

Anatomy and Physiology

FOR ENGLISH LANGUAGE LEARNERS

Chapter 7: The Digestive System

Accessory Organs

After food enters the small intestine, three accessory organs, the liver, the gall bladder and the pancreas send molecules to aid in digestion. The liver sends bile to the gall bladder which concentrates it, then sends it on to the small intestine. The function of bile is to break fat into small pieces. The pancreas produces enzymes which break down sugars, proteins and fats.

Homeostasis of Blood Sugar

The pancreas also makes hormones that maintain homeostasis of blood sugar. Insulin is the hormone that causes cells to take sugar out of the blood and store it. Glucagon is the hormone which causes cells to release sugar back into the blood stream.

Digestion and Absorption

Digestion is the process of breaking food into small molecules. Absorption is the process of these molecules being moved into the blood stream. Most digestion and all absorption takes place in the small intestine.

Absorption

In the absorption process food molecules pass through intestinal cells into capillaries. These capillaries transport the molecules to larger vessels and then to the liver. Some molecules are stored in the liver for later use.

The Large Intestine

The large intestine absorbs water, sodium and potassium from the food once it leaves the small intestine. What is left is known as feces. Muscle contractions in the large intestine push the feces to the rectum, the lower portion of the large intestine. There are two sphincters at the end of the rectum. The internal anal sphincter relaxes when feces push against it. The external anal sphincter, sending feces out of the body is under a person's conscious control.



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