

## Notes: The Alimentary Canal

The alimentary canal is a hollow, muscular tube that runs through the ventral body cavity from the mouth at one end to the anus at the other end. The alimentary canal is also called the **gastrointestinal tract**. (You may have heard of someone having upper GI tests or lower GI tests. Those involve examinations of the alimentary canal.)

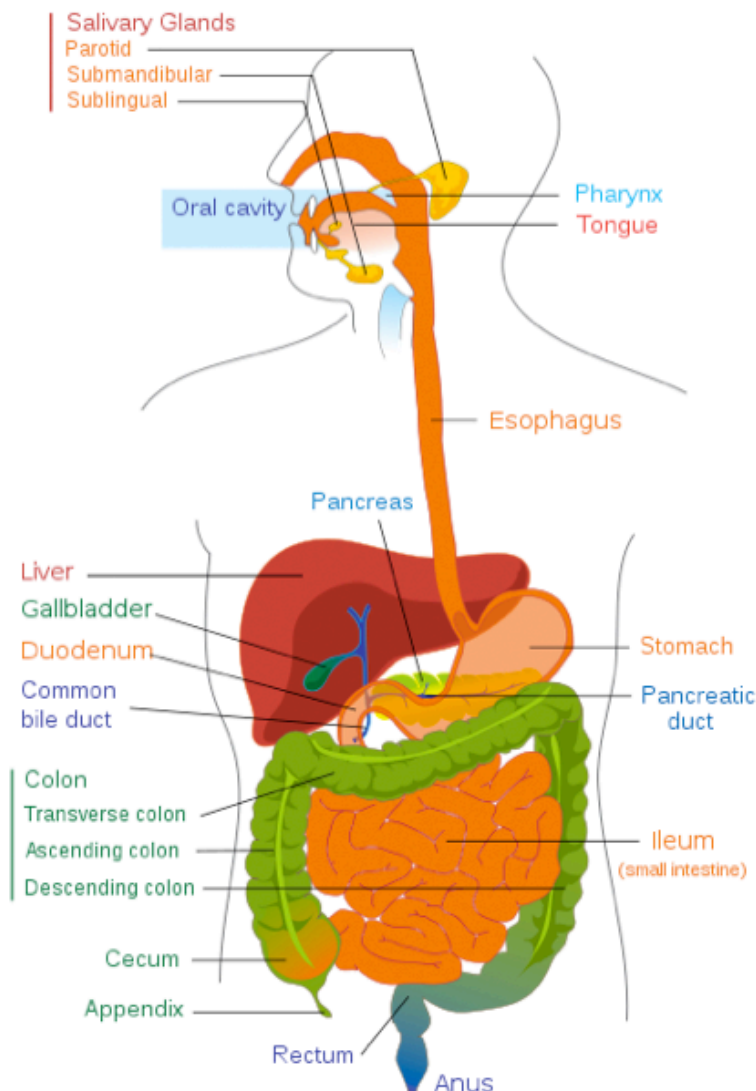
The **length of the alimentary canal** is about five times a person's height. (For example, the alimentary canal of a person who is 6 feet tall would be approximately 30 feet long!)

Each organ has a specific role in the mechanical and/or chemical digestion of food. While studying the organs of the digestive system, take note of the role that each organ plays in the **digestion of carbohydrates, lipids and/or proteins**.

The organs of the digestion system can be divided into two groups:

1. organs that make up the alimentary canal
2. accessory organs.

## Organs of the Alimentary Canal



Source:  
[http://commons.wikimedia.org/wiki/File:Digestive\\_system\\_diagram\\_edit.svg](http://commons.wikimedia.org/wiki/File:Digestive_system_diagram_edit.svg)

Food enters the digestive tract through the **mouth**. **Teeth** chew the food and saliva secreted by the **salivary glands** is mixed with the food.

The **pharynx**, commonly called the throat, receives the food from the mouth. The walls of the pharynx contain two layers of skeletal muscle which constricts to push the food into the esophagus. This process of pushing the food through the alimentary canal is called **peristalsis**.

The esophagus is a passageway that moves food to the stomach. The

walls of the alimentary canal from the esophagus to the large intestine are made of the same **four basic tissue layers**:

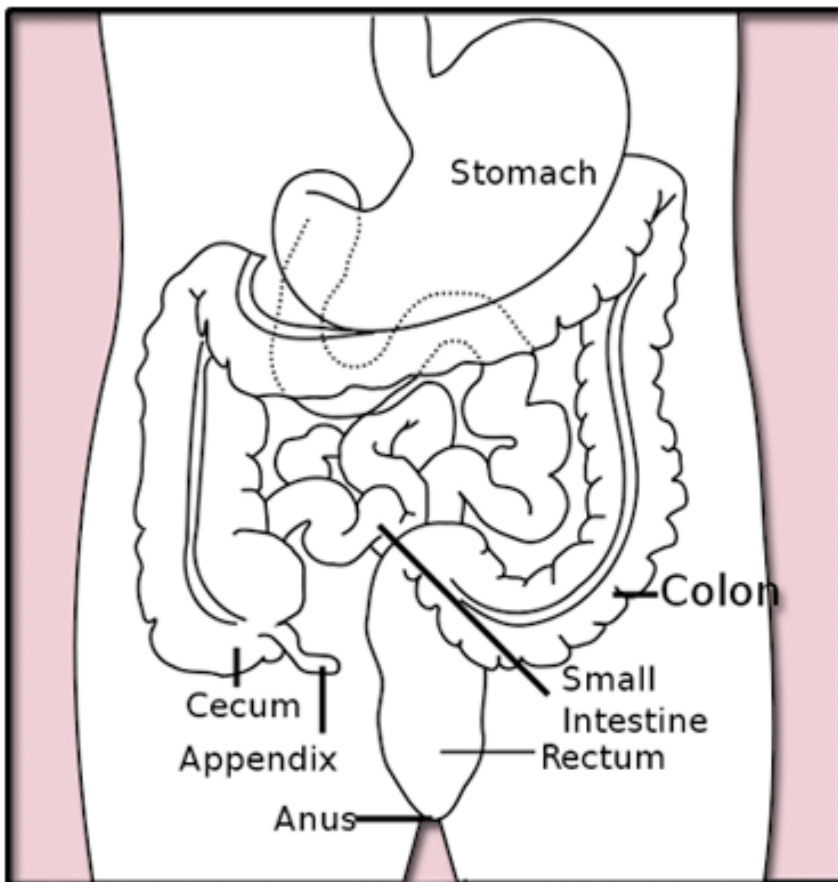
- a. mucosa-inner layer that lines cavity of organs.
- b. Submucosa-beneath mucosa, contains blood vessels, nerves and lymph vessels
- c. Muscularis external- muscular layer
- d. Serosa- outermost layer which produces serous fluid and lines abdominopelvic cavity

While many people think that the stomach is located on the anterior surface of the body near the umbilicus (belly button), it is actually located on the left side of the abdominal cavity tucked under the liver and diaphragm.

The muscular layers of the stomach mix and churn the food. **Pepsin**, an enzyme that breaks down protein, and **hydrochloric acid** which activates the enzymes are secreted by specialized cells of the stomach.

After food has been processed in the stomach, it no longer resembles the hamburger, apple or salad that you ate for lunch. The digested food looks like heavy cream and is called **chyme**. The chyme moves from the stomach to the small intestine.

The alimentary canal continues through the small and large intestine.



Source:  
[http://commons.wikimedia.org/wiki/File:Stomach\\_colon\\_rectum\\_diagram.svg](http://commons.wikimedia.org/wiki/File:Stomach_colon_rectum_diagram.svg)