• Reminder: Self-Assessment due Tues

• Digestive System

• Homework Assignment #2
Digestive System
(Gastrointestinal Tract)
Basic Path of Food

- Mouth
- Pharynx
- Esophagus
- Stomach
- Small intestine
- Large intestine
- Rectum
- Anus
The digestive system works with other organ systems to promote homeostasis.
Digestion begins in the mouth

- Mechanical and chemical digestion
- Break-down of starch begins here
- Tongue shapes food into a bolus
Swallowing is complicated!

- Pharynx opens to esophagus AND trachea
- Trachea moves up so epiglottis blocks opening
Peristalsis moves food down the esophagus to the stomach.
Functions of the stomach

• Mix and store food
• Produce secretions that break down food
• Gastric juice = HCl, water, enzymes
H. pylori can cause an ulcer
• In stomach, bolus converted to chyme
• Digestion of proteins begins here
• Peristalsis moves chyme into the small intestine a little bit at a time
• 2-6 hours to empty a full stomach
Small Intestine

- Primary site for nutrient absorption
- Inner lining VERY folded – lots of surface area
Cross-section of small intestine showing numerous villi which increase surface area for absorption
Accessory organs: the pancreas

- Two types of secretions:
  - Exocrine: digestive enzymes, secreted into small intestine
  - Endocrine: hormones, released into blood stream (help regulate blood sugar)
Liver and gallbladder work together

- Liver secretes bile (used to break up fats in the chyme)
- Gallbladder stores bile and releases it to small intestine as needed
• If liver doesn’t break down all the cholesterol in bile, gallstones can develop
• Luckily, we can live without a gallbladder!
It’s a crappy job, but your large intestine has to do it…

- Water reabsorbed into blood stream
- Undigested, unabsorbed matter + bacteria = feces