

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.

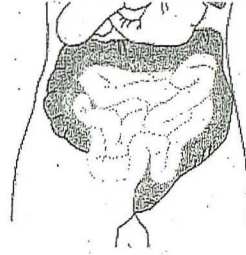
2 Before entering the small intestine, the liquid result of digestion leaves the stomach. Do you know what this liquid food is called? It is called chyme. The muscles create waves and push the liquid along. These waves of muscle contraction are called peristalsis.

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.



Digestion in the Small Intestine

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

The Large Intestine

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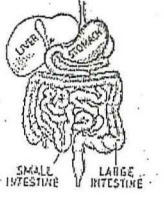
1 Digestion starts in the mouth. It then continues through the esophagus, stomach, and small intestine. Anything that hasn't already been sent to the cells in our body heads to the large intestine through the valve called the ileocaecal sphincter.

2 The large intestine is a tube of muscles and tissue that is around five feet long in adults. It is shorter than the small intestine, but wider than the small intestine. The large intestine has two main parts — the colon and the rectum.

3 Parts of food, which can't be used, go to the large intestine. Fiber from fruits, vegetables, and grains can't be digested. Bacteria break down any digested food that gets here. They then make several vitamins including vitamin K, which the body needs for clotting. The large intestine removes water, vitamins, and minerals from this undigested food and fiber. Did you know that the large intestine could absorb about 1.6 gallons of water a day? The water and mineral salts pass through intestinal walls where blood capillaries carry them away to be used by your body.

4 When the water is removed, the waste becomes more solid. It becomes the brown waste material called feces. The muscles in the large intestine make waves to move the waste along until the waste reaches the rectum, or end of the intestine. The rectum is about 6 to 8 inches long. The feces stay there until you go to the toilet and they leave the body through the anus.

5 Sometimes things go wrong in the large intestine. Diarrhea can occur when your large intestine is irritated or inflamed. Then the feces are loose and watery because food residues have moved through the large intestine too quickly to absorb the excess water. The opposite condition, of course, is constipation. This happens when the food residues moved too slowly and too much water has been absorbed. The feces become hard and dry and it may be difficult to go to the bathroom. So, do your best to keep your digestive tract healthy!



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The Large Intestine

1. Parts of food, which can't be used, go to the _____ <input type="radio"/> A Large intestine <input type="radio"/> B Mouth <input type="radio"/> C Small intestine	2. The large intestine is a tube of muscles and tissue that is around _____ feet long in adults. <input type="radio"/> A 10 <input type="radio"/> B 1 <input type="radio"/> C 5
3. Fiber from fruit can be digested. <input type="radio"/> A FALSE <input type="radio"/> B TRUE	4. _____ breaks down any digested food that gets to the large intestine. <input type="radio"/> A Bacteria <input type="radio"/> B Salts <input type="radio"/> C Water
5. The two main parts of the large intestine are the _____ <input type="radio"/> A Colon and ileocaecal sphincter <input type="radio"/> B Colon and small intestine <input type="radio"/> C Colon and rectum	6. The waste material in the large intestine is called _____ <input type="radio"/> A Feces <input type="radio"/> B Bacteria <input type="radio"/> C Anus

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