Care of the Patient with a Gastrointestinal Disorder
Location of digestive organs.

Overview of the Digestive System aka Alimentary canal

- **Digestive system**
  - **Mouth**: digestion starts here
  - **Stomach**: churn and mix contents with gastric juices
  - **Small intestine**: most digestion occurs here
  - **Large intestine**: 80% of water absorbed, forms and expels feces
  - **Rectum**: stores and expels feces
Overview of Anatomy and Physiology

- Organs and their functions
  - Liver: produces bile; stores it in the gallbladder
  - Pancreas: produces pancreatic enzymes
- Regulation of food intake
  - Hypothalamus
    - One center stimulates eating and another signals to stop eating
The Pituitary & Hypothalamus

- Cerebrum
- Hypothalamus
- Pituitary
- Cerebellum
- Brain stem
Disorders of the Mouth

• Candidiasis
  • Infection caused by *Candida albicans*
  • **Fungus** normally present in the mouth, intestine, vagina, and on the skin
  • Also referred to as *thrush*
  • Clinical manifestations/assessment
    • Small white patches on the mucous membrane of the mouth
  • Nursing Dx: Impaired Oral Mucus Membrane
Disorders of the Esophagus

- **Gastroesophageal reflux disease**
  - Backward flow of stomach acid into the esophagus

  - Clinical manifestations/assessment
    - Heartburn 20 min – 2 hrs after eating
    - Regurgitation
    - Dysphagia
    - Eructation
Disorders of the Esophagus

• GERD disease: Medical management/nursing interventions
  • Antacids or acid-blocking medications
  • Diet: 4-6 small meals/day, low fat, adequate protein, remain upright for 1-2 hours after eating
  • Lifestyle: eliminate smoking, avoid constrictive clothing, HOB up at least 6-8 inches for sleep
"I'm putting you on a 'whatever tastes good, don't eat it' diet."
Disorders of the Stomach

- **Gastric ulcers and duodenal ulcers**
  - Most commonly occur in the stomach and duodenum
  - Result of acid and pepsin imbalances
  - *H. pylori*

- Bacterium found in 70% of patients with gastric ulcers and 95% of patients with duodenal ulcers
Peptic ulcers may lead to bleeding or perforation, emergency situations.
Disorders of the Stomach

- Gastric and duodenal ulcers

- Clinical manifestations/assessment
  - Pain: Dull, burning, boring, or gnawing, epigastric
  - Dyspepsia
  - Hematemesis

- Diagnostic tests
  - Esophagogastroduodenoscopy (EGD)
  - Breath test for *H. pylori*
Figure 45-5

Fiberoptic endoscopy of the stomach.

View of a duodenal ulcer through the endoscope

Cautery tool

Ulcer
Disorders of the Stomach

• Gastric and duodenal ulcers

• Medical management/nursing interventions
  • Antacids
  • Histamine H$_2$ receptor blockers
  • Antibiotics
  • Diet: high in fat and carbohydrates; low in protein and milk products; small frequent meals; limit coffee, tobacco, alcohol, and aspirin use
Disorders of the Intestines

• Infection
  – Etiology/pathophysiology
    • Invasion of the alimentary canal by pathogenic microorganisms
    • Most commonly enters through the mouth in food or water
    • Person-to-person contact
    • Fecal-oral transmission
    • Long-term antibiotic therapy can cause an overgrowth of the normal intestinal flora (*C. difficile*)
Disorders of the Intestines

- **Infections**
- Clinical manifestations/assessment
  - Diarrhea
    - Nausea and vomiting
    - Abdominal cramping
    - Fever
Disorders of the Intestines

- Diagnostic tests
  - Stool culture
  - Medical management/nursing interventions
    - Antibiotics
    - Fluid and electrolyte replacement
    - Kaopectate
    - Pepto-Bismol
Ulcerative Colitis

- Etiology/pathophysiology
  - Ulceration of the mucosa and submucosa of the colon
  - Tiny abscesses form which produce purulent drainage, slough the mucosa, and ulcerations occur

- Clinical manifestations/assessment
  - Diarrhea—pus and blood; 15-20 stools per day
  - Abdominal cramping
  - Involuntary leakage of stool
Ulcerative Colitis

• Diagnostic tests
  • Barium studies, colonoscopy, stool for occult blood
  – Medical management/nursing interventions
    • Medications
      – Azulfidine, Dipentum, Rowasa, corticosteroids, Imodium
    • Diet: No milk products or spicy foods; high-protein, high-calorie; total parenteral nutrition
Disorders of the Intestines

- Ulcerative colitis
- Medical management/nursing interventions
  - Surgical interventions
    - Colon resection
    - Ileostomy
Disorders of the Intestines

- **Crohn’s disease**
  - Etiology/pathophysiology
    - Inflammation, fibrosis, scarring, and thickening of the bowel wall
  - Clinical manifestations/assessment
    - Weakness; loss of appetite
    - Diarrhea: 3-4 daily; contain mucus and pus
    - Right lower abdominal pain
    - Steatorrhea
Crohn’s disease

Medical management/nursing interventions

• Diet
  – High-protein
  – Hyperalimentation:
    ▶ artificial supply of nutrients
  – Avoid
    ▶ Lactose-containing foods, brassica vegetables, caffeine, beer, monosodium glutamate, highly seasoned foods, carbonated beverages, fatty foods
Crohn’s disease

- Medical management/nursing interventions
  - Medications
    - Corticosteroids
    - Antibiotics
    - Anti-diarrheals; antispasmodics
    - Enteric-coated fish oil capsules
    - $B_{12}$ replacement
  - Surgery
    - Segmental resection of diseased bowel
Disorders of the Intestines

- **Appendicitis**
  - Etiology/pathophysiology
    - Inflammation of the vermiform appendix
    - Lumen of the appendix becomes obstructed, the *E. coli* multiplies, and an infection develops
  - Clinical manifestations/assessment
    - Rebound tenderness over the right lower quadrant of the abdomen (McBurney’s point)
    - Vomiting
    - Low-grade fever
    - Elevated WBC
Right lower Quadrant Pain – McBurney’s point
Disorders of the Intestines

- Appendicitis
  - Diagnostic tests
    - WBC
    - x-ray
    - Ultrasound
    - Laparoscopy
  - Medical management/nursing interventions
    - Appendectomy
Disorders of the Intestines

- **Diverticular disease**
  - Etiology/pathophysiology
  - **Diverticulosis**
    - Pouch-like herniations through the muscular layer of the colon
Diverticulosis.
Diverticular disease

• **Clinical manifestations/assessment**
  
  • **Diverticulosis**
    - May have few, if any, symptoms
    - Constipation, diarrhea, and/or flatulence
    - Pain in the left lower quadrant
  
  • **Diverticulitis**
    - Mild to severe pain in the left lower quadrant
    - Elevated WBC; low-grade fever
    - Abdominal distention
    - Vomiting
    - Blood in stool
Diverticular disease

• Medical management/nursing interventions

• Diverticulosis with muscular atrophy, narrowing or sclerosing of the colon wall
  – Low-residue diet; stool softeners
  – Bedrest
Low residue * High fiber

- Residue refers to undigested food including fiber that make up stool
- Crackers vs. whole grain bread
- No seeds or nuts
- Cooked vegetables vs raw
- Avoid some vegetables broccoli, cabbage, corn, onions, cauliflower and baked beans
- Avoid or limit caffeine
- Avoid dried fruits, popcorn, tough meats
Surgical interventions

- Diverticular disease
- Medical management/nursing interventions Surgery
  - Hartmann’s pouch
  - Double-barrel transverse colostomy
  - Transverse loop colostomy
Peritonitis

- **Etiology/pathophysiology**
  - Inflammation of the abdominal peritoneum
  - Bacterial contamination of the peritoneal cavity from fecal matter or chemical irritation

- **Clinical manifestations/assessment**
  - Severe abdominal pain; nausea and vomiting
  - Abdomen is tympanic; absence of bowel sounds
  - Chills; weakness
  - Weak rapid pulse; fever; hypotension
Peritonitis

- Diagnostic tests
  - Flat plate of the abdomen
  - CBE

- Medical management/nursing interventions
  - Position patient in semi-Fowler’s position
  - Surgery
    - Repair cause of fecal contamination
    - Removal of chemical irritant
  - Parenteral antibiotics
  - NG tube to prevent GI distention
  - IV fluids
Hernias

- Etiology/pathophysiology

- Congenital or acquired weakness of the abdominal wall or postoperative defect
  - Abdominal
  - Femoral or inguinal
  - Umbilical
Hernias

- Clinical manifestations/assessment
  - Protruding mass or bulge around the umbilicus, in the inguinal area, or near an incision
  - Incarceration
  - Strangulation

- Diagnostic tests
  - Radiographs
  - Palpation
Hernias

- Medical management/nursing interventions
  - If no discomfort, hernia is left unrepaired, unless it becomes strangulated or obstruction occurs
Hiatal hernia

- Etiology/pathophysiology
  - Protrusion of the stomach and other abdominal viscera through an opening in the membrane or tissue of the diaphragm
  - Contributing factors: obesity, trauma, aging

- Clinical manifestations/assessment
  - Most people display few, if any, symptoms
  - Gastroesophageal reflux
Figure 5-12

Hiatal hernia

- Medical management/nursing interventions
  - Head of bed should be slightly elevated when lying down
Intestinal obstruction

- Etiology/pathophysiology
  - Intestinal contents cannot pass through the GI tract
  - Partial or complete
  - Mechanical
  - Non-mechanical

- Clinical manifestations/assessment
  - Vomiting; dehydration
  - Abdominal tenderness and distention
  - Constipation
Hemorrhoids

- Etiology/pathophysiology
  - Varicosities (dilated veins)
    - External or internal
  - Contributing factors
    - Straining with defecation, diarrhea, pregnancy, CHF, portal hypertension, prolonged sitting and standing

- Clinical manifestations/assessment
  - Varicosities in rectal area
  - Bright red bleeding with defecation
  - Pruritus
  - Severe pain when thrombosed
Formation of hemorrhoids

Internal anal sphincter
External anal sphincter
Internal hemorrhoid
Pectinate line
Anoderm
Perianal blood vessel
Prolapsing internal hemorrhoid
External hemorrhoid

Ligator
Forceps
Rubber bands
Rectum
Hemorrhoid
Hemorrhoids

Medical management/nursing interventions

- Bulk stool softeners; hydrocortisone cream
- Analgesic ointment
- Sitz baths
- Ligation
- Sclerotherapy; cryotherapy
- Infrared photocoagulation
- Laser excision
- Hemorrhoidectomy
The End