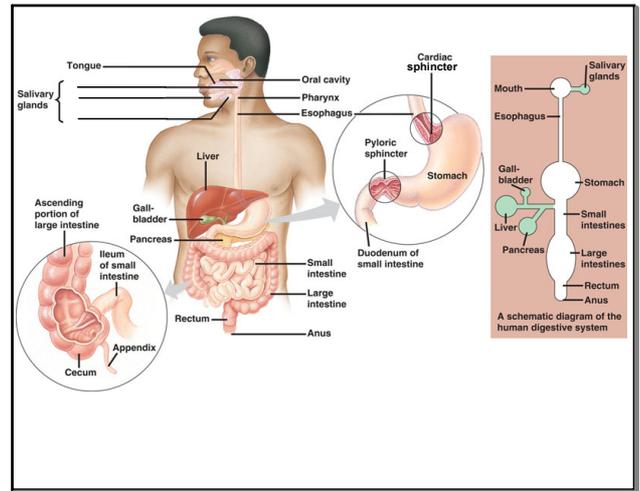
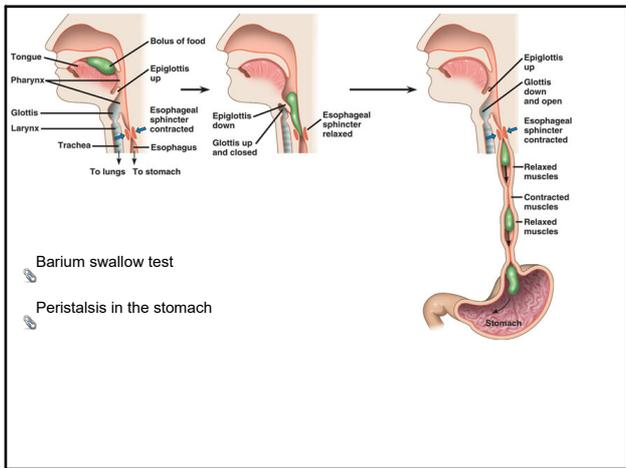


Digestive Process



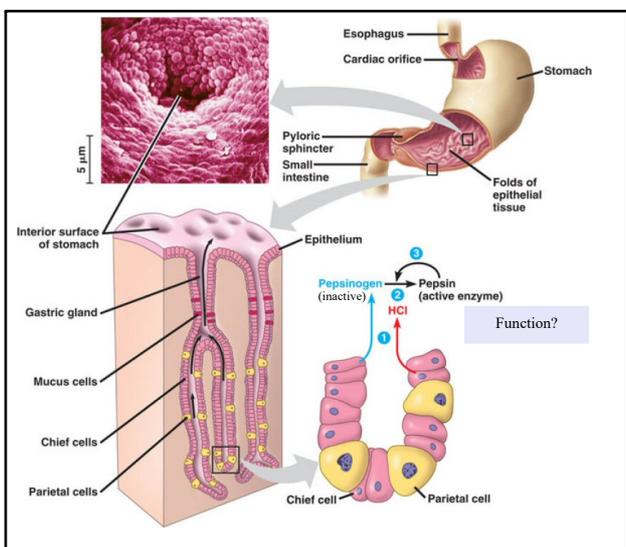
Digestive system



Peristalsis

1. How do mechanical and chemical digestion work together to break down food?
2. How does chewing aid digestion?
3. What is the purpose of saliva?
4. Your friend notices that when they chew soda crackers they start to taste sweet. How would you explain this to your friend?
5. Your friend bets you that you cannot swallow food while standing on your head. Do you take the bet?
6. One of your friends laughs at pretty much anything and often chokes on food at lunch. How would you explain the connection?

CQ

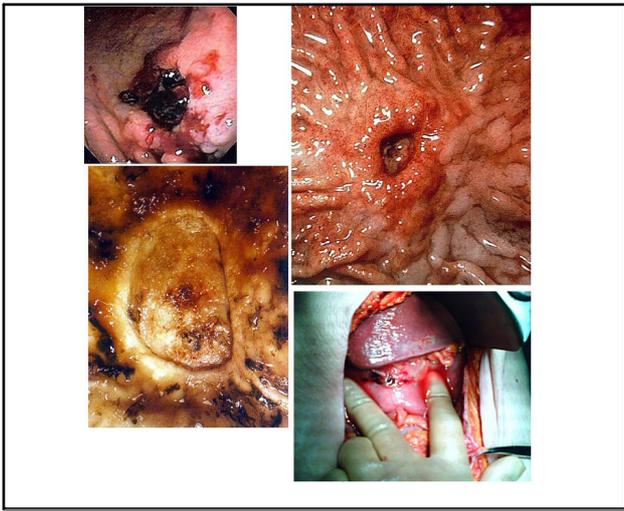


Stomach

Causes	Treatment
<i>H. pylori</i>	antibiotics
NSAIDs (e.g., ibuprofen, aspirin)	drugs to reduce stomach acid production

- perforated ulcers require surgical intervention

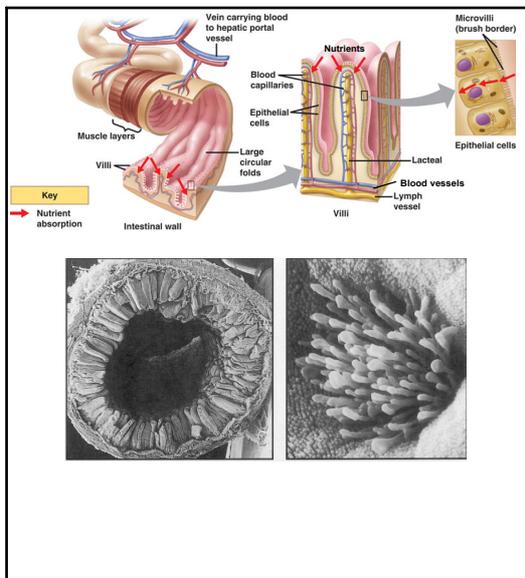
Ulcer Bacteria



Ulcers

7. What would be the result if the stomach did not have sphincter muscles?
 8. What's the deal with pepsinogen and pepsin?
 9. Your friend's father has been diagnosed with a peptic ulcer. Explain to them what this means and give some advice about how to treat it.

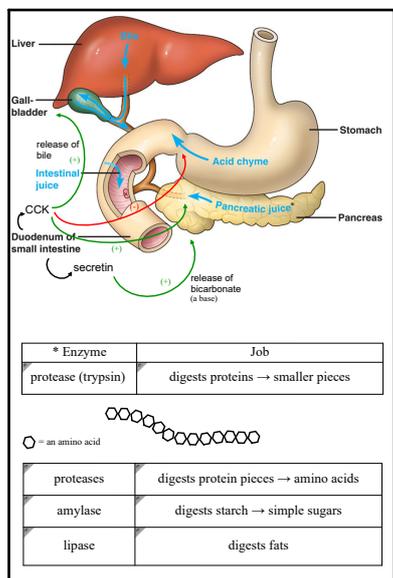
CQ



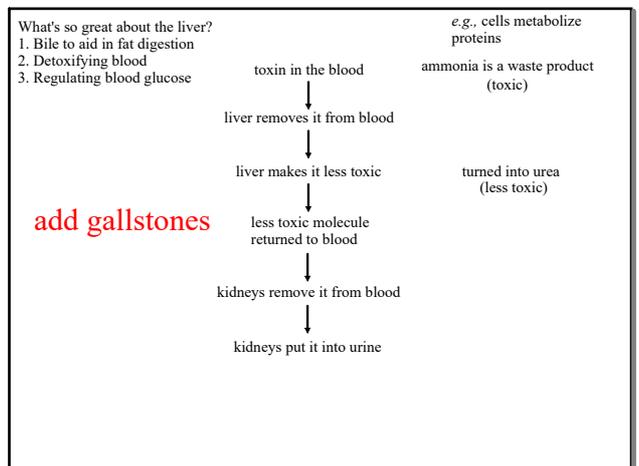
Intestinal absorption

10. Why is surface area important in the small intestine and what features increase it?
 11. How is the structure of villi adapted to their function?
 12. How do food molecules get from the stomach to your blood?
 13. In cases of extreme obesity, surgical procedures can be used to control weight. For each, state the effect on the patient:
 a) A section of the small intestine is removed.
 b) The size of the stomach is reduced.

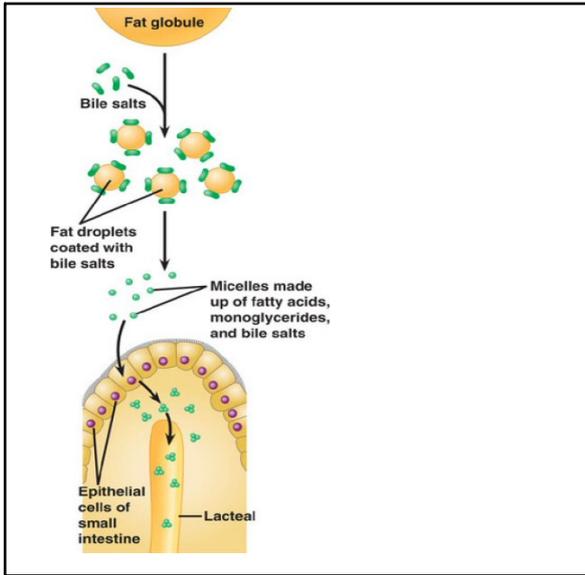
CQ



Digestive juices



Liver



Fat digestion

14. Complete the following table

Organ	Enzyme(s)	Function of enzyme(s)
Mouth		
Stomach		
Pancreas		
Small Intestine		

15. Complete the following table

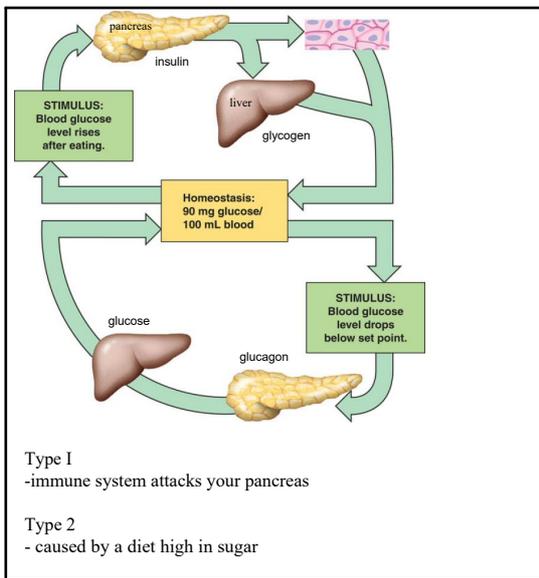
Nutrient	Digestion Begins	Digestion Completed
Carbohydrates		
Proteins		
Fats		

16. How is the small intestine protected from the acid chyme? From pepsin?

17. a) A person can live without a gallbladder but not without a liver. Explain.
b) If the gall bladder is removed, why is the common bile duct left intact?

18. A family friend has just had their gallbladder removed and she's confused about why her doctor said to limit fatty foods in her diet. How would you explain it?

CQ



Blood sugar

- 1.5L saliva and salivary enzymes
- 2 L gastric secretions
- 1.5 L pancreatic secretions
- 0.5 L bile
- 1.5 L intestinal secretions
- 2 L from food and drink

9 L Total

Can we afford to lose that water?

Functions of the large intestine

1. Absorb water from waste
2. Bacteria make vitamin K and some B vitamins

Fluid in digestion

Risks

- age
- being male
- high fat diet
- alcohol
- red meat and processed meats
- obesity
- smoking
- lack of physical exercise
- genetics

Treatment

- surgery
- chemotherapy
- radiation

Colon cancer

19. The incidence of colon cancer is highest in countries where people eat the greatest quantities of animal fats and proteins. Individuals who live in countries where cereal grains form the basic diet have a much lower incidence of colon cancer. What conclusion might you draw from these data? Can colon cancer be eliminated by a change in diet?

20. Imagine you are prescribed an antibiotic that kills all the bacteria in your body. How would your digestive system be affected?

CQ

Attachments



My Swallow Study.flv



Human Digestive System.flv



Peristaltic Wave in the Gastric Antrum.flv