

Gastrointestinal Anatomy



PLAY PICMONIC

Mouth

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The mouth is the starting point of the gastrointestinal process. The mouth is an oval-shaped cavity inside the skull. It performs two primary functions, which are eating and speaking. The mouth is comprised of several parts, including the lips, vestibule, oral cavity, gums, teeth, hard and soft palate, tongue, and three pairs of salivary glands.

FOREGUT

Pharynx (Throat)

Pharaoh

The pharynx connects the mouth and the esophagus. The pharynx is divided into three regions based on location: the nasopharynx, oropharynx, and laryngopharynx (hypopharynx). The nasopharynx and larynx are close to keep food going in the right direction in the swallowing process and are controlled by cranial nerves IX and X.

Esophagus

Sarcophagus

The esophagus, which contains longitudinal and circular muscles, sends food to the stomach with the help of wave-like contractions called peristalsis. The esophagus is divided into three parts: the upper third is mostly made up of skeletal (striated) muscle, the middle third is a combination of skeletal (striated) and smooth muscle, and the lower third is primarily smooth muscle.

Stomach

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When food enters the stomach, it is stored and broken down by acids and enzymes. The stomach's ability to break down food mechanically is due to its three muscular layers: an inner oblique layer, a middle circular layer, and an external longitudinal layer. The chemical breakdown is supported by gastric glands, secreted mostly by the parietal cells, chief cells, G-cells, foveolar cells, and mucous neck cells.

MIDGUT

Duodenum

[Dodo-denim](#)

The duodenum is the first part of the small intestine and connects the stomach to the jejunum. The duodenum is often referred to as a C-shaped or horseshoe-shaped structure. The name is inspired by the Latin term "12 fingers," which represents its length. It has 4 segments: the duodenal bulb, the second or descending segment, the third segment, and the fourth segment. The distal duodenum separates the transition between foregut and midgut.

Jejunum

[Judge-judy](#)

The jejunum is the middle portion of the small intestine, connecting the duodenum and ileum. The jejunum and ileum derive from the midgut, whereas the duodenum derives from the foregut. The Ligament of Trietz is a significant landmark for the duodenum that binds the duodenal-jejunal flexure to the posterior wall.

Ileum

[Alien](#)

The ileum is the final and longest section of the small intestine. In the ileum, any remaining nutrients are absorbed after passing through the duodenum and jejunum. It specializes in absorbing vitamin B12 and bile acid, which are later recycled.

Hindgut

Colon

[Colon](#)

The colon is divided into four parts: the ascending colon (starts the colon and is located at the right colon), transverse colon (follows the ascending colon and hepatic flexure), descending colon (follows the transverse colon and splenic flexure), and sigmoid colon (the end of the colon and continues to connect to the rectum). The transition between midgut and hindgut is at the distal 1/3 of the transverse colon. The rest of the colon derives from the hindgut.

Rectum

[Rectum-rectangle](#)

The feces movement from the colon will end in the rectum. Stretch receptors in the rectum begin the defecation process.

Anus

[Uranus-anus](#)

The anus is the end of the journey through the gastrointestinal tract. It has two anal sphincters: reflexive relaxation of the internal anal sphincter smooth muscle and conscious relaxation of the external anal sphincter skeletal muscle.