Management of Patients With Intestinal and Rectal Disorders

LEARNING OBJECTIVES

On completion of this chapter, the learner will be able to:

1. Identify the health care teaching needs of patients with constipation or diarrhea.
2. Compare the conditions of malabsorption with regard to their pathophysiology, clinical manifestations, and management.
3. Use the nursing process as a framework for care of patients with diverticulitis.
4. Compare regional enteritis and ulcerative colitis with regard to their pathophysiology, clinical manifestations, diagnostic evaluation, and medical, surgical, and nursing management.
5. Use the nursing process as a framework for care of the patient with an inflammatory bowel disease.
6. Describe the responsibilities of the nurse in meeting the needs of the patient with an ileostomy.
7. Describe the various types of intestinal obstructions and their management.
8. Use the nursing process as a framework for care of the patient with cancer of the colon or rectum.
9. Use the nursing process as a framework for care of the patient with an anorectal condition.
Chapter 38  Management of Patients With Intestinal and Rectal Disorders

Diseases of the gastrointestinal (GI) tract account for about 10% of the total burden of illness in the United States. They account for more than 50 million office visits annually and nearly 10 million hospital admissions. GI diseases probably cost the American public up to $100 billion yearly and account for 10% of all deaths each year (Goldman & Bennett, 2000). The types of diseases and disorders that affect the lower GI tract are many and varied.

In all age groups, a fast-paced lifestyle, high levels of stress, irregular eating habits, insufficient intake of fiber and water, and lack of daily exercise contribute to GI problems. Nurses can have an impact on these chronic problems by identifying behavior patterns that put patients at risk, by educating the public about prevention and management, and by helping those affected to improve their condition and prevent complications.

Abnormalities of Fecal Elimination

Changes in patterns of fecal elimination are symptoms of functional disorders or disease of the GI tract. The most common changes seen are constipation, diarrhea, and fecal incontinence. The nurse should be aware of the possible causes and therapeutic management of these problems and of nursing management techniques. Education is important for patients with these abnormalities.

**CONSTIPATION**

Constipation is a term used to describe an abnormal infrequency or irregularity of defeation, abnormal hardening of stools that makes their passage difficult and sometimes painful, a decrease in stool volume, or retention of stool in the rectum for a prolonged period. Any variation from normal habits may be considered a problem.

Constipation can be caused by certain medications (ie, tranquilizers, anticholinergics, antidepressants, antihypertensives, opioids, antacids with aluminum, and iron); rectal or anal disorders (eg, hemorrhoids, fissures); obstruction (eg, cancer of the bowel); metabolic, neurologic, and neuromuscular conditions (eg, diabetes mellitus, Hirschsprung’s disease, Parkinson’s disease, multiple sclerosis); endocrine disorders (eg, hypothyroidism, pheochromocytoma); lead poisoning; and connective tissue disorders (eg, scleroderma, lupus erythematosus). Constipation is a major problem for patients taking opioids for chronic pain. Diseases of the colon commonly associated with constipation are irritable bowel syndrome (IBS) and diverticular disease. Constipation can also occur with an acute disease process in the abdomen (eg, appendicitis).

Other causes include weakness, immobility, debility, fatigue, and an inability to increase intra-abdominal pressure to facilitate the passage of stools, as occurs with emphysema. Many people develop constipation because they do not take the time to defecate or they ignore the urge to defecate. In the United States, constipation is also a result of dietary habits (ie, low consumption of fiber and inadequate fluid intake), lack of regular exercise, and a stress-filled life.

Perceived constipation can also be a problem. This subjective problem occurs when an individual’s bowel elimination pattern is not consistent with what he or she perceives as normal. Chronic laxative use is attributed to this problem and is a major health concern in the United States, especially among the elderly population.

**Pathophysiology**

The pathophysiology of constipation is poorly understood, but it is thought to include interference with one of three major functions of the colon: mucosal transport (ie, mucosal secretions facilitate the movement of colon contents), myoelectric activity (ie, mixing of the rectal mass and propulsive actions), or the processes of defeation. Any of the causative factors previously identified can interfere with any of these three processes.

The urge to defecate is stimulated normally by rectal distention, which initiates a series of four actions: stimulation of the inhibitory rectoanal reflex, relaxation of the internal sphincter muscle, relaxation of the external sphincter muscle and muscles in the pelvic region, and increased intra-abdominal pressure. Interference with any of these processes can lead to constipation.

If all organic causes are eliminated, idiopathic constipation is diagnosed. If the urge to defecate is ignored, the rectal mucous membrane and musculature become insensitive to the presence of fecal masses, and consequently, a stronger stimulus is required to produce the necessary peristaltic rush for defeation. The initial effect of fecal retention is to produce irritability of the colon, which at this stage frequently goes into spasm, especially after meals, giving rise to colicky midabdominal or low abdominal pains. After several years of this process, the colon loses muscular tone and becomes essentially unresponsive to normal stimuli. Atony or decreased muscle tone occurs with aging. This also leads to constipation because the stool is retained for longer periods.

**Glossary**

- **appendicitis**: infectious and inflammatory process of the appendix creating acute abdominal pain and nausea
- **azotorrhea**: excess of nitrogenous matter in the feces or urine
- **colostomy**: surgical opening into the colon by means of a stoma to allow drainage of bowel contents; one type of fecal diversion
- **diverticulitis**: inflammation of a diverticulum from obstruction (by fecal matter), resulting in abscess formation
- **diverticulosis**: presence of a number of diverticula in the intestine; common in middle age
- **diverticulum**: saclike outpouching of the lining of the bowel protruding through the muscle of the intestinal wall, usually caused by high intraluminal pressure
- **hemorrhoids**: dilated portions of the anal veins; can occur internal or external to the anal sphincter
- **ileostomy**: surgical opening into the ileum by means of a stoma to allow drainage of bowel contents; one type of fecal diversion
- **irritable bowel syndrome**: functional disorder that affects frequency of defeation and consistency of stool; associated with crampy abdominal pain and bloating
- **malabsorption**: impaired transport across the mucosa
- **peritonitis**: inflammation of the lining of the abdominal cavity, usually as a result of a bacterial infection of an area in the GI tract with leakage of contents into the abdominal cavity
- **acute disease process**: disease that occurs suddenly and lasts for a short time
Clinical Manifestations

Clinical manifestations include abdominal distention, borborygnum (ie, gurgling or rumbling sound caused by passage of gas through the intestine), pain and pressure, decreased appetite, headache, fatigue, indigestion, a sensation of incomplete emptying, straining at stool, and the elimination of small-volume, hard, dry stools.

Assessment and Diagnostic Findings

Chronic constipation is usually considered idiopathic, but secondary causes should be excluded. In patients with severe, intractable constipation, further diagnostic testing is needed (Wong, 1999). The diagnosis of constipation is based on results of the patient’s history, physical examination, possibly a barium enema or sigmoidoscopy, and stool testing for occult blood. These tests are completed to determine whether this symptom results from spasm or narrowing of the bowel. Anorectal manometry (ie, pressure studies) may be performed to determine malfunction of the muscle and sphincter. Defecography and bowel transit studies can also assist in the diagnosis (see Chap. 34).

Complications

Complications of constipation include hypertension, fecal impaction, hemorrhoids and fissures, and megacolon. Increased arterial pressure can occur with defecation. Straining at stool, which results in the Valsalva maneuver (ie, forcibly exhaling with the glottis closed), has a striking effect on arterial blood pressure. During active straining, the flow of venous blood in the chest is temporarily impeded because of increased intrathoracic pressure. This pressure tends to collapse the large veins in the chest. The atria and the ventricles receive less blood, and consequently less is delivered by the systolic contractions of the left ventricle. The cardiac output is decreased, and there is a transient drop in arterial pressure. Almost immediately after this period of hypotension, a rise in arterial pressure occurs; the pressure is elevated momentarily to a point far exceeding the original level (ie, rebound phenomenon). In patients with hypertension, this compensatory reaction may be exaggerated greatly, and the peaks of pressure attained may be dangerously high—sufficient to rupture a major artery in the brain or elsewhere.

Fecal impaction occurs when an accumulated mass of dry feces cannot be expelled. The mass may be palpable on digital examination, may produce pressure on the colonic mucosa that results in ulcer formation, and frequently may cause seepage of liquid stools. Hemorrhoids and anal fissures can develop as a result of constipation. Hemorrhoids develop as a result of peripheral vascular congestion caused by straining. Anal fissures may result from the passage of the hard stool through the anus, tearing the lining of the anal canal.

Megacolon is a dilated and atonic colon caused by a fecal mass that obstructs the passage of colon contents. Symptoms include constipation, liquid fecal incontinence, and abdominal distention. Megacolon can lead to perforation of the bowel.

Gerontologic Considerations

Physician visits for constipation are more frequent by individuals 65 years of age or older (Yamada et al., 1999). Elderly people report problems with constipation five times more frequently than younger people. A number of factors contribute to this increased frequency. People who have loose-fitting dentures or have lost their teeth have difficulty chewing and frequently choose soft, processed foods that are low in fiber. Convenience foods, also low in fiber, are widely used by those who have lost interest in eating. Some older people reduce their fluid intake if they are not eating regular meals. Lack of exercise and prolonged bed rest also contribute to constipation by decreasing abdominal muscle tone and intestinal motility as well as anal sphincter tone. Nerve impulses are dulled, and there is decreased sensation to defecate. Many older people who overuse laxatives in an attempt to have a daily bowel movement become dependent on them.

Medical Management

Treatment is aimed at the underlying cause of constipation and includes education, bowel habit training, increased fiber and fluid intake, and judicious use of laxatives. Management may also include discontinuing laxative abuse. Routine exercise to strengthen abdominal muscles is encouraged. Biofeedback is a technique that can be used to help patients learn to relax the sphincter mechanism to expel stool. Daily addition to the diet of 6 to 12 teaspoonsfuls of unprocessed bran is recommended, especially for the treatment of constipation in the elderly. If laxative use is necessary, one of the following may be prescribed: bulk-forming agents, saline and osmotic agents, lubricants, stimulants, or fecal softeners. The physiologic action and patient education information related to these laxatives are identified in Table 38-1. Enemas and rectal suppositories are generally not recommended for constipation and should be reserved for the treatment of impaction or for preparing the bowel for surgery or diagnostic procedures. If long-term laxative use is necessary, a bulk-forming agent may be prescribed in combination with an osmotic laxative.

Doctors prescribe the use of specific medications to enhance colonic transit by increasing propulsive motor activity. Further studies are being carried out on cholinergic agents (eg, bethanechol), cholinesterase inhibitors (eg, neostigmine), and prokinetic agents (eg, metoclopramide) to determine the role these agents can play in treating constipation (Yamada et al., 1999).

Nursing Management

The nurse elicits information about the onset and duration of constipation, current and past elimination patterns, the patient’s expectation of normal bowel elimination, and lifestyle information (eg, exercise and activity level, occupation, food and fluid intake, and stress level) during the health history interview. Past medical and surgical history, current medications, and laxative and enema use are important, as is information about the sensation of rectal pressure or fullness, abdominal pain, excessive straining at defecation, and flatulence.

Patient education and health promotion are important functions of the nurse (Chart 38-1). After the health history is obtained, the nurse sets specific goals for teaching. Goals for the patient include restoring or maintaining a regular pattern of elimination, ensuring adequate intake of fluids and high-fiber foods, learning about methods to avoid constipation, relieving anxiety about bowel elimination patterns, and avoiding complications.

DIARRHEA

Diarrhea is increased frequency of bowel movements (more than three per day), increased amount of stool (more than 200 g per day), and altered consistency (ie, looseness) of stool. It is usually associated with urgency, perianal discomfort, incontinence, or a combination of these factors. Any condition that causes increased intestinal secretions, decreased mucosal absorption, or altered
motility can produce diarrhea. Irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), and lactose intolerance are frequently the underlying disease processes that cause diarrhea (Stone et al., 1999).

Diarrhea can be acute or chronic. Acute diarrhea is most often associated with infection and is usually self-limiting; chronic diarrhea persists for a longer period and may return sporadically. Diarrhea can be caused by certain medications (eg, thyroid hormone replacement, stool softeners and laxatives, antibiotics, chemotherapy, antacids), certain tube feeding formulas, metabolic and endocrine disorders (eg, diabetes, Addison’s disease, thyrotoxicosis), and viral or bacterial infectious processes (eg, dysentery, shigellosis, food poisoning). Other disease processes associated with diarrhea are nutritional and malabsorptive disorders (eg, celiac disease), anal sphincter defect, Zollinger-Ellison syndrome, paralytic ileus, intestinal obstruction, and acquired immunodeficiency syndrome (AIDS).

### Pathophysiology

Types of diarrhea include secretory, osmotic, and mixed diarrhea. Secretory diarrhea is usually high-volume diarrhea and is caused by increased production and secretion of water and electrolytes by the intestinal mucosa into the intestinal lumen. Osmotic diarrhea occurs when water is pulled into the intestines by the osmotic pressure of unabsorbed particles, slowing the reabsorption of water. Mixed diarrhea is caused by increased peristalsis (usually from IBD) and a combination of increased secretion and decreased absorption in the bowel. The physiology of diarrhea related to infection is discussed in Chapter 70.

### Clinical Manifestations

In addition to the increased frequency and fluid content of stools, the patient usually has abdominal cramps, distention, intestinal rumbling (ie, borborygmus), anorexia, and thirst. Painful spasmodic}

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**Table 38-1 • Laxatives: Classification, Agent, Action, and Patient Education**

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>SAMPLE AGENT</th>
<th>ACTION</th>
<th>PATIENT EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk forming</td>
<td>Psyllium hydrophilic mucilloid (Metamucil)</td>
<td>Polysaccharides and cellulose derivatives mix with intestinal fluids, swell, and stimulate peristalsis.</td>
<td>Take with 8 oz water and follow with 8 oz water; do not take dry. Report abdominal distention or unusual amount of flatulence.</td>
</tr>
<tr>
<td>Saline agent</td>
<td>Magnesium hydroxide (Milk of Magnesia)</td>
<td>Nonabsorbable magnesium ions alter stool consistency by drawing water into the intestines by osmosis; peristalsis is stimulated. Action occurs within 2 h.</td>
<td>The liquid preparation is more effective than the tablet form. Only short-term use is recommended because of toxicity (CNS or neuromuscular depression, electrolyte imbalance). Magnesium laxatives should not be taken by patients with renal insufficiency.</td>
</tr>
<tr>
<td>Lubricant</td>
<td>Mineral oil</td>
<td>Nonabsorbable hydrocarbons soften fecal matter by lubricating the intestinal mucosa; the passage of stool is facilitated. Action occurs within 6–8 h.</td>
<td>Do not take with meals, because mineral oils can impair the absorption of fat-soluble vitamins and delay gastric emptying. Swallow carefully, because drops of oil that gain access to the pharynx can produce a lipid pneumonia.</td>
</tr>
<tr>
<td>Stimulant</td>
<td>Bisacodyl (Dulcolax)</td>
<td>Irritates the colon epithelium by stimulating sensory nerve endings and increasing mucosal secretions. Action occurs within 6–8 h.</td>
<td>Catharsis may cause fluid and electrolyte imbalance, especially in the elderly. Tablets should be swallowed, not crushed or chewed. Avoid milk or antacids within 1 hour of taking the medication, because the enteric coating may dissolve prematurely.</td>
</tr>
<tr>
<td>Fecal softener</td>
<td>Dioctyl sodium sulfosuccinate (Colace)</td>
<td>Hydrates the stool by its surfactant action on the colonic epithelium (increases the wetting efficiency of intestinal water); aqueous and fatty substances are mixed. Does not exert a laxative action.</td>
<td>Can be used safely by patients who should avoid straining (cardiac patients, patients with anorectal disorders).</td>
</tr>
<tr>
<td>Osmotic agent</td>
<td>Polyethylene glycol and electrolytes (Colyte)</td>
<td>Cleanses colon rapidly and induces diarrhea.</td>
<td>This is a large-volume product. It takes time to consume it safely. It can cause considerable nausea and bloating.</td>
</tr>
</tbody>
</table>

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**Chart 38-1 Health Promotion: Preventing Constipation**

- Describe the physiology of defecation.
- Emphasize the importance of heeding the urge to defecate.
- Discuss normal variations in patterns of defecation.
- Teach how to establish a bowel routine, and explain that having a regular time for defecation (eg, best time is after breakfast) may aid in initiating the reflex.
- Provide dietary information; suggest eating high-residue, high-fiber foods, adding bran daily (must be introduced gradually), and increasing fluid intake (unless contraindicated).
- Explain how an exercise regimen, increased ambulation, and abdominal muscle toning will increase muscle strength and help propel colon contents.
- Describe abdominal toning exercises (contracting abdominal muscles 4 times daily and leg-to-chest lifts 10 to 20 times each day).
- Explain that the normal position (semisquatting) maximizes use of abdominal muscles and force of gravity.
contractions of the anus and ineffectual straining (ie, tenesmus) may occur with defecation. Other symptoms depend on the cause and severity of the diarrhea but are related to dehydration and to fluid and electrolyte imbalances.

Watery stools are characteristic of small bowel disease, whereas loose, semisolid stools are associated more often with disorders of the colon. Voluminous, greasy stools suggest intestinal malabsorption, and the presence of mucus and pus in the stools suggests inflammatory enteritis or colitis. Oil droplets on the toilet water are almost always diagnostic of pancreatic insufficiency. Nocturnal diarrhea may be a manifestation of diabetic neuropathy.

**Assessment and Diagnostic Findings**

When the cause of the diarrhea is not obvious, the following diagnostic tests may be performed: complete blood count, chemical profile, urinalysis, routine stool examination, and stool examinations for infectious or parasitic organisms, bacterial toxins, blood, fat, and electrolytes. Endoscopy or barium enema may assist in identifying the cause.

**Complications**

Complications of diarrhea include the potential for cardiac dysrhythmias because of significant fluid and electrolyte loss (especially loss of potassium). Urinary output of less than 30 mL per hour for 2 to 3 consecutive hours, muscle weakness, paresthesia, hypotension, anorexia, and drowsiness with a potassium level of less than 3.0 mEq/L (3 mmol/L) must be reported. Decreased potassium levels cause cardiac dysrhythmias (ie, atrial and ventricular tachycardia, ventricular fibrillation, and premature ventricular contractions) that can lead to death.

**Medical Management**

Primary management is directed at controlling symptoms, preventing complications, and eliminating or treating the underlying disease. Certain medications (eg, antibiotics, anti-inflammatory agents) may reduce the severity of the diarrhea and treat the underlying disease.

**Nursing Management**

The nurse’s role includes assessing and monitoring the characteristics and pattern of diarrhea. A health history addresses the patient’s medication therapy, medical and surgical history, and dietary patterns and intake. Reports of recent exposure to an acute illness or recent travel to another geographic area are important. Assessment includes abdominal auscultation and palpation for abdominal tenderness. Inspection of the abdomen and mucous membranes and skin is important to determine hydration status. Stool samples are obtained for testing.

During an episode of acute diarrhea, the nurse encourages bed rest and intake of liquids and foods low in bulk until the acute attack subsides. When food intake is tolerated, the nurse recommends a bland diet of semisolid and solid foods. The patient should avoid caffeine, carbonated beverages, and very hot and very cold foods, because they stimulate intestinal motility. It may be necessary to restrict milk products, fat, whole-grain products, fresh fruits, and vegetables for several days. The nurse administers antidiarrheal medications such as diphenoxylate (Lomotil) and loperamide (Imodium) as prescribed. Intravenous fluid therapy may be necessary for rapid rehydration, especially for the elderly and those with preexisting GI conditions (eg, IBD). It is important to closely monitor serum electrolyte levels. The nurse immediately reports evidence of dysrhythmias or a change in the level of consciousness.

**NURSING ALERT** Elderly persons can become dehydrated quickly and develop low potassium levels (ie, hypokalemia) as a result of diarrhea. The older person taking digitalis must be aware of how quickly dehydration and hypokalemia can occur with diarrhea. The nurse instructs this person to recognize the signs of hypokalemia, because low levels of potassium intensify the action of digitalis, which can lead to digitalis toxicity.

The perianal area may become excoriated because diarrheal stool contains digestive enzymes that can irritate the skin. The patient should follow a perianal skin care routine to decrease irritation and excoriation. It is important to use skin sealants and moisture barriers as needed. The older person’s skin is very sensitive because of decreased turgor and reduced subcutaneous fat layers.

**Fecal Incontinence**

The term **fecal incontinence** describes the involuntary passage of stool from the rectum. Several factors influence fecal continence—the ability of the rectum to sense and accommodate stool, the amount and consistency of stool, the integrity of the anal sphincters and musculature, and rectal motility.

**Pathophysiology**

Fecal incontinence can result from trauma (eg, after surgical procedures involving the rectum), a neurologic disorder (eg, stroke, multiple sclerosis, diabetic neuropathy, dementia), inflammation, infection, radiation treatment, fecal impaction, pelvic floor relaxation, laxative abuse, medications, or advancing age (ie, weakness or loss of anal or rectal muscle tone). It is an embarrassing and socially incapacitating problem that requires a many-tiered approach to treatment and much adaptation on the patient’s part.

**Clinical Manifestations**

Patients may have minor soiling, occasional urgency and loss of control, or complete incontinence. Patients may also experience poor control of flatus, diarrhea, or constipation.

**Assessment and Diagnostic Findings**

Diagnostic studies are necessary because the treatment of fecal incontinence depends on the cause. A rectal examination and other endoscopic examinations such as a flexible sigmoidoscopy are performed to rule out tumors, inflammation, or fissures. X-ray studies such as barium enema, computed tomography (CT) scans, anorectal manometry, and transit studies may be helpful in identifying alterations in intestinal mucosa and muscle tone or in detecting other structural or functional problems.

**Medical Management**

Although there is no known cause or cure for fecal incontinence, specific management techniques can help the patient achieve a better quality of life. If fecal incontinence is related to diarrhea,
Pathophysiology

IBS results from a functional disorder of intestinal motility. The change in motility may be related to the neurologic regulatory system, infection or irritation, or a vascular or metabolic disturbance. The peristaltic waves are affected at specific segments of the intestine and in the intensity with which they propel the fecal matter forward. There is no evidence of inflammation or tissue changes in the intestinal mucosa.

Clinical Manifestations

There is a wide variability in symptom presentation. Symptoms range in intensity and duration from mild and infrequent to severe and continuous. The primary symptom is an alteration in bowel patterns—constipation, diarrhea, or a combination of both. Pain, bloating, and abdominal distention often accompany this change in bowel pattern. The abdominal pain is sometimes precipitated by eating and is frequently relieved by defecation.

Assessment and Diagnostic Findings

A definite diagnosis of IBS requires tests that prove the absence of structural or other disorders. Stool studies, contrast x-ray studies, and proctoscopy may be performed to rule out other colon diseases. Barium enema and colonoscopy may reveal spasm, distention, or mucus accumulation in the intestine (Fig. 38-1). Manometry and electromyography are used to study intraluminal pressure changes generated by spasticity.

Medical Management

The goals of treatment are aimed at relieving abdominal pain, controlling the diarrhea or constipation, and reducing stress. Restriction and then gradual reintroduction of foods that are possibly irritating may help determine what types of food are acting as irritants (eg, beans, caffeinated products, fried foods, alcohol, spicy foods). A healthy, high-fiber diet is prescribed to help control the diarrhea and constipation. Exercise can assist in reducing anxiety and increasing intestinal motility. Patients often find it helpful to participate in a stress reduction or behavior-modification program.

IRRITABLE BOWEL SYNDROME

IBS is one of the most common GI problems. Approximately one in six otherwise healthy persons report classic symptoms of IBS (Wolfe, 2000). It occurs more commonly in women than in men, and the cause is still unknown. Although no anatomic or biochemical abnormalities have been found that explain the common symptoms, various factors are associated with the syndrome: heredity, psychological stress or conditions such as depression and anxiety, a diet high in fat and stimulating or irritating foods, alcohol consumption, and smoking. The small intestine has become a focus of investigation as an additional site of dysmotility in IBS, and cluster contractions in the jejenum and ileum are being studied (Wolfe, 2000). The diagnosis is made only after tests have been completed that prove the absence of structural or other disorders.

The nurse initiates a bowel-training program that involves setting a schedule to establish bowel regularity. The goal is to assist the patient to achieve fecal continence. If this is not possible, the goal should be to manage the problem so the person can have predictable, planned elimination (Stone et al., 1999). Sometimes, it is necessary to use suppositories to stimulate the anal reflex. After the patient has achieved a regular schedule, the suppository can be discontinued. Biofeedback can be used in conjunction with these therapies to help the patient improve sphincter contractility and rectal sensitivity.

Fecal incontinence can also cause problems with perineal skin integrity. Maintaining skin integrity is a priority, especially in the debilitated or elderly patient. Incontinence briefs, although helpful in containing the fecal material, allow for increased skin contact with the feces and may cause excoriation of the skin. The nurse encourages and teaches meticulous skin hygiene.

Continence sometimes cannot be achieved, and the nurse assists the patient and family to accept and cope with this chronic situation. The patient can use fecal incontinence devices, which include external collection devices and internal drainage systems. External devices are special pouches that are drainable. They are attached to a synthetic adhesive skin barrier specially designed to conform to the buttocks. Internal drainage systems can be used to eliminate fecal skin contact and are especially useful when there is extensive excoriation or skin breakdown. A large catheter is inserted into the rectum and is connected to a drainage system.

FIGURE 38-1 In IBS, the spastic contractions of the bowel can be seen in x-ray contrast studies.
Hydrophilic colloids (ie, bulk) and antidiarrheal agents (eg, loperamide) may be given to control the diarrhea and fecal urgency. Antidepressants can assist in treating underlying anxiety and depression. Anticholinergics and calcium channel blockers decrease smooth muscle spasm, decreasing cramping and constipation.

**Nursing Management**

The nurse’s role is to provide patient and family education. The nurse emphasizes teaching and reinforces good dietary habits. The patient is encouraged to eat at regular times and to chew food slowly and thoroughly. The patient should understand that, although adequate fluid intake is necessary, fluid should not be taken with meals because this results in abdominal distention. Alcohol use and cigarette smoking are discouraged.

**CONDITIONS OF MALABSORPTION**

MALABSORPTION is the inability of the digestive system to absorb one or more of the major vitamins (especially vitamin B12), minerals (ie, iron and calcium), and nutrients (ie, carbohydrates, fats, and proteins). Interruptions in the complex digestive process may occur anywhere in the digestive system and cause decreased absorption. Diseases of the small intestine are the most common cause of malabsorption.

**Pathophysiology**

The conditions that cause malabsorption can be grouped into the following categories:

- Mucosal (transport) disorders causing generalized malabsorption (eg, celiac sprue, regional enteritis, radiation enteritis)
- Infectious diseases causing generalized malabsorption (eg, small bowel bacterial overgrowth, tropical sprue, Whipple’s disease)
- Luminal problems causing malabsorption (eg, bile acid deficiency, Zollinger-Ellison syndrome, pancreatic insufficiency)
- Postoperative malabsorption (eg, after gastric or intestinal resection)
- Disorders that cause malabsorption of specific nutrients (eg, disaccharidase deficiency leading to lactose intolerance)

Table 38-2 lists the clinical and pathologic aspects of malabsorptive diseases.

**Clinical Manifestations**

The hallmarks of malabsorption syndrome from any cause are diarrhea or frequent, loose, bulky, foul-smelling stools that have increased fat content and are often grayish. Patients often have associated abdominal distention, pain, increased flatus, weakness, weight loss, and a decreased sense of well-being. The chief result of malabsorption is malnutrition, manifested by weight loss and other signs of vitamin and mineral deficiency (eg, easy bruising, osteoporosis, anemia). Patients with malabsorption syndrome, if untreated, become weak and emaciated because of starvation and dehydration. Failure to absorb the fat-soluble vitamins A, D, and K causes a corresponding avitaminosis.

**Assessment and Diagnostic Findings**

Several diagnostic tests may be prescribed, including stool studies for quantitative and qualitative fat analysis, lactose tolerance tests, D-xylose absorption tests, and Schilling tests. The hydrogen breath test that is used to evaluate carbohydrate absorption (see Chap. 34) is performed if carbohydrate malabsorption is suspected. Endoscopy with biopsy of the mucosa is the best diagnostic tool. Biopsy of the small intestine is performed to assay enzyme activity or to identify infection or destruction of mucosa. Ultrasound studies, CT scans, and x-ray findings can reveal pancreatic or intestinal tumors that may be the cause. A complete blood cell count is used to detect anemia. Pancreatic function tests can assist in the diagnosis of specific disorders.

**Medical Management**

Intervention is aimed at avoiding dietary substances that aggravate malabsorption and at supplementing nutrients that have been lost. Common supplements are water-soluble vitamins (eg, B12, folic acid), fat-soluble vitamins (ie, A, D, and K), and minerals (eg, calcium, iron). Primary disease states may be managed surgically or nonsurgically. Dietary therapy is aimed at reducing gluten intake in patients with celiac sprue. Folic acid supplements are prescribed for patients with tropical sprue. Antibiotics (eg, tetracycline, ampicillin) are sometimes needed in the treatment of tropical sprue and bacterial overgrowth syndromes. Antidiarrheal agents may be used to decrease intestinal spasms. Parenteral fluids may be necessary to treat dehydration.

**Nursing Management**

The nurse provides patient and family education regarding diet and the use of nutritional supplements (Chart 38-2). It is important to monitor patients with diarrhea for fluid and electrolyte imbalances. The nurse conducts ongoing assessments to determine if the clinical manifestations related to the nutritional deficits have abated. Patient education includes information about the risk of osteoporosis related to malabsorption of calcium.

**Acute Inflammatory Intestinal Disorders**

Any part of the lower GI tract is susceptible to acute inflammation caused by bacterial, viral, or fungal infection. Two such situations are appendicitis and diverticulitis. These two conditions can lead to peritonitis, an inflammatory process within the abdomen.

**APPENDICITIS**

The appendix is a small, finger-like appendage about 10 cm (4 in) long that is attached to the cecum just below the ileocecal valve. The appendix fills with food and empties regularly into the cecum. Because it empties inefficiently and its lumen is small, the appendix is prone to obstruction and is particularly vulnerable to infection (ie, appendicitis).

**Appendicitis**, the most common cause of acute abdomen in the United States, is the most common reason for emergency abdominal surgery. About 7% of the population will have appendicitis at some time in their lives; males are affected more than females, and teenagers more than adults. Although it can occur at any age, it occurs most frequently between the ages of 10 and 30 years (Yamada et al., 1999).

**Pathophysiology**

The appendix becomes inflamed and edematous as a result of either becoming kinked or occluded by a fecalith (ie, hardened mass of stool), tumor, or foreign body. The inflammatory process...
**Clinical Manifestations**

Vague epigastric or periumbilical pain progresses to right lower quadrant pain and is usually accompanied by a low-grade fever and nausea and sometimes by vomiting. Loss of appetite is common. Local tenderness is elicited at McBurney’s point when pressure is applied (Fig. 38-2). Rebound tenderness (ie, production or intensification of pain when pressure is released) may be present. The extent of tenderness and muscle spasm and the existence of constipation or diarrhea depend not so much on the severity of the appendiceal infection as on the location of the appendix. If the appendix curls around behind the cecum, pain and tenderness may be felt in the lumbar region. If its tip is in the pelvis, these signs may be elicited only on rectal examination. Pain on defecation suggests that the tip of the appendix is resting against the rectum; pain on urination suggests that the tip is near the bladder or impinges on the ureter. Some rigidity of the lower portion of the right rectus muscle may occur. Rovsing’s sign may be elicited by palpating the left lower quadrant; this paradoxically causes pain to be felt in the right lower quadrant (see Fig. 38-2). If the appendix has ruptured, the pain becomes more diffuse; abdominal distention develops as a result of paralytic ileus, and the patient’s condition worsens.

Constipation can also occur with an acute process such as appendicitis. Laxatives administered in this instance may produce peristalsis of the inflamed appendix. In general, a laxative or cathartic should never be given while the person has fever, nausea, or pain.

**Assessment and Diagnostic Findings**

Diagnosis is based on results of a complete physical examination and on laboratory and x-ray findings. The complete blood cell count demonstrates an elevated white blood cell count. The leukocyte increase increases intraluminal pressure, initiating a progressively severe, generalized or upper abdominal pain that becomes localized in the right lower quadrant of the abdomen within a few hours. Eventually, the inflamed appendix fills with pus.

### Table 38-2 • Characteristics of Diseases of Malabsorption

<table>
<thead>
<tr>
<th>DISEASES/DISORDERS</th>
<th>PHYSIOLOGIC PATHOLOGY</th>
<th>CLINICAL FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastric resection with gastrojejunostomy</td>
<td>Decreased pancreatic stimulation because of duodenal bypass; poor mixing of food, bile, pancreatic enzymes; decreased intrinsic factor</td>
<td>Weight loss, moderate steatorrhea, anemia (combination of iron deficiency, vitamin B₁₂ malabsorption, folate deficiency)</td>
</tr>
<tr>
<td>Pancreatic insufficiency (chronic pancreatitis, pancreatic carcinoma, pancreatic resection, cystic fibrosis)</td>
<td>Reduced intraluminal pancreatic enzyme activity, with maldigestion of lipids and proteins</td>
<td>History of abdominal pain followed by weight loss; marked steatorrhea, azotemia (excess of nitrogenous matter in the feces or urine); also frequent glucose intolerance (70% in pancreatic insufficiency)</td>
</tr>
<tr>
<td>Ileal dysfunction (resection or disease)</td>
<td>Loss of ileal absorbing surface leads to reduced bile-salt pool size and reduced vitamin B₁₂ absorption; bile in colon inhibits fluid absorption</td>
<td>Diarrhea, weight loss with steatorrhea, especially when greater than 100 cm resection, decreased vitamin B₁₂ absorption</td>
</tr>
<tr>
<td>Stasis syndromes (surgical strictures, blind loops, enteric fistulas, multiple jejunal diverticula, scleroderma)</td>
<td>Overgrowth of intraluminal intestinal bacteria, especially anaerobic organisms, to greater than 10⁷/mL results in deconjugation of bile salts, leading to decreased effective bile-salt pool size, also bacterial utilization of vitamin B₁₂</td>
<td>Weight loss, steatorrhea; low vitamin B₁₂ absorption; may have low D-xylose absorption</td>
</tr>
<tr>
<td>Zollinger-Ellison syndrome</td>
<td>Hyperacidity in duodenum inactivates pancreatic enzymes</td>
<td>Ulcer diathesis, steatorrhea</td>
</tr>
<tr>
<td>Lactose intolerance</td>
<td>Deficiency of intestinal lactase results in high concentration of intraluminal lactose with osmotically induced diarrhea</td>
<td>Varied degrees of diarrhea and cramps after ingestion of lactose-containing foods; positive lactose intolerance test, decreased intestinal lactase absorption</td>
</tr>
<tr>
<td>Celiac disease (gluten enteropathy)</td>
<td>Toxic response to a gluten fraction by surface epithelium results in destruction of absorbing surface</td>
<td>Weight loss, diarrhea, bloating, anemia (low iron, folate), osteomalacia, steatorrhea, azotemia, low D-xylose absorption; folate and iron malabsorption</td>
</tr>
<tr>
<td>Tropical sprue</td>
<td>Unknown toxic factor results in mucosal inflammation, partial villous atrophy</td>
<td>Weight loss, diarrhea, anemia (low folate, vitamin B₁₂); steatorrhea; low D-xylose absorption, low vitamin B₁₂ absorption</td>
</tr>
<tr>
<td>Whipple’s disease</td>
<td>Bacterial invasion of intestinal mucosa</td>
<td>Arthritis, hyperpigmentation, lymphadenopathy, serous effusions, fever, weight loss; steatorrhea, azotemia</td>
</tr>
<tr>
<td>Certain parasitic diseases (giardiasis, strongyloidiasis, coccidiosis, capillariasis)</td>
<td>Damage to or invasion of surface mucosa</td>
<td>Diarrhea, weight loss; steatorrhea; organism may be seen on jejunal biopsy or recovered in stool</td>
</tr>
<tr>
<td>Immunoglobulinopothy</td>
<td>Decreased local intestinal defenses, lymphoid hyperplasia, lymphopenia</td>
<td>Frequent association with <em>Giardia</em>: hypogammaglobulinemia or isolated IgA deficiency</td>
</tr>
</tbody>
</table>
count may exceed 10,000 cells/mm³, and the neutrophil count may exceed 75%. Abdominal x-ray films, ultrasound studies, and CT scans may reveal a right lower quadrant density or localized distention of the bowel.

**Complications**

The major complication of appendicitis is perforation of the appendix, which can lead to peritonitis or an abscess. The incidence of perforation is 10% to 32%. The incidence is higher in young children and the elderly. Perforation generally occurs 24 hours after the onset of pain. Symptoms include a fever of 37.7°C (100°F) or higher, a toxic appearance, and continued abdominal pain or tenderness.

**Gerontologic Considerations**

Acute appendicitis does not occur frequently in the elderly population. Classic signs and symptoms are altered and may vary greatly. Pain may be absent or minimal. Symptoms may be vague, suggesting bowel obstruction or another process. Fever and leukocytosis may not be present. As a result, diagnosis and prompt treatment may be delayed, causing potential complications and mortality. The patient may have no symptoms until the appendix ruptures. The incidence of perforated appendix is higher in the elderly population because many of these patients do not seek health care as quickly as younger patients.

**Medical Management**

Surgery is indicated if appendicitis is diagnosed. To correct or prevent fluid and electrolyte imbalance and dehydration, antibiotics and intravenous fluids are administered until surgery is performed. Analgesics can be administered after the diagnosis is made. Appendectomy (ie, surgical removal of the appendix) is performed as soon as possible to decrease the risk of perforation. It may be performed under a general or spinal anesthetic with a low abdominal incision or by laparoscopy.

**Nursing Management**

Goals include relieving pain, preventing fluid volume deficit, reducing anxiety, eliminating infection from the potential or actual disruption of the GI tract, maintaining skin integrity, and attaining optimal nutrition.

The nurse prepares the patient for surgery, which includes an intravenous infusion to replace fluid loss and promote adequate renal function and antibiotic therapy to prevent infection. If there is evidence or likelihood of paralytic ileus, a nasogastric tube is inserted. An enema is not administered because it can lead to perforation.

After surgery, the nurse places the patient in a semi-Fowler position. This position reduces the tension on the incision and abdominal organs, helping to reduce pain. An opioid, usually morphine sulfate, is prescribed to relieve pain. When tolerated, oral fluids are administered. Any patient who was dehydrated before surgery receives intravenous fluids. Food is provided as desired and tolerated on the day of surgery.

The patient may be discharged on the day of surgery if the temperature is within normal limits, there is no undue discomfort in the operative area, and the appendectomy was uncomplicated. Discharge teaching for the patient and family is imperative. The nurse instructs the patient to make an appointment to have the surgeon remove the sutures between the fifth and seventh days after surgery. Incision care and activity guidelines are discussed; normal activity can usually be resumed within 2 to 4 weeks.

If there is a possibility of peritonitis, a drain is left in place at the area of the incision. Patients at risk for this complication may be kept in the hospital for several days and are monitored carefully for signs of intestinal obstruction or secondary hemorrhage. Secondary abscesses may form in the pelvis, under the diaphragm, or...
in the liver, elevating the temperature and pulse rate and increasing the leukocyte count.

When the patient is ready for discharge, the nurse teaches the patient and family to care for the incision and perform dressing changes and irrigations as prescribed. A home care nurse may be needed to assist with this care and to monitor the patient for complications and wound healing. Other potential complications of appendectomy are listed in Table 38-3.

DIVERTICULAR DISEASE

A diverticulum is a saclike outpouching of the lining of the bowel that extends through a defect in the muscle layer. Diverticula may occur anywhere along the GI tract. Diverticulosis exists when multiple diverticula are present without inflammation or symptoms. Diverticular disease of the colon is very common in developed countries, and its prevalence increases with age. More than 35% of Americans older than 60 years of age have diverticulosis. The incidence increases to 50% among those in the ninth decade of life (Keighley, 1999). Diverticulitis results when food and bacteria retained in a diverticulum produce infection and inflammation that can impede drainage and lead to perforation or abscess formation. Diverticulitis is most common (95%) in the sigmoid colon. Approximately 20% of patients with diverticulosis have diverticulitis at some point. A congenital predisposition is suspected when the disorder occurs in those younger than 40 years of age. A low intake of dietary fiber is considered a predisposing factor, but the exact cause is unknown. Diverticulitis may occur in acute attacks or may persist as a continuing, smoldering infection. Most patients remain entirely asymptomatic. The symptoms manifested generally result from its potential complications—abcesses, fistulas, obstruction, and hemorrhage.

Pathophysiology

A diverticulum forms when the mucosa and submucosal layers of the colon herniate through the muscular wall because of high intraluminal pressure, low volume in the colon (ie, fiber-deficient contents), and decreased muscle strength in the colon wall (ie, muscular hypertrophy from hardened fecal masses). Bowel contents can accumulate in the diverticulum and decompose, causing inflammation and infection. A diverticulum can become obstructed and then inflamed if the obstruction continues. The inflammation tends to spread to the surrounding bowel wall, giving rise to irritability and spasticity of the colon (ie, diverticulitis). Abscesses develop and may eventually perforate, leading to peritonitis and erosion of the blood vessels (arterial) with bleeding.

Clinical Manifestations

Chronic constipation often precedes the development of diverticulosis by many years. Frequently, no problematic symptoms occur with diverticulosis. Signs of acute diverticulosis are bowel irregularity and intervals of diarrhea, abrupt onset of crampy pain in the left lower quadrant of the abdomen, and a low-grade fever. The patient may have nausea and anorexia, and some bloating or abdominal distention may occur. With repeated local inflammation of the diverticula, the large bowel may narrow with fibrotic strictures, leading to cramps, narrow stools, and increased constipation. Weakness, fatigue, and anorexia are common symptoms. With acute diverticulosis, the patient reports mild to severe pain in the lower left quadrant. The condition, if untreated, can lead to septicemia.

Assessment and Diagnostic Findings

A CT scan is the procedure of choice and can reveal abscesses. Abdominal x-ray findings may demonstrate free air under the diaphragm if a perforation has occurred from the diverticulitis. Diverticulosis may be diagnosed using barium enema, which shows narrowing of the colon and thickened muscle layers. If there are symptoms of peritoneal irritation and when the diagnosis is diverticulitis, barium enema is contraindicated because of the potential for perforation.

A colonoscopy may be performed if there is no acute diverticulitis or after resolution of an acute episode to visualize the colon, determine the extent of the disease, and rule out other conditions. Laboratory tests that assist in diagnosis include a complete blood count, revealing an elevated leukocyte count, and elevated sedimentation rate.

| Table 38-3 • Potential Complications and Nursing Interventions After Appendectomy |
|-------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------|
| **COMPPLICATION**              | **NURSING INTERVENTIONS**       |                                                                                                                                                        |
| Peritonitis                    | Observe for abdominal tenderness, fever, vomiting, abdominal rigidity, and tachycardia.  |
|                               | Employ constant nasogastric suction.                                               |
|                               | Correct dehydration as prescribed.                                                 |
|                               | Administer antibiotic agents as prescribed.                                        |
| Pelvic abscess                 | Evaluate for anorexia, chills, fever, and diaphoresis.                              |
| Subphrenic abscess (abscess under the diaphragm) | Assess patient for chills, fever, and diaphoresis. | Prepare for x-ray examination.                                                                      |
|                               | Prepare for surgical drainage procedure.                                            |
| Ileus (paralytic and mechanical) | Assess for bowel sounds.                                                           |
|                               | Employ nasogastric intubation and suction.                                         |
|                               | Replace fluids and electrolytes by intravenous route as prescribed.                |
|                               | Prepare for surgery, if diagnosis of mechanical ileus is established.              |
Complications

Complications of diverticulitis include peritonitis, abscess formation, and bleeding. If an abscess develops, the associated findings are tenderness, a palpable mass, fever, and leukocytosis. An inflamed diverticulum that perforates results in abdominal pain localized over the involved segment, usually the sigmoid; local abscess or peritonitis follows. Abdominal pain, a rigid boardlike abdomen, loss of bowel sounds, and signs and symptoms of shock occur with peritonitis. Noninflamed or slightly inflamed diverticula may erode areas adjacent to arterial branches, causing massive rectal bleeding.

Gerontologic Considerations

The incidence of diverticular disease increases with age because of degeneration and structural changes in the circular muscle layers of the colon and because of cellular hypertrophy. The symptoms are less pronounced in the elderly than in other adults. The elderly may not have abdominal pain until infection occurs. They may delay reporting symptoms because they fear surgery or are afraid that they may have cancer. Blood in the stool is overlooked frequently, especially in the elderly, because of a failure to examine the stool or the inability to see changes because of diminished vision.

Medical Management

Dietary and Medication Management

Diverticulitis can usually be treated on an outpatient basis with diet and medicine therapy. When symptoms occur, rest, analgesics, and antispasmodics are recommended. Initially, the diet is clear liquid until the inflammation subsides; then, a high-fiber, low-fat diet is recommended. This type of diet helps to increase stool volume, decrease colonic transit time, and reduce intraluminal pressure. Antibiotics are prescribed for 7 to 10 days. A bulk-forming laxative is also prescribed.

In acute cases of diverticulitis with significant symptoms, hospitalization is required. Hospitalization is often indicated for those who are elderly, immunocompromised, or taking corticosteroids. Withholding oral intake, administering intravenous fluids, and instituting nasogastric suctioning if vomiting or distention occurs rests the bowel. Broad-spectrum antibiotics are prescribed for 7 to 10 days. An opioid is prescribed for pain relief; morphine is not used because it increases segmentation and intraluminal pressures. Oral intake is increased as symptoms subside. A low-fiber diet may be necessary until signs of infection decrease.

Antispasmodics such as propantheline bromide (Pro-Banthine) and oxyphencyclimine (Daricon) may be prescribed. Normal stools can be achieved by using bulk preparations (Metamucil) or stool softeners (Colace), by instilling warm oil into the rectum, or by inserting an evacuant suppository (Dulcolax). Such a prophylactic plan can reduce the bacterial flora of the bowel, diminish the bulk of the stool, and soften the fecal mass so that it moves more easily through the area of inflammatory obstruction.

Surgical Management

Although acute diverticulitis usually subsides with medical management, immediate surgical intervention is necessary if complications (eg, perforation, peritonitis, abscess formation, hemorrhage, obstruction) occur. Alternatively, when the acute episode of diverticulitis resolves, surgery may be recommended to prevent repeated episodes. Two types of surgery are considered:

- One-stage resection in which the inflamed area is removed and a primary end-to-end anastomosis is completed
- Multiple-staged procedures for complications such as obstruction or perforation (Fig. 38-3)

The type of surgery performed depends on the extent of complications found during surgery. When possible, the area of diverticulitis is resected and the remaining bowel is joined end to end (ie, primary resection and end-to-end anastomosis). This is performed through traditional surgical or laparoscopically assisted colectomy. A two-stage resection may be performed in which the diseased colon is resected (as in a one-stage procedure) but no anastomosis is performed; both ends of the bowel are brought out onto the abdomen as stomas. This “double-barrel” colostomy is then reanastomosed in a later procedure. Fecal diversion procedures are discussed later in this chapter.

NURSING PROCESS: THE PATIENT WITH DIVERTICULITIS

Assessment

During the health history, the nurse asks the patient about the onset and duration of pain and about past and present elimination patterns. The nurse reviews dietary habits to determine fiber intake and asks the patient about straining at stool, history of constipation with periods of diarrhea, tenesmus (ie, spasms of the anal sphincter with pain and persistent urge to defecate), abdominal bloating, and distention.

Assessment includes auscultation for the presence and character of bowel sounds and palpation for lower left quadrant pain, tenderness, or firm mass. The stool is inspected for pus, mucus, or blood. It is important to monitor temperature, pulse, and blood pressure for abnormal variations.

Diagnosis

Nursing Diagnoses

Based on the assessment data, the nursing diagnoses may include the following:

- Constipation related to narrowing of the colon from thickened muscular segments and strictures
- Acute pain related to inflammation and infection

![FIGURE 38-3](image) The Hartmann procedure for diverticulitis: primary resection for diverticulitis of the colon. The affected segment (clamp attached) has been divided at its distal end. In a primary anastomosis, the proximal margin (dotted line) is transected and the bowel attached end-to-end. In a two-stage procedure, a colostomy is constructed at the proximal margin with the distal stump oversewn (Hartmann procedure, as shown) or brought to the outer surface as a mucous fistula. The second stage consists of colostomy takedown and anastomosis.
COLLABORATIVE PROBLEMS/ POTENTIAL COMPLICATIONS
Potential complications that may develop include the following:
- Peritonitis
- Abscess formation
- Bleeding

Planning and Goals
The major goals for the patient may include attainment and maintenance of normal elimination patterns, pain relief, and absence of complications.

Nursing Interventions
MAINTAINING NORMAL ELIMINATION PATTERNS
The nurse recommends a fluid intake of 2 L per day (within limits of the patient’s cardiac and renal reserve) and suggests foods that are soft but have increased fiber to increase the bulk of the stool and facilitate peristalsis, thereby promoting defecation. An individualized exercise program is encouraged to improve abdominal muscle tone. It is important to review the patient’s daily routine to establish a schedule for meals and a set time for defecation and to assist in identifying habits that may have suppressed the urge to defecate. The nurse encourages daily intake of bulk laxatives such as Metamucil, which helps to propel feces through the colon. Stool softeners are administered as prescribed to decrease straining at stool, which decreases intestinal pressure. Oil retention enemas may be prescribed to soften the stool, making it easier to pass.

RELIEVING PAIN
Analgesics (eg, meperidine) to relieve the pain of diverticulitis and antispasmodic agents to decrease intestinal spasm are administered as prescribed. The nurse records the intensity, duration, and location of pain to determine if the inflammatory process worsens or subsides.

MONITORING AND MANAGING POTENTIAL COMPLICATIONS
The major nursing focus is to prevent complications by identifying patients at risk and managing their symptoms as needed. The nurse assesses for the following signs of perforation:
- Increased abdominal pain and tenderness accompanied by abdominal rigidity
- Elevated white blood cell count
- Elevated sedimentation rate
- Increased temperature
- Tachycardia
- Hypotension

Perforation is a surgical emergency. The clinical manifestations of perforation and peritonitis and the care of the patient with peritonitis are presented in the next section. The nurse monitors vital signs and urine output and administers intravenous fluids to replace volume loss as needed.

HOME AND COMMUNITY-BASED CARE
Because patients and their family members and health care providers tend to focus on the most obvious needs and issues, the nurse reminds the patient and family about the importance of continuing health promotion and screening practices. The nurse educates patients who have not been involved in these practices in the past about their importance and refers the patients to appropriate health care providers.

Evaluation
EXPECTED PATIENT OUTCOMES
Expected patient outcomes may include the following:
1. Attains a normal pattern of elimination
   a. Reports less abdominal cramping and pain
   b. Reports the passage of soft, formed stool without pain
   c. Adds unprocessed bran to foods
   d. Drinks at least 10 glasses of fluid each day (if fluid intake is tolerated)
   e. Exercises daily
2. Reports decreased pain
   a. Requests analgesics as needed
   b. Adheres to a low-fiber diet during acute episodes
3. Recovers without complications
   a. Is afebrile
   b. Has normal blood pressure
   c. Has a soft, nontender abdomen with normal bowel sounds
   d. Maintains adequate urine output
   e. Has no blood in the stool

PERITONITIS
Peritonitis is inflammation of the peritoneum, the serous membrane lining the abdominal cavity and covering the viscera. Usually, it is a result of bacterial infection; the organisms come from diseases of the GI tract or, in women, from the internal reproductive organs. Peritonitis can also result from external sources such as injury or trauma (eg, gunshot wound, stab wound) or an inflammation that extends from an organ outside the peritoneal area, such as the kidney. The most common bacteria implicated are Escherichia coli, Klebsiella, Proteus, and Pseudomonas. Inflammation and paralytic ileus are the direct effects of the infection. Other common causes of peritonitis are appendicitis, perforated ulcer, diverticulitis, and bowel perforation (Fig. 38-4). Peritonitis may also be associated with abdominal surgical procedures and peritoneal dialysis.
Pathophysiology

Peritonitis is caused by leakage of contents from abdominal organs into the abdominal cavity, usually as a result of inflammation, infection, ischemia, trauma, or tumor perforation. Bacterial proliferation occurs. Edema of the tissues results, and exudation of fluid develops in a short time. Fluid in the peritoneal cavity becomes turbid with increasing amounts of protein, white blood cells, cellular debris, and blood. The immediate response of the intestinal tract is hypermotility, soon followed by paralytic ileus with an accumulation of air and fluid in the bowel.

Clinical Manifestations

Symptoms depend on the location and extent of the inflammation. The early clinical manifestations of peritonitis frequently are the symptoms of the disorder causing the condition. At first, a diffuse type of pain is felt. The pain tends to become constant, localized, and more intense near the site of the inflammation. Movement usually aggravates it. The affected area of the abdomen becomes extremely tender and distended, and the muscles become rigid. Rebound tenderness and paralytic ileus may be present. Usually, nausea and vomiting occur and peristalsis is diminished. The temperature and pulse rate increase, and there is almost always an elevation of the leukocyte count.

Assessment and Diagnostic Findings

The leukocyte count is elevated. The hemoglobin and hematocrit levels may be low if blood loss has occurred. Serum electrolyte studies may reveal altered levels of potassium, sodium, and chloride.

An abdominal x-ray is obtained, and findings may show air and fluid levels as well as distended bowel loops. A CT scan of the abdomen may show abscess formation. Peritoneal aspiration and culture and sensitivity studies of the aspirated fluid may reveal infection and identify the causative organisms.

Complications

Frequently, the inflammation is not localized and the whole abdominal cavity becomes involved in a generalized sepsis. Sepsis is the major cause of death from peritonitis. Shock may result from septicemia or hypovolemia. The inflammatory process may cause intestinal obstruction, primarily from the development of bowel adhesions.

The two most common postoperative complications are wound evisceration and abscess formation. Any suggestion from the patient that an area of the abdomen is tender or painful or “feels as if something just gave way” must be reported. The sudden occurrence of serosanguineous wound drainage strongly suggests wound dehiscence (see Chap. 20).

Medical Management

Fluid, colloid, and electrolyte replacement is the major focus of medical management. The administration of several liters of an isotonic solution is prescribed. Hypovolemia occurs because massive amounts of fluid and electrolytes move from the intestinal lumen into the peritoneal cavity and deplete the fluid in the vascular space.

Analgesics are prescribed for pain. Antiemetics are administered as prescribed for nausea and vomiting. Intestinal intubation and suction assist in relieving abdominal distention and in promoting intestinal function. Fluid in the abdominal cavity can cause pressure that restricts expansion of the lungs and causes respiratory distress. Oxygen therapy by nasal cannula or mask can promote adequate oxygenation, but airway intubation and ventilatory assistance occasionally are required.

Massive antibiotic therapy is usually initiated early in the treatment of peritonitis. Large doses of a broad-spectrum antibiotic are administered intravenously until the specific organism causing the infection is identified and the appropriate antibiotic therapy can be initiated.

Surgical objectives include removing the infected material and correcting the cause. Surgical treatment is directed toward excision (ie, appendix), resection with or without anastomosis (ie, intestine), repair (ie, perforation), and drainage (ie, abscess). With extensive sepsis, a fecal diversion may need to be created.

Nursing Management

Ongoing assessment of pain, vital signs, GI function, and fluid and electrolyte balance is important. The nurse reports the nature of the pain, its location in the abdomen, and any shifts in location. Administering analgesic medication and positioning the patient for comfort are helpful in decreasing pain. The patient is placed on the side with knees flexed; this position decreases tension on the abdominal organs. Accurate recording of all intake and output and central venous pressure assists in calculating fluid replacement. The nurse administers and monitors closely intravenous fluids.

Signs that indicate that peritonitis is subsiding include a decrease in temperature and pulse rate, softening of the abdomen, return of peristaltic sounds, passing of flatus, and bowel movements. The nurse increases fluid and food intake gradually and reduces parenteral fluids as prescribed. A worsening clinical condition may indicate a complication, and the nurse must prepare the patient for emergency surgery.

Drains are frequently inserted during the surgical procedure, and the nurse must observe and record the character of the drainage postoperatively. Care must be taken when moving and turning the patient to prevent the drains from being dislodged. It is also important for the nurse to prepare the patient and family for discharge by teaching the patient to care for the incision and drains if the patient will be sent home with the drains still in place.

Inflammatory Bowel Disease

The term inflammatory bowel disease refers to two chronic inflammatory GI disorders: regional enteritis (ie, Crohn’s disease or granulomatous colitis) and ulcerative colitis. Both disorders have striking similarities but also several differences. Table 38-4 compares regional enteritis and ulcerative colitis.

The incidence of IBD in the United States has increased in the past century; 10,000 to 15,000 new cases occur annually (Yamada et al., 1999). In the past, a higher rate was observed among Caucasians in general and the Jewish population in particular. Data now indicate a higher risk for African Americans and a lower risk for Jewish people, and women appear to be at higher risk than before. People between the ages of 10 and 30 are at greatest risk.

Despite vast amounts of research, the cause of IBD is still unknown. Researchers think it is triggered by environmental agents such as pesticides, food additives, tobacco, and radiation (Kirsner & Shorter, 2000). Nonsteroidal anti-inflammatory drugs have been found to exacerbate IBD. Allergies and immune disorders have also been suggested as causes. Abnormal response to dietary
or bacterial antigens has been studied extensively, and genetic factors also are being studied. There is a high prevalence of coexistent IBS, which complicates the overall symptom presentation.

**REGIONAL ENTERITIS (CROHN’S DISEASE)**

Regional enteritis commonly occurs in adolescents or young adults but can appear at any time of life. It is more common in women, and it occurs frequently in the older population (between the ages of 50 and 80). It can occur anywhere along the GI tract, but the most common areas are the distal ileum and colon. The incidence of Crohn’s disease has risen over the past 30 years. Crohn’s disease is seen two times more often in patients who smoke than in nonsmokers (Rose, 1998).

### Pathophysiology

Regional enteritis is a subacute and chronic inflammation that extends through all layers (ie, transmural lesion) of the bowel wall from the intestinal mucosa. It is characterized by periods of remissions and exacerbations. The disease process begins with edema and thickening of the mucosa. Ulcers begin to appear on the inflamed mucosa. These lesions are not in continuous contact with one another and are separated by normal tissue. Fistulas, fissures, and abscesses form as the inflammation extends into the peritoneum. Granulomas occur in one half of patients. In advanced cases, the intestinal mucosa has a cobblestone appearance. As the disease advances, the bowel wall thickens and becomes fibrotic, and the intestinal lumen narrows. Diseased bowel loops sometimes adhere to other loops surrounding them.

### Table 38-4 • Comparison of Regional Enteritis and Ulcerative Colitis

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>REGIONAL ENTERITIS</th>
<th>ULCERATIVE COLITIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td>Prolonged, variable</td>
<td>Exacerbations, remissions</td>
</tr>
<tr>
<td><strong>Pathology</strong></td>
<td>Transmural thickening</td>
<td>Mucosal ulceration</td>
</tr>
<tr>
<td>Early</td>
<td>Deep, penetrating granulomas</td>
<td>Mucosal minute ulceration</td>
</tr>
<tr>
<td>Late</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clinical Manifestations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Ileum, right colon (usually)</td>
<td>Rectum, left colon</td>
</tr>
<tr>
<td>Bleeding</td>
<td>Usually not, but may occur</td>
<td>Common—severe</td>
</tr>
<tr>
<td>Perianal involvement</td>
<td>Common</td>
<td>Rare—mild</td>
</tr>
<tr>
<td>Fistulas</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Rectal involvement</td>
<td>About 20%</td>
<td>Almost 100%</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Less severe</td>
<td>Severe</td>
</tr>
<tr>
<td><strong>Diagnostic Study Findings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiography</td>
<td>Regional, discontinuous lesions</td>
<td>Diffuse involvement</td>
</tr>
<tr>
<td></td>
<td>Narrowing of colon</td>
<td>No narrowing of colon</td>
</tr>
<tr>
<td></td>
<td>Thickening of bowel wall</td>
<td>No mucosal edema</td>
</tr>
<tr>
<td></td>
<td>Mucosal edema</td>
<td>Stenosis rare</td>
</tr>
<tr>
<td></td>
<td>Stenosis, fistulas</td>
<td>Shortening of colon</td>
</tr>
<tr>
<td></td>
<td>May be unremarkable unless accompanied by perianal fistulas</td>
<td>Abnormal inflamed mucosa</td>
</tr>
<tr>
<td>Sigmoidoscopy</td>
<td>Distinct ulcerations separated by relatively normal mucosa in right colon</td>
<td>Friable mucosa with pseudopolyps or ulcers in left colon</td>
</tr>
<tr>
<td>Colonoscopy</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Therapeutic Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corticosteroids, sulfonamides (sulfasalazine [Azulfidine])</td>
<td>Corticosteroids, sulfonamides; sulfasalazine useful in preventing recurrence</td>
<td></td>
</tr>
<tr>
<td>Antibiotics</td>
<td>Bulk hydrophilic agents</td>
<td></td>
</tr>
<tr>
<td>Parenteral nutrition</td>
<td>Antibiotics</td>
<td></td>
</tr>
<tr>
<td>Partial or complete colectomy, with ileostomy or anastomosis</td>
<td>Proctocolectomy, with ileostomy</td>
<td></td>
</tr>
<tr>
<td>Rectum can be preserved in some patients</td>
<td>Rectum can be preserved in only a few patients “cured” by colectomy</td>
<td></td>
</tr>
<tr>
<td>Recurrence common</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Systemic Complications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small bowel obstruction</td>
<td>Toxic megacolon</td>
<td></td>
</tr>
<tr>
<td>Right-sided hydronephrosis</td>
<td>Perforation</td>
<td></td>
</tr>
<tr>
<td>Nephrolithiasis</td>
<td>Hemorrhage</td>
<td></td>
</tr>
<tr>
<td>Cholelithiasis</td>
<td>Malignant neoplasms</td>
<td></td>
</tr>
<tr>
<td>Arthritis</td>
<td>Pyelonephritis</td>
<td></td>
</tr>
<tr>
<td>Retinitis, iritis</td>
<td>Nephrolithias</td>
<td></td>
</tr>
<tr>
<td>Erythema nodosum</td>
<td>Cholangiocarcinoma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arthritis</td>
<td></td>
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<tr>
<td></td>
<td>Retinitis, iritis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Erythema nodosum</td>
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</tbody>
</table>
Clinical Manifestations

In regional enteritis, the onset of symptoms is usually insidious, with prominent lower right quadrant abdominal pain and diarrhea unrelied by defecation. Scar tissue and the formation of granulomas interfere with the ability of the intestine to transport products of the upper intestinal digestion through the constricted lumen, resulting in crampy abdominal pain. There is abdominal tenderness and spasm. Because eating stimulates intestinal peristalsis, the crampy pains occur after meals. To avoid these bouts of crampy pain, the patient tends to limit food intake, reducing the amounts and types of food to such a degree that normal nutritional requirements are not met. The result is weight loss, malnutrition, and secondary anemia. Ulcers in the membranous lining of the intestine and other inflammatory changes result in a weeping, swollen intestine that continually empties an irritating discharge into the colon. Disrupted absorption causes chronic diarrhea and nutritional deficits. The result is a person who is thin and emaciated from inadequate food intake and constant fluid loss. In some patients, the inflamed intestine may perforate, leading to intra-abdominal and anal abscesses. Fever and leukocytosis occur. Chronic symptoms include diarrhea, abdominal pain, steatorrhea, anorexia, weight loss, and nutritional deficiencies.

Abscesses, fistulas, and fissures are common. Symptoms extend beyond the GI tract and commonly include joint involvement (eg, arthritis), skin lesions (eg, erythema nodosum), ocular disorders (eg, conjunctivitis), and oral ulcers. The clinical course and symptoms can vary; in some patients, periods of remission and exacerbation occur, but in others, the disease follows a fulminating course.

Assessment and Diagnostic Findings

A proctosigmoidoscopic examination is usually performed initially to determine whether the rectosigmoid area is inflamed. A stool examination is also performed; the result may be positive for occult blood and steatorrhea (ie, excessive fat in the feces). The most conclusive diagnostic aid for regional enteritis is a barium study of the upper GI tract that shows the classic “string sign” on an x-ray film of the terminal ileum, indicating the constriction of a segment of intestine. Endoscopy and intestinal biopsy may be used for confirmation of the diagnosis. A barium enema may show ulcerations (the cobblestone appearance described earlier), fissures, and fistulas. A CT scan may show bowel wall thickening and fistula tracts.

A complete blood cell count is performed to assess hematocrit and hemoglobin levels (usually decreased) and the white blood cell count (may be elevated). The sedimentation rate is usually elevated. Albumin and protein levels may be decreased, indicating malnutrition.

Complications

Complications of regional enteritis include intestinal obstruction or stricture formation, perianal disease, fluid and electrolyte imbalances, malnutrition from malabsorption, and fistula and abscess formation. A fistula is an abnormal communication between two body structures, either internal (ie, between two structures) or external (ie, between an internal structure and the outside surface of the body). The most common type of small bowel fistula that results from regional enteritis is the enterocutaneous fistula (ie, between the small bowel and the skin). Abscesses can be the result of an internal fistula tract into an area that results in fluid accumulation and infection. Patients with regional enteritis are also at increased risk for colon cancer.

ULCERATIVE COLITIS

Ulcerative colitis is a recurrent ulcerative and inflammatory disease of the mucosal and submucosal layers of the colon and rectum. The incidence of ulcerative colitis is highest in Caucasians and people of Jewish heritage (Yamada et al., 1999). The peak incidence is between 30 and 50 years of age. It is a serious disease, accompanied by systemic complications and a high mortality rate. Eventually, 10% to 15% of the patients develop carcinoma of the colon.

Pathophysiology

Ulcerative colitis affects the superficial mucosa of the colon and is characterized by multiple ulcerations, diffuse inflammations, and desquamation or shedding of the colonic epithelium. Bleeding occurs as a result of the ulcerations. The mucosa becomes edematous and inflamed. The lesions are contiguous, occurring one after the other. Abscesses form, and infiltrate is seen in the mucosa and submucosa with clumps of neutrophils in the crypt lumens (ie, crypt abscesses). The disease process usually begins in the rectum and spreads proximally to involve the entire colon. Eventually, the bowel narrows, shortens, and thickens because of muscular hypertrophy and fat deposits.

Clinical Manifestations

The clinical course is usually one of exacerbations and remissions. The predominant symptoms of ulcerative colitis are diarrhea, lower left quadrant abdominal pain, intermittent tenesmus, and rectal bleeding. The bleeding may be mild or severe, and pallor results. The patient may have anorexia, weight loss, fever, vomiting, and dehydration, as well as cramping, the feeling of an urgent need to defecate, and the passage of 10 to 20 liquid stools each day. The disease is classified as mild, severe, or fulminant, depending on the severity of the symptoms. Hypocalcemia and anemia frequently develop. Rebound tenderness may occur in the right lower quadrant. Extraintestinal symptoms include skin lesions (eg, erythema nodosum), eye lesions (eg, uveitis), joint abnormalities (eg, arthritis), and liver disease.

Assessment and Diagnostic Findings

The patient should be assessed for tachycardia, hypotension, tachypnea, fever, and pallor. Other assessments include the level of hydration and nutritional status. The abdomen should be examined for characteristics of bowel sounds, distention, and tenderness. These findings assist in determining the severity of the disease.

The stool is positive for blood, and laboratory test results reveal a low hematocrit and hemoglobin concentration in addition to an elevated white blood cell count, low albumin levels, and an electrolyte imbalance. Abdominal x-ray studies are useful for determining the cause of symptoms. Free air in the peritoneum and bowel dilation or obstruction should be excluded as a source of the presenting symptoms. Sigmoidoscopy or colonoscopy and barium enema are valuable in distinguishing this condition from other diseases of the colon with similar symptoms. A barium enema may show mucosal irregularities, focal strictures or fistulas, shortening of the colon, and dilation of bowel loops. Endoscopy may reveal friable, inflamed mucosa with exudate and ulcerations. This procedure assists in defining the extent and severity of the disease. CT scanning, magnetic resonance imaging, and ultrasound can identify abscesses and perirectal in-
The nature of intestinal motility is the sum of the individual contributions of the extrinsic and intrinsic nervous systems, enteric plexi, and smooth muscle. The enteric nervous system is responsible for regulating motility and secretion of the gastrointestinal tract. The intrinsic plexi are important for control of the enteric nervous system. The extrinsic nervous system is responsible for integrating the enteric nervous system with other reflexes, such as those mediated by the vagus nerve. The enteric nervous system is composed of the myenteric plexus and the submucosal plexus. The myenteric plexus is located between the longitudinal and circular muscle layers, while the submucosal plexus is located in the submucosa. The enteric nervous system is rich in neurons and is a major contributor to intestinal motility. The enteric nervous system is composed of a variety of cell types, including neurons, glial cells, and immune cells. The enteric nervous system is involved in the regulation of intestinal motility, secretion, and inflammation. The enteric nervous system is a major target for drugs used to treat intestinal diseases, including IBD and IBS.

Medical Management of Chronic Inflammatory Bowel Disease

Medical treatment for regional enteritis and ulcerative colitis is aimed at reducing inflammation, suppressing inappropriate immune responses, providing rest for a diseased bowel so that healing may take place, improving quality of life, and preventing or minimizing complications. Most patients maintain long-term well-being interspersed with short intervals of illness (Hanauer, 2001). Management depends on the disease location, severity, and complications.

NUTRITIONAL THERAPY

Oral fluids and a low-residue, high-protein, high-calorie diet with supplemental vitamin therapy and iron replacement are prescribed to meet nutritional needs, reduce inflammation, and control pain and diarrhea. Fluid and electrolyte imbalances from dehydration caused by diarrhea are corrected by intravenous therapy as necessary if the patient is hospitalized or by oral supplementation if the patient can be managed at home. Any foods that exacerbate diarrhea are avoided. Milk may contribute to diarrhea in those with lactose intolerance. Cold foods and smoking are avoided because both increase intestinal motility. Parenteral nutrition may be indicated.

PHARMACOLOGIC THERAPY

Sedatives and antidiarrheal and antiperistaltic medications are used to minimize peristalsis to rest the inflamed bowel. They are continued until the patient’s stools approach normal frequency and consistency.

Aminosalicylate formulations such as sulfasalazine (Azulfidine) are often effective for mild or moderate inflammation and are used to prevent or reduce recurrences in long-term maintenance regimens. Newer sulfal-free aminosalicylates (eg, mesalamine [Asacol, Pentasa]) have been developed and shown effective in preventing and treating recurrence of inflammation (Wolfe, 2000). Antibiotics are used for secondary infections, particularly for purulent complications such as abscesses, perforation, and peritonitis.

Corticosteroids are used to treat severe and fulminant disease. These corticosteroids (eg, prednisone) can be administered orally in outpatient treatment or parenterally in hospitalized patients. Topical (ie, rectal administration) corticosteroids are also widely used in the treatment of distal colon disease. When the dosage of corticosteroids is reduced or stopped, the symptoms of disease may return. If corticosteroids are continued, adverse sequela such as hypertension, fluid retention, cataracts, hirsutism (ie, abnormal hair growth), adrenal suppression, and loss of bone density may develop.

Immunomodulators (eg, azathioprine [Imuran], 6-mercaptopurine, methotrexate, cyclosporin) have been used to alter the immune response (Wolfe, 2000). The exact mechanism of action of these medications in treating IBD is unknown. They are used for patients with severe disease who have failed other therapies. These medications are useful in maintenance regimens to prevent relapses. Newer biologic therapies are being studied, and it is hoped that they will lead to improvement in the treatment of patients with chronically active disease (Yamada et al., 1999).

SURGICAL MANAGEMENT

When nonsurgical measures fail to relieve the severe symptoms of IBD, surgery may be recommended. The most common indications for surgery are medically intractable disease, poor quality of life, or complications from the disease or medical therapy (Wolfe, 2000).

More than one half of all patients with regional enteritis require surgery at some point. Recurrence of inflammation and disease after surgery in regional enteritis is inevitable. The rate of recurrence after surgery is 20% to 40% in the first 5 years. Patients younger than 25 years of age have the highest recurrence rate. Surgery for regional enteritis is indicated for refractory disease or complications (Wolfe, 2000). The procedure of choice is a total colectomy and ileostomy.

A newer surgical procedure developed for patients with severe regional enteritis is intestinal transplant. This technique is now available to children and to young and middle-age adults who have lost intestinal function from disease. Although not a cure, this procedure may eventually provide improvement in quality of life for some who are terminally ill. The technical and immunologic problems with this procedure remain formidable, and the costs and mortality rates remain high (Wolfe, 2000).

Approximately 15% to 20% of patients with ulcerative colitis require surgical intervention (Tierney et al., 2000). Indications for surgery include lack of improvement and continued deterioration, profuse bleeding, perforation, stricture formation, and cancer. Surgical excision usually improves quality of life.
Surgery. The surgical procedures may involve a fecal diversion, parenteral nutrition, fluid replacement, and possibly emergent long-standing or severe disease also require careful monitoring, medications and referral to support groups. Hospitalized patients with diagnosed may primarily require education about diet and medical, or both. Patients in the community setting or those recently can be tolerated. Other types of surgical procedures, known as fecal diversions, are discussed later in this chapter.

**Total Colectomy With Ileostomy.** An ileostomy, the surgical creation of an opening into the ileum or small intestine (usually by means of an ileal stoma on the abdominal wall), is commonly performed after a total colectomy (ie, excision of the entire colon). It allows for drainage of fecal matter (ie, effluent) from the ileum to the outside of the body. The drainage is very mushy and occurs at frequent intervals. Nursing management of the patient with an ileostomy is discussed in a later section of this chapter.

**Total Colectomy With Continent Ileostomy.** Another procedure involves the removal of the entire colon and creation of the continent ileal reservoir (ie, Kock pouch). This procedure eliminates the need for an external fecal collection bag. Approximately 30 cm of the distal ileum is reconstructed to form a reservoir with a nipple valve that is created by pulling a portion of the terminal ileal loop back into the ileum. GI effluent can accumulate in the pouch for several hours and then be removed by means of a catheter inserted through the nipple valve. The major problem with the Kock pouch is malfunction of the nipple valve, which occurs in about 20% of the patients (Yamada et al., 1999).

**Total Colectomy With Ileoanal Anastomosis.** A total colectomy with ileoanal anastomosis is another surgical procedure that eliminates the need for a permanent ileostomy. It establishes an ileal reservoir, and anal sphincter control of elimination is retained. The procedure involves connecting a portion of the ileum to the anus (ie, ileoanal anastomosis) in conjunction with removal of the colon and the rectal mucosa (ie, total abdominal colectomy and mucosal proctectomy) (Fig. 38-5). A temporary diverting loop ileostomy is constructed at the time of surgery and closed about 3 months later.

With ileoanal anastomosis, the diseased colon and rectum are removed, voluntary defection is maintained, and anal continence is preserved. The ileal reservoir decreases the number of bowel movements by 50%, from approximately 14 to 20 per day to 7 to 10 per day. Nighttime elimination is gradually reduced to one bowel movement. Complications of ileoanal anastomosis include irritation of the perianal skin from leakage of fecal contents, stricture formation at the anastomosis site, and small bowel obstruction.

**Nursing Management**

Nursing management of patients with IBD may be medical, surgical, or both. Patients in the community setting or those recently diagnosed may primarily require education about diet and medications and referral to support groups. Hospitalized patients with long-standing or severe disease also require careful monitoring, parenteral nutrition, fluid replacement, and possibly emergent surgery. The surgical procedures may involve a fecal diversion, with attendant needs for physical care, emotional support, and extensive teaching about management of the ostomy.

### INFLAMMATORY BOWEL DISEASE

#### Assessment

The nurse takes a health history to identify the onset, duration, and characteristics of abdominal pain; the presence of diarrhea or fecal urgency, straining at stool (tenesmus), nausea, anorexia, or weight loss; and family history of IBD. It is important to discuss dietary patterns, including the amounts of alcohol, caffeine, and nicotine containing products used daily and weekly. The nurse asks about patterns of bowel elimination, including character, frequency, and presence of blood, pus, fat, or mucus. It is important to note allergies and food intolerance, especially milk (lactose) intolerance. The patient may identify sleep disturbances if diarrhea or pain occurs at night.

Assessment includes auscultating the abdomen for bowel sounds and their characteristics; palpating the abdomen for distention, tenderness, or pain; and inspecting the skin for evidence of fistula tracts or symptoms of dehydration. The stool is inspected for blood and mucus.

With regional enteritis, pain is usually localized in the right lower quadrant, where hyperactive bowel sounds can be heard because of borborygms and increased peristalsis. Abdominal tenderness is noticed on palpation. The most prominent symptom is intermittent pain that occurs with diarrhea but does not decrease after defection. Pain in the periumbilical region usually indicates involvement of the terminal ileum. With ulcerative col-

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**FIGURE 38-5** A mucosal proctectomy precedes anastomosis of the ileal reservoir. A temporary loop ileostomy diverts effluent for several months.
itis, the abdomen may be distended, and rebound tenderness may be present. Rectal bleeding is a significant sign.

**Diagnosis**

**NURSING DIAGNOSES**

Based on the assessment data, the nursing diagnoses may include the following:

- Diarrhea related to the inflammatory process
- Acute pain related to increased peristalsis and GI inflammation
- Deficient fluid volume deficit related to anorexia, nausea, and diarrhea
- Imbalanced nutrition, less than body requirements, related to dietary restrictions, nausea, and malabsorption
- Activity intolerance related to fatigue
- Anxiety related to impending surgery
- Ineffective coping related to repeated episodes of diarrhea
- Risk for impaired skin integrity related to malnutrition and diarrhea
- Risk for ineffective therapeutic regimen management related to insufficient knowledge concerning the process and management of the disease

**COLLABORATIVE PROBLEMS/POTENTIAL COMPLICATIONS**

Potential complications that may develop include the following:

- Electrolyte imbalance
- Cardiac dysrhythmia related to electrolyte depletion
- GI bleeding with fluid volume loss
- Perforation of the bowel

**Planning and Goals**

The major goals for the patient include attainment of normal bowel elimination patterns, relief of abdominal pain and cramping, prevention of fluid volume deficit, maintenance of optimal nutrition and weight, avoidance of fatigue, reducing anxiety, promoting effective coping, absence of skin breakdown, learning about the disease process and therapeutic regimen, and avoidance of complications.

**Nursing Interventions**

**MAINTAINING NORMAL ELIMINATION PATTERNS**

The nurse determines if there is a relationship between diarrhea and certain foods, activity, or emotional stress. Identifying precipitating factors, the frequency of bowel movements, and the character, consistency, and amount of stool passed is important. The nurse provides ready access to a bathroom, commode, or bedpan and keeps the environment clean and odor free. It is important to administer antidiarrheal medications as prescribed, to record the frequency and consistency of stools after therapy is initiated, and to encourage bed rest to decrease peristalsis.

**RELEIVNG PAIN**

The character of the pain is described as dull, burning, or crampy. Asking about its onset is relevant. Does it occur before or after meals, during the night, or before elimination? Is the pattern constant or intermittent? Is it relieved with medications? The nurse administers anticholinergic medications as prescribed 30 minutes before a meal to decrease intestinal motility and administers analgesics as prescribed for pain. Position changes, local application of heat (as prescribed), diversional activities, and the prevention of fatigue also are helpful for reducing pain.

**MAINTAINING FLUID INTAKE**

To detect fluid volume deficit, the nurse keeps an accurate record of oral and intravenous fluids and maintains a record of output (ie, urine, liquid stool, vomitus, and wound or fistula drainage). The nurse monitors daily weights for fluid gains or losses and assesses the patient for signs of fluid volume deficit (ie, dry skin and mucous membranes, decreased skin turgor, oliguria, exhaustion, decreased temperature, increased hematocrit, elevated urine specific gravity, and hypotension). It is important to encourage oral intake of fluids and to monitor the intravenous flow rate. The nurse initiates measures to decrease diarrhea (eg, dietary restrictions, stress reduction, antidiarrheal agents).

**MAINTAINING OPTIMAL NUTRITION**

Parenteral nutrition (PN) is used when the symptoms of IBD are severe. With PN, the nurse maintains an accurate record of fluid intake and output as well as the patient’s daily weight. The patient should gain 0.5 kg daily during PN therapy. Because PN is very high in glucose and can cause hyperglycemia, blood glucose levels are monitored every 6 hours. Elemental feedings high in protein and low in fat and residue are instituted after PN therapy because they are digested primarily in the jejunum, do not stimulate intestinal secretions, and allow the bowel to rest. The nurse notes intolerance if the patient exhibits nausea, vomiting, diarrhea, or abdominal distension.

If oral foods are tolerated, small, frequent, low-residue feedings are given to avoid overdistending the stomach and stimulating peristalsis. It is important for the patient to restrict activity to conserve energy, reduce peristalsis, and reduce calorie requirements.

**PROMOTING REST**

The nurse recommends intermittent rest periods during the day and schedules or restricts activities to conserve energy and reduce the metabolic rate. It is important to encourage activity within the limits of the patient’s capacity. The nurse suggests bed rest for a patient who is febrile, has frequent diarrheal stools, or is bleeding. The patient on bed rest should perform active exercises to maintain muscle tone and prevent thromboembolic complications. If the patient is unable to perform these active exercises, the nurse performs passive exercises and joint range of motion. Activity restrictions are modified as needed on a day-to-day basis.

**REDUCING ANXIETY**

Rapport can be established by being attentive and displaying a calm, confident manner. The nurse allows time for the patient to ask questions and express feelings. Careful listening and sensitivity to nonverbal indicators of anxiety (eg, restlessness, tense facial expressions) are helpful. The patient may be emotionally labile because of the consequences of the disease; the nurse tailors information about possible impending surgery to the patient’s level of understanding and desire for detail. If surgery is planned, pictures and illustrations help to explain the surgical procedure and help the patient to visualize what a stoma looks like.
ENHANCING COPING MEASURES
Because the patient may feel isolated, helpless, and out of control, understanding and emotional support are essential. The patient may respond to stress in a variety of ways that may alienate others, including anger, denial, and social self-isolation.

The nurse needs to recognize that the patient’s behavior may be affected by a number of factors unrelated to inherent emotional characteristics. Any patient suffering the discomforts of frequent bowel movements and rectal soreness is anxious, discouraged, and depressed. It is important to develop a relationship with the patient that supports all attempts to cope with these stresses. It is also important to communicate that the patient’s feelings are understood by encouraging the patient to talk and express his or her feelings and to discuss any concerns. Stress reduction measures that may be used include relaxation techniques, visualization, breathing exercises, and biofeedback. Professional counseling may be needed to help the patient and family manage issues associated with chronic illness.

PREVENTING SKIN BREAKDOWN
The nurse examines the patient’s skin frequently, especially the perianal skin. Perianal care, including the use of a skin barrier, is important after each bowel movement. The nurse gives immediate attention to reddened or irritated areas over a bony prominence and uses pressure-relieving devices to prevent skin breakdown. Consultation with a wound care specialist or enterostomal therapist is often helpful.

MONITORING AND MANAGING POTENTIAL COMPLICATIONS
Serum electrolyte levels are monitored daily, and electrolyte replacements are administered as prescribed. It is important to report evidence of dysrhythmias or change in level of consciousness immediately.

The nurse closely monitors rectal bleeding and administers blood component therapy and volume expanders as prescribed to prevent hypovolemia. It is important to monitor the blood pressure for hypotension and to obtain coagulation and hematocrit and hemoglobin profiles frequently. Vitamin K may be prescribed to increase clotting factors.

The nurse closely monitors the patient for indications of perforation (ie, acute increase in abdominal pain, rigid abdomen, vomiting, or hypotension) and obstruction and toxic megacolon (ie, abdominal distention, decreased or absent bowel sounds, change in mental status, fever, tachycardia, hypotension, dehydration, and electrolyte imbalances).

PROMOTING HOME AND COMMUNITY-BASED CARE
Teaching Patients Self-Care
The nurse assesses the patient’s understanding of the disease process and his or her need for additional information about medical management (eg, medications, diet) and surgical interventions. The nurse provides information about nutritional management; a bland, low-residue, high-protein, high-calorie, and high-vitamin diet relieves symptoms and decreases diarrhea. It is important to provide the rationale for the use of corticosteroids and anti-inflammatory, antibiotic, antidiarrheal, and antispasmodic medications. The nurse emphasizes the importance of taking medications as prescribed and not abruptly discontinuing them (especially corticosteroids) to avoid development of serious medical problems (Chart 38-3). The nurse reviews ileostomy care as necessary (see Nursing Management of the Patient with an Ileostomy). Patient education information can be obtained from the National Foundation for Ileitis and Colitis.

Continuing Care
Patients with chronic inflammatory disease are managed at home with follow-up care by their physician or through an outpatient clinic. Those whose nutritional status is compromised and who are receiving PN need home care nursing to ensure that their nutritional requirements are being met and that they or their caregivers can follow through with the instructions for PN. Patients who are medically managed need to understand that their disease can be controlled and that they can lead a healthy life between exacerbations. Control implies management based on an understanding of the disease and its treatment. Patients in the home setting need information about their medications (ie, name, dose, side effects, and frequency of administration) and need to take medications on schedule. Medication reminders such as containers that separate pills according to day and time or daily checklists are helpful.

During a flare-up, the nurse encourages patients to rest as needed and to modify activities according to their energy levels. Patients should limit tasks that impose strain on the lower abdominal muscles. They should sleep in a room close to the bathroom because of the frequent diarrhea (10 to 20 times per day); quick access to a toilet helps alleviate the worry of embarrassment if an accident occurs. Room deodorizers help control odors.

Dietary modifications can control but not cure the disease; the nurse recommends a low-residue, high-protein, high-calorie diet, especially during an acute phase. It is important to encourage patients to keep a record of the foods that irritate the bowel and to eliminate them from the diet and to remind patients to drink at least eight glasses of water each day.

Chart 38-3
Home Care Checklist • Managing Inflammatory Bowel Disease

At the completion of the home care instruction, the patient or caregiver will be able to:

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<th>Patient</th>
<th>Caregiver</th>
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- Verbalize an understanding of the disease process.
- Discuss nutritional management: bland, low-residue, high-protein, high-vitamin diet; identify foods to include and foods to be avoided.
- Describe medication regimen; identify medications by name, use, route, and frequency.
- Identify measures to be used to treat exacerbation of symptoms, to include rest, dietary modifications, medications.
- Identify measures to be used to promote fluid and electrolyte balance during acute exacerbations.
- Demonstrate management of PN therapy, if applicable; identifies possible complications and interventions.
- Incorporate stress reduction measures into life-style.
The prolonged nature of the disease has an impact on the patient and often strains his or her family life and financial resources as well. Family support is vital; however, some family members may be resentful, guilty, and tired and feel unable to continue coping with the emotional demands of the illness and the physical demands of caring for another. Some patients with IBD do not socialize for fear of being embarrassed. Many prefer to eat alone. Because they have lost control over elimination, they may fear losing control over other aspects of their lives. They need time to express their fears and frustrations. Individual and family counseling may be helpful.

**Evaluation**

**EXPECTED PATIENT OUTCOMES**

Expected patient outcomes may include the following:

1. Reports a decrease in the frequency of diarrhea stools
   a. Complies with dietary restrictions; maintains bed rest
   b. Takes medications as prescribed
2. Has reduced pain
3. Maintains fluid volume balance
   a. Drinks 1 to 2 L of oral fluids daily
   b. Has a normal body temperature
   c. Displays adequate skin turgor and moist mucous membranes
4. Attains optimal nutrition; tolerates small, frequent feedings without diarrhea
5. Avoids fatigue
   a. Rests periodically during the day
   b. Adheres to activity restrictions
6. Is less anxious
7. Copes successfully with diagnosis
   a. Expresses feelings freely
   b. Uses appropriate stress reduction behaviors
8. Maintains skin integrity
   a. Cleans perianal skin after defecation
   b. Uses lotion or ointment as skin barrier
9. Acquires an understanding of the disease process
   a. Modifies diet appropriately to decrease diarrhea
   b. Adheres to medication regimen
10. Recovers without complications
    a. Maintains electrolytes within normal ranges
    b. Maintains normal sinus or baseline cardiac rhythm
    c. Maintains fluid balance
    d. Experiences no perforation or rectal bleeding

**NURSING MANAGEMENT OF THE PATIENT REQUIRING AN ILEOSTOMY**

Some patients with IBD eventually require permanent fecal diversion with creation of an ileostomy to manage symptoms and to treat or prevent complications. The Plan of Nursing Care 38-1 summarizes care for the patient requiring an ostomy.

**Providing Preoperative Care**

A period of preparation with intensive replacement of fluid, blood, and protein is necessary before surgery is performed. Antibiotics may be prescribed. If the patient has been taking corticosteroids, they will be continued during the surgical phase to prevent steroid-induced adrenal insufficiency. Usually, the patient is given a low-residue diet, provided in frequent, small feedings. All other preoperative measures are similar to those for general abdominal surgery. The abdomen is marked for the proper placement of the stoma by the surgeon or the enterostomal therapist. Care is taken to ensure that the ostomy stoma is conveniently placed—usually in the right lower quadrant about 2 inches below the waist, in an area away from previous scars, bony prominence, skin folds, or fistulas.

The patient must have a thorough understanding of the surgery to be performed and what to expect after surgery. Information about an ileostomy is presented to the patient by means of written materials, models, and discussion. Preoperative teaching includes management of drainage from the stoma, the nature of drainage, and the need for nasogastric intubation, parenteral fluids, and possibly perineal packing.

**Providing Postoperative Care**

General abdominal surgery wound care is required. The nurse observes the stoma for color and size. It should be pink to bright red and shiny. For the traditional ileostomy, a temporary plastic bag with adhesive facing is placed over the ileostomy and firmly pressed onto surrounding skin. The nurse monitors the ileostomy for fecal drainage, which should begin about 72 hours after surgery. The drainage is a continuous liquid from the small intestine because the stoma does not have a controlling sphincter. The contents drain into the plastic bag and are thus kept from coming into contact with the skin. They are collected and measured when the bag becomes full. If a continent ileal reservoir was created, as described for the Kock pouch, continuous drainage is provided by an indwelling reservoir catheter for 2 to 3 weeks after surgery. This allows the suture lines to heal.

As with other patients undergoing abdominal surgery, the nurse encourages those with an ileostomy to engage in early ambulation. It is important to administer prescribed pain medications as required.

Because these patients lose much fluid in the early postoperative period, an accurate record of fluid intake, urinary output, and fecal discharge is necessary to help gauge the fluid needs of the patient. There may be 1000 to 2000 mL of fluid lost each day in addition to expected fluid loss through urine, perspiration, respiration, and other sources. With this loss, sodium and potassium are depleted. The nurse monitors laboratory values and administers electrolyte replacements as prescribed. Intravenous fluids are administered to replace fluid losses for 4 to 5 days.

Nasogastric suction is also a part of immediate postoperative care, with the tube requiring frequent irrigation, as prescribed. The purpose of nasogastric suction is to prevent a buildup of gastric contents. After the tube is removed, the nurse offers sips of clear liquids and gradually progresses the diet. It is important to immediately report nausea and abdominal distention, which may indicate obstruction.

By the end of the first week, rectal packing is removed. Because this procedure may be uncomfortable, the nurse may administer an analgesic an hour before it is performed. After the packing is removed, the perineum is irrigated two or three times daily until full healing takes place.

**PROVIDING EMOTIONAL SUPPORT**

The patient understandably may think that everyone is aware of the ileostomy and may view the stoma as a mutilation compared with other abdominal incisions that heal and are hidden. Because
**Plan of Nursing Care**

The Patient Undergoing Ostomy Surgery

<table>
<thead>
<tr>
<th>Nursing Interventions</th>
<th>Rationale</th>
<th>Expected Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preoperative Care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Ascertain whether the patient has had a previous surgical experience and ask for recollections of positive and negative impressions.</td>
<td>1. Fear of a repeated negative experience increases anxiety. Talking about the experience with a nurse helps clarify misconceptions and helps the patient ventilate any repressed emotions. Positive experiences are reinforced.</td>
<td>Expresses anxieties and fears about the surgical process • Projects a positive attitude toward the surgical procedure • Repeats in own words information given by the surgeon • Identifies normal anatomy and physiology of gastrointestinal tract and how it will be altered; can point to expected location of abdominal wound and stoma; describes stoma appearance and size • Adheres to “bowel prep” regimen of antimicrobials or mechanical cleansing • Tolerates the presence of nasogastric/ nasoenteric tube</td>
</tr>
<tr>
<td>2. Determine what information the surgeon gave the patient and family and whether it was understood. Clarify and elaborate as necessary. Determine whether the stoma is permanent or temporary. Be aware of the patient’s prognosis if carcinoma exists.</td>
<td>2. Clarification prevents misunderstandings and alleviates anxiety. A positive affect may be more difficult to project if the ostomy is permanent or the prognosis poor.</td>
<td></td>
</tr>
<tr>
<td>3. Use pictures or drawings to illustrate the location and appearance of the surgical wounds (abdominal, perineal) and the stoma if the patient is receptive.</td>
<td>3. Knowledge, for some, alleviates anxiety because fear of the unknown is decreased. Others choose not to know because it makes them more anxious.</td>
<td></td>
</tr>
<tr>
<td>4. Explain that oral/parenteral antimicrobials will be administered to cleanse the bowel preoperatively. Mechanical cleansing may also be required.</td>
<td>4. Antimicrobials and mechanical cleansing reduce intestinal bacterial flora.</td>
<td></td>
</tr>
<tr>
<td>5. Assist the patient during nasogastric/ nasoenteric intubation. Measure drainage from the tube.</td>
<td>5. Nasoenteral intubation is used for decompression and drainage of gastrointestinal contents before surgery.</td>
<td></td>
</tr>
<tr>
<td><strong>Nursing Diagnosis:</strong> Deficient knowledge about the surgical procedure and preoperative preparation</td>
<td>Goal: Understands the surgical process and the necessary preoperative preparations</td>
<td></td>
</tr>
<tr>
<td><strong>Postoperative Care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Provide information about expected bowel function:</td>
<td>1. Emotional adjustment is facilitated if adequate information is provided at the level of the learner.</td>
<td>• Expresses interest in learning about altered bowel function • Handles equipment correctly • Changes the appliance unassisted • Irrigates colostomy successfully • Progresses toward a regular schedule of elimination</td>
</tr>
<tr>
<td>a. Characteristics of effluent</td>
<td>2. Adequate fit is necessary for successful use of the appliance.</td>
<td></td>
</tr>
<tr>
<td>b. Frequency of discharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Teach the patient how to prepare the appliance for an adequate fit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nursing Diagnosis:</strong> Disturbed body image</td>
<td>Goal: Attainment of a positive self-concept</td>
<td>• Freely expresses concerns • Accepts support • Seeks help as needed • States is willing to talk with an ostomate</td>
</tr>
<tr>
<td>1. Encourage the patient to verbalize feelings about the stoma. Offer to be present when the stoma is first viewed and touched.</td>
<td>1. Free expression of feelings allows the patient the opportunity to verbalize and identify concerns. Expressed concerns can be therapeutically addressed by health care team members.</td>
<td></td>
</tr>
<tr>
<td>2. Suggest that the spouse or significant other view the stoma.</td>
<td>2. Helps patient to overcome fears about partner’s response.</td>
<td></td>
</tr>
<tr>
<td>3. Offer counseling, if desired.</td>
<td>3. Provides opportunity for additional support.</td>
<td></td>
</tr>
<tr>
<td>4. Arrange for a visit with an ostomate.</td>
<td>4. Ostomates can offer support and share mutual feelings and experiences.</td>
<td></td>
</tr>
<tr>
<td><strong>Nursing Diagnosis:</strong> Anxiety related to the loss of bowel control</td>
<td>Goal: Reduction of anxiety</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>1. Emotional adjustment is facilitated if adequate information is provided at the level of the learner.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Adequate fit is necessary for successful use of the appliance.</td>
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</tbody>
</table>

(continued)
## Plan of Nursing Care

### The Patient Undergoing Ostomy Surgery (Continued)

<table>
<thead>
<tr>
<th>Nursing Interventions</th>
<th>Rationale</th>
<th>Expected Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Choose the drainage appliance that will provide a secure fit around the stoma. Measure the stoma size with a measuring guide provided by the ostomy manufacturer and compare with the opening on the pouch. About 3-mm (¼-in) clearance should be provided around the stoma.</td>
<td>a. The appliance opening should be larger than the stoma for an adequate fit. Available brands come in different sizes to fit the stoma. Adjustments are made as necessary.</td>
<td></td>
</tr>
<tr>
<td>b. Remove any plastic covering that protects the appliance adhesive. <strong>Note:</strong> The pouch is applied by pressing the adhesive for 30 s to the skin or skin barrier.</td>
<td>b. The appliance is ready to apply directly to the skin or skin protector.</td>
<td></td>
</tr>
<tr>
<td>3. Demonstrate how to change the appliance before leakage occurs. Be aware that the elderly person may have diminished vision and difficulty handling equipment.</td>
<td>3. Manipulation of the appliance is a learned motor skill that requires practice and positive reinforcement.</td>
<td></td>
</tr>
<tr>
<td>4. When appropriate, demonstrate how to irrigate the colostomy (usually on the 4th–5th day). Recommend that irrigation be performed at a consistent time, depending on the type of colostomy.</td>
<td>4. Colostomy irrigation is used to regulate the passage of fecal material; alternatively the bowel can be allowed to evacuate naturally.</td>
<td></td>
</tr>
</tbody>
</table>

### Nursing Diagnosis: Risk for impaired skin integrity related to irritation of the peristomal skin by the effluent

**Goal:** Maintenance of skin integrity

1. Provide information about signs and symptoms of irritated or inflamed skin. Use pictures if possible.
2. Teach patient how to cleanse the peristomal skin gently.
3. Demonstrate how to apply a skin barrier (powder, gel, paste, wafer).
4. Demonstrate how to remove the pouch.

- Peristomal skin should be slightly pink without abrasions and similar to that of the entire abdomen.
- Mild friction with warm water and a gentle soap cleanses the skin and minimizes irritation and possible abrasions. Patting the skin dry prevents tissue trauma.
- Skin barriers protect the peristomal skin from enzymes and bacteria.
- Gently separate adhesive from the skin to avoid irritation. Never pull!

- Describes appearance of healthy skin
- Correctly cleanses the skin
- Successfully applies a skin barrier
- Gently removes the drainage appliance without skin damage
- Demonstrates intact skin around the colostomy stoma

### Nursing Diagnosis: Potential imbalanced nutrition, less than body requirements, related to avoidance of foods that may cause GI discomfort

**Goal:** Achievement of an optimal nutritional intake

1. Conduct a complete nutritional assessment to identify any foods that may increase peristalsis by irritating the bowel.
2. Advise the patient to avoid food products with a cellulose or hemicellulose base (nuts, seeds).
3. Recommend moderation in intake of certain irritating fruits such as prunes, grapes, and bananas.
4. Patients react differently to certain foods because of individual sensitivity.
5. Cellulose food products are the non-digestible residue of plant foods. They hold water, provide bulk, and stimulate elimination.
6. These fruits tend to increase the quantity of effluent.

- Modifies diet to avoid offensive foods yet maintains adequate nutritional intake
- Avoids foods such as peanuts
- Modifies intake of certain fruits

(continued)
there is loss of a body part and a major change in anatomy, the patient often goes through the various phases of grieving—shock, disbelief, denial, rejection, anger, and restitution. Nursing support through these phases is important, and understanding of the patient’s emotional outlook in each instance should determine the approach taken. For example, teaching may be ineffective until the patient is ready to learn. Concern about body image may lead to questions related to family relationships, sexual function, and for women, the ability to become pregnant and to deliver a baby normally. Patients need to know that someone understands and cares about them. A calm, nonjudgmental attitude exhibited by the nurse aids in gaining the patient’s confidence. It is important to recognize the dependency needs of these patients. Their prolonged illness can make them irritable, anxious, and de-

Plan of Nursing Care
The Patient Undergoing Ostomy Surgery (Continued)

<table>
<thead>
<tr>
<th>Nursing Interventions</th>
<th>Rationale</th>
<th>Expected Outcomes</th>
</tr>
</thead>
</table>
| **Nursing Diagnosis:** Sexual dysfunction related to altered body image  
**Goal:** Attainment of satisfactory sexual performance  
| 1. Encourage the patient to verbalize concerns and fears. The sexual partner is welcomed to participate in the discussion.  
2. Recommend alternative sexual positions.  
3. Seek assistance from a sexual therapist, enterostomal therapist, or advanced practice nurse. | 1. Expressed needs help the therapist develop a plan of care.  
2. Avoid patient embarrassment with the visual appearance of the stoma. Avoid peristomal skin irritation secondary to friction.  
3. Some patients need professional sexual counseling. | • Expresses fears and concerns  
• Discusses alternative sexual positions  
• Accepts services of a professional counselor |
| **Nursing Diagnosis:** Risk for deficient fluid volume related to anorexia and vomiting and increased loss of fluids and electrolytes from GI tract  
**Goal:** Attainment of fluid balance  
| 1. Estimate fluid intake and output: a. Strict intake and output  
b. Daily weights  
2. Assess serum and urinary values of sodium and potassium.  
3. Observe and record skin turgor and the appearance of the tongue. | 1. Provides indication of fluid balance.  
a. An early indicator of fluid imbalance is a daily, significant difference between intake and output. The average person ingests (food, fluids) and loses (urine, feces, lungs) about 2 L of fluid every 24 h.  
b. A gain/loss of 1 L of fluid is reflected in a body weight change of 2.2 lb.  
2. Sodium is the major electrolyte regulating water balance. Vomiting results in decreased urinary and serum sodium levels. Urinary sodium values, in contrast to serum values, reflect early, sensitive changes in sodium balance. Sodium works in conjunction with potassium, which is also decreased with vomiting. A significant deficiency in potassium is associated with a decrease in intracellular potassium bicarbonate, which leads to acidosis and compensatory hyperventilation.  
3. Adequate hydration is reflected by the skin’s ability to return to its normal shape after being grasped between the fingers. *Note:* In the older person, it is normal for the return to be delayed. Changes in the mucous membrane covering the tongue are accurate and early indicators of hydration status. | • Maintains fluid balance  
• Maintains normal serum and urinary values for sodium and potassium  
• Normal skin turgor  
• Surface of tongue is pink, with a moist mucous membrane |
pressed. The nurse can coordinate patient care through meetings attended by consultants such as the physician, psychologist, psychiatrist, social worker, enterostomal therapist, and dietitian. The team approach is important in facilitating the often complex care of this patient.

Conversely, a surgical procedure to create an ileostomy can produce dramatic positive changes in patients who have suffered from IBD for several years. After the continuous discomfort of the disease has decreased and patients learn how to take care of the ileostomy, they often develop a more positive outlook. Until they progress to this phase, an empathetic and tolerant approach by the nurse plays an important part in recovery. The sooner the patient masters the physical care of the ileostomy, the sooner he or she will psychologically accept it.

The support of other ostomates is also helpful. The United Ostomy Association is dedicated to the rehabilitation of ostomates. This organization gives patients useful information about living with an ostomy through an educational program of literature, lectures, and exhibits. Local associations offer visiting services by qualified members who provide hope and rehabilitation services to new ostomy patients. Hospitals and other health care agencies may have an enterostomal therapy nurse on staff who can serve as a valuable resource person for the ileostomy patient.

MANAGING SKIN AND STOMA CARE

The patient with a traditional ileostomy cannot establish regular bowel habits because the contents of the ileum are fluid and are discharged continuously. The patient must wear a pouch at all times. Stomal size and pouch size vary initially; the stoma should be rechecked 3 weeks after surgery, when the edema has subsided. The final size and type of appliance is selected in 3 months, after the patient’s weight has stabilized, and the stoma shrinks to a stable shape.

The location and length of the stoma are significant in the management of the ileostomy by the patient. The surgeon positions the stoma as close to the midline as possible and at a location where even an obese patient with a protruding abdomen can care for it easily. Usually, the ileostomy stoma is about 2.5 cm (1 in) long, which makes it convenient for the attachment of an appliance.

Skin excoriation around the stoma can be a persistent problem. Peristomal skin integrity may be compromised by several factors, such as an allergic reaction to the ostomy appliance, skin barrier, or paste; chemical irritation from the effluent; mechanical injury from the removal of the appliance; and possible infection. If irritation and yeast growth occur, nystatin powder (Mycostatin) is dusted lightly on the peristomal skin.

CHANGING AN APPLIANCE

A regular schedule for changing the pouch before leakage occurs must be established for those with a traditional ileostomy. The patient can be taught to change the pouch in a manner similar to that described in Chart 38-4.

The amount of time a person can keep the appliance sealed to the body surface depends on the location of the stoma and on body structure. The usual wearing time is 5 to 7 days. The appliance is emptied every 4 to 6 hours or at the same time the patient empties the bladder. An emptying spout at the bottom of the appliance is closed with a special clip made for this purpose.

Most pouches are disposable and odor-proof. Foods such as spinach and parsley act as deodorizers in the intestinal tract; foods that cause odors include cabbage, onions, and fish. Bismuth subcarbonate tablets, which may be prescribed and taken by mouth three or four times each day, are effective in reducing odor. A stool thickener, such as diphenoxylate (Lomotil), can also be prescribed and taken orally to assist in odor control.

IRRIGATING A CONTINENT ILEOSTOMY

For a continent ileostomy (ie, Kock pouch), the nurse teaches the patient to drain the pouch, as described in Chart 38-5. A catheter is inserted into the reservoir to drain the fluid. The length of time between drainage periods is gradually increased until the reservoir needs to be drained only every 4 to 6 hours and irrigated once each day. A pouch is not necessary; instead, most patients wear a small dressing over the opening.

When the fecal discharge is thick, water can be injected through the catheter to loosen and soften it. The consistency of the effluent is affected by food intake. At first, drainage is only 60 to 80 mL, but as time goes on, the amount increases significantly. The internal Kock pouch stretches, eventually accommodating 500 to 1000 mL. The patient learns to use the sensation of pressure in the pouch as a gauge to determine how often the pouch should be drained.

MANAGING DIETARY AND FLUID NEEDS

A low-residue diet is followed for the first 6 to 8 weeks. Strained fruits and vegetables are given. These foods are important sources of vitamins A and C. Later, there are few dietary restrictions, except for avoiding foods that are high in fiber or hard-to-digest kernels, such as celery, popcorn, corn, poppy seeds, caraway seeds, and coconut. Foods are reintroduced one at a time. The nurse assesses the patient’s tolerance for these foods and reminds him or her to chew food thoroughly.

Fluids may be a problem during the summer, when fluid lost through perspiration adds to the fluid loss through the ileostomy. Fluids such as Gatorade are helpful in maintaining the electrolyte balance. If the fecal discharge is too watery, fibrous foods (eg, whole-grain cereals, fresh fruit skins, beans, corn, nuts) are restricted. If the effluent is excessively dry, salt intake is increased. Increased intake of water or fluid does not increase the effluent, because excess water is excreted in the urine.

PREVENTING COMPLICATIONS

Monitoring for complications is an ongoing activity for the patient with an ileostomy. Minor complications occur in about 40% of patients who have an ileostomy; less than 20% of the complications require surgical intervention (Kirsner & Shorter, 2000).

Common complications include skin irritation, diarrhea, stomal stenosis, urinary calculi, and cholelithiasis. Peristomal skin irritation, the most common complication of an ileostomy, results from leakage of effluent. A pouch that does not fit well is often the cause. The nurse or an enterostomal therapist adjusts the pouch and skin barriers are applied. Diarrhea, manifested by very irritating effluent that rapidly fills the pouch (every hour or sooner), can quickly lead to dehydration and electrolyte losses. Supplemental water, sodium, and potassium are administered to prevent hypovolemia and hypokalemia. Antidiarrheal agents are administered. Stenosis is caused by circular scar tissue that forms at the stoma site. The scar tissue must be surgically released. Urinary calculi occur in about 10% of ileostomy patients because of dehydration from decreased fluid intake. Intense lower abdominal pain that radiates to the legs, hematuria, and signs of dehydration indicate that the urine should be strained. Fluid intake is encouraged. Sometimes, small stones are passed during urination; otherwise, treatment is necessary to crush or remove the calculi (see Chap. 45).

Cholelithiasis (ie, gallstones) occurs three times more commonly in patients with an ileostomy than in the general population.
Chart 38-4

GUIDELINES FOR Changing an Ostomy Appliance

Changing an ileostomy appliance is necessary to prevent leakage (the bag is usually changed every 5 to 7 days),
to allow for examination of the skin around the stoma, and to assist in controlling odor if this becomes a prob-
lem. The appliance should be changed at any time that the patient complains of burning or itching under the
disk or pain in the area of the stoma; routine changes should be performed early in the morning before breakfast
or 2 to 4 hours after a meal, when the bowel is least active.

<table>
<thead>
<tr>
<th>NURSING ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Promote patient comfort and involvement in the procedure.</td>
<td>1. Providing a relaxed atmosphere and adequate explanations help the patient to become an active participant in the procedure.</td>
</tr>
<tr>
<td>a. Have the patient assume a relaxed position.</td>
<td>2. These positions facilitate disposal or drainage.</td>
</tr>
<tr>
<td>b. Provide privacy.</td>
<td></td>
</tr>
<tr>
<td>c. Explain details of the procedure.</td>
<td></td>
</tr>
<tr>
<td>d. Expose the ileostomy area; remove the ileostomy belt (if worn).</td>
<td></td>
</tr>
<tr>
<td>2. Remove the appliance.</td>
<td></td>
</tr>
<tr>
<td>a. Have the patient sit on the toilet or on a chair facing the toilet.</td>
<td></td>
</tr>
<tr>
<td>A patient who prefers to stand should face the toilet.</td>
<td></td>
</tr>
<tr>
<td>b. The appliance (pouch) can be removed by gently pushing the skin away from the adhesive.</td>
<td></td>
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</tbody>
</table>

Selected Ostomy Pouches and Accessories

(continued)
### Chart 38-4

**GUIDELINES FOR Changing an Ostomy Appliance (Continued)**

<table>
<thead>
<tr>
<th>NURSING ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. Cleanse the skin:</strong></td>
<td>3. The patient may shower with or without the pouch.</td>
</tr>
<tr>
<td>a. Wash the skin gently with a soft cloth moistened with tepid water and mild soap; the patient may prefer to bathe before putting on a clean appliance.</td>
<td>a. Micropore or waterproof tape applied to the sides of the face-plate will keep it secure during bathing.</td>
</tr>
<tr>
<td>b. Rinse and dry the skin thoroughly after cleansing.</td>
<td>b. Moisture or soap residue will interfere with appliance adhesion.</td>
</tr>
<tr>
<td><strong>4. Apply appliance (when there is no skin irritation):</strong></td>
<td>4. Many appliances have a built-in skin barrier. The skin should be thoroughly dried before applying the appliance.</td>
</tr>
<tr>
<td>a. An appropriate skin barrier is applied to the peristomal skin before the appliance is applied.</td>
<td></td>
</tr>
<tr>
<td>b. Remove cover from adherent surface of disk of disposable plastic appliance and apply directly to the skin.</td>
<td></td>
</tr>
<tr>
<td>c. Press firmly in place for 30 s to ensure adherence.</td>
<td></td>
</tr>
<tr>
<td><strong>5. Apply appliance (when there is skin irritation):</strong></td>
<td></td>
</tr>
<tr>
<td>a. Cleanse the skin thoroughly but gently; pat dry.</td>
<td>5. a. To remove debris.</td>
</tr>
<tr>
<td>b. Apply Kenalog spray; blot excess moisture with a cotton pledget and dust lightly with nystatin (Mycostatin) powder.</td>
<td>b. The corticosteroid preparation (Kenalog) helps to decrease inflammation. The antifungal agent (nystatin) treats those types of infections that are common around stomas. A prescription is required for either medication.</td>
</tr>
<tr>
<td>OR</td>
<td>Stomahesive is a substance that facilitates healing of excoriated skin. It adheres well even to moist, irritated skin.</td>
</tr>
<tr>
<td>Apply as an alternative a wafer of Stomahesive (Squibb), which is commercially available. The stomal opening should be cut the same size as the stoma; use a cutting guide (supplied with Stomahesive). The wafer is applied directly to the skin.</td>
<td>Stomahesive is a substance that facilitates healing of excoriated skin. It adheres well even to moist, irritated skin.</td>
</tr>
<tr>
<td>c. Another alternative is to moisten a karaya gum washer and apply when it is tacky. If the skin is moist, karaya powder may be applied first and any excess dusted off gently.</td>
<td>c. Karaya also facilitates skin healing. Tackiness promotes adherence.</td>
</tr>
<tr>
<td>d. The pouch is then applied to the treated skin.</td>
<td>d. This will allow skin to heal while the appliance is in place.</td>
</tr>
<tr>
<td><strong>6. Check the pouch bottom for closure; use the rubber band or clip provided.</strong></td>
<td>6. Proper closure controls leakage.</td>
</tr>
</tbody>
</table>
Intestinal Obstruction

Intestinal obstruction exists when blockage prevents the normal flow of intestinal contents through the intestinal tract. Two types of processes can impede this flow.

- **Mechanical obstruction:** An intraluminal obstruction or a mural obstruction from pressure on the intestinal walls occurs. Examples are intussusception, polyloid tumors and neoplasms, stenosis, strictures, adhesions, hernias, and abscesses.

- **Functional obstruction:** The intestinal musculature cannot propel the contents along the bowel. Examples are amyloidosis, muscular dystrophy, endocrine disorders such as diabetes mellitus, or neurologic disorders such as Parkinson’s disease. The blockage also can be temporary and the result of the manipulation of the bowel during surgery.

The obstruction can be partial or complete. Its severity depends on the region of bowel affected, the degree to which the lumen is occluded, and especially the degree to which the vascular supply to the bowel wall is disturbed.

Most bowel obstructions occur in the small intestine. Adhesions are the most common cause of small bowel obstruction, followed by hernias and neoplasms. Other causes include intussusception, volvulus (ie, twisting of the bowel), and paralytic ileus.

About 15% of intestinal obstructions occur in the large bowel; most of these are found in the sigmoid colon (Wolfe, 2000). The most common causes are carcinoma, diverticulitis, inflammatory bowel disorders, and benign tumors. Table 38-5 and Figure 38-6 list mechanical causes of obstruction and describe how they occur.

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**Chart 38-5**

**GUIDELINES FOR Draining a Continent Ileostomy (Kock Pouch)**

A continent ileostomy is the surgical creation of a pouch of small intestine that can serve as an internal receptacle for fecal discharge; a nipple valve is constructed at the outlet. Postoperatively, a catheter extends from the stoma and is attached to a closed drainage suction system. To ensure patency of the catheter, usually every 3 hours 10 to 20 mL of normal saline is instilled gently into the pouch; return flow is not aspirated but is allowed to drain by gravity.

After approximately 2 weeks, when the healing process has progressed to the point at which the catheter is removed from the stoma, the patient is taught to drain the pouch. The equipment required includes a catheter, tissues, water-soluble lubricant, gauze squares, a syringe, irrigating solution in a bowl, and an emesis or receiving basin.

The following procedure is used to drain the pouch; the patient is helped to participate in this procedure to learn to perform it unassisted.

<table>
<thead>
<tr>
<th>NURSING ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lubricate the catheter and gently insert it about 5 cm (2 in), at which point some resistance may be felt at the valve or nipple.</td>
<td>1. When gentle pressure is used, the catheter usually will enter the pouch.</td>
</tr>
<tr>
<td>2. If there is much resistance, fill a syringe with 20 mL of air or water and inject it through the catheter, while still exerting some pressure on the catheter.</td>
<td>2. This will permit the catheter to enter the pouch.</td>
</tr>
<tr>
<td>3. Place the other end of the catheter in a drainage basin held below the level of the stoma. Later this process can be carried out at the toilet with drainage delivered into the toilet bowl.</td>
<td>3. Gravity facilitates drainage. Drainage may include flatus as well as effluent.</td>
</tr>
<tr>
<td>4. After drainage, the catheter is removed and the area around the stoma is gently washed with warm water. Pat dry and apply an absorbent pad over the stoma. Fasten the pad with hypoallergenic tape.</td>
<td>4. The entire procedure requires about 5 to 10 min; at first it is performed every 3 h. The time between procedures is gradually lengthened to three times daily.</td>
</tr>
</tbody>
</table>

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**Chart 38-6**

**Home Care Checklist • Managing Ostomy Care**

At the completion of the home care instruction, the patient or caregiver will be able to:

- Demonstrate ostomy care, including wound cleansing, irrigation, and appliance changing.
- Describe the importance of maintaining peristomal skin integrity.
- Identify sources for obtaining additional dressing and appliance supplies.
- Identify dietary restrictions (foods that can cause diarrhea and constipation).
- Identify measures to be used to promote fluid and electrolyte balance
- Describe medication regimen: identify medications by name, use, route, and frequency.
- Describe potential complications and necessary actions to be taken if complications occur.
- Identify how to contact enterostomal therapist or home health nurse.

Patient | Caregiver
---|---
✓ | ✓
✓ | ✓
✓ | ✓
✓ | ✓
✓ | ✓
✓ | ✓
✓ | ✓
✓ | ✓
✓ | ✓
Chapter 38  Management of Patients With Intestinal and Rectal Disorders

1055

Small intestine
Peritoneum
Hernial sac
Testicle

FIGURE 38-6 Three causes of intestinal obstruction. (A) Intussusception invagination or shortening of the colon caused by the movement of one segment of bowel into another. (B) Volvulus of the sigmoid colon; the twist is counterclockwise in most cases. Note the edematous bowel. (C) Hernia (inguinal). The sac of the hernia is a continuation of the peritoneum of the abdomen. The hernial contents are intestine, omentum, or other abdominal contents that pass through the hernial opening into the hernial sac.

Table 38-5  Mechanical Causes of Intestinal Obstruction

<table>
<thead>
<tr>
<th>CAUSE</th>
<th>COURSE OF EVENTS</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesions</td>
<td>Loops of intestine become adherent to areas that heal slowly or scar after abdominal surgery.</td>
<td>After surgery, adhesions produce a kinking of an intestinal loop.</td>
</tr>
<tr>
<td>Intussusception</td>
<td>One part of the intestine slips into another part located below it (like a telescope shortening).</td>
<td>The intestinal lumen becomes narrowed.</td>
</tr>
<tr>
<td>Volvulus</td>
<td>Bowel twists and turns on itself.</td>
<td>Intestinal lumen becomes obstructed.</td>
</tr>
<tr>
<td>Hernia</td>
<td>Protrusion of intestine through a weakened area in the abdominal muscle or wall.</td>
<td>Intestinal flow may be completely obstructed. Blood flow to the area may be obstructed as well.</td>
</tr>
<tr>
<td>Tumor</td>
<td>A tumor that exists within the wall of the intestine extends into the intestinal lumen, or a tumor outside the intestine causes pressure on the wall of the intestine.</td>
<td>Intestinal lumen becomes partially obstructed; if the tumor is not removed, complete obstruction results.</td>
</tr>
</tbody>
</table>

Small Bowel Obstruction

Pathophysiology

Intestinal contents, fluid, and gas accumulate above the intestinal obstruction. The abdominal distention and retention of fluid reduce the absorption of fluids and stimulate more gastric secretion. With increasing distention, pressure within the intestinal lumen increases, causing a decrease in venous and arteriolar capillary pressure. This causes edema, congestion, necrosis, and eventual rupture or perforation of the intestinal wall, with resultant peritonitis.

Reflux vomiting may be caused by abdominal distention. Vomiting results in a loss of hydrogen ions and potassium from the stomach, leading to a reduction of chlorides and potassium in the blood and to metabolic alkalosis. Dehydration and acidosis develop from loss of water and sodium. With acute fluid losses, hypovolemic shock may occur.

Clinical Manifestations

The initial symptom is usually crampy pain that is wavelike and colicky. The patient may pass blood and mucus, but no fecal matter and no flatus. Vomiting occurs. If the obstruction is complete, the peristaltic waves initially become extremely vigorous and eventually assume a reverse direction, with the intestinal contents propelled toward the mouth instead of toward the rectum. If the
obstruction is in the ileum, fecal vomiting takes place. First, the patient vomits the stomach contents, then the bile-stained contents of the duodenum and the jejunum, and finally, with each paroxysm of pain, the darker, fecal-like contents of the ileum. The unmistakable signs of dehydration become evident: intense thirst, drowsiness, generalized malaise, aching, and a parched tongue and mucous membranes. The abdomen becomes distended. The lower the obstruction is in the GI tract, the more marked the abdominal distention. If the obstruction continues uncorrected, hypovolemic shock occurs from dehydration and loss of plasma volume.

Assessment and Diagnostic Findings

Diagnosis is based on the symptoms described previously and on x-ray findings. Abdominal x-ray studies show abnormal quantities of gas, fluid, or both in the bowel. Laboratory studies (ie, electrolyte studies and a complete blood cell count) reveal a picture of dehydration, loss of plasma volume, and possible infection.

Medical Management

Decompression of the bowel through a nasogastric or small bowel tube (see Chap. 36) is successful in most cases. When the bowel is completely obstructed, the possibility of strangulation warrants surgical intervention. Before surgery, intravenous therapy is necessary to replace the depleted water, sodium, chloride, and potassium.

The surgical treatment of intestinal obstruction depends largely on the cause of the obstruction. In the most common causes of obstruction, such as hernia and adhesions, the surgical procedure involves repairing the hernia or dividing the adhesion to which the intestine is attached. In some instances, the portion of affected bowel may be removed and an anastomosis performed. The complexity of the surgical procedure for intestinal obstruction depends on the duration of the obstruction and the condition of the intestine.

Nursing Management

Nursing management of the nonsurgical patient with a small bowel obstruction includes maintaining the function of the nasogastric tube, assessing and measuring the nasogastric output, assessing for fluid and electrolyte imbalance, monitoring nutritional status, and assessing improvement (eg, return of normal bowel sounds, decreased abdominal distention, subjective improvement in abdominal pain and tenderness, passage of flatus or stool). The nurse reports discrepancies in intake and output, worsening of pain or abdominal distention, and increased nasogastric output. If the patient’s condition does not improve, the nurse prepares him or her for surgery. The exact nature of the surgery depends on the cause of the obstruction. Nursing care of the patient after surgical repair of a small bowel obstruction is similar to that for other abdominal surgeries (see Chap. 20).

LARGE BOWEL OBSTRUCTION

Pathophysiology

As in small bowel obstruction, large bowel obstruction results in an accumulation of intestinal contents, fluid, and gas proximal to the obstruction. Obstruction in the large bowel can lead to severe distention and perforation unless some gas and fluid can flow back through the ileal valve. Large bowel obstruction, even if complete, may be undramatic if the blood supply to the colon is not disturbed. If the blood supply is cut off, however, intestinal strangulation and necrosis (ie, tissue death) occur; this condition is life threatening. In the large intestine, dehydration occurs more slowly than in the small intestine because the colon can absorb its fluid contents and can distend to a size considerably beyond its normal full capacity.

Clinical Manifestations

Large bowel obstruction differs clinically from small bowel obstruction in that the symptoms develop and progress relatively slowly. In patients with obstruction in the sigmoid colon or the rectum, constipation may be the only symptom for days. Eventually, the abdomen becomes markedly distended, loops of large bowel become visibly outlined through the abdominal wall, and the patient has crampy lower abdominal pain. Finally, fecal vomiting develops. Symptoms of shock may occur.

Assessment and Diagnostic Findings

Diagnosis is based on symptoms and on x-ray studies. Abdominal x-ray studies (flat and upright) show a distended colon. Barium studies are contraindicated.

Medical Management

A colonoscopy may be performed to untwist and decompress the bowel. A cecostomy, in which a surgical opening is made into the cecum, may be performed for patients who are poor surgical risks and urgently need relief from the obstruction. The procedure provides an outlet for releasing gas and a small amount of drainage. A rectal tube may be used to decompress an area that is lower in the bowel. The usual treatment, however, is surgical resection to remove the obstructing lesion. A temporary or permanent colostomy may be necessary. An ileoanal anastomosis may be performed if it is necessary to remove the entire large colon.

Nursing Management

The nurse’s role is to monitor the patient for symptoms that indicate that the intestinal obstruction is worsening and to provide emotional support and comfort. The nurse administers intravenous fluids and electrolytes as prescribed. If the patient’s condition does not respond to nonsurgical treatment, the nurse prepares the patient for surgery. This preparation includes preoperative teaching as the patient’s condition indicates. After surgery, general abdominal wound care and routine postoperative nursing care are provided.

COLORECTAL CANCER

Tumors of the colon and rectum are relatively common; the colorectal area (the colon and rectum combined) is now the third most common site of new cancer cases and deaths in the United States. Colorectal cancer is a disease of Western cultures; there were an estimated 148,300 new cases and 56,000 deaths from the disease in 2002 (American Cancer Society, 2002).

The incidence increases with age (the incidence is highest for people older than 85 years of age) and is higher for people with a family history of colon cancer and those with IBD or polyps. The exact cause of colon and rectal cancer is still unknown, but risk factors have been identified (Chart 38-7).
tumor and spread to other parts of the body (most often to the liver).

Clinical Manifestations

The symptoms are greatly determined by the location of the cancer, the stage of the disease, and the function of the intestinal segment in which it is located. The most common presenting symptom is a change in bowel habits. The passage of blood in the stools is the second most common symptom. Symptoms may also include unexplained anemia, anorexia, weight loss, and fatigue.

The symptoms most commonly associated with right-sided lesions are dull abdominal pain and melena (ie, black, tarry stools). The symptoms most commonly associated with left-sided lesions are those associated with obstruction (ie, abdominal pain and cramping, narrowing stools, constipation, and distention), as well as bright red blood in the stool. Symptoms associated with rectal lesions are tenesmus (ie, ineffective, painful straining at stool), rectal pain, the feeling of incomplete evacuation after a bowel movement, alternating constipation and diarrhea, and bloody stool.

Assessment and Diagnostic Findings

Along with an abdominal and rectal examination, the most important diagnostic procedures for cancer of the colon are fecal occult blood testing, barium enema, proctosigmoidoscopy, and colonoscopy (see Chap. 34). As many as 60% of colorectal cancer cases can be identified by sigmoidoscopy with biopsy or cytology smears (Yamada et al., 1999).

Carcinoembryonic antigen (CEA) studies may also be performed. Although CEA may not be a highly reliable indicator in diagnosing colon cancer because not all lesions secrete CEA, studies show that CEA levels are reliable in predicting prognosis. With complete excision of the tumor, the elevated levels of CEA should return to normal within 48 hours. Elevations of CEA at a later date suggest recurrence (Yamada et al., 1999).

Complications

Tumor growth may cause partial or complete bowel obstruction. Extension of the tumor and ulceration into the surrounding blood vessels results in hemorrhage. Perforation, abscess formation, peritonitis, sepsis, and shock may occur.

Gerontologic Considerations

The incidence of carcinoma of the colon and rectum increases with age. These cancers are considered common malignancies in advanced age. Only prostate cancer and lung cancer in men exceed colorectal cancer. Among women, only breast cancer exceeds the incidence of colorectal cancer (Lueckenotte, 2000). Symptoms are often insidious. Cancer patients usually report fatigue, which is caused primarily by iron-deficiency anemia. In early stages, minor changes in bowel patterns and occasional bleeding may occur. The later symptoms most commonly reported by the elderly are abdominal pain, obstruction, tenesmus, and rectal bleeding.

Colon cancer in the elderly has been closely associated with dietary carcinogens. Lack of fiber is a major causative factor because the passage of feces through the intestinal tract is prolonged, which extends exposure to possible carcinogens. Excess fat is believed to alter bacterial flora and convert steroids into compounds that have carcinogenic properties.
Medical Management

The patient with symptoms of intestinal obstruction is treated with intravenous fluids and nasogastric suction. If there has been significant bleeding, blood component therapy may be required. Treatment for colorectal cancer depends on the stage of the disease (Chart 38-8) and consists of surgery to remove the tumor, supportive therapy, and adjuvant therapy. Data demonstrate delays in tumor recurrence and increases in survival time for patients who receive some form of adjuvant therapy—chemotherapy, radiation therapy, immunotherapy, or multimodality therapy.

ADJUVANT THERAPY

The standard adjuvant therapy administered to patients with Dukes’ class C colon cancer is the 5-fluorouracil plus levamisole regimen (Wolfe, 2000). Patients with Dukes’ class B or C rectal cancer are given 5-fluorouracil and high doses of pelvic irradiation. Mitomycin is also used. Radiation therapy is used before, during, and after surgery to shrink the tumor, to achieve better results from surgery, and to reduce the risk of recurrence. For inoperative or unresectable tumors, irradiation is used to provide significant relief from symptoms. Intracavity and implantable devices are used to deliver radiation to the site. The response to adjuvant therapy varies.

SURGICAL MANAGEMENT

Surgery is the primary treatment for most colon and rectal cancers. It may be curative or palliative. Advances in surgical techniques can enable the patient with cancer to have sphincter-saving devices that restore continuity of the GI tract (Tierney et al., 1999). The type of surgery recommended depends on the location and size of the tumor. Cancers limited to one site can be removed through the colonoscope. Laparoscopic colorectomy with polypectomy minimizes the extent of surgery needed in some cases. A laparoscope is used as a guide in making an incision into the colon; the tumor mass is then excised. Use of the neodymium/yttrium-aluminum-garnet (Nd:YAG) laser has proved effective with some lesions. Bowel resection is indicated for most class A lesions and all class B and C lesions. Surgery is sometimes recommended for class D colon cancer, but the goal of surgery in this instance is palliative; if the tumor has spread and involves surrounding vital structures, it is considered nonresectable.

Surgical procedures include the following:

- Segmental resection with anastomosis (ie, removal of the tumor and portions of the bowel on either side of the growth, as well as the blood vessels and lymphatic nodes) (Fig. 38-8).
- Abdominoperineal resection with permanent sigmoid colostomy (ie, removal of the tumor and a portion of the sigmoid and all of the rectum and anal sphincter) (Fig. 38-9).
- Temporary colostomy followed by segmental resection and anastomosis and subsequent reanastomosis of the colostomy, allowing initial bowel decompression and bowel preparation before resection
- Permanent colostomy or ileostomy for palliation of unresectable obstructing lesions
- Construction of a coloanal reservoir called a colonic J pouch is performed in two steps. A temporary loop ileostomy is constructed to divert intestinal flow, and the newly constructed J pouch (made from 6 to 10 cm of colon) is reattached to the anal stump. About 3 months after the initial stage, the ileostomy is reversed, and intestinal continuity is restored. The anal sphincter and therefore continence are preserved.

A colostomy is the surgical creation of an opening (ie, stoma) into the colon. It can be created as a temporary or permanent fecal diversion. It allows the drainage or evacuation of colon contents to the outside of the body. The consistency of the drainage is related to the placement of the colostomy, which is dictated by the location of the tumor and the extent of invasion into surrounding tissues (Fig. 38-10). With improved surgical techniques, colostomies are performed on fewer than one third of patients with colorectal cancer.

Gerontologic Considerations

The elderly are at increased risk for complications after surgery and may have difficulty managing colostomy care. They may have decreased vision, impaired hearing, and difficulty with fine motor coordination. It may be helpful for the patient to handle ostomy equipment and simulate cleaning the peristomal skin and irrigating the stoma before surgery. Skin care is a major concern in the elderly ostomate because of the skin changes that occur with aging—the epithelial and subcutaneous fatty layers become thin, and the skin is irritated easily. To prevent skin breakdown, special attention is paid to skin cleansing and the proper fit of ostomy equipment and simulate cleaning the peristomal skin and irri-

Nursing Process: The Patient with Colorectal Cancer

Assessment

The nurse completes a health history to obtain information about fatigue, abdominal or rectal pain (eg, location, frequency, duration, association with eating or defecation), past and present elimination patterns, and characteristics of stool (eg, color, odor,
consistency, presence of blood or mucus). Additional information includes a history of IBD or colorectal polyps, a family history of colorectal disease, and current medication therapy. The nurse identifies dietary habits, including fat and fiber intake, as well as amounts of alcohol consumed. The nurse describes and documents a history of weight loss.

Assessment includes auscultating the abdomen for bowel sounds and palpating the abdomen for areas of tenderness, distention, and solid masses. Stool specimens are inspected for character and presence of blood.

**Diagnosis**

**NURSING DIAGNOSES**

Based on the assessment data, the major nursing diagnoses may include the following:

- Imbalanced nutrition, less than body requirements, related to nausea and anorexia
- Risk for deficient fluid volume related to vomiting and dehydration
- Anxiety related to impending surgery and the diagnosis of cancer
- Risk for ineffective therapeutic regimen management related to knowledge deficit concerning the diagnosis, the surgical procedure, and self-care after discharge
- Impaired skin integrity related to the surgical incisions (abdominal and perianal), the formation of a stoma, and frequent fecal contamination of peristomal skin
- Disturbed body image related to colostomy
- Ineffective sexuality patterns related to presence of ostomy and changes in body image and self-concept

**COLLABORATIVE PROBLEMS/POTENTIAL COMPLICATIONS**

Potential complications that may develop include the following:

- Intraperitoneal infection
- Complete large bowel obstruction
- GI bleeding
- Bowel perforation
- Peritonitis, abscess, and sepsis

**Planning and Goals**

The major goals for the patient may include attainment of optimal level of nutrition; maintenance of fluid and electrolyte balance; reduction of anxiety; learning about the diagnosis, surgical procedure, and self-care after discharge; maintenance of optimal tissue healing; protection of peristomal skin; learning how to irrigate the colostomy and change the appliance; expressing feelings and concerns about the colostomy and the impact on himself or herself; and avoidance of complications.

**PREPARING THE PATIENT FOR SURGERY**

The patient anticipating surgery for colorectal cancer has many concerns, needs, and fears. He or she may be physically debilitated and emotionally distraught with concern about lifestyle changes after surgery, prognosis, ability to perform in established roles, and finances. Priorities for nursing care include preparing
the patient physically for surgery, providing information about postoperative care, including stoma care if a colostomy is to be created, and supporting the patient and family emotionally.

Physical preparation for surgery involves building the patient’s stamina in the days preceding surgery and cleansing and sterilizing the bowel the day before surgery. If the patient’s condition permits, the nurse recommends a diet high in calories, protein, and carbohydrates and low in residue for several days before surgery to provide adequate nutrition and minimize cramping by decreasing excessive peristalsis. A full-liquid diet may be prescribed 24 to 48 hours before surgery to decrease bulk. If the patient is hospitalized in the days preceding surgery, PN may be required to replace depleted nutrients, vitamins, and minerals. In some instances, PN may be given at home before surgery. Antibiotics such as sulfonamides, neomycin, and cephalaxin are administered the day before surgery to reduce intestinal bacteria. The bowel is cleansed with laxatives, enemas, or colonic irrigations the evening before and the morning of surgery.

For the patient who is very ill and hospitalized, the nurse measures and records intake and output, including vomitus, to provide an accurate record of fluid balance. The patient’s intake of oral food and fluids may be restricted to prevent vomiting. The nurse administers antiemetics as prescribed. Full or clear liquids may be tolerated, or the patient may be allowed nothing by mouth. A nasogastric tube may be inserted to drain accumulated fluids and prevent abdominal distention. The nurse monitors the abdomen for increasing distention, loss of bowel sounds, and pain or rigidity, which may indicate obstruction or perforation. It also is important to monitor intravenous fluids and electrolytes. Monitoring serum electrolyte levels can detect the hypokalemia and hyponatremia that occur with GI fluid loss. The nurse observes for signs of hypovolemia (eg, tachycardia, hypotension, decreased pulse volume), assesses hydration status, and reports decreased skin turgor, dry mucous membranes, and concentrated urine.

The nurse assesses the patient’s knowledge about the diagnosis, prognosis, surgical procedure, and expected level of functioning after surgery. It is important to include information about the physical preparation for surgery, the expected appearance and care of the wound, the technique of ostomy care (if applicable), dietary restrictions, pain control, and medication management in the teaching plan (see Plan of Nursing Care 38-1). If the patient will be admitted the day of surgery, the physician’s office may arrange for the patient to be seen by an enterostomal therapist in the days preceding surgery. The ther-

*FIGURE 38-9* Abdominoperineal resection for carcinoma of the rectum.
Chapter 38  Management of Patients With Intestinal and Rectal Disorders

PROVIDING EMOTIONAL SUPPORT

Patients anticipating bowel surgery for colorectal cancer may be very anxious. They may grieve about the diagnosis, the impending surgery, and possible permanent colostomy. Patients undergoing surgery for a temporary colostomy may express fears and concerns similar to those of a person with a permanent stoma. All members of the health care team, including the enterostomal therapy nurse, should be available for assistance and support. The nurse’s role is to assess the patient’s anxiety level and coping mechanisms and suggest methods for reducing anxiety such as deep-breathing exercises and visualizing a successful recovery from surgery and cancer. Other supportive measures include providing privacy and teaching relaxation techniques to the patient. Time is set aside to listen to the patient who wishes to talk, cry, or ask questions. The nurse can arrange a meeting with a spiritual advisor if the patient desires or with the physicians if the patient wishes to discuss the treatment or prognosis. To promote patient comfort, the nurse projects a relaxed, professional, and empathetic attitude. See Nursing Research Profile 38-1 about the importance of spiritual well-being for patients with colorectal cancer.

The patient undergoing a colostomy may find the anticipated changes in body image and lifestyle profoundly disturbing. Because the stoma is located on the abdomen, the patient may think that everyone will be aware of the ostomy. The nurse helps reduce this fear by presenting facts about the surgical procedure and the creation and management of the ostomy. If the patient is receptive, the nurse can use diagrams, photographs, and appliances to explain and clarify. Because the patient is experiencing emotional stress, the nurse may need to repeat some of the information. The nurse provides time for the patient and family to ask questions; the nurse’s acceptance and understanding of the patient’s concerns and feelings convey a caring, competent attitude that promotes confidence and cooperation. Consultation with an enterostomal therapist during the preoperative period can be extremely helpful, as can speaking with a person who is successfully managing a colostomy. The United Ostomy Association provides useful information about living with an ostomy through literature, lectures, and exhibits. Visiting services by qualified members and rehabilitation services for new ostomy patients are provided.

NURSING RESEARCH PROFILE 38-1

Spiritual Needs of Patients with Colorectal Cancer


Purpose
Patients with colorectal cancer must be assisted in coping with the demands of the illness and its treatment. Using the Demands of Illness Inventory (DOI) and the Spiritual Well-Being Scale (SWBS), the authors of this descriptive study looked closely at the events that individuals experience in response to a cancer diagnosis and attempted to determine whether those events relate to spiritual well-being. The purpose of the study was to identify the demands of the illness and determine their relationship to spiritual well-being.

Study Sample and Findings
The sample for this study consisted of 121 respondents to questionnaires who were at least 21 years old and had been treated for colon, rectal, or anal cancer. Two thirds of the respondents reported a Christian affiliation. Results showed that the illness exerted the greatest demands (highest DOI scores) on those in the youngest age group (21–45 years) and on those with terminal illness. These respondents also reported lower levels of spiritual well-being.

Subjects who reported significantly lower ($p < .05$) DOI levels related to their physical symptoms, monitoring symptoms, and treatment issues also reported higher levels of spiritual well-being.

Nursing Implications
Nurses who care for cancer patients must be aware of the intense illness-related demands placed on their patients, especially on those in the younger age range and those with a terminal diagnosis. Nurses should explore interventions to assist patients in coping with these demands, especially interventions to enhance the patients’ spiritual resources.

This study had several limitations. All responses were self-reported, and measures were taken at only one point in time. Other studies need to be conducted to determine whether the findings can be generalized.

FIGURE 38-10 A diagrammatic representation of the placement of permanent colostomies. The nature of the discharge varies with the site. Shaded areas show sections of bowel removed. With a sigmoid colostomy (A) the feces are solid. With a descending colostomy (B) the feces are semimushy. With a transverse colostomy (C) the feces are mushy. With an ascending colostomy (D) the feces are fluid.
Providing Postoperative Care
Postoperative nursing care for patients undergoing colon resection or colostomy is similar to nursing care for any abdominal surgery patient (see Chap. 20), including pain management during the immediate postoperative period. The nurse also monitors the patient for complications such as leakage from the site of the anastomosis, prolapse of the stoma, perforation, stoma retraction, fecal impaction, skin irritation, and pulmonary complications associated with abdominal surgery. The nurse assesses the abdomen for returning peristalsis and assesses the initial stool characteristics. It is important to help patients with a colostomy out of bed on the first postoperative day and encourage them to begin participating in managing the colostomy.

Maintaining Optimal Nutrition
The nurse teaches all patients undergoing surgery for colorectal cancer about the health benefits to be derived from consuming a healthy diet. The diet is individualized as long as it is well balanced and does not cause diarrhea or constipation. The return to normal diet is rapid.

A complete nutritional assessment is important for patients with a colostomy. The patient avoids foods that cause excessive odor and gas, including foods in the cabbage family, eggs, fish, beans, and high-cellulose products such as peanuts. It is important to determine whether the elimination of specific foods is causing any nutritional deficiency. Nonirritating foods are substituted for those that are restricted so that deficiencies are corrected. The nurse advises the patient to experiment with an irritating food several times before restricting it, because an initial sensitivity may decrease with time. The nurse can help the patient identify any foods or fluids that may be causing diarrhea, such as fruits, high-fiber foods, soda, coffee, tea, or carbonated beverages. Paregoric, bismuth subgallate, bismuth subcarbonate, or diphenoxylate with atropine (Lomotil) help control the diarrhea. For constipation, prune or apple juice or a mild laxative is effective. The nurse suggests fluid intake of at least 2 L of fluid per day.

Providing Wound Care
The nurse frequently examines the abdominal dressing during the first 24 hours after surgery to detect signs of hemorrhage. It is important to help the patient splint the abdominal incision during coughing and deep breathing to lessen tension on the edges of the incision. The nurse monitors temperature, pulse, and respiratory rate for elevations, which may indicate an infectious process. If the patient has a colostomy, the stoma is examined for swelling (slight edema from surgical manipulation is normal), color (a healthy stoma is pink or red), discharge (a small amount of oozing is normal), and bleeding (an abnormal sign).

If the malignancy has been removed using the perineal route, the perineal wound is observed for signs of hemorrhage. This wound may contain a drain or packing, which is removed gradually. Bits of tissue may slough off for a week. This process is hastened by mechanical irrigation of the wound or with sitz baths performed two or three times each day initially. The condition of the perineal wound and any bleeding, infection, or necrosis are documented.

Monitoring and Managing Complications
The patient is observed for signs and symptoms of complications. It is important to frequently assess the abdomen, including decreasing or changing bowel sounds and increasing abdominal girth, to detect bowel obstruction. The nurse monitors vital signs for increased temperature, pulse, and respirations and for decreased blood pressure, which may indicate an intra-abdominal infectious process. It is important to report rectal bleeding immediately because it indicates hemorrhage. The nurse monitors hematocrit and hemoglobin levels and administers blood component therapy as prescribed. Any abrupt change in abdominal pain is reported promptly. Elevated white blood cell counts and temperature or symptoms of shock are reported because they may indicate sepsis. The nurse administers antibiotics as prescribed.

Pulmonary complications are always a concern with abdominal surgery; patients older than 50 years of age are at risk, especially if they are or have been receiving sedatives or are being maintained on bed rest for a prolonged period. Two primary pulmonary complications are pneumonia and atelectasis. Frequent activity (eg, turning the patient from side to side every 2 hours), deep breathing, coughing, and early ambulation can reduce the risks for these complications. Table 38-6 lists possible postoperative complications.

The incidence of complications related to the colostomy is about one half that seen with an ileostomy. Some common complications are prolapse of the stoma (usually from obesity), perforation (from improper stoma irrigation), stoma retraction, fecal impaction, and skin irritation. Leakage from an anastomotic site can occur if the remaining bowel segments are diseased or weakened. Leakage from an intestinal anastomosis causes abdominal distention and rigidity, temperature elevation, and signs of shock. Surgical repair is necessary.

Removing and Applying the Colostomy Appliance
The colostomy begins to function 3 to 6 days after surgery. The nurse manages the colostomy and teaches the patient about its care until the patient can take over. The nurse teaches skin care and how to apply and remove the drainage pouch. Care of the peristomal skin is an ongoing concern because excoriation or ulceration can develop quickly. The presence of such irritation makes adhering the ostomy appliance difficult, and adhering the ostomy appliance to irritated skin can worsen the skin condition. The effluent discharge and the degree to which it is irritating vary with the type of ostomy. With a transverse colostomy, the stool is soft and mushy and irritating to the skin. With a descending or sigmoid colostomy, the stool is fairly solid and less irritating to the skin. Other skin problems include yeast infections and allergic dermatitis.

If the patient wants to bathe or shower before putting on the clean appliance, micropore tape applied to the sides of the pouch will keep it secure during bathing. To remove the appliance, the patient assumes a comfortable sitting or standing position and gently pushes the skin down from the faceplate while pulling the pouch up and away from the stoma. Gentle pressure prevents the skin from being traumatized and any liquid fecal contents from spilling out. The nurse advises the patient to protect the peristomal skin by then washing the area gently with a moist, soft cloth and a mild soap. Soap acts as a mild abrasive agent to remove enzyme residue from fecal spillage. The patient should remove any excess skin barrier. While the skin is being cleansed, a gauze dressing can cover the stoma, or a vaginal tampon can be inserted gently to absorb excess drainage. After cleansing, the patient puts the skin completely dry with a gauze pad, taking care not to rub the area. The patient can lightly dust nystatin (Mycostatin) powder on the peristomal skin if irritation or yeast growth is present.

Smoothly applying the drainage appliance for a secure fit requires practice and a well-fitting appliance. Patients can choose from a wide variety of appliances, depending on their individual
needs. The stoma is measured to determine the correct size for the pouch; the pouch opening should be about 0.3 cm (1⁄8 in) larger than the stoma. After the skin is cleansed according to the previously described procedure, the patient applies the peristomal skin barrier (ie, wafer, paste, or powder). Mild skin irritation may require dusting the skin with karaya or Stomahesive powder before attaching the pouch. The patient removes the backing from the adherent surface of the appliance, and places the bag down over the stoma for 30 seconds. The patient empties or changes the drainage appliance when it is one-third to one-fourth full so that the weight of its contents does not cause the appliance to separate from the adhesive disk and spill the contents. Most appliances are disposable and odor resistant; commercially prepared deodorizers are available.

IRRIGATING THE COLOSTOMY

The purpose of irrigating a colostomy is to empty the colon of gas, mucus, and feces so that the patient can go about social and business activities without fear of fecal drainage. A stoma does not have voluntary muscular control and may empty at irregular intervals. Regulating the passage of fecal material is achieved by irrigating the colostomy or allowing the bowel to evacuate naturally without irrigations. The choice often depends on the individual and the type of the colostomy. By irrigating the stoma at a regular time, there is less gas and retention of the irrigant. The time for irrigating the colostomy should be consistent with the schedule the person will follow after leaving the hospital. Chart 38-9 delineates the irrigating procedure.

SUPPORTING A POSITIVE BODY IMAGE

The patient is encouraged to verbalize feelings and concerns about altered body image and to discuss the surgery and the stoma (if one was created). A supportive environment and a supportive attitude on the nurse’s part are crucial in promoting the patient’s adaptation to the changes brought about by the surgery. If applicable, the patient must learn colostomy care and begin to plan for incorporating stoma care into daily life. The nurse helps the patient overcome aversion to the stoma or fear.
A colostomy is irrigated to empty the colon of feces, gas, or mucus, cleanse the lower intestinal tract, and establish a regular pattern of evacuation so that normal life activities may be pursued. A suitable time for the irrigation is selected that is compatible with the patient’s posthospital pattern of activity (preferably after a meal). Irrigation should be performed at the same time each day.

Before the procedure, the patient sits on a chair in front of the toilet or on the toilet itself. An irrigating reservoir containing 500 to 1500 mL of lukewarm tapwater is hung 45 to 50 cm (18 to 20 in) above the stoma (shoulder height when the patient is seated). The dressing or pouch is removed. The following procedure is used; the patient is helped to participate in the procedure to learn to perform it unassisted.

<table>
<thead>
<tr>
<th>NURSING ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apply an irrigating sleeve or sheath to the stoma. Place the end in the commode.</td>
<td>1. This helps to control odor and splashing and allows feces and water to flow directly into the commode.</td>
</tr>
<tr>
<td>2. Allow some of the solution to flow through the tubing and catheter/cone.</td>
<td>2. Air bubbles in the setup are released so that air is not introduced into the colon, which would cause crampy pain.</td>
</tr>
<tr>
<td>3. Lubricate the catheter/cone and gently insert it into the stoma. Insert the catheter no more than 8 cm (3 in). Hold the shield/cone gently, but firmly, against the stoma to prevent backflow of water.</td>
<td>3. Lubrication permits ease of insertion of the catheter/cone.</td>
</tr>
<tr>
<td>4. If the catheter does not advance easily, allow water to flow slowly while advancing catheter. Never force the catheter!</td>
<td>4. A slow rate of flow helps to relax the bowel and facilitates passage of the catheter.</td>
</tr>
<tr>
<td>5. Allow tepid fluid to enter the colon slowly. If cramping occurs, clamp off the tubing and allow the patient to rest before progressing. Water should flow in over a 5- to 10-minute period.</td>
<td>5. Painful cramps usually are caused by too rapid a flow or by too much solution; 300 mL of fluid may be all that is needed to stimulate evacuation. Volume may be increased with subsequent irrigations to 500, 1000, or 1500 mL as needed by the patient for effective results.</td>
</tr>
<tr>
<td>6. Hold the shield/cone in place 10 seconds after the water has been instilled; then gently remove it.</td>
<td>6. Most of the water, feces, and flatus will be expelled in 10 to 15 minutes.</td>
</tr>
<tr>
<td>7. Allow 10 to 15 minutes for most of the return; then dry the bottom of the sleeve/sheath and attach it to the top, or apply the appropriate clamp to the bottom of the sleeve.</td>
<td>8. Ambulation stimulates peristalsis and completion of the irrigation return.</td>
</tr>
<tr>
<td>8. Leave the sleeve/sheath in place for 30 to 45 minutes while the patient gets up and moves around.</td>
<td>9. Cleanliness and dryness will provide the patient with hours of comfort.</td>
</tr>
<tr>
<td>9. Cleanse the area with a mild soap and water; pat the area dry.</td>
<td>10. The patient should use an appliance until the colostomy is sufficiently controlled. A dressing may be all that is needed.</td>
</tr>
<tr>
<td>10. Replace the colostomy dressing or appliance.</td>
<td></td>
</tr>
</tbody>
</table>
of self-injury by providing care and teaching in an open, accepting manner and by encouraging the patient to talk about his or her feelings about the stoma.

**DISCUSSING SEXUALITY ISSUES**

The nurse encourages the patient to discuss feelings about sexuality and sexual function. Some patients may initiate questions about sexual activity directly or give indirect clues about their fears. Some may view the surgery as mutilating and a threat to their sexuality; some fear impotence. Others may express worry about odor or leakage from the pouch during sexual activity. Although the appliance presents no deterrent to sexual activity, some patients wear silk or cotton covers and smaller pouches during sex. Alternative sexual positions are recommended, as well as alternative methods of stimulation to satisfy sexual drives. The nurse assesses the patient’s needs and attempts to identify specific concerns. If the nurse is uncomfortable with this or if the patient’s concerns seem complex, it is appropriate for the nurse to seek assistance from an enterostomal therapy nurse, sex counselor or therapist, or advanced practice nurse.

**PROMOTING HOME AND COMMUNITY-BASED CARE**

**Teaching Patients Self-Care**

Patient education and discharge planning require the combined efforts of the physician, nurse, enterostomal therapist, social worker, and dietitian. Patients are given specific information, individualized to their needs, about ostomy care and signs and symptoms of potential complications. Dietary instructions are essential to help patients identify and eliminate irritating foods that can cause diarrhea or constipation. It is important to teach patients about their prescribed medications (ie, action, purpose, and possible side effects).

The nurse reviews treatments (eg, irrigations, wound cleansing) and dressing changes and encourages the family to participate. Because the hospital stay is short, the patient may not be able to become proficient in stoma care techniques before discharge. Many patients need referral to a home care agency and the telephone number of the local chapter of the American Cancer Society. The home care nurse goes to the home to provide further care and teaching and to assess how well the patient and family are adjusting to the colostomy. The home environment is assessed for adequacy of resources that allow the patient to accomplish self-care. A family member may assume responsibility for purchasing the equipment and supplies needed at home.

Patients need very specific directions about when to call the physician. They need to know which complications require prompt attention (ie, bleeding, abdominal distention and rigidity, diarrhea, fever, wound drainage, and disruption of suture line). If radiation therapy is planned, the possible side effects (ie, anorexia, vomiting, diarrhea, and exhaustion) are reviewed.

**Continuing Care**

Ongoing care of the patient with cancer and a colostomy often extends well beyond the initial hospital stay. Home care nurses manage ostomy follow-up care, manage the assessment and care of the debilitated patient, and coordinate adjuvant therapy. The home care visits also provide the nurse with opportunities to assess the patient’s physical and emotional status and the patient’s and family’s ability to carry out recommended management strategies. Visits from an enterostomal therapy nurse are available to the patient and family as they learn to care for the ostomy and work through their feelings about it, the diagnosis of cancer, and the future. Some patients are interested in and can benefit from involvement in an ostomy support group.

**Evaluation**

**EXPECTED PATIENT OUTCOMES**

Expected patient outcomes may include the following:

1. Consumes a healthy diet
   a. Avoids foods and fluids that cause diarrhea
   b. Substitutes nonirritating foods and fluids for those that are restricted

2. Maintains fluid balance
   a. Experiences no vomiting or diarrhea
   b. Experiences no signs or symptoms of dehydration

3. Feels less anxious
   a. Expresses concerns and fears freely
   b. Uses coping measures to manage stress

4. Acquires information about diagnosis, surgical procedure, preoperative preparation, and self-care after discharge
   a. Discusses the diagnosis, surgical procedure, and postoperative self-care
   b. Demonstrates techniques of ostomy care

5. Maintains clean incision, stoma, and perineal wound

6. Expresses feelings and concerns about self
   a. Gradually increases participation in stoma and peristomal skin care
   b. Discusses feelings related to changed appearance

7. Discusses sexuality in relation to ostomy and to changes in body image

8. Recovers without complications
   a. Is afebrile
   b. Regains normal bowel activity
   c. Exhibits no signs and symptoms of perforation or bleeding

**POLYPS OF THE COLON AND RECTUM**

A polyp is a mass of tissue that protrudes into the lumen of the bowel. Polyps can occur anywhere in the intestinal tract and rectum. They can be classified as neoplastic (ie, adenomas and carcinomas) or non-neoplastic (ie, mucosal and hyperplastic). Non-neoplastic polyps, which are benign epithelial growths, are common in the Western world. They occur more commonly in the large intestine than in the small intestine. Although most polyps do not develop into invasive neoplasms, they must be identified and followed closely. Adenomatous polyps are more common in men. The proportion of these polyps arising in the proximal part of the colon increases with age (after 40 years of age). Prevalence rates vary from 25% to 60%, depending on age. Non-neoplastic polyps occur in 80% of the population, and their frequency increases with age (Wolfe, 2000).

Clinical manifestations depend on the size of the polyp and the amount of pressure it exerts on intestinal tissue. The most common symptom is rectal bleeding. Lower abdominal pain may also occur. If the polyp is large enough, symptoms of obstruction occur. The diagnosis is based on history and digital rectal examination, barium enema studies, sigmoidoscopy, or colonoscopy.

After a polyp is identified, it should be removed. There are several methods: colonoscopy with the use of special equipment (ie, biopsy forceps and snare), laparoscopy, or colonoscopic excision with laparoscopic visualization. The latter technique enables immediate detection of potential problems and allows laparoscopic
resection and repair of the major complications of perforation and bleeding that may occur with polypectomy. Microscopic examination of the polyp then identifies the type of polyp and indicates what further surgery is required.

**Diseases of the Anorectum**

Anorectal disorders are common, and more than one half of the population will experience one at some time during their lives (Yamada et al., 1999). Patients with anorectal disorders seek medical care primarily because of pain, rectal bleeding, or change in bowel habits. Other common complaints are protrusion of hemorrhoids, anal dischage, perianal itching, swelling, anal tenderness, stenosis, and ulceration. Constipation results from delaying defecation because of anorectal pain.

There has been a steady increase in the frequency of sexually transmitted diseases in recent decades, leading to the identification of new anorectal syndromes. The prevalence of these conditions is increasing. These syndromes include venereal infections such as syphilis, gonorrhea, herpes, chlamydia, and candidiasis, and they are most commonly seen in male homosexuals who practice anorectal intercourse (Wolfe, 2000).

**ANORECTAL ABSCESS**

An anorectal abscess is caused by obstruction of an anal gland, resulting in retrograde infection. People with regional enteritis or immunosuppressive conditions such as AIDS are particularly susceptible to these infections. Many of these abscesses result in fistulas.

An abscess may occur in a variety of spaces in and around the rectum. It often contains a quantity of foul-smelling pus and is painful. If the abscess is superficial, swelling, redness, and tenderness are observed. A deeper abscess may result in toxic symptoms, lower abdominal pain, and fever.

Palliative therapy consists of sitz baths and analgesics. However, prompt surgical treatment to incise and drain the abscess is the treatment of choice. When a deeper infection exists with the possibility of a fistula, the fistulous tract must be excised. If possible, the fistula is excised when the abscess is incised and drained, or a second procedure to do so may be necessary. The wound may be packed with gauze and allowed to heal by granulation.

**ANAL FISTULA**

An anal fistula is a tiny, tubular, fibrous tract that extends into the anal canal from an opening located beside the anus (Fig. 38-11A). Fistulas usually result from an infection. They may also develop from trauma, fissures, or regional enteritis. Pus or stool may leak constantly from the cutaneous opening. Other symptoms may be the passage of flatus or feces from the vagina or bladder, depending on the fistula tract. Untreated fistulas may cause systemic infection with related symptoms.

Surgery is always recommended, because few fistulas heal spontaneously. A fistulectomy (ie, excision of the fistulous tract) is the recommended surgical procedure. The lower bowel is evacuated thoroughly with several prescribed enemas. During surgery, the sinus tract is identified by inserting a probe into it or by injecting the tract with methylene blue solution. The fistula is dissected out or laid open by an incision from its rectal opening to its outlet. The wound is packed with gauze.

**ANAL FISSURE**

An anal fissure is a longitudinal tear or ulceration in the lining of the anal canal (see Fig. 38-11B). Fissures are usually caused by the trauma of passing a large, firm stool or from persistent tightening of the anal canal because of stress and anxiety (leading to constipation). Other causes include childbirth, trauma, and overuse of laxatives.

Extremely painful defecation, burning, and bleeding characterize fissures. Most of these fissures heal if treated by conservative measures, which include stool softeners and bulk agents, an increase in water intake, sitz baths, and emollient suppositories. A suppository combining an anesthetic with a corticosteroid helps relieve the discomfort. Anal dilation under anesthesia may be required.

If fissures do not respond to conservative treatment, surgery is indicated. The procedure considered by most surgeons to be the procedure of choice is the lateral internal sphincterotomy with excision of the fissure; the success rate is 90% to 95% (Rieghley, 1999).

**HEMORRHOIDS**

Hemorrhoids are dilated portions of veins in the anal canal. They are very common. By the age of 50, about 50% of people have hemorrhoids to some extent (Corman, 1998). Shearing of the
mucosa during defecation results in the sliding of the structures in the wall of the anal canal, including the hemorrhoidal and vascular tissues. Increased pressure in the hemorrhoidal tissue due to pregnancy may initiate hemorrhoids or aggravate existing ones. Hemorrhoids are classified as two types. Those above the internal sphincter are called internal hemorrhoids, and those appearing outside the external sphincter are called external hemorrhoids (see Fig. 38-11C).

Hemorrhoids cause itching and pain and are the most common cause of bright red bleeding with defecation. External hemorrhoids are associated with severe pain from the inflammation and edema caused by thrombosis (ie, clotting of blood within the hemorrhoid). This may lead to ischemia of the area and eventual necrosis. Internal hemorrhoids are not usually painful until they bleed or prolapse when they become enlarged.

Hemorrhoid symptoms and discomfort can be relieved by good personal hygiene and by avoiding excessive straining during defecation. A high-residue diet that contains fruit and bran along with an increased fluid intake may be all the treatment that is necessary to promote the passage of soft, bulky stools to prevent straining. If this treatment is not successful, the addition of hydrophilic bulk-forming agents such as psyllium and mucilloid may help. Warm compresses, sitz baths, analgesic ointments and suppositories, astrigents (eg, witch hazel), and bed rest allow the engorgement to subside.

There are several types of nonsurgical treatments for hemorrhoids. Infrared photocoagulation, bipolar diathermy, and laser therapy are newer techniques that are used to affix the mucosa to the underlying muscle. Injecting sclerosing solutions is also effective for small, bleeding hemorrhoids. These procedures help prevent prolapse.

A conservative surgical treatment of internal hemorrhoids is the rubber-band ligation procedure. The hemorrhoid is visualized through the anoscope, and its proximal portion above the mucocutaneous lines is grasped with an instrument. A small rubber band is then slipped over the hemorrhoid. Tissue distal to the rubber band becomes necrotic after several days and sloughs off. Fibrosis occurs; the result is that the lower anal mucosa is drawn up and adheres to the underlying muscle. Although this treatment has been satisfactory for some patients, it has proven painful for others and may cause secondary hemorrhage. It has been known to cause perianal infection.

Cryosurgical hemorrhoidectomy, another method for removing hemorrhoids, involves freezing the hemorrhoid for a sufficient time to cause necrosis. Although it is relatively painless, this procedure is not widely used because the discharge is very foul smelling and wound healing is prolonged. The Nd:YAG laser is useful in excising hemorrhoids, particularly external hemorrhoidal tags. The treatment is quick and relatively painless. Hemorrhage and abscess are rare postoperative complications.

The previously described methods of treating hemorrhoids are not effective for advanced thrombosed veins, which must be treated by more extensive surgery. Hemorrhoidectomy, or surgical excision, can be performed to remove all the redundant tissue involved in the process. During surgery, the rectal sphincter is usually dilated digitally and the hemorrhoids are removed with a clamp and cautery or are ligated and then excised. After the operative procedures are completed, a small tube may be inserted through the sphincter to permit the escape of flatus and blood; pieces of Gelfoam or Oxycel gauze may be placed over the anal wounds.

**SEXUALLY TRANSMITTED ANORECTAL DISEASES**

Three infectious syndromes that are related to sexually transmitted diseases have been identified. Proctitis involves the rectum. It is commonly associated with recent anal-receptive intercourse with an infected partner. Symptoms include a mucopurulent discharge or bleeding, pain in the area, and diarrhea. The pathogens most frequently involved are *Neisseria gonorrhoeae* (53%), *Chlamydia* (20%), herpes simplex virus (18%), and *Treponema pallidum* (9%) (Yamada et al., 1999). Proctocolitis involves the rectum and lowest portion of the descending colon. Symptoms are similar to proctitis but may also include watery or bloody diarrhea, cramps, pain, and bloating. Enteritis involves more of the descending colon, and symptoms include watery, bloody diarrhea; abdominal pain; and weight loss. The most common pathogens causing enteritis are *E. histolytica*, *Giardia lamblia*, *Shigella*, and *Campylobacter* (Wolfe, 2000).

Sigmoidoscopy is performed to identify portions of the anorectum involved. Samples are taken with rectal swabs, and cultures are obtained to identify the pathogens involved. The treatment of choice for bacterial infections is antibiotics (ie, cefixime, doxycycline, and penicillin). Acyclovir is given to those with viral infections. Infections from *E. histolytica* and *G. lamblia* are treated with antiamebic therapy (ie, metronidazole). Ciprofloxacin is an effective treatment for *Shigella*. Antibiotics of choice for *Campylobacter* infection are erythromycin and ciprofloxacin.

**PILONIDAL SINUS OR CYST**

A pilonidal sinus or cyst is found in the intergluteal cleft on the posterior surface of the lower sacrum (Fig. 38-12). Current theories suggest that it results from local trauma that causes the pen-
etraction of hairs into the epithelium and subcutaneous tissue (Yamada et al., 1999). It may also be formed congenitally by an infolding of epithelial tissue beneath the skin, which may communicate with the skin surface through one or several small sinus openings. Hair frequently is seen protruding from these openings, and this gives the cyst its name, pilonidal (ie, a nest of hair). The cysts rarely cause symptoms until adolescence or early adult life, when infection produces an irritating drainage or an abscess. Perspiration and friction easily irritate this area.

In the early stages of the inflammation, the infection may be controlled by antibiotic therapy, but after an abscess has formed, surgery is indicated. The abscess is incised and drained under local anesthesia. After the acute process resolves, further surgery is performed to excise the cyst and the secondary sinus tracts. The wound is allowed to heal by granulation. Gauze dressings are placed in the wound to keep its edges separated while healing occurs.

NURSING PROCESS: THE PATIENT WITH AN ANORECTAL CONDITION

Assessment

The nurse takes a health history to determine the presence and characteristics of itching, burning, or pain. Does it occur during bowel movements? How long does it last? Is any abdominal pain associated with it? Does any bleeding occur from the rectum? How much? How frequently? Is it bright red? Is there any other discharge, such as mucus or pus? Other questions relate to elimination patterns and laxative use, diet history (including fiber intake), the amount of exercise, activity levels, and occupation (especially one that involves prolonged sitting or standing). Assessment also includes inspection of the stool for blood or mucus and the perianal area for hemorrhoids, fissures, irritation, or pus.

Diagnosis

NURSING DIAGNOSES

Based on the assessment data, the major nursing diagnoses may include the following:

- Constipation related to ignoring the urge to defecate because of pain during elimination
- Anxiety related to impending surgery and embarrassment
- Acute pain related to irritation, pressure, and sensitivity in the anorectal area from anorectal disease and sphincter spasms after surgery
- Urinary retention related to postoperative reflex spasm and fear of pain
- Risk for ineffective therapeutic regimen management

COLLABORATIVE PROBLEMS/POTENTIAL COMPICATIONS

- Hemorrhage

Planning and Goals

The major goals for the patient may include adequate elimination patterns, reduction of anxiety, pain relief, promotion of urinary elimination, managing the therapeutic regimen, and absence of complications.

Nursing Interventions

RELIEVING CONSTIPATION

The nurse encourages intake of at least 2 L of water daily to provide adequate hydration and recommends high-fiber foods to promote bulk in the stool and to make it easier to pass fecal matter through the rectum. Bulk laxatives such as Metamucil and stool softeners are administered as prescribed. The patient is advised to set aside a time for moving the bowels and to heed the urge to defecate as promptly as possible. It may be helpful to have the patient perform relaxation exercises before defecating to relax the abdominal and perineal muscles, which may be constricted or in spasm. Administering an analgesic before a bowel movement is beneficial.

REDUCING ANXIETY

Patients facing rectal surgery may be upset and irritable because of discomfort, pain, and embarrassment. The nurse identifies specific psychosocial needs and individualizes the plan of care. The nurse maintains the patient’s privacy while providing care and by limiting visitors, if the patient desires. Soiled dressings are removed from the room promptly to prevent unpleasant odors; room deodorizers may be needed if dressings are foul smelling.

RELIEVING PAIN

During the first 24 hours after rectal surgery, painful spasms of the sphincter and perineal muscles may occur. Control of pain is a prime consideration. The patient is encouraged to assume a comfortable position. Prolonged sitting helps to decrease the pain, as may ice and analgesic ointments. Warm compresses may promote circulation and soothe irritated tissues. Sitz baths taken three or four times each day can relieve soreness and pain by relaxing sphincter spasm. Twenty-four hours after surgery, topical anesthetic agents may be beneficial in relieving local irritation and soreness. Medications may include topical anesthetics (ie, suppositories), astringents, antiemetics, tranquilizers, and antiemetics. Patients are more compliant and less apprehensive if they are free of pain.

Wet dressings saturated with equal parts of cold water and witch hazel help relieve edema. When wet compresses are being used continuously, the petrolatum is applied around the anal area to prevent skin maceration. The patient is instructed to assume a prone position at intervals because this position promotes dependent drainage of edematous fluid.

PROMOTING URINARY ELIMINATION

Voiding may be a problem after surgery because of a reflex spasm of the sphincter at the outlet of the bladder and a certain amount of muscle guarding from apprehension and pain. The nurse tries all methods to encourage voluntary voiding (ie, increasing fluid intake, listening to running water, and dripping water over the urinary meatus) before resorting to catheterization. After rectal surgery, urinary output is closely monitored.

MONITORING AND MANAGING COMPLICATIONS

The operative site is examined frequently for rectal bleeding. The nurse assesses the patient for systemic indicators of excessive bleeding (ie, tachycardia, hypotension, restlessness, and thirst). After hemorrhoidectomy, hemorrhage may occur from the veins that were cut. If a tube has been inserted through the sphincter after surgery, evidence of bleeding may be visible on the dressings. If bleeding is obvious, direct pressure is applied to the area, and the physician is notified. It is important to avoid using moist heat because it encourages vessel dilation and bleeding.
Expected patient outcomes may include the following:

1. Attains a normal pattern of elimination
   a. Sets aside a time for defecation, usually after a meal or at bedtime
   b. Responds to the urge to defecate and takes the time to sit on the toilet and try to defecate
   c. Uses relaxation exercises as needed
   d. Increases fluid intake to 2 L per day
   e. Adds high-fiber foods to diet
   f. Reports passage of soft, formed stools
   g. Reports decreased abdominal discomfort
2. Is less anxious
3. Has less pain
   a. Modifies body position and activities to minimize pain and discomfort
   b. Applies warmth or cold to anorectal area
   c. Takes sitz baths four times each day
4.VOIDS WITHOUT DIFFICULTY
5. ADHERES TO THE THERAPEUTIC REGIMEN
   a. Keeps perianal area dry
   b. Eats bulk-forming foods
   c. Has a soft, formed stool on a regular basis
6. EXHIBITS NO EVIDENCE OF COMPLICATIONS
   a. Has a clean incision
   b. Has normal vital signs
   c. Shows no signs of hemorrhage

**Critical Thinking Exercises**

1. You are caring for an elderly man who was just admitted to the hospital. He complains that he has had pain throughout his abdomen for the past 2 days. He states that his bowel patterns have changed recently and that he has not had a bowel movement in 4 days. He has not eaten since yesterday. He states he has no appetite and that he is concerned because he has type 2 diabetes mellitus. When you complete your initial nursing assessment, you notice that his abdomen is distended and rigid and that bowel sounds are absent throughout all fields. Analyze these findings, indicate what you think the possible causes may be, and explain the actions you would take and why. Explain how this man’s diagnosis of diabetes mellitus affects his plan of nursing care and his medical management.

2. During a conversation with a neighbor, you learn that she has recently seen her doctor and that she has been diagnosed with IBS. She asks you to help her understand this process and to explain the reason for the dietary restrictions her doctor has given her. Her doctor also prescribed a laxative and an antidepressant. She explains the amount of stress she has been under at work. Identify the facts that you know about this process and how the actions of the doctor would help in this situation. What will you tell your neighbor?

3. You are caring for a patient who has been diagnosed with colon cancer. He recently underwent a colonoscopy where the growth was detected in the lower portion of the descending colon. The patient is scheduled for a colon resection. You know that he will return from surgery with a sigmoid colostomy. What will you need to do during the preoperative period to prepare your patient for this surgery? What will be the nursing diagnoses and related interventions that are a priority during the immediate postoperative period? Explain how you would meet the postoperative emotional and health education needs of the patient with a colostomy.

4. You are assigned to a general medical clinic. Two patients with inflammatory bowel disease arrive for their appointments. One of the patients, a 52-year-old woman, has recently been diagnosed with Crohn’s disease. The other patient, a 21-year-old woman, was diagnosed with ulcerative colitis at 15 years of age and has had an ileostomy since the age of 19 years. Compare the two disease processes in terms of their pathophysiology, clinical manifestations, course of the illness, and therapeutic management. What similarities and differences would you expect to find in the nutritional and pharmacologic therapies for these two patients? What assessment parameters would you use to identify the psychosocial needs of each of these patients.

**References and Selected Readings**

**Books**


**Ostomy**


**RESOURCES AND WEBSITES**


International Foundation for Functional Gastrointestinal Disorders, P.O. Box 17864, Milwaukee, WI 17864; 1-888-964-2001; [http://www.iffgd.org](http://www.iffgd.org).

Intestinal Disease Foundation, Inc., 1323 Forbes Ave., Suite 200, Pittsburgh, PA 15219; 1-412-261-5888; Ischorr@aol.com.

National Association for Continence, P.O. Box 544, Union, SC 29379; 1-803-585-8789; [http://www.nafc.org/site 2/index.html](http://www.nafc.org/site 2/index.html).


STOP Colon/Rectal Cancer Foundation, P.O. Box 1616, Barrington, IL 60010; 1-312-782-4828; [http://www.coloncancerprevention.org](http://www.coloncancerprevention.org).