Digestion

1. Overview
    1. ingestion
    2. propulsion
    3. mechanical digestion
    4. chemical digestion
    5. absorbtion
    6. defecation
2. Mouth & Pharynx
    1. salivary glands
        1. amylase
        2. antibodies
        3. lysozyme
    2. teeth
        1. types
            1. incisors
            2. canines
            3. premolars
            4. molars
        2. are very much alive!
    3. tongue
        1. manipulation
        2. bolus making
    4. swallowing-"deglutition"
3. Alimentary Canal (esophagus to large intestine)
    1. mucosa
    2. submucosa
    3. muscularis externa
        1. inner circular layer
        2. outer longitudinal layer
    4. serosa
    5. nerve plexuses
        1. submucosal nerve plexuses
        2. myenteric nerve plexuses (local muscle)
        3. contain:
            1. sensory neurons (chemosensory)
            2. motor neurons
            3. interneurons
4. Esophagus
5. Stomach
    1. mechanical digestion
        1. muscles
        2. rugae
    2. chemical digestion
        1. pepsinogen to pepsin in acid environment
        2. rennin- digests milk protein in infants
6. Pancreas-pancreatic juice
    1. enzymes
        1. pancreatic amylase- starch
        2. trypsin, chymotrypsin, carboxypeptidase, et al.- proteins
        3. lipase- fats
        4. nucleases- nucleic acids
    2. bicarbonate-
        1. neutralizes stomach acid (adjusts to ~ pH 8)
        2. activates pancreatic and intestinal enzymes
7. Liver
    1. bile production
8. Gallbladder
    1. bile storage & release
    2. bile emulsifies fats
9. Small intestine
    1. surface area
        1. microvilli- "brush border"
        2. villi- finger like projections
        3. circular folds- "plicae circulares"
    2. transport
        1. active- most substances
        2. passive diffusion- lipids-
            1. capillaries and lymphatic system (lacteals) to liver
    3. ileocecal valve
10. Large intestine
    1. bacterial breakdown
        1. gas production
        2. vitamin production by bacteria
        3. absorbtion by large intestine
    2. water reabsorbtion
11. Rectum
    1. voluntary and involuntary components
12. Control
13. Developmental Considerations