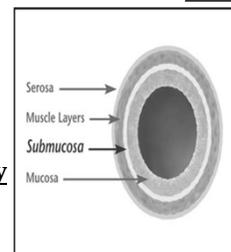


DIGESTIVE SYSTEM

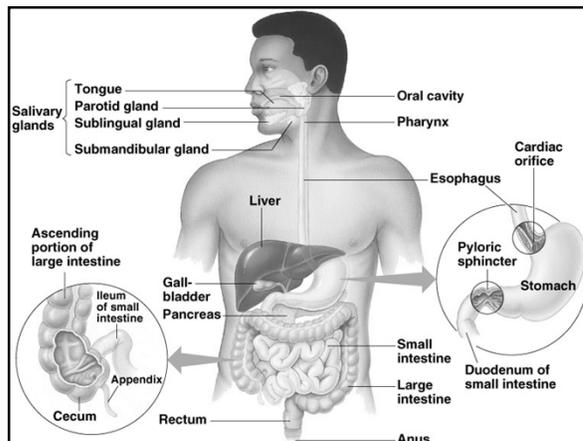
DIGESTION

- ◉ Food--mixture of carbohydrates, proteins, and lipids
- ◉ Food being broken down into small molecules
- ◉ Takes place in the alimentary canal
- ◉ Complete digestive system
- ◉ 4 layers of tissue (in book)
- ◉ Lumen



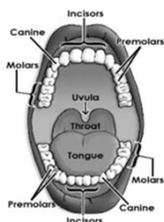
2 TYPES OF DIGESTION

- ◉ 1) MECHANICAL/PHYSICAL--
 - Mastication
 - Deglutition
 - Peristalsis
 - Defecation
- ◉ 2) CHEMICAL--



UPPER ALIMENTARY CANAL

- ◉ Digestion begins in the mouth.
- ◉ There are 4 parts of the mouth that aid in digestion:
 - Lips
 - Tongue
 - Teeth
 - Secretions



LIPS

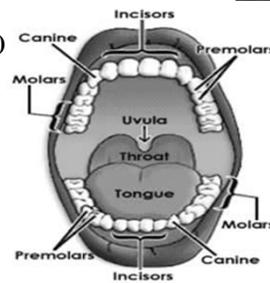
- ◉ Outer surface is covered with skin (epidermis/dermis)
- ◉ Inner surface is a mucus membrane
- ◉ Oral fissure--

TONGUE

- ⊙ Made of skeletal muscle
- ⊙ 3 parts: tip, central body, root
- ⊙ Function: pushes food to back of mouth
- ⊙ Papillae--
- ⊙ Taste Buds--
- ⊙ Frenulum--

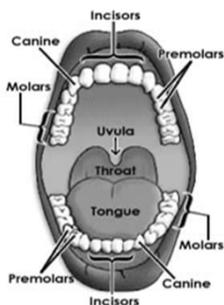
TEETH

- ⊙ Function--
- ⊙ # temporary (deciduous) teeth--
- ⊙ # Permanent teeth--
- ⊙ Four types/classified by shape & function:
 - Incisors
 - Canines
 - Premolars/Bicuspids
 - Molars/Tricuspids



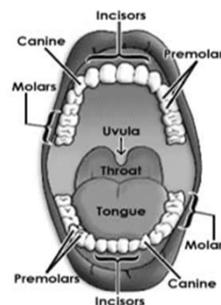
INCISORS

- ⊙ Function--
- ⊙ Location--
- ⊙ Number--



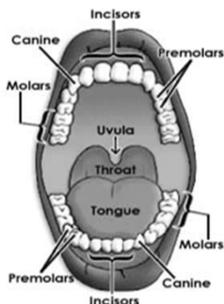
CANINES

- ⊙ Function--
- ⊙ Location--
- ⊙ Number--



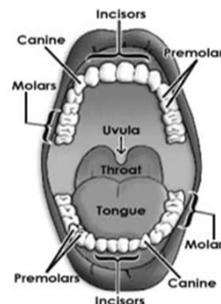
BICUSPIDS

- ⊙ Function--
- ⊙ Location--
- ⊙ Number--



TRICUSPIDS

- ⊙ Function--
- ⊙ Location--
- ⊙ Number--
- ⊙ Wisdom Teeth?



PARTS OF A TOOTH

◎ Crown

- Exposed portion; made of enamel & dentin

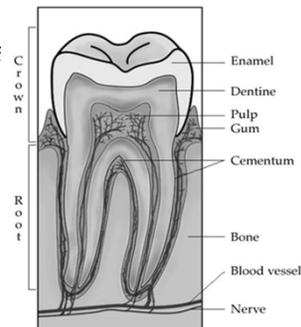
◎ Neck

- Surrounded by gums (gingiva)

◎ Root

- Fits into the alveolar process

◎ Dentin--



SECRETIONS

- ◎ Mucus--makes swallowing easier

◎ Saliva--

- contains amylase--

◎ 3 pairs of Salivary Glands:

- Parotid--largest; just enzymes
- Submandibular--water & mucus mixture
- Sublingual--smallest; mucus/thick saliva

PHARYNX

◎ 3 Divisions

- Nasopharynx--

- Oropharynx(**)--

- Laryngopharynx--

◎ Deglutition—

◎ Uvula--

ESOPHAGUS

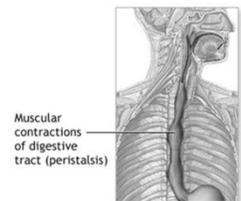
◎ Location?

◎ Lined with mucosa

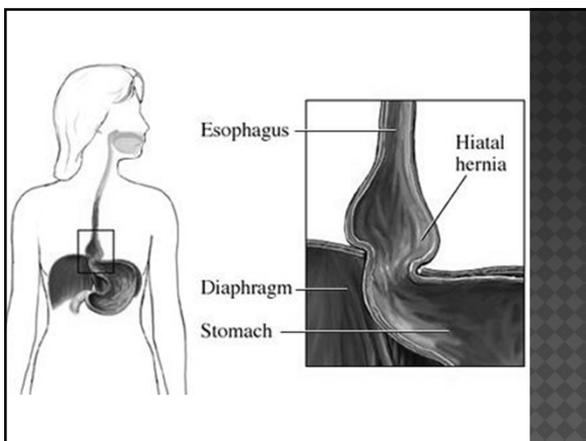
◎ Lumen--

◎ 2 muscle layers under mucosa

- innermost is circular
- outermost is longitudinal
- alternate contractions causes waves that push food down (peristalsis)



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STOMACH

◎ Cardiac Sphincter

- circular muscle
- open when relaxed

◎ J-shaped

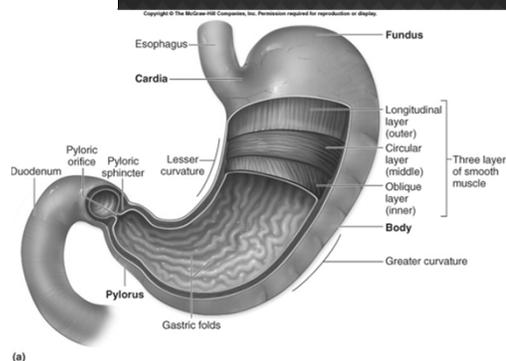
◎ 3 cells in mucosa lining produce gastric juices:

- Parietal cells--
- Chief cells--
- Mucus cells--

STOMACH (CONT.)

- Enzymes are proteases (breakdown proteins)
- Most common protease is pepsin.
- Pyloric Sphincter--usually open
- Chyme--

STOMACH MUSCLES: Longitudinal, Circular, Oblique

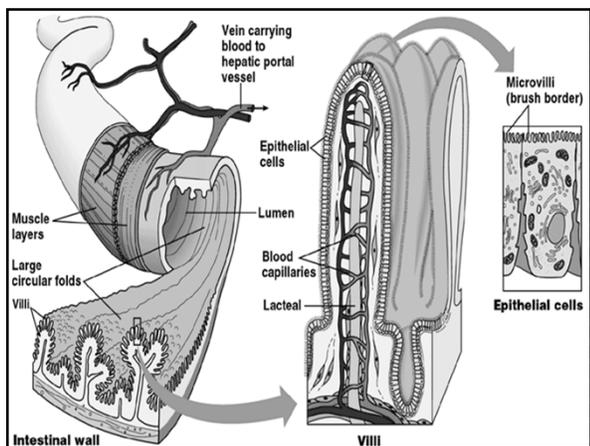


FUNCTIONS OF STOMACH

- Food storage
- Gastric juice production
- Mechanical digestion
- Intrinsic Factor production
- Hormone production--Gastrin

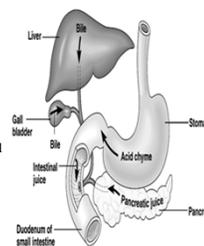
SMALL INTESTINE (STRUCTURE)

- Main function? Absorption
- Villi--mucosa is folded many times to increase surface area; contains capillaries; cell membrane is folded even further and creates microvilli.



SMALL INTESTINE (3 PARTS)

- Duodenum--Chyme enters here; Contains many chemicals such as enzymes & pancreatic juices & bile (from liver).
- Jejunum--Nutrients are absorbed into blood stream; 2nd part of SI
- Ileum--The last half of SI; Chemical digestion is completed here.



LOWER ALIMENTARY CANAL(LARGE INTESTINE)

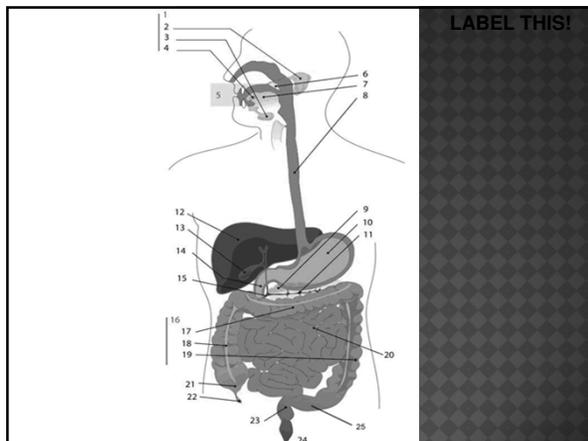
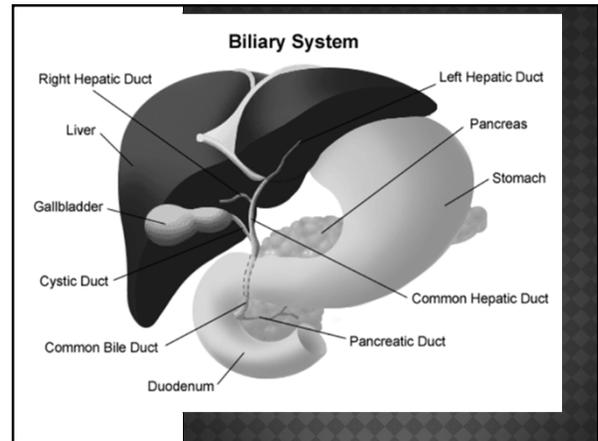
- ◎ **2x** wider than SI and about **6** feet long
- ◎ **Function?**
- ◎ **Structure:**
 - Cecum--
 - Appendix--
 - Colon
 - Ascending colon
 - Transverse colon
 - Descending colon
 - Sigmoid colon
 - Rectum--
 - Anus--

ACCESSORY ORGANS (NOT PART OF THE ALIMENTARY CANAL)

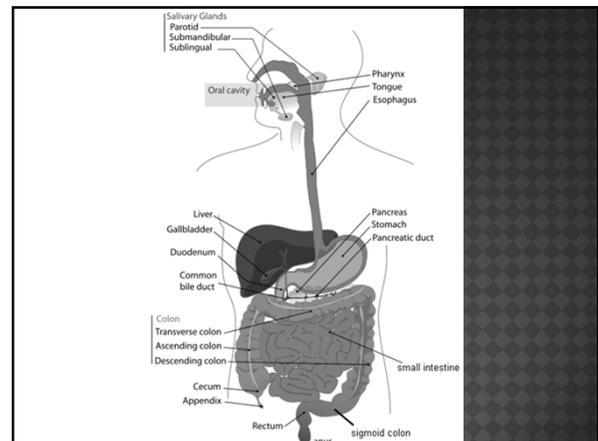
- ◎ **Pancreas**
 - Produces **hormones--INSULIN**
 - **Pancreatic juices--neutralize stomach material before entering SI; contains enzymes**
 - Secretes **lipase--breaks down fats**
 - Pancreatic juices enter SI by **pancreatic duct.**

ACCESSORY ORGANS (CONT.)

- ◎ **Liver**
 - Stores **glycogen** (polysaccharide) until needed
 - Produces **bile--aids in digestion of lipids; contains emulsifiers--**
- ◎ **Gall bladder**— **stores bile until needed; Gall stones?**
 - Pathway of bile to SI?



LABEL THIS!



Disorders of the Digestive System

GERD

Gastroesophageal reflux disease

Labels: Esophagus, Stomach, Esophageal sphincter, Stomach acid.

HEPATITIS A, B, C

Liver

In aggressive hepatitis, the liver becomes chronically inflamed and fibrotic, shrinking slightly

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Hepatitis A Vaccine

Who should get this vaccine? Many people are recommended to receive hepatitis A vaccine, including people at increased risk for exposure to hepatitis A virus infection and people who are more likely to get seriously ill if infected with the virus

Hepatitis A is caused by eating food and drinking water infected with a virus called HAV. While it can cause swelling and inflammation in the liver, it doesn't lead to chronic, or life long, disease. Almost everyone who gets hepatitis A has a full recovery, but may need hospitalization

Hepatitis B is caused by the virus HBV. It is spread by contact with an infected person's blood, semen, or other body fluid. And, it is a sexually transmitted disease (STD).

Some people never develop symptoms, others develop chronic symptoms that stay with them their whole life.

Hepatitis C is caused by the virus HCV. It is spread the same way as hepatitis B, through contact with an infected person's blood, semen, or body fluid (see above).

Like hepatitis B, hepatitis C causes swelling of the liver and can cause liver damage that can lead to cancer. Most people who have hepatitis C develop a chronic infection. This may lead to a scarring of the liver, called cirrhosis.

Blood banks test all donated blood for hepatitis C, greatly reducing the risk for getting the virus from blood transfusions or blood products.

Crohn's Disease

Cecum portion of large intestine

Inflammatory bowel disease (IBD)
Ileum portion of small intestine

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STOMACH ULCERS

Peptic ulcer

Stomach

Lactose Intolerance

Inability to digest milk, can cause stomach upset

Appendicitis

Inflamed appendix

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Hernia

intestines poke through abdominal muscles

Intestine passes into the scrotum or groin

Intestine protruding through hole in diaphragm

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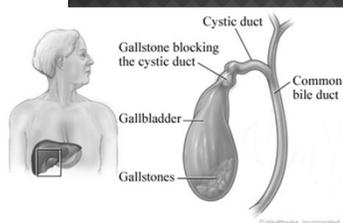
WHEN PEOPLE WITH CELIAC DISEASE EAT FOODS OR USE PRODUCTS CONTAINING GLUTEN, THEIR IMMUNE SYSTEM RESPONDS BY DAMAGING OR DESTROYING VILLI

WITHOUT HEALTHY VILLI, A PERSON BECOMES MALNOURISHED, NO MATTER HOW MUCH FOOD ONE EATS.

THE GLUTEN-FREE DIET
A GLUTEN-FREE SURVIVAL GUIDE
Foreword by Peter Green, MD
ELISABETH HASSELBECK
Celebrity Dietitian

GALLSTONES

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.



Dysentery or Diarrhea

IBS - Irritable Bowel Syndrome

Colon Cancer—colonoscopy

Gastric Bypass Surgery

