupy mix called chyme that is sent to the small intestine.

2. Chemically Breaking Down Food

The stomach also works to chemically break down food, meaning chemicals help break down the food. Some of these chemicals include enzymes, such as **pepsins**.

Pepsins are digestive enzymes of the stomach that help break down the proteins in the stomach. You also have **gastric juices**, sometimes just commonly known as stomach acid. Gastric juices are the highly acidic fluid in your stomach made of hydrochloric acid, mucus, enzymes, water, and a few other substances that help break down food and kill microbes. Enzymes and gastric juices work together to help chemically break down the foods that you're eating before they're passed on to the small intestine.



TERMS TO KNOW

Pepsins

Enzymes that are responsible for digesting proteins into amino acids within the stomach.

Gastric Juice

The bath of secretions in the stomach that's used to chemically digest food; contains hydrochloric acid (HCl), pepsins and salivary lipase.

3. Mechanically Breaking Down Food

Mechanically breaking down food means your body is physically breaking down the food. The stomach is not just using chemicals to break it down; it's also physically breaking it down.

➞ **EXAMPLE** Stomach contractions are an important part of mechanical digestion. As it contracts, it's mashing up all of the food that's in there and helping to break it down into this paste-like fluid.

Chyme is a pasty substance that's formed when the stomach contractions and the gastric juices together mix

food up and break it down. As you ingest food, it's going to mix with gastric juices and those enzymes. Your stomach is going to contract, and it's going to mash all of the materials together and produce this pasty substance called chyme. Basically, chyme is a mashed-up version of the food you ate mixed with gastric juices.



BIG IDEA

Food will go down the esophagus and into the stomach. In the stomach, gastric juices and pepsins will help chemically break down the food. The stomach will contract to mechanically break it down, and then we have chyme that's formed from there. Then **peristalsis** will push the chyme towards the sphincter, and it will open to allow a little bit of chyme at a time to pass into the small intestine. From there, it'll move through the small intestine, and the nutrients will be absorbed.



TERMS TO KNOW

Chyme

The soupy mix that digested food is converted to in the stomach.

Peristalsis

Wave-like muscle contractions.



SUMMARY

This lesson has been an overview of the structure and function of the stomach. Specifically, you learned about how the stomach **stores food** and how it **chemically** and **mechanically breaks down food**.

Keep up the learning and have a great day!

Source: THIS WORK IS ADAPTED FROM SOPHIA AUTHOR AMANDA SODERLIND



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