Lesson 11.1 Objectives

- Discuss anatomic structures and physiologic processes related to the gastrointestinal system.
- Define general dysfunctions of the gastrointestinal tract and list appropriate massage considerations for each.

Classes of Nutrients

- Carbohydrates
- Proteins
- Lipids (fats)
- Vitamins
- Minerals
- Water

Building Blocks of Nutrients

- Carbohydrates – Deconstruct to monosaccharides or simple sugars
- Proteins – Deconstruct to amino acids
- Fats – Deconstruct to glycerol and fatty acids

Gastrointestinal Structures

Peritoneum
Abdominal Area

- Abdominal quadrants and regions

Digestive Functions

- Ingestion
- Secretion
- Mixing and propulsion (peristalsis)
- Digestion
- Absorption
- Defecation

Digestive Process

- Begins in the mouth
- Food, now a bolus, moves to the stomach
- Stomach grinds and mixes bolus with gastric juices
- Bolus, now chyme, moves to the small intestine
- Chyme moves through to the colon for final absorption and defecation

Digestive Process (cont'd.)

- Liver produces bile
- Pancreas produces enzymes
- Gallbladder stores excess bile
  - These products enter the small intestine via ducts
- Absorption into blood and lymph
- Blood circulates nutrients to cells of body

General Dysfunctions of GI Tract

- Nausea
- Vomiting
- Constipation
- Diarrhea

Nausea

- Unpleasant subjective experience often leading to an urge to vomit; often called sick to the stomach, upset stomach, or queasiness
- Modify massage according to cause (pregnancy, GI infection); in most cases, use a semireclining position and avoid pressure and speed that causes rocking
**Vomiting**

- Reflexive, forceful emptying of stomach and intestinal contents through the mouth
- Massage is contraindicated; if vomiting occurs during session, treat vomitus as infectious.

**Constipation**

- Infrequent or difficult passing of stools
- Modify massage according to cause (IBS, diverticulitis); in most cases, apply circular gliding strokes, kneading and vibration in a clockwise direction on abdomen.

**Constipation (cont’d.)**

**Diarrhea**

- Frequent passing of unformed, loose, watery stools
- Massage is contraindicated in acute cases; chronic cases might entail suggested use of toilet before massage and avoidance of lower abdomen.

**Lesson 11.2 Objectives**

- Name various diseases of the upper gastrointestinal tract and state appropriate massage considerations.
- Discuss diseases of the lower gastrointestinal and appropriate massage considerations.
- Contrast and compare ulcerative colitis with Crohn disease.
- Explain how to accommodate clients who have had a colostomy or ileostomy.

**Diseases of the Upper GI Tract**

- Mumps
- Thrush
- Tonsillitis
- Gastroesophageal reflux disease
- Peptic ulcer disease
- Gastritis
- Gastroenteritis
Mumps

- Viral infection leading to enlargement of one or both parotid glands
- Massage is contraindicated

Thrush

- Fungal infection of the oral mucosa
- Avoid prone position if it produces facial pain; avoid lower portion of face

Tonsillitis, Acute

- Inflammation of the tonsils
- Massage is contraindicated

Gastroesophageal Reflux Disease

- Periodic regurgitation of gastric contents into the esophagus; causes heartburn
- Use semireclining position; avoid chest and upper abdomen if sensitive

Peptic Ulcer Disease

- Ulcerations of the mucosal lining in GI tract exposed to acidic gastric juice
- Use semireclining position; avoid abdomen if sensitive

Gastritis

- Inflammation of gastric mucosa
- Massage is contraindicated in acute cases; otherwise, use semireclining position and avoid abdomen
Gastroenteritis

- Inflammation of the lining of the gastric and intestinal mucosa; also known as stomach flu
- Massage is contraindicated

Diseases of the Lower GI Tract

- Polyps
- Diverticulosis
- Diverticulitis
- Irritable bowel syndrome
- Ulcerative colitis
- Crohn disease
- Intestinal obstruction
- Appendicitis
- Hemorrhoids

Polyps, Colorectal

- Benign growths on mucous membranes; commonly found in colon
- Avoid abdomen if sensitive

Diverticulosis

- Presence of diverticula (herniations) in the colon wall
- Avoid abdomen if sensitive

Diverticulitis

- Infection in the diverticula
- Massage is contraindicated

Irritable Bowel Syndrome

- Abnormal muscular contraction of large intestine and excessive mucus in stools
- Focus on relaxation during massage while avoiding the abdomen if sensitive
**Ulcerative Colitis**

- Inflammation of the colon; usually begins in the rectum and then spread proximally, eventually involving the entire colon
- Periods of remission and exacerbation
- Avoid the abdomen

**Crohn Disease**

- Chronic irritable bowel disease that affects any part of GI tract
  - Characterized by skip lesions
  - Periods of remission and exacerbation
- Avoid the abdomen

**Ulcerative Colitis vs. Crohn Disease**

**TABLE 17-3** Comparing and Contrasting Ulcerative Colitis and Crohn Disease

<table>
<thead>
<tr>
<th>Ulcerative Colitis</th>
<th>Crohn Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age: 20 to 40 yrs</td>
<td>Age: 10 to 30 yrs</td>
</tr>
<tr>
<td>Family history common (25% of cases)</td>
<td>Family history common (25% of cases)</td>
</tr>
<tr>
<td>Large intestine (predominantly left side)</td>
<td>Large intestine (predominantly right side)</td>
</tr>
<tr>
<td>Colitis stricta affected</td>
<td>Entire intestinal wall affected</td>
</tr>
<tr>
<td>Involvement is diffuse</td>
<td>Involvement is segmental (skip lesions)</td>
</tr>
<tr>
<td>Obstructive ileitis</td>
<td>Obstructive common</td>
</tr>
<tr>
<td>Wall thickening rare</td>
<td>Wall thickening common</td>
</tr>
<tr>
<td>Bloody stools are common</td>
<td>Bloody stools are not common</td>
</tr>
</tbody>
</table>

**Colostomy and Ileostomy**

- Colostomy – Incision in colon
- Ileostomy – Incision in small intestine (usually the ileum)
- Both procedures are used to create an opening that is affixed to exterior abdominal wall

**Colostomy and Ileostomy (cont’d.)**

- Ask client not eat 2-3 hrs before session
- Do not apply lubricant on or near bag opening
- Include use of a side lying position
Intestinal Obstruction
- Any blockage of the intestines; Small intestine most often involved
- Massage is contraindicated

Appendicitis, Acute
- Inflammation of the vermiform appendix
- Massage is contraindicated

Hemorrhoids
- Dilated and inflamed anal or rectal veins
- Position client for comfort; this usually involves avoiding semireclining and seated positions

Lesson 11.3 Objectives
- Identify diseases of the liver, gallbladder, and pancreas and list appropriate massage considerations.
- Delineate types of viral hepatitis.
- Discuss disorders of nutrient and absorption and include appropriate massage considerations.
- Discuss other gastrointestinal disorders and list appropriate massage considerations.

Diseases of the Liver, Gallbladder, and Pancreas
- Jaundice
- Viral hepatitis
- Cirrhosis
- Cholelithiasis
- Cholecystitis
- Pancreatitis

Jaundice
- Yellowish color of skin and mucosa caused by elevated blood bilirubin levels
- Massage is contraindicated
**Viral Hepatitis**
- Inflammation of the liver
- Modify massage according to symptoms; avoid abdomen and deep pressure as client may bruise easily

**Types of Hepatitis**
- Modes of transmission:
  - Type A (HAV): oral-fecal contact, contaminated food or water
  - Type B (HBV): sexual contact, blood contact, mother to baby during birth
  - Type C (HCV): blood contact, mother to baby during birth
  - Type D (HDV): sexual contact, blood contact, mother to baby during birth

**Cirrhosis**
- Progressive disease that destroys liver cells
- Massage is contraindicated in later stages (indicated by jaundice); avoid deep pressure over abdomen and areas of pitting edema

**Cholelithiasis**
- Formation and presence of gallstones
- Massage is contraindicated if symptoms are severe; otherwise, avoid abdomen

**Cholecystitis**
- Inflammation of the gallbladder and cystic duct
- Massage is contraindicated in acute cases or if fever is present; otherwise, avoid abdomen

**Pancreatitis**
- Inflammation of the pancreas
- Massage is contraindicated in acute cases; otherwise, avoid abdomen
Diseases of Nutrient Intake and Malabsorption

- Anorexia nervosa
- Bulimia
- Obesity
- Celiac disease
- Food poisoning

Anorexia Nervosa

- Refusal to maintain normal body weight for person's age and height; both an eating and emotional disorder
- Reduce treatment time and pressure if client is fatigued; use a warm blanket

Bulimia

- Continuous eating (bingeing) followed by recurrent inappropriate compensatory behaviors to prevent weight gain
  - Primary method is self-induced vomiting called purging
- Reduce treatment time and pressure if client is overly fatigued

Obesity

- Increase in the proportion of fat cells
- Body weight is 30% above normal for age, height, frame size, and gender
- Associated with leading causes of death in U.S.: cardiovascular disease, type II diabetes, and cancer

Massaging the Larger Client

- Lower table or use floor mat
- Use sheet draping
- Avoid deep pressure over adipose tissue or over loose skin

Celiac Disease

- Hypersensitivity to gluten in dietary grains
- Modify massage according to symptoms; avoid abdomen if sensitive
Food Poisoning
- Illness resulting from consuming contaminated food or beverages
- Often due to bacteria
- Massage is contraindicated

Other GI Disorders
- Peritonitis
- Hernias
  - Hiatal
  - Umbilical
  - Inguinal
  - Femoral

Other GI Disorders: Peritonitis
- Inflammation of the peritoneum
- Massage is contraindicated

Hernias
- Protrusion of tissues or organs through weakness in a membranous or cavity wall
- Four most common types: hiatal, inguinal, femoral, umbilical

Hiatal Hernia
- Protrusion of upper part of the stomach through diaphragm
- Avoid abdomen if sensitive

Umbilical Hernia
- Protrusion of intraabdominal contents through weakness around umbilicus
- Avoid abdomen if sensitive
**Inguinal Hernia**

- Protrusion of intestine through the inguinal canal
- Massage is contraindicated if severe pain is present; otherwise, position the client for comfort

**Femoral Hernia**

- Protrusion of intestine through the femoral canal
- Massage is contraindicated if severe pain is present; otherwise, avoid medial thigh if sensitive