

Mechanism of Digestion

1 Oral Cavity



- Food taken through mouth
- Teeth break down the food
- Saliva = Amylase + Lysozyme

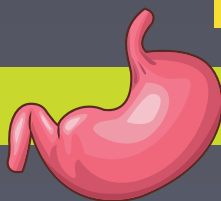
30% hydrolysis of starch

Antibacterial agent: Prevents infection

- **Chewing** breaks food into small particles
- **Saliva** moistens & lubricates food forming bolus
- Bolus is swallowed & moves through **oesophagus** by peristalsis

Starch + Salivary amylase → Maltose

2 Stomach

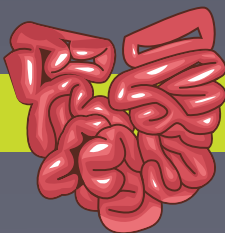


- Gastric glands in mucosa lining:
 - » **Mucus neck cells** – Mucus
 - » **Peptic cells** – Pepsinogen
 - » **Parietal or oxyntic cells** – HCl
- Food mixes with gastric juices by churning movement
- **Chyme** is this semi-digested, acidic and pulpy food

Gastric juices & enzymes

- **HCl** provides the acidic pH
- **Pepsinogen** (proenzyme) is converted into Pepsin by HCl
- **Pepsin** converts protein into peptones & proteoses
- **Prorenin** (proenzyme) is converted to Renin by HCl
- **Casein** (milk protein) is converted to peptides by Renin

3 Small Intestine

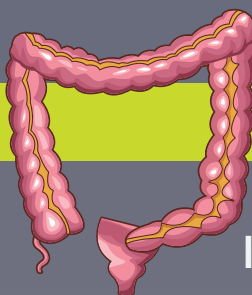


- Consisted of **duodenum**, **jejunum**, and **ileum**
- **Chyme** is further mixed & churned here by peristalsis
- Pancreas & liver secrete enzymes that help breakdown & absorb food into the blood
- Absorbed nutrients are **assimilated** upon reaching target

Digestive juices & enzymes

- **Pancreatic juices** breakdown carbohydrates & proteins
- **Intestinal juices** breakdown carbohydrates & proteins
- **Bile** converts fat globules into fat droplets by emulsification
- **Pancreatic lipase** converts triglycerides into fatty acids & glycerol

4 Large Intestine



- Significantly less digestive activities
- Bacteria act on leftover food particles
- Absorption of minerals, water & certain drugs occur

- Secretes mucus that helps in lubrication & holding up waste particles
- Undigested & unabsorbed faecal matter is passed to rectum
- Faeces is egested through anus

Parasites Infecting Digestive System

Tapeworm

Hookworm

Pinworm

Roundworm

Threadworm

Virus

Bacteria

Digestive System Disorders

Jaundice

Nausea & Vomiting

Blood in stool

Peptic ulcers

Diarrhoea

Gallstones