Digestive Process Flowchart

Below is a summary of the digestive system and processes covered in this course. Use this chart to remind yourself of the main functions performed in each body part during digestion.

BRAIN

Cephalic Phase initated. Parasympathetic causes:

1. Salivary glands to produce saliva.
2. Esophageal sphincter to tighten.
3. Stomach to secrete mucus coating.
4. Stomach to produce enzymes.
5. Pancreas to release insulin.
6. Thoughts to turn to food.

MOUTH

Mastication Phase initiated. Food is chewed and broken down by lipase and amylase in saliva.

ESOPHAGUS

Peristaltic contraction moves chewed food downward to esophageal sphincter, which opens to allow food into the stomach.

STOMACH

Fills with acid to kill bacteria and continues breaking down food. Produces:

- *Mucoproteins*, to protect stomach wall from acid
- *Gastrin*, to stimulate stomach cells to produce acid
- *Pepsinogen*, which becomes pepsin when mixed with stomach acid, to break down proteins
- *Lipase*, to break down triglycerides
- *Ghrelin* production is inhibited once stomach begins to stretch and blood glucose levels rise

SMALL INTESTINE

Gastric emptying of stomach contents into the small intestine. Duodenum releases:

- *Secretin*, to activate the pancreas to neutralize stomach acids
- *CCK*, to release digestive enzymes from the pancreas
- *GIP*, to inhibit production of gastrin in the stomach and increase the uptake of glucose

Absorption of nutrients by villi.