Common Manifestations of Digestive System Disorders

- Anorexia, Nausea and Vomiting
  - May be signs of digestive system disorder
  - Characteristics of vomitus and vomiting pattern may be useful in diagnosis
  - Vomiting may be defensive because it removes noxious material from the body
  - Anorexia and vomiting may lead to dehydration, alkalosis and malnutrition
  - May be due to conditions elsewhere in the body
    - Systemic infection, uremia, emotional responses (motion sickness), pressure in the brain, eating too much, drugs or pain
Diarrhea is an excessive frequency of stools, usually of loose or watery consistency and may be acute or chronic
- May be accompanied by nausea and vomiting
- Often accompanied by cramping pain
- If severe or prolonged may lead to dehydration, electrolyte imbalance, acidosis and malnutrition

Constipation is a condition in which there are less than typical bowel movements and passage of small, hard stools
- May be acute or chronic
- In some people may alternate with diarrhea
- Chronic constipation may lead to development of hemorrhoids or diverticulitis
- Fluid and Electrolyte Imbalances are common complications of vomiting and diarrhea

Pain in the digestive system is often difficult to describe in specific terms
- Burning sensations from inflammation
- Dull, aching pain typical of stretching of liver capsule from swelling
- Cramping or diffuse pain from inflammation, distention or stretching of intestines
- Colicky, often severe pain from spasms
- Malnutrition may be due to specific deficiency such as B12 or general from chronic anorexia
Disorders of the Oral Cavity
- Congenital defects, e.g. cleft palate
- Inflammatory Lesions, e.g. Canker sores
- Infections, e.g. Candidiasis, Herpes Simplex Type I infection (cold sores, fever blisters)
- Dental problems
  - Dental caries (tooth decay)
  - Periodontal disease
  - Gingivitis
- Cancer of the Oral Cavity, e.g. squamous cell carcinoma
- Salivary Gland Disorders, both infectious and non

Dysphagia or difficulty in swallowing

Esophageal Cancer, e.g. squamous cell carcinoma
- Hiatal Hernia
Chronic Gastritis

- Atrophy of gastric mucosa
- Loss of secretory glands (parietal cells)
- Achlorhydria and lack of intrinsic factor
- May develop iron deficiency and pernicious anemia
- Infection by *Helicobacter pylori* common
- At increased risk of gastric carcinoma and peptic ulcers

Peptic ulcers and complications

Disorders of the Liver and Pancreas

- Gallbladder Disorders
  - Cholelithiasis refers to the formation of gallstones
- Cholecystitis refers to inflammation of the gallbladder and cystic duct
- Cholangitis is inflammation usually related to infection of the bile ducts
- Choledocholithiasis pertains to obstruction by gallstones of the biliary tract

- Jaundice refers to the yellowish color of the skin and other tissues that results from high levels of bilirubin in the blood
  - Usually seen first in the sclera of the eye
  - Types include:
    - Prehepatic jaundice
    - Intrahepatic jaundice
    - Post hepatic jaundice
Hepatitis refers to inflammation of the liver. May result from:
- Local infection, e.g. viral hepatitis
- Infection elsewhere in the body, e.g. infectious mononucleosis
- Chemical or drug toxicity, e.g. carbon tetrachloride, alcohol, acetaminophen, tetracycline
- May be mild and not identified or severe leading to major damage with liver failure
- Cirrhosis refers to a disorder in which the liver demonstrates extensive diffuse fibrosis and loss of lobular organization
- Cirrhosis is a progressive disorder and leads eventually to liver failure
- Three general categories:
  - Alcoholic liver disease (most common)
  - Biliary cirrhosis associated with immune disorder, obstructive disorders and cystic fibrosis where mucous plugs bile ducts
  - Postnecrotic cirrhosis linked with chronic hepatitis or long-term exposure to toxic materials
Liver Cancer

- Primary liver cancer relatively rare, e.g. hepatocellular cancer developing in cirrhotic liver
- Secondary cancer of the liver is common
  - Metastatic cancer may arise from areas served by the portal vein
  - May arise from seeding along the peritoneal membranes
Celiac Disease is a malabsorption syndrome that is considered to be primarily a childhood disorder. Genetic factors involved. Enzyme defect prevents complete breakdown of gluten (from grains like wheat, barley, rye and oats). Immunological response causes atrophy of the intestinal villi. Result is malabsorption and malnutrition.

Chronic Inflammatory Bowel Disease (Crohn’s disease and ulcerative colitis) are chronic inflammatory diseases with unknown cause. Seems to be a genetic factor involved because it is more common in some ethnic groups and shows a high familial incidence. Involves the immune system. Inflammation and ulcers are common. Adhesions and fistulas may form. Diarrhea with cramping. Anorexia, weight loss, anemia and fatigue from malabsorption and malnutrition.
Appendicitis is an inflammation of the vermiform appendix

If the inflamed appendix ruptures and releases its contents into the peritoneal cavity, generalized peritonitis occurs which may be life-threatening
Diverticular Disease refers to various problems related to the development of diverticula (sing. diverticulum)

- Diverticulum is a herniation or outpouching of the mucosa through the muscular layer of the colon wall, frequently the sigmoid colon
- Diverticulosis is asymptomatic diverticular disease
- Diverticulitis refers to inflammation of the diverticula.
- Potential complications include intestinal obstructions, perforation with peritonitis and abscess formation

In most people with diverticulosis, there's evidence of thickening of the muscle layers in the sigmoid colon. This may lead to increased pressure in this region of the colon, which can cause weak spots to balloon out, resulting in the formation of tiny pouches (diverticula).
Colorectal Cancer ranks high as a lethal form of cancer for people over age 50.

- Many malignant neoplasms of the colon develop from polyps.
- A polyp is a mass that protrudes into the lumen.
- Polyp formation may have genetic basis.
- As polyps increase in size, they carry an increased risk of dysplasia and malignant changes.
Intestinal Obstruction refers to a lack of movement of the intestinal contents through the intestine.

- More common in the small intestine but also occur in the colon.
- Two forms:
  - Mechanical obstructions, e.g. tumor, adhesions, hernias, etc.
  - Functional or adynamic obstructions, e.g. neurologic impairment such as spinal cord injury.
Causes of Intestinal Obstruction

1. Swallowing foreign objects
2. Hernia
3. Adhesions
4. Intussusception
5. Infection
6. Tumors

Effects of Intestinal Obstruction

- Peritonitis
- Chemical irritation
- Bacterial invasion
- Chemical irritants
- Perforation or necrosis

Peritonitis is an inflammation of the peritoneal membranes that may result from chemical irritation or directly from bacterial invasion.

Chemical irritation, unless resolved quickly, ultimately leads to bacterial peritonitis.

Chemical irritants such as bile, chyme or foreign objects in the peritoneal cavity cause inflammation which increases the permeability of the intestinal wall, permitting enteric bacteria to enter the peritoneal cavity.

Perforation or necrosis of the intestinal wall also allows infection directly by intestinal bacteria.