The human digestive system

The human digestive system is responsible for the intake, breakdown, absorption and finally removal of nutrients and energy needed for the functioning of the human body. It performs these duties by allowing nutrients and energy in the form of food to enter the body, and then removing the materials needed from the food, then absorbing the materials into the body, as well as sending these materials to the place that they're needed, and finally removing the leftover materials from the body. The system consists of the primary organs; the mouth, the esophagus, the stomach, the small intestine, the large intestine, the rectum, and the anus, as well as the secondary organs; the liver, the salivary glands, the gallbladder and the pancreas.

The mouth is responsible for the immediate intake of food, and is partially responsible for digestion, through the process of mastication, which is the chewing of food. Food enters the body through the mouth, where it is than chewed to soften and partially breakdown the food. Saliva from the salivary glands also aides in the preliminary breakdown of foods, because of the chemicals and enzymes contained in saliva. Once the food is sufficiently broken down, it is swallowed and brought to the next organ in the digestive system, the esophagus.

The Role of the esophagus is simply to allow the partially broken down food to travel from the mouth to the stomach. Its role in digestion is minimal, but it is still considered one of the major organs in the system. At the joining point of the esophagus and the stomach, called the cardiac sphincter, is the blocker that prevents gastric acid from exiting the stomach and damaging the mouth or the esophagus itself. When the Cardiac sphincter fails its job,

the gastric acid seeps into the esophagus, causing damage to the interior of the esophagus, as well as the painful sensation known as heartburn.

The stomach is a muscular, hollow organ in the human digestive system, and is one of the primary sites of digestion. It is filled with gastric acid, a powerful acid that breaks down food with relative ease, digesting most foods in about 4 or 5 hours. The stomach contains three glands, which are used to either aid in the digestion of food, or protection of the stomach from its own digestive materials. The three types of glands are the pyloric gland, the cardiac gland and the gastric gland. The pyloric gland is responsible for secreting gastrin, a hormone which stimulates the production of gastric acid. The gastrin activates the gastric glands, which start secreting gastric acid. The cardiac glands are the centers of mucus secretion in the stomach. This mucus is used to protect the lining of the stomach. A common problem associated with the stomach is peptic ulcers, a type of ulcer formed by a disturbance in the regulation of the hormone gastrin, which causes to much gastric acid to be produced, which causes damage to the mucus membrane and the stomach lining. After food has been digested enough, it moves out of the stomach and into the small intestine.

Another round of digestion occurs in the small intestine, even more than in the stomach. Absorption also begins to occur at this stage in the digestive system. The small intestine is broken down into three parts, the duodenum, the jejunum, and the ileum. The duodenum is the first part of the small intestine, and it is responsible for most of the food digested in the small intestine. The duodenum also regulates the rate of emptying of the stomach via hormonal pathways. The next part of the small intestine is the jejunum,

which is the longest portion of the small intestine, but it is also responsible for very little digestion, but is primarily responsible for the first round of absorption, where it takes most of the nutrients out of the food matter. The final portion of the small intestine is the ileum, which is where the final bit of absorption in the small intestine takes place. Once the now digested material finishes its path through the small intestine, it enters the large intestine.

The large intestines primary purpose is to remove most of the water from the now indigestible mass, and move it to the anus, where it will be removed from the body. The large intestine is made up of the cecum, the rectum and the colon. The cecum is not very large in humans, and is barely existent at all. It serves a much higher purpose in herbivores, where it digests tough leaves with the help of symbiotic bacteria. In humans this is not necessary, so it has become very unimportant. The colon is where the water is taken from the digested food matter. The rectum is where the waste is temporarily stored before it is excreted from the body, which takes place in the anus.

The secondary organs in the digestive system are also vital to the survival of a human, but they take a more passive role in digestion. The liver plays a major role in digestion and has a number of functions, including glycogen storage, decomposition of red blood cells, plasma protein synthesis, hormone production, and detoxification. It lies below the diaphragm in the thoracic region of the abdomen. It produces some of the system’s bile the rest is produced by the gallbladder, an alkaline compound which aids in digestion. It also performs and regulates a wide variety of high-volume biochemical reactions requiring highly specialized tissues, including the

synthesis and breakdown of small and complex molecules, many of which are necessary for normal vital functions.