

Digestive System Health

A balanced diet is important for the maintenance of optimal health. However, without the aid of the digestive system, the foods we consume would not be converted into energy needed to support life. The digestive system is a complex series of organs and glands that work in concert to break down the foods we eat into smaller molecules that can be utilized by the body.

The process of digestion begins in the mouth, where food is partially broken down by the process of chewing and by the chemical action of carbohydrate-digesting amylase enzymes found in saliva. Once food is swallowed, it makes its way down the esophagus to the stomach.

The stomach is a sac-like organ with strong, muscular walls. In addition to holding the food, it's also a mixer and grinder. In the stomach, food is digested with the aid of gastric acid and a protein-digesting enzyme called pepsin. Gastric acid consists mainly of hydrochloric acid (HCl) and is very efficient at breaking down food material, particularly protein. If gastric acid production decreases, as is often the case with advancing age, digestion becomes less efficient. Fortunately, there are natural approaches to help support optimal digestion in the stomach. The use of Hydrochloric Acid supplement in the combination form of betaine hydrochloride and pepsin can help assist the stomach's intestine's digestive capabilities. Another great option is to choose a food enzyme supplement that contains a comprehensive blend of enzymes plus betaine HCl to support digestion that occurs in the stomach as well as in the small intestine.

After food leaves the stomach, digestion continues in the small intestine, a loosely coiled tube made up of three segments: the duodenum, jejunum and ileum. The duodenum is responsible for continuing the process of breaking down food with the aid of bile from the gallbladder, and enzymes released by the pancreas and intestinal walls. Bile aids in breaking down fats into smaller molecules. Further digestion of fats, protein and carbohydrates takes place with the help of enzymes, including lipase, trypsin and amylase. This is why a comprehensive product containing these active digestive enzymes can provide such valuable support in optimizing digestion in the small intestine.

Once food passes through the duodenum, its digestion is essentially complete and the absorption of nutrients into the bloodstream can begin. This takes place in the jejunum and ileum. During nutrient absorption, food molecules enter the bloodstream through the intestinal walls. The blood is then purified by the liver as harmful substances such as alcohol and ammonia are removed. The liver also stores fat-soluble vitamins (namely A, D, E and K) and excess glucose for future use.

By the time the food matter reaches the large intestine, or colon, it is mostly composed of indigestible material and water. Here excess water and any residual minerals are absorbed. Fiber aids this process by promoting the movement of the remaining debris through the intestine and easing the passage of waste (also known as stool). The addition of fiber supplement products can help bring added support to the cleansing of the small intestine and lower bowel. Fiber also helps to support friendly bacteria found in the alimentary canal. About 100 trillion bacteria reside in a healthy digestive system. These bacteria, or probiotics, perform several essential functions. Probiotics promote good digestion, support the immune system and produce vitamins such as vitamin K and biotin. Probiotic supplements can help replenish

bacteria in the gut that has been lost or diminished due to stress, poor diet, antibiotics, steroid use, etc. Ideally, a probiotic supplement should contain a prebiotic that acts as food for the probiotics in the gut. Altogether, the digestive process can take anywhere between 24–72 hours and is complete once stool is eliminated.