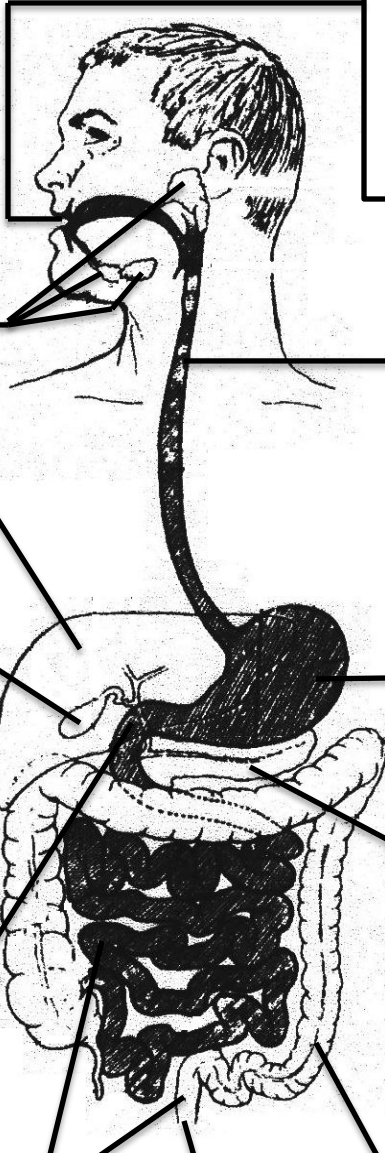


Chapter 6-Nutrition: Human digestive system



**Salivary glands**  
 -produces saliva  
 -saliva contains:  
 1. **water**: gives moisture to food  
 2. **mucus**: attaches small pieces of food to form bolus  
 3. **salivary amylase**: digests starch  
 Example:  
**Salivary amylase**  
 Starch → maltose

**Mouth**  
 -teeth breaks food into smaller pieces. This increases surface area for salivary amylase reaction  
 -contains saliva from salivary glands  
 -tongue:  
 1. tastes food  
 2. pushes food towards teeth while eating  
 3. rolls food pieces into bolus (ball)

**Oesophagus**  
 -moves bolus towards stomach through peristalsis  
 -peristalsis: rhythmic contraction and relaxation of the alimentary canal.  
 -no enzymes

**Liver**  
 -produces bile  
 -bile stored in gall bladder

**Gall bladder**  
 -stores bile (alkaline)  
 -no enzymes  
 -purpose of bile:  
 1. emulsifies lipid into lipid droplets so that the surface area is increased. This increases lipase digestion.  
 2. provides an optimum pH in duodenum so that pancreatic enzymes can work efficiently.

**Stomach**  
 -produces gastric juice (acidic)  
 -gastric juice contains:  
 1. **Hydrochloric acid**:  
 i) to kill microorganisms in food  
 ii) to set an optimum pH for stomach enzymes  
 iii) to stop the activity of salivary amylase  
 2. **Pepsin**:  
 Protein → Polypeptides  
 3. **Rennin**:  
 Caseinogen → casein  
 (soluble milk protein) (insoluble milk protein)

**Duodenum**  
 -part of small intestine  
 -the region after stomach  
 -does not produce enzymes  
 -place where bile and pancreatic enzymes meet.

**Ileum**  
 -part of small intestine  
 -absorbs digested food  
 -produces intestinal juice (alkaline)  
 -juice contains **SMEL** enzymes  
**Sucrase**  
 sucrose → glucose + fructose  
**Maltase**  
 maltose → glucose  
**Erepsin**  
 peptides → amino acids  
**Lactase**  
 lactose → glucose + galactose

**Anus**  
 -expels faeces

**Rectum**  
 -part of large intestine  
 -stores faeces temporarily  
 -no enzymes

**Colon**  
 -part of large intestine  
 -no enzymes  
 -absorbs water from chyme

**Pancrease**  
 -produces pancreatic juice (alkaline)  
 -juice contains **LAT** (Lipase, Amylase, Trypsin) enzymes:  
**Lipase**  
 1. fats/lipids → fatty acids + glycerol  
**Amylase**  
 2. starch → maltose  
**Trypsin**  
 3. Polypeptides → peptides