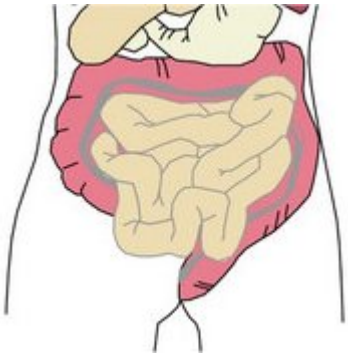
Digestion in the Small Intestine

By Jennifer Kenny



[1] The small intestine is a very important stop in the digestive process. In fact, most of digestion occurs here. The small intestine is a long, narrow, twisting tube of muscles and tissue. It can be anywhere from thirteen feet to twenty feet long, but it is only one inch in diameter. It is coiled tightly so that it can fit in the abdomen.

[2] Before entering the small intestine, the liquid result of digestion leaves the stomach. Do you know what this liquid food is called? It is called chyme. The muscles create waves and push the liquid along. These waves of muscle contraction are called **peristalsis**.

[3] The first part of the small intestine is about eight to ten inches long. It has a special name. It is called the duodenum. It is shaped like a horseshoe. Chemicals here neutralize the acid so chyme can continue in the digestive system. Digestive juices from the liver and pancreas enter here and mix with the liquid food. These juices finish breaking down fats, proteins, starches, and sugars.

[4] Now, these parts are small enough to pass through the wall of the small intestine. Most of digestion is finished at this point, but nutrients need to get to the rest of the body. This is called absorption. Absorption is what makes the small intestine such an important part of the digestive system.

[5] The small intestine has a rich blood supply so that these nutrients, which have been absorbed by the small intestine, can be carried away. The inner lining of the small intestine is also known for its millions of villi. Villi are tiny fingerlike structures. Each villus has its own blood capillary and lacteal (or lymph vessel). Amino acids and sugars pass into the blood capillary to be carried into the bloodstream. Fatty acids pass into the lacteal to get into the lymphatic system and bloodstream. Getting the nutrients to all the cells in our body gives us energy and keeps us alive.

[6] Anything that doesn't get sent to the other cells in our body heads to the large intestine. Most of digestion has just been completed.

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1. The small intestine measures anywhere from _____. (A) Thirteen to twenty feet (B) Six to thirteen feet (C) Twenty to twenty-six feet	2. The first part of the small intestine is called _____. (A) Chyme (B) Duodenum (C) Pancreas
3. The process of the small intestine taking nutrients so that they can get to the rest of the body is_____. (A) Absorption (B) Lacteal (C) Villi	4. _____ are fingerlike structures on the inner lining of the small intestine. (A) Lymph vessels (B) Capillaries (C) Villi
5. Anything that doesn't get sent to other cells in our body from the small intestine heads to the_____. (A) Stomach (B) Pancreas (C) Large intestine	6. Which is not a job of the small intestine? (A) Converting food into chyme (B) Finish breaking down fats, proteins, starches, and sugars (C) Getting nutrients ready to go to all cells in our body
7. What would happen if your small intestine was not working properly? _____ _____	