Anatomy & Function of the Esophagus, Stomach & Intestines in Dogs

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Esophagus

The esophagus is a small hose-like tube, which connects the mouth to the stomach. As it leaves the mouth, the esophagus follows a straight path through the neck and chest, passing near the heart through the diaphragm muscle and finally entering the stomach. The walls of the esophagus are composed of muscles, which move in wave-like contractions to push food into the stomach. When there is no food in the esophagus, the walls of the esophagus collapse in on each other, making a closed space. Surgery on the esophagus is always difficult because of its location within the chest and its slow rate of healing.

Stomach

The dog's stomach is a sac-like structure designed to store large volumes of food and continue the digestive process. The esophagus carries food to the stomach, where it enters via a valve-like structure called the cardiac sphincter. On the interior surface of the stomach is a series of folds called gastric folds. These folds function to help grind and digest food. The inner stomach lining secretes acids and enzymes to break down food. Once the initial stomach digestive process is complete, the partially digested food exits the stomach through the pyloric sphincter area and then enters the duodenum (the first segment of the small intestine). Once eaten, most food leaves the stomach within twelve hours after entering.

Small intestine

The small intestine is a tube-like structure, which extends between the stomach and large intestine. It is the longest portion of the intestinal tract and is about two and a half times the animal's total body length. An animal twenty-four inches long would have about sixty inches of small intestine. The small intestine in the dog has three parts. The first portion, which attaches to the stomach, is the duodenum. In a forty-pound dog it is roughly ten inches long. The middle (and longest) portion is called the jejunum. The shortest part is the ileum, which connects to the large intestine. The duodenum attaches to the stomach and is relatively short. It does, however, have very important functions. The gallbladder and pancreas connect to the duodenum by the bile and pancreatic ducts respectively. Enzymes and other secretions that are important for digestion are produced by the liver and pancreas and pass through these ducts to mix with the food in the duodenum.

The jejunum is the longest area of the small intestine and is rich in small, finger-like projections called villi. Villi protrude inward into the food contents and provide a large surface area to absorb nutrients. Intestinal contents of the jejunum empty into the ileum and from there pass into the large intestine. Diseases of the small intestine are usually not confined to just one area and are therefore simply discussed as small intestinal disorders.

Large intestine

The large intestine of the dog basically connects the small intestine to the anus. The large intestine is about sixteen inches in length in a forty-pound dog and is larger in diameter than the small intestine. Its primary function is to absorb water from feces as needed, thus keeping the hydration level of the body constant. Its other function is to store fecal matter awaiting passage from the body. The large intestine has several distinct parts. The cecum is a small, finger-like projection near the junction with the small intestine. Its true function is unknown. The colon is the longest portion of the large intestine and terminates just inside the anus to the final portion of the large intestine called the rectum. The terms 'colon' and 'large intestine' are commonly used interchangeably.