

- Chapter 18
- Gastrointestinal and Accessory Organ Problems
- Chapter 18
 - Lesson 18.1
- Key Concept
- Diseases of the gastrointestinal tract and its accessory organs interrupt the body's normal cycle of digestion, absorption, and metabolism.
- Problems of the Mouth
- Dental problems
 - Tooth decay
 - Ill-fitting dentures
 - Mechanical soft diet helpful
- Surgical procedures
 - Healing nutrients administered with high-protein, high-caloric milkshakes
- Problems of the Mouth, cont'd
- Problems of the Mouth, cont'd
- Oral tissue inflammation
 - Gingivitis
 - Stomatitis
 - Glossitis
 - Cheilosis
- Mouth ulcers

- Salivary gland problems
 - Infections
 - Excess salivation
 - Xerostomia (permanent dry mouth)
- Problems of the Mouth, cont'd
- Problems of the Mouth, cont'd
- Problems of the Mouth, cont'd
- Swallowing disorders
 - Dysphagia fairly common problem
 - Insufficient production of saliva
 - Dry mouth
 - Abnormal peristaltic motility of the esophagus
 - Complications of medication
 - Neurologic problems
- Problems of the Mouth, cont'd
- Warning signs of swallowing disorders
 - Reluctance to eat certain food consistencies or any food at all
 - Very slow chewing or eating
 - Fatigue from eating
 - Frequent throat clearing
 - Complaints of food “sticking” in throat
 - Holding pockets of food in cheeks
 - Painful swallowing
 - Regurgitation, coughing, choking

- **Problems of the Esophagus**
- **Central tube (esophagus)**
 - **Muscle spasms or uncoordinated contractions**
 - **Stricture (narrowing) of the tube**
- **Lower esophageal sphincter problems**
 - **Achalasia or cardiospasm**
 - **Changes in smooth muscle**
 - **Nerve-muscle hormone control of peristalsis**
- **Problems of the Esophagus, cont'd**
- **Lower esophageal sphincter problems**
 - **Swallowing problems**
 - **Frequent vomiting**
 - **Fullness in the chest**
 - **Weight loss from eating difficulty**
 - **Serious malnutrition**
 - **Pulmonary complications and infections caused by aspiration of food particles**
- **Problems of the Esophagus, cont'd**
- **Gastroesophageal reflux disease (GERD)**
 - **Caused by constant regurgitation of acidic gastric contents into lower esophagus**
 - **Pregnancy, obesity, pernicious vomiting, or nasogastric tubes are factors**
 - **Constant irritation and inflammation (esophagitis)**
 - **Stenosis most common complication**

- **Problems of the Esophagus, cont'd**
- **Problems of the Esophagus, cont'd**
- **Hiatal hernia**
 - **Portion of upper stomach protrudes through opening in the diaphragm membrane (hiatus)**
 - **Especially common in obese adults**
- **Hiatal Hernia in Comparison with Normal Stomach Placement**
- **Normal stomach**
- **Hiatal Hernia in Comparison with Normal Stomach Placement, cont'd**
- **Paraesophageal hernia**
- **Hiatal Hernia in Comparison with Normal Stomach Placement, cont'd**
- **Esophageal hiatal hernia**
- **Peptic Ulcer Disease**
- **Caused by Helicobacter pylori infection**
- **Linked to tobacco smoking**
- **Long-term use of nonsteroidal antiinflammatory drugs may contribute to development in some persons**
- **Lesion usually occurs in duodenal bulb**
- **Peptic Ulcer Disease, cont'd**
- **Peptic Ulcer Disease, cont'd**
- **Stress during young- and middle-adult years may contribute**

- Symptoms include increased gastric muscle tone and painful contractions when stomach empty
- Smoking, alcohol use should be eliminated
- Peptic Ulcer Disease, cont'd
- Drug therapy can manage peptic ulcer disease
 - Histamine H2-receptor antagonists (H2-blockers)
 - Proton pump inhibitors
 - Mucosal protectors inactivate pepsin and produce gel-like substance to cover ulcer
 - Antibiotics control H. pylori
 - Antacids counteract or neutralize acid
- Peptic Ulcer Disease, cont'd
- Dietary management
 - Well-balanced, healthy diet
 - Avoid acid stimulation
 - Bland diets have been proven to be ineffective and lacking in adequate nutrition
- Small Intestine Diseases
- Malabsorption
 - Maldigestion problems
 - Intestinal mucosal changes
 - Genetic disease

- Intestinal enzyme deficiency
- Cancer and its treatment
- Metabolic defects

- Small Intestine Diseases, cont'd

- Cystic fibrosis
 - Genetic disease of childhood
 - Inhibits movement of chloride and sodium ions in the body tissue fluids

- Small Intestine Diseases, cont'd

- Cystic fibrosis, cont'd
 - Treated with pancreatic replacement products
 - Children with disease require 105% to 150% of recommended nutrients for their age
 - Nutritionally adequate high-protein, normal to high-fat diet recommended

- Small Intestine Diseases, cont'd

- Inflammatory bowel disease
 - Applies to both ulcerative colitis and Crohn's disease
 - Short-bowel syndrome results from repeated surgical removal of parts of the small intestine as disease progresses
 - Reduces absorption of nutrients

- Small Intestine Diseases, cont'd

- **Small Intestine Diseases, cont'd**
- **Diarrhea**
 - Intolerance to specific foods
 - Acute food poisoning
 - Viral infections
- **Large Intestine Diseases**
- **Diverticular disease**
 - Diverticulosis: formation of many small pouches (diverticula) along muscular mucosal lining
 - Diverticulitis caused by pockets becoming infected
- **Large Intestine Diseases, cont'd**
- **Mechanism by which low-fiber, low-bulk diets might generate diverticula**
- **Large Intestine Diseases, cont'd**
- **Irritable bowel syndrome**
 - Multicomponent disorder of physiologic, emotional, environmental, psychologic function
 - Common recurrent pain in abdomen
 - Small-volume bowel dysfunction
 - Excess gas formation
- **Large Intestine Diseases, cont'd**

- Irritable bowel syndrome, cont'd
 - Individual approach to nutrition care essential
 - Increase dietary fiber
 - Recognize gas formers
 - Respect food intolerances
 - Reduce total fat content
 - Avoid large meals
 - Decrease air-swallowing habits

- Large Intestine Diseases, cont'd
- Large Intestine Diseases, cont'd
- Constipation
 - Common short-term problem
 - Nervous tension and worry
 - Changes in routines
 - Constant laxative use
 - Low-fiber diets
 - Lack of exercise

 - Dietary management rather than laxatives

- Chapter 18
 - Lesson 18.2

- Key Concepts
- Food allergies result from sensitivity to certain proteins.
- Underlying genetic diseases may cause metabolic defects that block the body's ability to handle specific food nutrients.

- Diseases of the gastrointestinal tract and its accessory organs interrupt the body's normal cycle of digestion, absorption, and metabolism.
- Food Allergies
- Allergic reaction is body's immune system reacting to a protein as a threatening foreign object
- Anaphylactic shock is the most severe form of allergic reaction
- Common food allergens
 - Peanuts, tree nuts
 - Shellfish, fish
 - Milk, soy, egg, wheat
- Food Allergies, cont'd
- Food elimination sometimes used to identify disagreeable foods
- Dietitian can provide guidance on food substitutions or special food products
- Recipes modified to maintain nutrition needs for growth
- Food Allergies, cont'd
- Celiac disease
 - Hypersensitivity to the protein gluten in certain grains
 - Steatorrhea and progressive malnutrition are secondary effects to gluten reaction
 - Nutrition management controls dietary gluten intake and prevents malnutrition
- Food Allergies, cont'd

- Food Allergies, cont'd
- Food Allergies, cont'd
- Celiac disease, cont'd
 - Dietary principles
 - Kilocalories: High, usually approximately 20% above normal requirement to compensate for fecal loss
 - Protein: High, as tolerated to promote growth in children and maintenance in adults
 - Fat: Low, but not fat free because of impaired absorption
- Food Allergies, cont'd
- Celiac disease, cont'd
 - Carbohydrates: Simple, easily digested sugars (fruits, vegetables) should provide approximately half of the kilocalories
 - Feedings: Small, frequent feedings during ill periods; afternoon snack for older children
 - Texture: Smooth, soft, avoiding irritating roughage initially, using strained foods longer than usual for age, adding whole foods as tolerated and according to age of child
- Food Allergies, cont'd
- Celiac disease, cont'd
 - Vitamins: Supplement B vitamins, vitamins A and E in water-miscible forms, and vitamin C
 - Minerals: Iron supplements if anemia is present
- Gastrointestinal Accessory Organs
- Liver Structure

- **Liver Disease**
- **Hepatitis**
 - Inflammatory condition caused by virus, alcohol, drugs, or toxins
 - Treatment based on bed rest and nutrition therapy
- **Liver Disease, cont'd**
- **Steatohepatitis**
 - Inflammation and fat accumulation in the liver
 - Some patients have no known risk factors and have normal cholesterol and triglyceride levels but still present with elevated liver enzymes
- **Management**
 - A balanced diet, avoiding alcohol (if indicated)
 - Increased physical activity
 - Tight blood glucose control
- **Liver Disease, cont'd**
- **Hepatitis**
- **Acute**
 - Hepatitis A
 - Hepatitis B
- **Management**
 - Protein
 - Carbohydrate
 - Fat

- Total kilocalories

- Feedings

- Liver Disease, cont'd

- Cirrhosis

- Fatty cirrhosis associated with malnutrition and alcoholism

- Fatty infiltration kills liver cells, leaving nonfunctioning scar tissue

- Liver Disease, cont'd

- Management of cirrhosis

- Energy

- Protein

- Sodium

- Texture

- Fluid

- Optimal nutrition

- Liver Disease, cont'd

- Hepatic encephalopathy

- As cirrhosis continues, blood can no longer circulate normally through liver

- Ammonia and nitrogen cannot be eliminated, which produces ammonia intoxication and coma

- Treatment focuses on removing sources of excess ammonia

- **Comparison of Normal Liver and Liver with Cirrhotic Tissue Changes**
- **Gallbladder Disease**
- **Cholecystitis**
 - Usually results from low-grade chronic infection
 - Continued infection alters solubility of bile ingredients
- **Cholelithiasis**
 - Cholesterol separates out and causes gallstones
 - Diet therapy centers on controlling fat intake
- **Pancreatic Disease**
- **Pancreatitis**
 - Obstruction of common duct causes enzymes and bile to back up into pancreas
 - Results in acute inflammation as enzymes digest organ tissue
 - Caused by gallstones and excessive alcohol consumption
- **Summary**
- **Nutrition management of gastrointestinal disease is based on the degree of interference in the normal process of ingestion, digestion, absorption, and metabolism that the disease causes.**
- **Problems in the upper gastrointestinal tract relate to conditions that hinder chewing, swallowing, or transporting the food mass down the esophagus into the stomach.**
- **Summary, cont'd**

- Esophageal problems such as muscle constriction, acid reflux causing esophagitis, or a hiatal hernia at the entry of the esophagus into the chest cavity interfere with passage of the food into the stomach.
- Peptic ulcer disease, is an acidic erosion of the mucosal lining of the stomach or the duodenal bulb. The ulcerated tissue brings about nutrition problems such as anemia and weight loss. Medical management consists of drug therapy and rest. Diet therapy is liberal and individual.
- Summary, cont'd
- Problems of the lower gastrointestinal tract include common functional disorders such as malabsorption.
- Diseases such as celiac disease, which is caused by sensitivity to gluten in certain grains and results in malabsorption problems, and the genetic disease cystic fibrosis, require individualized nutrition support. Cystic fibrosis requires individualized nutrition support.
- Summary, cont'd
- The inflammatory bowel diseases (e.g., Crohn's disease and ulcerative colitis) involve extensive tissue damage, which often requires surgical resection, as well as the resulting short-bowel syndrome from the decreased absorbing surface area.
- Summary, cont'd
- Large intestine problems (e.g., diverticular disease, irritable bowel disease, and constipation) often involve anxiety and stress and thus are more difficult to resolve.
 - Nutrition therapy requires modification of the diet's protein and energy content and food texture, increased vitamins and minerals, and replacement of fluids and electrolytes.
 - Continuous adjustment of the diet is made according to individual need.
- Summary, cont'd
- Diseases of the gastrointestinal accessory organs also contribute to nutrition problems.

- **Uncontrolled cirrhosis leads to hepatic encephalopathy and eventual liver failure and death. Nutrient and energy levels of the necessary diet therapy vary with the progression of the disease process.**
- **Summary, cont'd**
- **Gallbladder disease, infection, and stones involve some limit to fat tolerance.**
- **The treatment for gallstones is surgical removal of the organ followed by moderate use of dietary fat.**
- **Pancreatic disease (pancreatitis) is a serious condition requiring immediate measures to counter the shock symptoms followed by restorative nutrition support.**