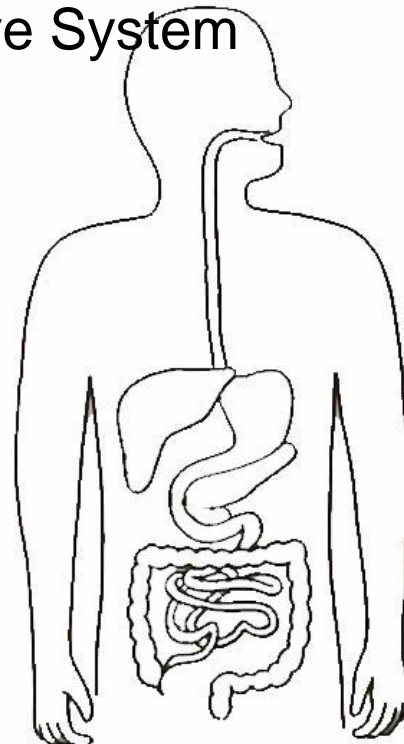


The Digestive System

6 Steps of the Digestive System

1. Ingestion
2. Propulsion
3. Mechanical breakdown
4. Digestion
5. Absorption
6. Defecation

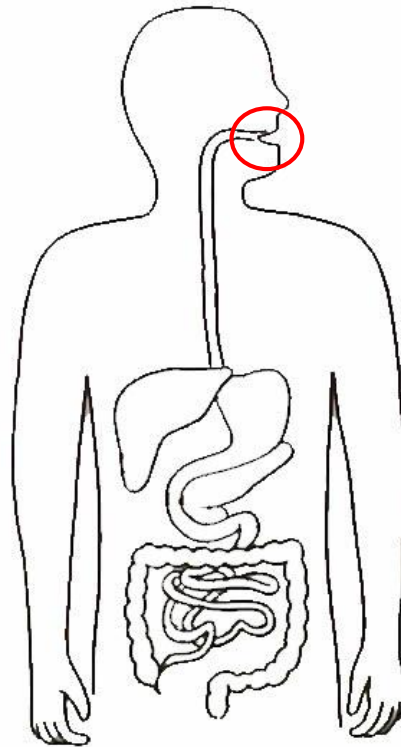


Digestive System Step 1: Ingestion

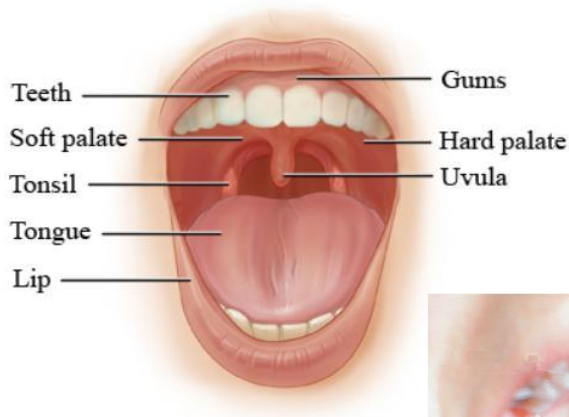
The Mouth

Mechanical breakdown:
teeth and masseter

Chemical breakdown:
saliva



The Mouth



Anatomy of a Tooth

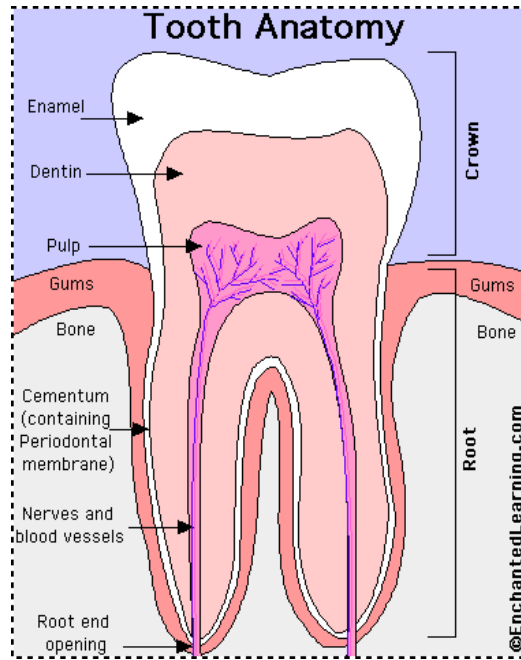


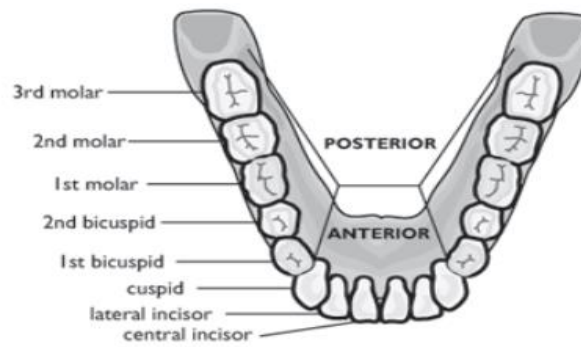
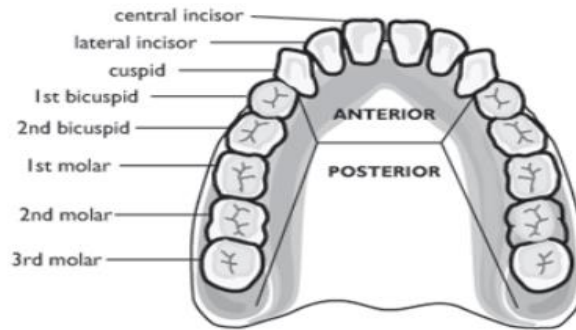
Figure 6 – Names of the anterior and posterior teeth

Incisors

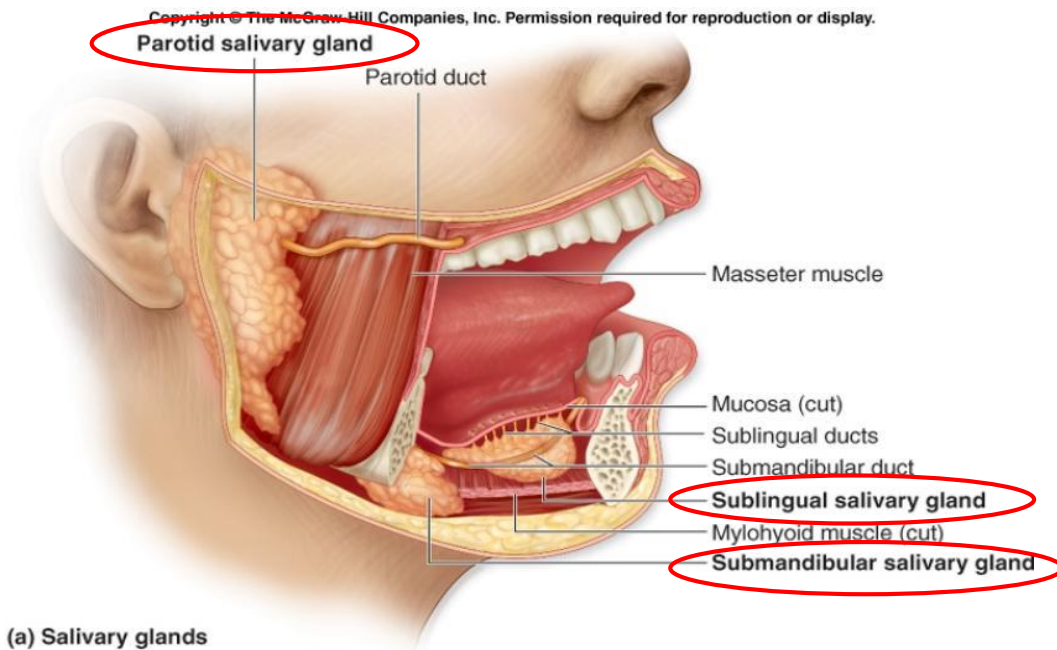
Cuspid (canine)

Bicuspids

Molars



Salivary Glands



Digestive System

The Alimentary Canal AKA “GI tract”

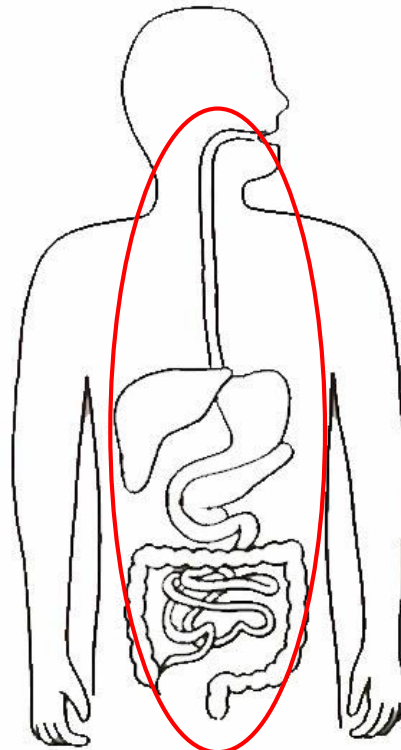
Mechanical breakdown:

Segmentation and stomach churning

Chemical breakdown:

Enzymes secreted

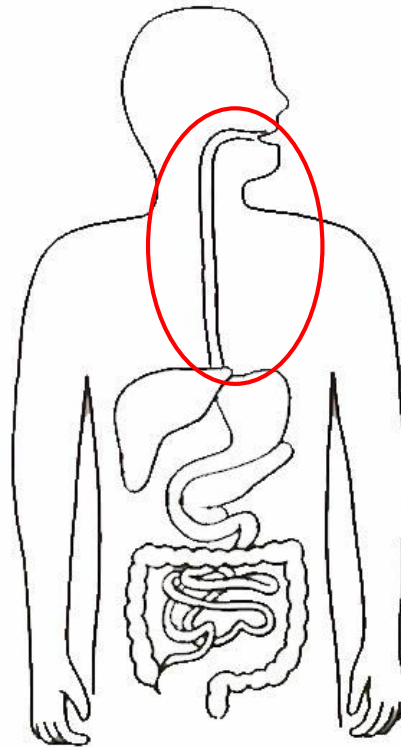
Nutrient absorption



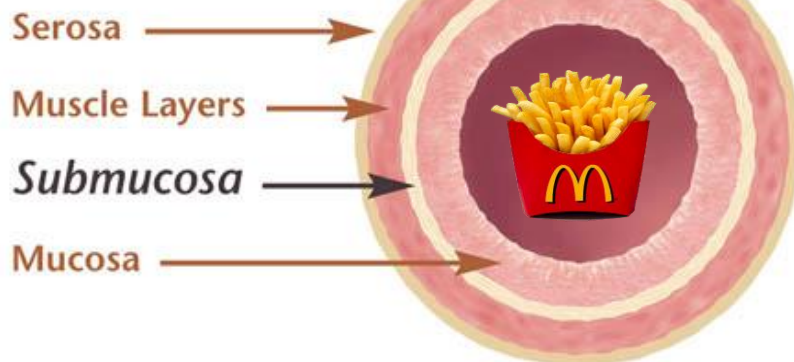
Digestive System Step 2: Propulsion

The Larynx and Esophagus

Mechanical breakdown:
Segmentation

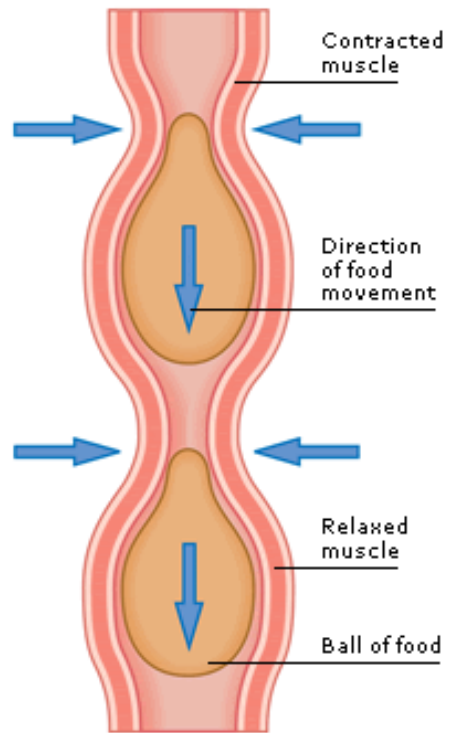


Layers of the Alimentary Canal



Contractions mix food
with digestive juices

Peristalsis - pushes food
down the tube

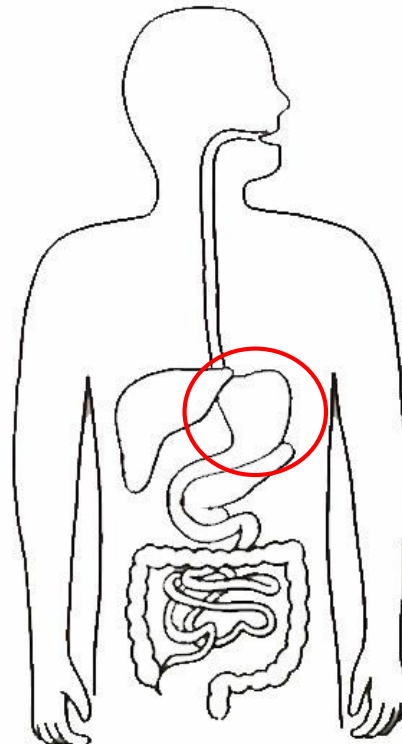


Digestive System Step 3/4: Mechanical Breakdown and Digestion

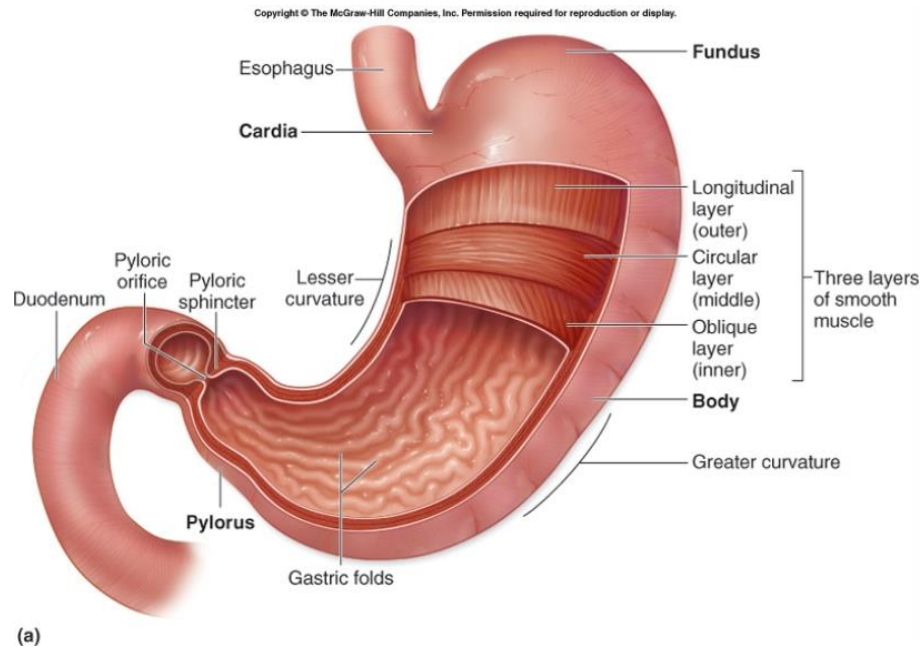
The Stomach

Mechanical breakdown:
Stomach churning

Chemical breakdown:
Enzymes and acids
secreted



STOMACH MUSCLES: Longitudinal, Circular, Oblique

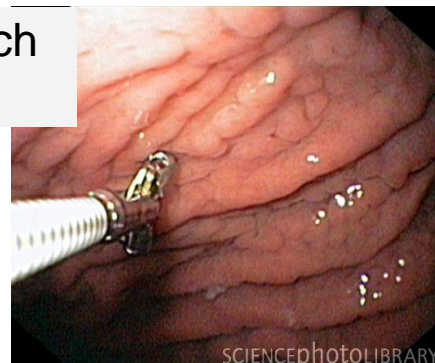


Stomach Lining

Gastric Juices contain acids that break down food - secreted by gastric glands

PEPSIN - most important digestive enzyme for breaking down food

Mucus prevents stomach from digesting itself



Chyme - paste after food has been broken down

Rugae - folds within stomach

Gastric Pits contain glands to make juices



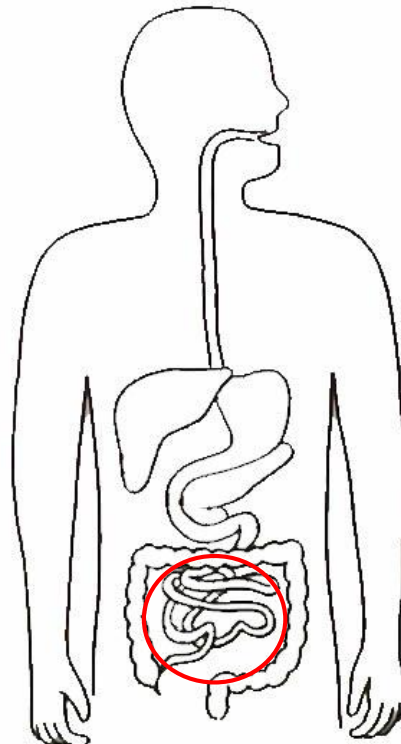
Digestive System
Step 3/4/5: Mechanical
Breakdown, Digestion
and Absorption

The Small Intestine

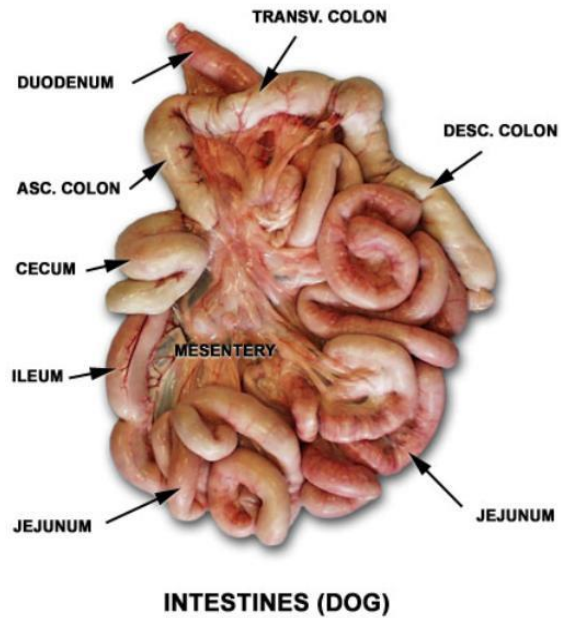
Mechanical breakdown:
 Segmentation

Chemical breakdown:
 Enzymes and acids
 secreted

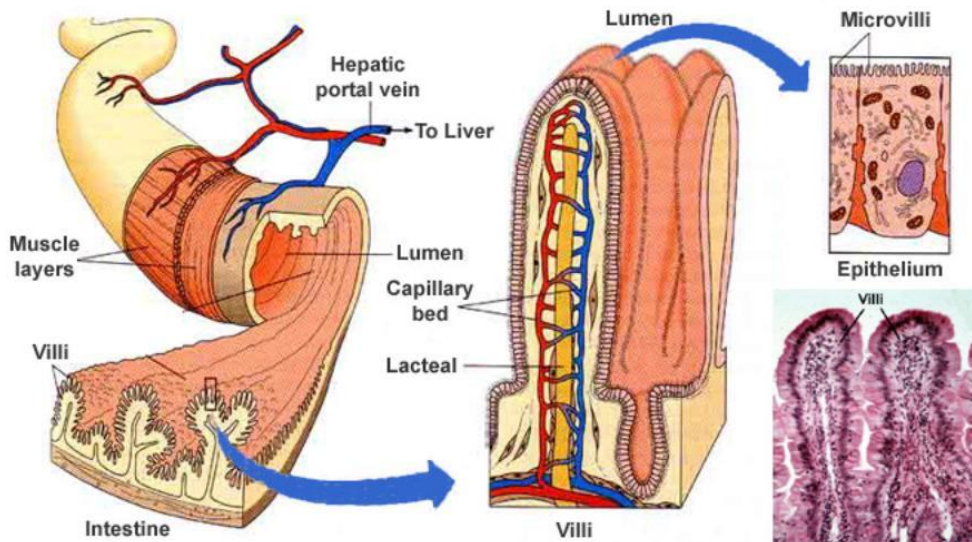
Nutrient Absorption



Small Intestine



Intestinal villi - increase surface area to absorb nutrients, connect to vessels

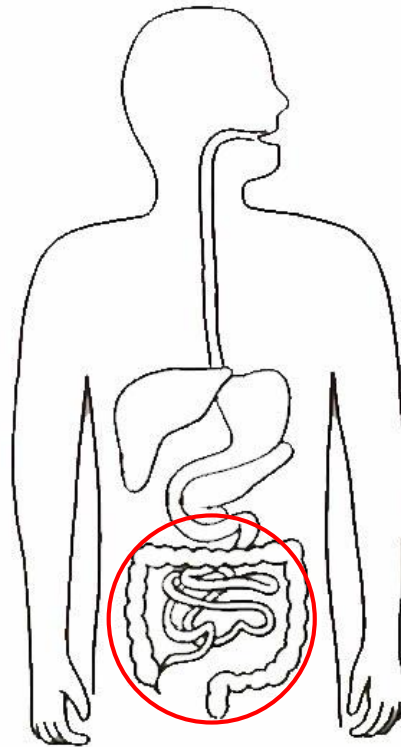


Digestive System Step 5/6: Absorption and Defecation

The Large Intestine and Rectum

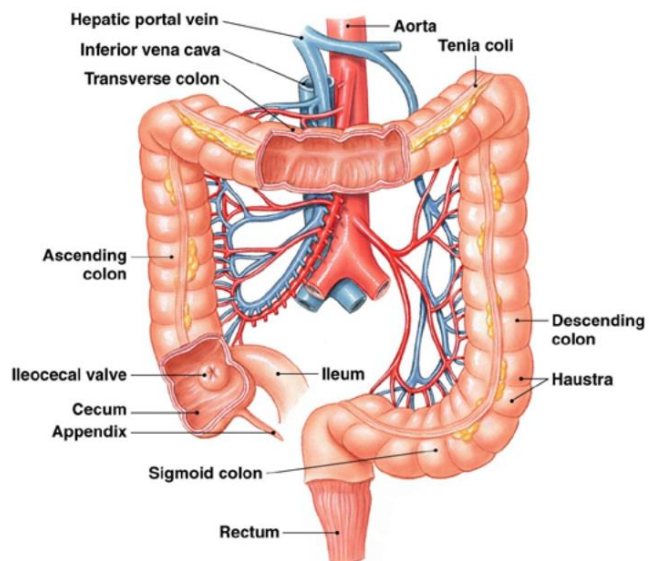
Water Absorption

Defecation



Large Intestine

Colon (4 parts)



Copyright © 2007 Pearson Education, Inc., publishing as Benjamin Cummings. Fig. 21-31

Function of Large Intestine

Secretes mucus, reabsorbs water, contains bacteria to aid in digestion (intestinal flora)

Mass Movements (defecation) - removes undigested food

The main job is

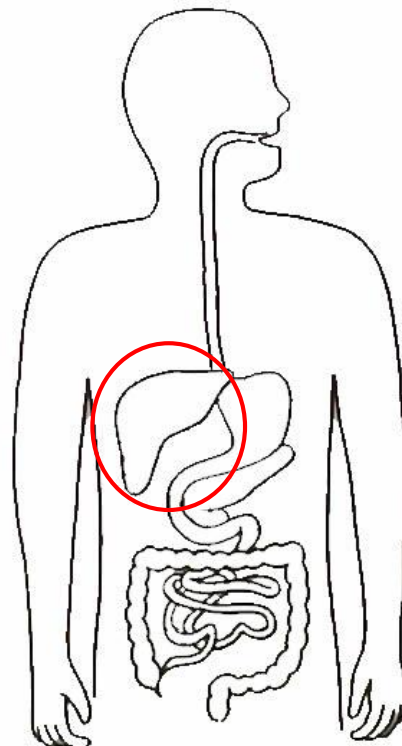
**WATER
REABSORPTION and
WASTE REMOVAL**

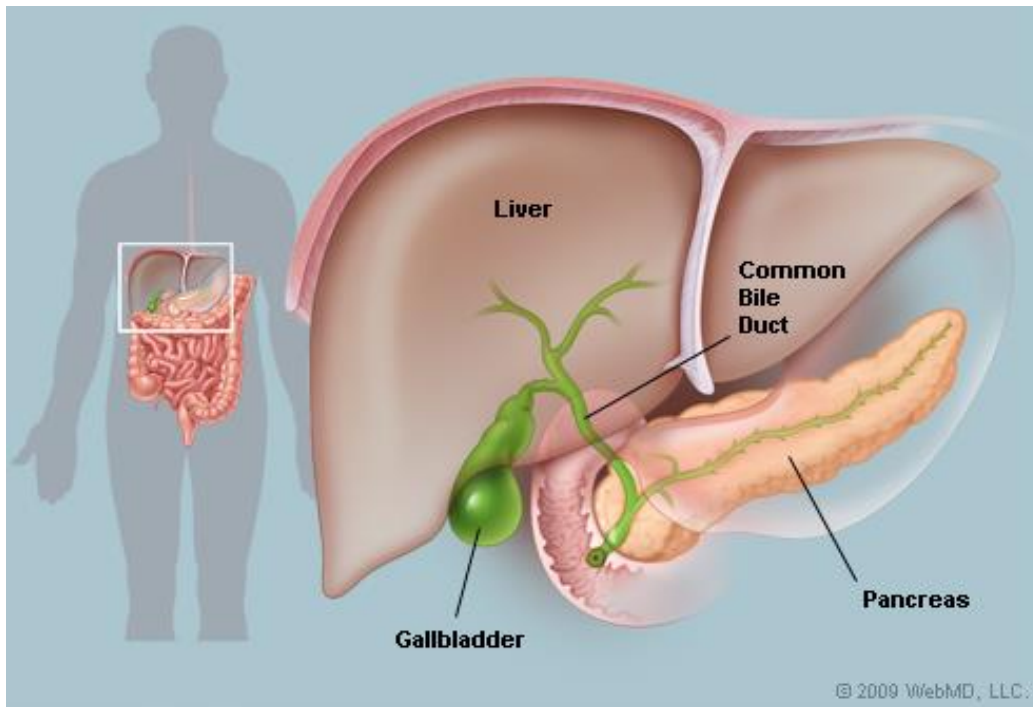


Digestive System

Assistive Organs

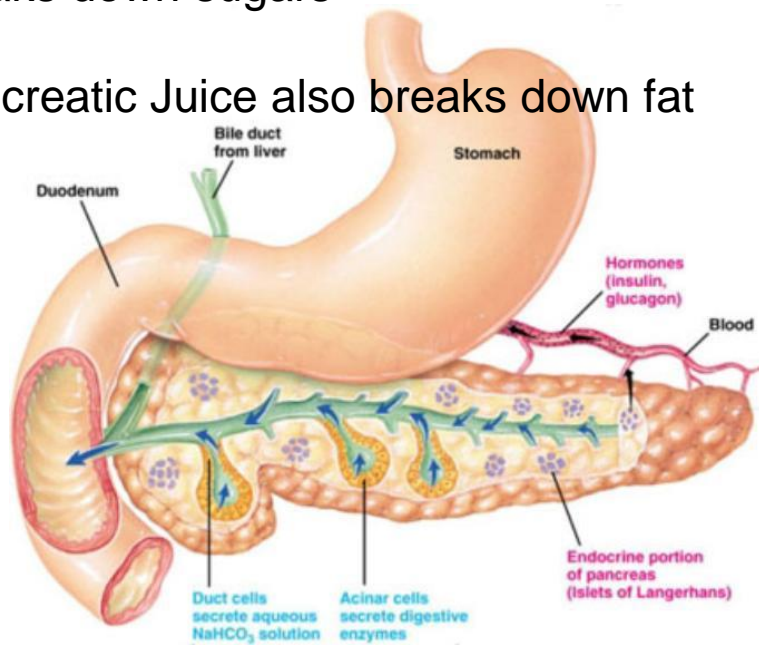
**The Liver, Gallbladder
and Pancreas**





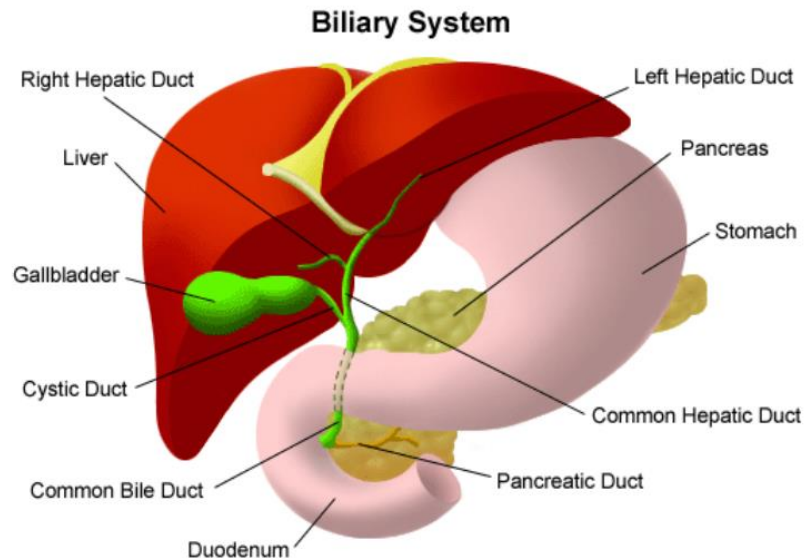
PANCREAS - secretes insulin which breaks down sugars

Pancreatic Juice also breaks down fat



Liver

1 large right lobe | 1 smaller left lobe

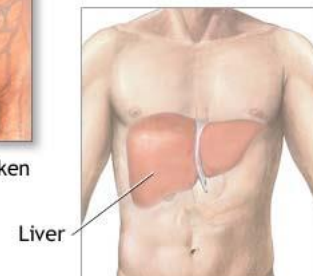


Liver Functions

1. blood glucose levels
2. breakdown of lipids and fats
3. protein metabolism
4. stores vitamins
5. destroys damaged RBCs
6. removes toxins
7. **secretes bile**



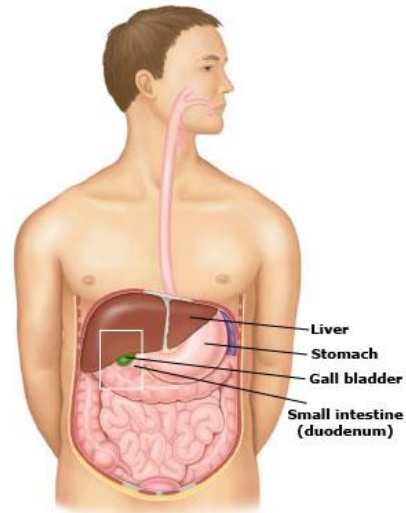
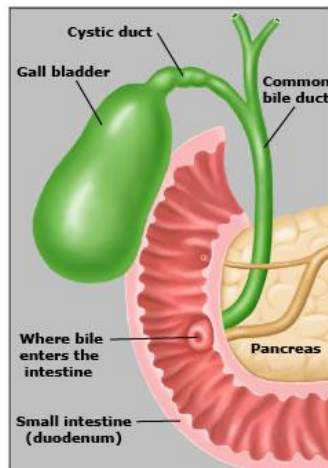
Blood sample taken



ADAM.

Gall Bladder - under liver

cystic duct --> common bile duct
stores bile, digests fat










You and Poo



[How to Make Fake Poop...](#)

Bristol Stool Chart

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on the surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces. Entirely liquid

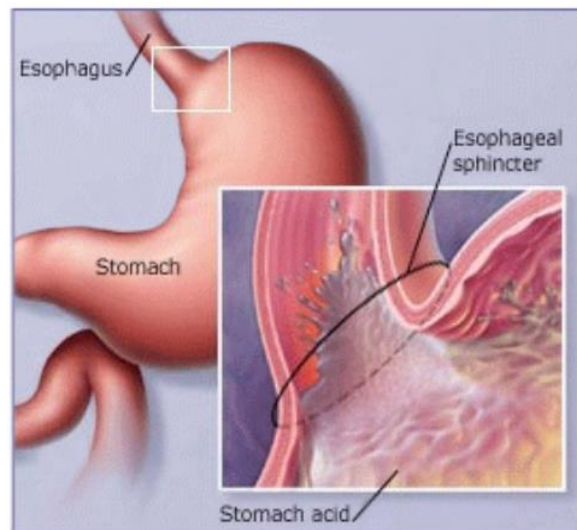
Types 1–2 indicate [constipation](#), with 3 and 4 being the ideal stools (especially the latter), as they are easy to [defecate](#) while not containing any excess liquid, and 5, 6 and 7 tending towards [diarrhoea](#).

Source: wiki

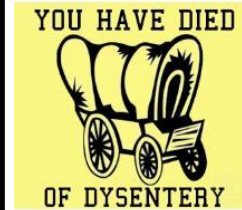
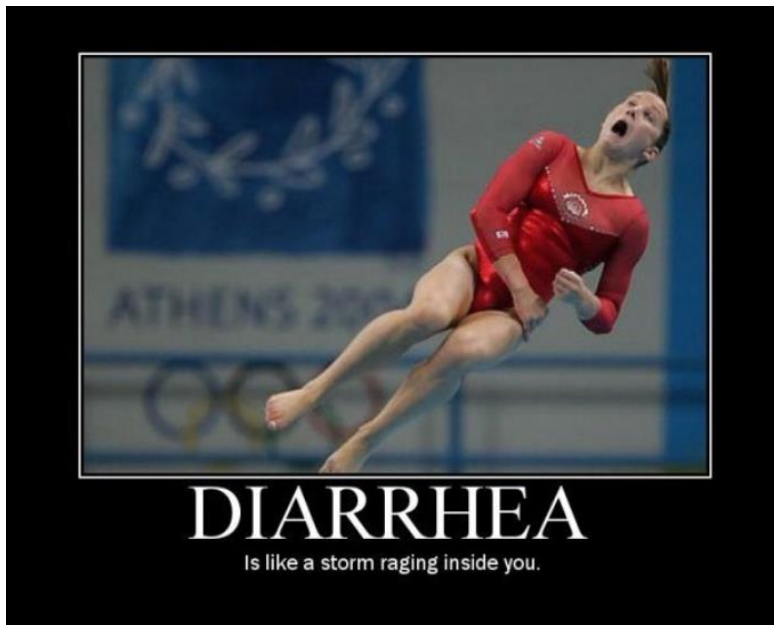
Disorders of the Digestive System

GERD

Gastroesophageal
reflux disease



Dysentery or Diarrhea



IBS - Irritable Bowel Syndrome

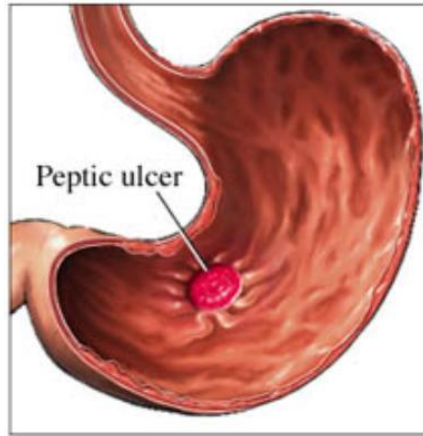
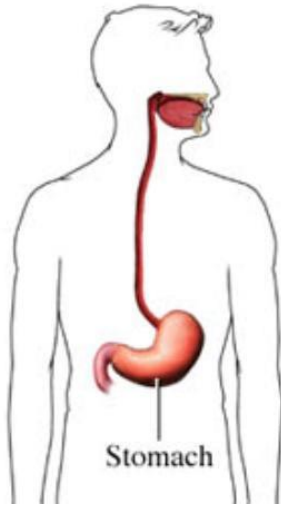
The muscles in the bowel wall may contract too forcefully or too weakly, too slowly or rapidly at certain times.



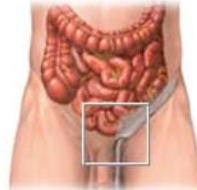
Bristol Stool Chart

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STOMACH ULCERS

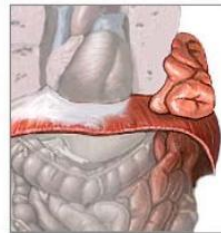


Intestine passes into the scrotum or groin



Hernia

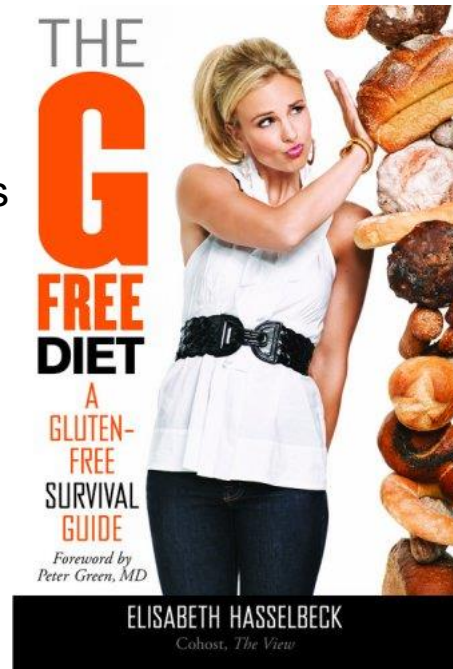
intestines
poke through
abdominal
muscles



Intestine protruding through hole in diaphragm

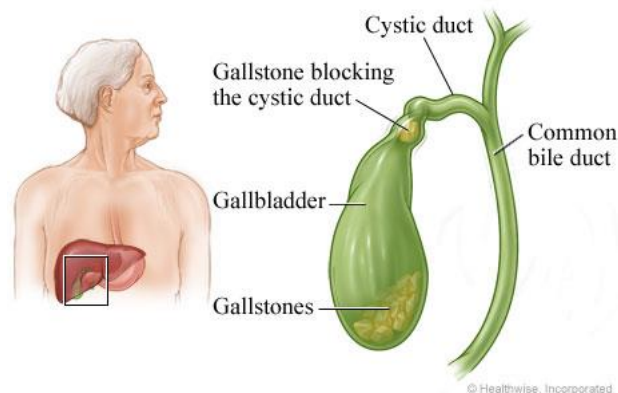
When people with celiac disease eat foods or use products containing gluten, their immune system responds by damaging or destroying villi

Without healthy villi, a person becomes malnourished, no matter how much food one eats.



Gallstones (Cholelithiasis)

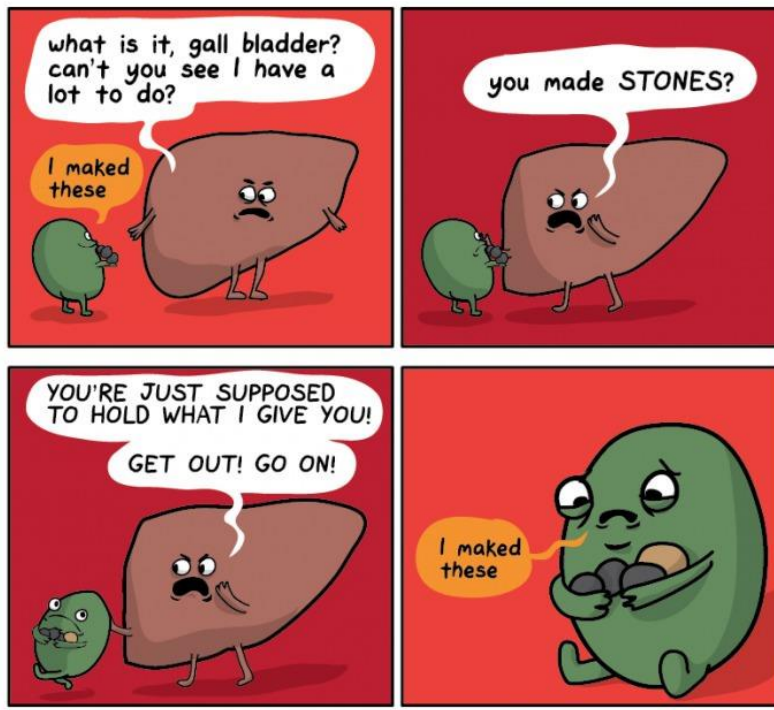
Gallstones are made from cholesterol and other things found in the bile. They can be smaller than a grain of sand or as large as a golf ball.



© Healthwise, Incorporated



Gallstones within the gall bladder



Gastric Bypass Surgery

