CHAPTER 5

Gastrointestinal Disorders

Gastroesophageal Reflux Disease
Hiatal Hernia
Irritable Bowel Syndrome
Constipation
Diarrhea
Colorectal Cancer
Gastroesophageal Reflux Disease

Gastroesophageal reflux disease (GERD), also known as acid reflux, is a chronic condition of the lower esophagus and stomach that occurs when contents of the stomach reflux back into the esophagus.

Epidemiology
Approximately 14% of all adult women suffer from GERD.

Etiology
Control of the transport of food from the esophagus to the stomach is regulated by the lower esophageal sphincter. Inadequate functioning of the sphincter allows the stomach’s acidic contents to regurgitate back into the esophagus. Causes of lower esophageal sphincter anomalies include hiatal hernias and general sphincter weakening, sometimes as a result of smoking.

Other causes of GERD include the following:
- Pregnancy
- Diet
- Obesity
- Chronic, persistent cough
- Excessive physical exertion
- Iatrogenic causes (e.g., heartburn is a side effect of some medications)

TECHNICAL NOTE
Current understanding implicates *Helicobacter pylori* infection as a cause of GERD. *H. pylori* can cause low-grade inflammation and lead to ulcers in the stomach.

CLINICAL PEARL
Some anecdotal evidence supports the proposed theory that GERD is in part caused by the stomach producing too little acid.
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Signs and Symptoms
- Acid indigestion
- Burning pain in the chest
- Pain in the neck
- Pain in the throat

Diagnoses
- Esophageal pH monitoring to measure the quantity of acid in the esophagus over a 24- to 48-hour period
- Endoscopy if symptoms are moderate or severe to examine for esophagitis, esophageal strictures, and Barret’s esophagus
- Manometry to assess the function of the lower esophageal sphincter and the need for surgery

TECHNICAL NOTE
Conventional and alternative medicine sources differ dramatically in the understanding of and approach to managing GERD. Whereas the conventional medicine literature espouses high acid levels as the cause of GERD, alternative medicine sources espouse abnormal gut health as a result of the wrong balance of the gut flora as a primary cause of GERD.

Management

Conventional

Medications
- H2 blockers to decrease stomach acid, including the following:
  - Cimetidine (Tagamet)
  - Famotidine (Pepcid)
  - Ranitidine (Zantac)

CLINICAL PEARL
Research evidence suggests that suppression of stomach acid, although helpful for symptomatology, does not address the underlying causes of GERD.
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**CLINICAL PEARL**
Proton pump inhibitors are recommended primarily for severe GERD with bleeding ulcers.

**Complementary**

*Acupuncture*
Some studies suggest that acupuncture may provide some benefit for GERD.

*Nutraceuticals*
Small-scale studies and anecdotal reports suggest that the following may decrease symptoms of GERD:
- Probiotics
- Melatonin

**Self-Care and Wellness**

*Conventional Approaches*
- Eating smaller meal portions
- Avoiding known triggers, including cigarette smoke, some citrus fruits, alcohol, fatty foods, and tomatoes
- Eating a few hours before bedtime
- Managing weight
- Sleeping with the head and upper back elevated

*Complementary and Alternative Approaches*
- Eating whole foods
- Eating unprocessed foods
- Enhancing gut health via the following:
  - Fermented vegetables
  - Cultured dairy products, including yogurt, sour cream, and kefir
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- Fish, such as mackerel
- Himalayan (and other) sea salts with high chloride content to increase the production of hydrochloric acid
- Gut stimulants, such as cabbage

Hiatal Hernia

Hiatal hernias occur when parts of the stomach herniate through the diaphragm.

Epidemiology

The incidence of hiatal hernia is thought to be significantly underreported; however, estimates are similar to those for GERD. Approximately 14% of all women and 40% of obese women have some form of hiatal hernia.

Etiology

The cause is unknown but may include anything that places pressure on the diaphragm and surrounding tissue, such as pregnancy, persistent coughing or straining, and obesity. In addition, laxity associated with age may cause a predisposition to hiatal hernias.

Signs and Symptoms

- Sometimes none
- Heartburn
- Chest pain
- Belching/burping
- Difficulty swallowing
- Excessive feelings of fullness following a meal

Diagnosis

- Blood analysis (complete blood count [CBC]) to rule out anemia
- Barium swallow to visualize the stomach, esophagus, and duodenum on x-ray
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- Endoscopy to check for inflammation
- Manometry to assess function of the lower esophageal sphincter and assess for the need for surgery

Management

Medications

- Antacids, such as Maalox, Tums, and Rolaids
- H2 receptor blockers, such as cimetidine (Tagamet) and famotidine (Pepcid AC), to decrease acid production
- Proton pump inhibitors, such as omeprazole (Prilosec OTC), to block acid production and heal the esophagus

Surgery is rarely performed in severe cases.

Complementary

- The hiatal hernia maneuver, as performed by many chiropractors (see the Appendix)

Self-Care and Wellness

- Eat smaller meals.
- Minimize heavy lifting, straining, and bending over.
- Improve seated and standing posture; avoid slouching.
- Sleep on an incline, with the head of the bed raised 4 to 6 inches on blocks.
- Choose activities that involve standing rather than sitting or reclining.
- Avoid meals within 2 hours of bedtime.
- The following exercise is anecdotally reported to provide some patients with relief: After drinking a small glass of warm water, stand on the toes, and then drop down to the heels, with the arms above the head. The exercise is repeated 10 times every morning on arising.
TECHNICAL NOTE

Hiatal hernias may be classified as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sliding Hiatal Hernia (Concentric/Axial)</td>
<td>Accounts for 95% of all hiatal hernias Correlated with GERD</td>
</tr>
<tr>
<td>2</td>
<td>Paraesophageal hernia</td>
<td>Gastric fundus herniates Accounts for 5% of all hiatal hernias</td>
</tr>
<tr>
<td>3</td>
<td>Combination of type 1 and type 2</td>
<td>Rare</td>
</tr>
<tr>
<td>4</td>
<td>Herniation of other abdominal organs, such as the spleen or colon</td>
<td>Very rare</td>
</tr>
</tbody>
</table>

Irritable Bowel Syndrome

Irritable bowel syndrome (IBS) is a disorder of the large intestine. It is characterized by changes in stool frequency, abdominal pain, cramping, and bloating or distension. Although IBS is considered a chronic condition, epidemiologic data suggest that symptoms may subside over time.

Epidemiology

Reported IBS symptoms are two to three times higher in women than in men. Globally, the prevalence of IBS is 67% higher in women than in men. Of patients who report with IBS, 50% are under 35 years of age; prevalence is 25% lower in people over age 50. Less than half of patients with IBS seek medical attention.

Etiology

- Unknown
- Food allergies/sensitivities
- Fluctuating hormones
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• Stress
• Prior illness of the gut

Signs and Symptoms
• Abdominal pain relieved by defecation
• Frequent stools
• Constipation
• Altered stool frequency
• Bloating
• Passing mucus during a bowel movement
• Symptoms for more than 6 months

Diagnosis
• Symptoms (see Table 5-1)
• Sigmoidoscopy
• Colonoscopy
• Imaging of the abdomen, including x-rays, computed tomography (CT) scans, and barium studies
• Blood tests to rule out other diseases, such as celiac disease
• Assessment for lactose intolerance
• Stool analysis

Management

Conventional

Medications
• Antidiarrheals, such as loperamide (Imodium)
• Antispasmodics, such as dicyclomine (Bentyl)
• Antibiotics, such as rifaximin (Xifaxan)
• Antidepressants, including the tricyclics, such as Amitriptyline (Elavil); the selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine (Prozac); and the serotonin–norepinephrine reuptake inhibitors (SNRIs), such as duloxetine (Cymbalta)
• Fiber supplements, including psyllium (e.g., Metamucil)
• Medications to relax the colon, such as alosetron (Lotronex)
• Other symptom-specific medications
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Table 5-1 Manning Criteria—Two or More Symptoms Suggest IBS

- Onset of pain linked to more frequent bowel movements
- Looser stools associated with onset of pain
- Pain relieved by passage of stool
- Noticeable abdominal bloating
- Sensation of incomplete evacuation more than 25% of the time
- Diarrhea with mucus more than 25% of the time


Complementary

- Acupuncture: Several research studies suggest that acupuncture is a valuable therapy for relieving the symptoms of IBS.
- Therapies aimed at regulating the nervous system: Therapies such as Logan Basic and spinal touch (see the Appendix) are anecdotally reported to relieve the symptoms of IBS.
- Herbs: Numerous herbs have been identified in multiple studies as improving some of the symptoms of IBS. They include the following:
  - Single herbs:
    - Essential oil of Mentha piperita
    - Cynara scolymus
    - Curcuma longa extract
    - Maranta arundinacea
  - Herbal preparations:
    - Carmint
    - STW 5
    - Padma Lax

Self-Care and Wellness

Diet

- Remove lactose-containing foods from the diet if lactose intolerance is contributing to the symptoms.
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- Remove gluten-containing foods from the diet if gluten sensitivity or celiac disease is contributing to the symptoms.
- Complete a food diary to assess for other foods that may aggravate symptoms.
- Try food-elimination diets to assess for other foods that may aggravate symptoms.
- Eat at regular intervals.
- Ensure adequate hydration.
- Exercise regularly.

Constipation

Constipation is a condition in which there is difficulty emptying the bowel, usually associated with hardened feces.

Epidemiology

Depending on the definition of constipation, prevalence rates range from 2% to 28%. Constipation is twice as common in women as in men.

Etiology

- Inadequate dietary fiber
- Perceived and real difficulties in defecation, including limited urge to defecate
- Impaired colonic motor activity
- Dysfunction of the pelvic floor
- Dysfunction of the anal sphincter
- Medications, including antacids, psychoactive medications, opioids, and numerous others, that impair defecation
- Endocrine and metabolic disorders, such as hypothyroidism, parathyroidism, and diabetes
- Pregnancy
- Gastrointestinal conditions, such as Crohn’s
- Neurologic conditions, including multiple sclerosis and Parkinson’s
- Structural abnormalities
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Signs and Symptoms
- Lumpy or hard stools
- Less than three bowel movements every week
- The need to manually remove stools
- Significant straining to have bowel movements
- Incomplete emptying of stools

Diagnosis
- Colonoscopy
- Sigmoidoscopy
- Colonic transit studies
- Defecography (x-ray study of the rectum during defecation)
- Anorectal manometry (evaluation of the anal sphincter)

Management
Conventional
- Fiber and bulking agents to increase stool weight, such as psyllium, polycarbophil, and methylcellulose
- Laxatives
  - Saline laxatives, including mineral oil, glycerin, and docosate (oral or rectal)
  - Osmotics, such as magnesium citrate and MiraLax (polyethylene glycol 3350)
  - Stimulants, such as cascara, used with caution
  - Motility agents, such as Tegaserod (Zelnorm)
  - Physical therapy—pelvic floor training and biofeedback
  - Surgery in severe cases

Complementary
- Spinal manipulation: Multiple studies using chiropractic adjustments delivered through various chiropractic technique systems (e.g., activator, diversified, Thompson, Gonstead) suggest improved symptoms in patients with constipation and other gastrointestinal (GI) symptoms.
Acupuncture: Multiple studies using acupuncture and electroacupuncture suggest improved symptoms following treatment in patients with constipation.

Self-Care and Wellness
- Increasing fiber and water intake
- Engaging in daily exercise
- Paying attention to the urge

Diarrhea
Diarrhea is the passing of three or more loose stools per day or more frequent passage of stools than is normal for the individual.

Epidemiology
The epidemiology of diarrhea in women remains unclear; estimates are that approximately 9% of the general population has some experience with diarrhea. Diarrhea is an identified manifestation of IBS, a condition that predominates.

Etiology
- Infection in the intestinal tract
- Contaminated water sources
- Poor personal hygiene
- Food prepared or stored in unhygienic conditions
- IBS
- Stress
- Family violence
- Antibiotics
- Hormones
  - Estrogen, progesterone, docosahexaenoic acid (DHEA), and cortisol have all been implicated in either slowing or increasing gut transit time.
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Signs and Symptoms
• Loose, watery, frequent stools
• Signs of dehydration
• Abdominal pain

Diagnosis
• History and exam (including blood pressure to assess for dehydration; abdominal examination)
• Review of medications
• Stool testing for mucus, blood, and pathogens
• Laboratory analysis for dehydration, altered blood chemistries, and antibody tests for parasites or celiac disease

Management
Conventional
• Rehydration (water, salt, sugar/juices)
• Zinc supplements (may reduce the duration of diarrhea by as much 25%)
• Nutrient-rich foods
• Medication adjustment
• Intravenous rehydration if necessary

Complementary
• Assessment for and removal of all food allergens
• Probiotics
• Green tea
• Pomegranate extract

Self-Care and Wellness
• Avoid caffeine and alcohol.
• Avoid foods with high sensitivity risk, including dairy products and spicy foods.
• Practice good hygiene habits.

Other management strategies include those described earlier for IBS.
**Colorectal Cancer**

Colorectal cancer is cancer of the large intestine and rectum.

**Epidemiology**

Colorectal cancer is the second most common cancer in U.S. women of Hispanic, American Indian/Alaska Native or Asian/Pacific Islander descent and the third most common cancer in U.S. Caucasian and African American women. It is most commonly diagnosed in women after age 50.

**CLINICAL PEARL**

Deaths from colorectal cancer rank third, after lung and breast cancer, for women.

**Etiology**

- Unknown
- Gene mutations and other hereditary factors
- Diet
  - Diets that are high in fat and low in fiber have been associated with colorectal cancer.

**Signs and Symptoms**

- Rectal bleeding
- Rectal pain
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Table 5-2 Staging for Colorectal Cancer

<table>
<thead>
<tr>
<th>Stage</th>
<th>Cancer Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Involves the mucosa of the colon and rectum</td>
</tr>
<tr>
<td>2</td>
<td>Involves the colon and rectum; doesn’t involve lymph nodes</td>
</tr>
<tr>
<td>3</td>
<td>Involves local lymph nodes</td>
</tr>
<tr>
<td>4</td>
<td>Involves distal sites</td>
</tr>
</tbody>
</table>

- Altered bowel patterns that persist
- Abdominal bloating
- Abdominal pain
- Signs of anemia, including fatigue and generalized pallor
- Weight loss

Diagnosis

- History and exam
- Colonoscopy
- Blood analysis for carcinoembryonic antigen
- Abdominal CT scans

Management

Conventional

Conventional management is dependent on staging (see Table 5-2) and might include the following:

- Surgery
- Chemotherapy
- Radiation therapy

Self-Care and Wellness

- Exercise—as recommended by the National Cancer Institute (NCI, 2010), thirty minutes a day for most days of the week; avoiding exercises that increase intra-abdominal pressure
- Diet that is low in red and processed meat
- High-fiber foods, such as split peas, lentils, and black beans
- Colonoscopy every 5 years after age 50