
Science Photo Library

PATIENT EDUCATION IS CRITICAL TO MINIMIZING THE RISK OF RECURRENCE AND LONG-TERM DIVERTICULAR COMPLICATIONS.

CE 2.5 contact hours

HELP PATIENTS DEFY DIVERTICULAR DISEASE

BY SANDRA MOORMAN

ABSTRACT: *Diverticular disease is a chronic disorder that can significantly impact quality of life, and incidence of this disease is increasing. This article outlines the history, incidence, pathophysiology, signs and symptoms, diagnosis, treatment, and nursing management of patients with diverticular disease. Tools to assist with patient education and resources for spiritual care, inner healing needs, and support with healthy lifestyle choices are provided.*

KEY WORDS: *chronic illness, diverticular disease, health promotion, patient education, spiritual care, support groups*

WHAT IS DIVERTICULAR DISEASE?

Diverticular disease is a life-changing, challenging, chronic disorder. Unfortunately, the disease has become common in recent decades. Incidence increases with age and has the potential for complications that significantly impact quality of life (Lewis, Dirksen, Heitkemper, Bucher, & Camera, 2011). This article outlines the history, incidence, pathophysiology, signs and symptoms, diagnosis, treatment, and nursing management and support in the care of patients with diverticular disease. Tools are provided to assist in patient education to promote optimal health outcomes, prevention of complications, and decrease in morbidity and mortality. Resources are offered that can be utilized for spiritual care, inner healing needs, and support with healthy lifestyle choices. Expert nursing intervention can help patients defy this disease.

Diverticula are herniations or small pouches in the mucosal lining of the colon, most commonly affecting the descending and sigmoid colon (Amerine, 2007; Marrs, 2006). There are two classifications of this disease. *Diverticulosis* is a chronic condition of multiple diverticula formation that develops in middle age. It is typically discovered during routine colonoscopy screening, is often asymptomatic, and does not usually require treatment. *Diverticulitis* is an inflammatory

Sandra Moorman, MSN, RN, is the Nursing Retention and Remediation Specialist at Hagerstown Community College. She has experience in medical surgical nursing, as well as neurologic and orthopedic trauma.

The author declares no conflict of interest.
DOI: 10.1097/CNJ.0b013e318245cfd2

complication of diverticulosis. It causes signs and symptoms that can have serious consequences. Diverticulitis is further classified as *complicated* or *uncomplicated* (Amerine, 2007; Lewis et al., 2011).

The history of diverticular disease is quite interesting. In 1907, William Mayo led a conference in Washington, DC, at an American Surgical Association gathering. There he presented five patients with sigmoid diverticulitis. Prior to this there were only 19 other documented cases. Charles Powers of Denver, Colorado, discussed a case of diverticulitis in 1912 and elaborated on more literature that had developed in the 5 years since Mayo's conference. In 1942, Reginald Smithwick, from Massachusetts General Hospital, presented three surgical techniques for the treatment of diverticulitis. His presentation included statistics (24% mortality rate, 9% abscess formation, and 19% presence of vesicosigmoid fistula) based on research. In a little over three decades, diverticulitis emerged as a rare condition and evolved into a common one with evidence-based surgical interventions (McCafferty, Roth, & Jorden, 2008). From 1950 to the present, incidence of diverticular disease had continued to rise. Subsequently, evidence-based management and treatment has progressed. In 2006, diverticular disease was ranked fifth in gastrointestinal disease total healthcare costs (Marrs, 2006).

Currently, up to 30 million middle-aged and elderly persons in the United States have diverticulosis. It is estimated that one-third of the population will have diverticulosis by age 50 and two-thirds by age 80. Diverticulitis will develop in 10% to 25% of persons with diverticulosis (Jacobs, 2007; Kelley, 2008). Research indicates that diverticular disease is equally prevalent in men and women (Kelley, 2008; Lewis et al., 2011; Marrs, 2006). Between 5% and 25% of persons over age 50 will experience complications of diverticulitis, and up to 200,000 patients will require hospitalization each year. It is estimated that 50% of patients hospitalized for diverticulitis will require surgery at some point (Kelley, 2008).

ETIOLOGY AND PATHOPHYSIOLOGY

The etiology of diverticular disease is relatively unknown. It appears that the introduction of milled grains and refined sugars to the diet of Western, industrialized nations, as well as the prevalence of low fiber intake are contributing factors for the increased incidence of diverticular disease in the last century (Amerine, 2007). Interestingly, incidence is low to nonexistent in Asia and rural Africa where high-fiber diets are consumed (Kelley, 2008; Lewis et al., 2011; Marrs, 2006; Porth, 2011). Researchers at Yale University Medical School are focusing on how insufficient dietary fiber may suppress immune responses in the colon producing an environment that stimulates low-grade, chronic infection (Cramer, 2008). This current hypothesis, and subsequent studies, may shed more light on this disease in the future.

The pathophysiology of diverticula formation is directly related to the structure of, and elevated intraluminal pressure in, the colon. The colon has three bands of longitudinal muscle called *tenaie coli* and these bands do not form in a continuous pattern. Bands of circular muscle constrict the large intestines. As the muscles contract, the lumen of the bowel is constricted. The combination of circular muscle contraction and lack of continual longitudinal muscle layers cause the intestine to bulge outward at weak points in the colon wall, usually where arteries penetrate the *tunica muscularis* to nourish the mucosal layers. The colonic mucosa then herniates through the smooth muscle layers forming the classic pouch-like sacs. These diverticula vary in size from 0.5 to 1.0 cm in diameter (Kelley, 2008; Porth, 2011).

Diverticula in the descending colon are wide and short, whereas diverticula in the sigmoid colon are generally long and narrow. Stool can become lodged in these areas increasing risk for bacterial infection, perforation, abscess, and/or fistula formation. Lumen pressure is influenced by dietary fiber, increased peristaltic contractions, and colon structure (Kelley, 2008; Lewis et al., 2011; Marrs, 2006; Porth, 2011). Constipation secondary to low fiber intake is the primary cause of increased lumen pressure (Amerine, 2007). Based on the nature of this pathophysiology certain risk factors have been identified, which include high fat intake, low fiber intake, sedentary lifestyle, obesity, smoking, overuse of laxatives, and consistent use of nonsteroidal anti-inflammatory medications (Kelley, 2008; Lewis et al., 2011; Odyssey, 2008).

SIGNS AND SYMPTOMS

Diverticulosis

Patients with diverticulosis are generally asymptomatic. When patients with diverticulosis have symptoms they commonly include generalized abdominal discomfort, constipation, diarrhea, flat or ribbon-like appearance of stool, abdominal bloating, and loss of appetite (Amerine, 2007; Burch, 2005; Kelley, 2008; Lewis et al., 2011; Marrs, 2006; Porth, 2011).

Uncomplicated diverticulitis

Patients with uncomplicated diverticulitis typically complain of left lower quadrant abdominal pain. They may also experience abdominal distension, fever, elevated white blood cell count, nausea, vomiting, abdominal guarding, and urinary urgency with frequency (Amerine, 2007; Burch, 2005; Lewis et al., 2011; Marrs, 2006; Porth, 2011).

Complicated diverticulitis

Complicated diverticulitis manifests in ways that are specific to presenting problems that arise. These medical difficulties can be life-threatening. Therefore frequent assessment and rapid diagnosis and treatment are necessary. Clinically, all of the signs and symptoms of uncomplicated diverticulitis may be present with the addition of symptoms suggestive of sepsis, gastrointestinal bleeding, bowel obstruction, bowel abscess, fistula, and/or peritonitis (Amerine, 2007; Burch, 2005; Lewis et al., 2011; Marrs, 2006;

Porth, 2011). Gastrointestinal bleeding occurs secondary to thinning of the colon wall. It usually starts abruptly and involves large amounts of blood. The most common diverticular disease-related fistula is a *vesicosigmoid fistula* that occurs in up to 68% of patients. Symptoms include dysuria (pain or difficulty in urinating), pneumaturia (passage of gas or "air" in urine), and fecaluria (mixture of feces and urine passed through urethra). Surgical repair is the preferred treatment for these patients to minimize cystitis and urosepsis (Kelley, 2008; McCafferty et al., 2008; Porth, 2011).

DIAGNOSIS

Diagnosis of diverticular disease relies heavily on a patient's history and physical with presenting clinical manifestations. A colonoscopy is recommended if diverticulosis is suspected. Due to the possibility of bowel perforation or abscess rupture, computed tomography with contrast is used for diagnostic purposes for patients with clinical signs of diverticulitis (Amerine, 2007; Kelley, 2008; Lewis et al., 2011; Marrs, 2006; Porth, 2011). Complete blood count with differential, erythrocyte sedimentation rate (ESR) and C-reactive protein also are utilized for diagnosis of diverticular disease (Kelley, 2008). Leukocytes usually exceed 12,000/mL. ESR is usually greater than 30 mm/hr (Lewis et al., 2011).

Differential diagnosis is always necessary as diverticulitis symptoms are similar to irritable bowel syndrome, ulcerative colitis, appendicitis, small bowel obstruction, inflammatory bowel disease and ectopic pregnancy (Lewis et al., 2011; Marrs, 2006). Serum electrolytes, amylase, lipase, and liver function tests are helpful in ruling out other abdominal problems such as pancreatitis and liver disease (Amerine, 2007). Research studies have found an increased risk of left-sided colon cancer associated with diverticulitis (Kelley, 2008); therefore, it is important to rule out carcinoma with differential diagnosis as well. Follow-up assessment and care is very important. Current recommendations include a waiting period of 4 to 8 weeks from initial bout of diverticulitis for further evaluation of diverticular disease and to biopsy for the presence of cancer. This time frame reduces the risk of perforation at inflamed sites within the colon wall (Amerine, 2007; McCafferty et al., 2008). During this waiting period conservative treatments may be initiated.

TREATMENT

Treatment of diverticular disease varies with severity of symptoms and centers on alleviating symptoms and preventing complications. Most uncomplicated diverticulitis patients with mild symptoms are treated with antibiotics and a clear liquid diet utilizing an outpatient approach (Amerine, 2007; Porth, 2011).

Patients with severe symptoms associated with uncomplicated diverticulitis are admitted to the hospital for a period of 4 to 7 days for treatment and close observation. Treatment usually begins with bowel rest and nothing by mouth status. When abdominal pain resolves patients will progress to a clear liquid diet. The goal is to work up to a low-fat, high-fiber diet over a 2- to 4-week time frame. The recommended amount of fiber is 25 to 35 g/day (Cramer, 2008; Lewis et al., 2011). Fiber adds bulk to stool that promotes regular

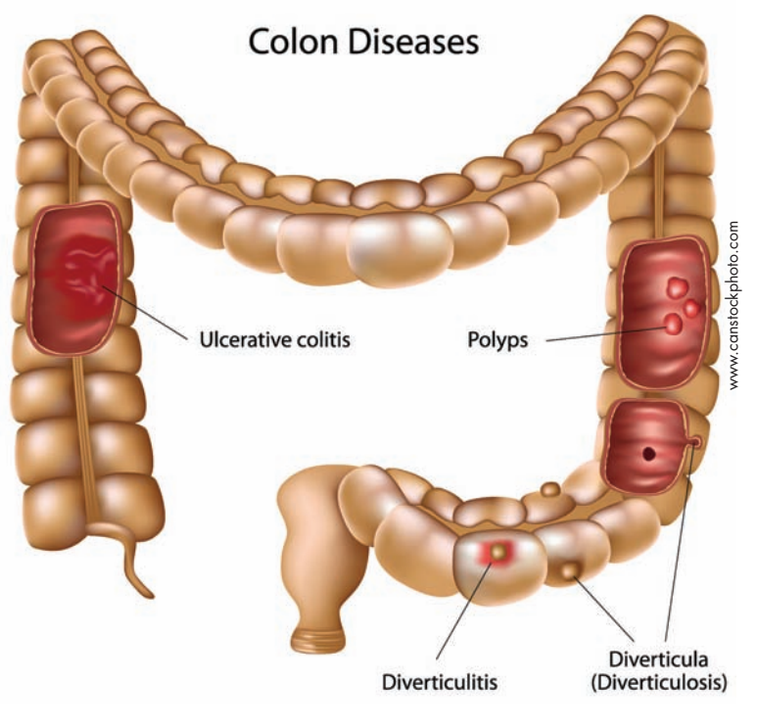

TABLE 1: DIVERTICULAR DISEASE

Diverticulosis	Pouch-like sacs (diverticula) protrude from the colon wall. Typically develops in middle-age, is asymptomatic, and does not require treatment (Amerine, 2007; Lewis et al., 2011)
Diverticulitis	An inflammatory complication of diverticulosis. Has the potential to cause complications. Rapid diagnosis and treatment are essential (Amerine, 2007; Lewis et al., 2011)
Risk factors	Diet high in fat and low in fiber, sedentary lifestyle, obesity, smoking, overuse of laxatives, and consistent use of nonsteroidal anti-inflammatory agents (Amerine, 2007; Lewis et al., 2011)

defecation, thereby decreasing colonic pressure. High-fiber diets have been effective in slowing progression of diverticular disease (Kelley, 2008; Porth, 2011). Heating pads are beneficial to relieve abdominal discomfort. Intravenous fluids are administered to maintain adequate hydration and electrolyte balance (Jacobs, 2007; Lewis et al., 2011; Marrs, 2006).

Pharmacologic interventions include anticholinergic and antispasmodic agents to relieve colon spasms, antibiotics to cover gram-negative rods and anaerobic organisms, and meperidine (Demerol) for pain management. Morphine is to be avoided as it increases colonic pressure (Jacobs, 2007; Lewis et al., 2011; Marrs, 2006).

Treatment for complicated diverticulitis is problem-specific. Surgical intervention is sometimes necessary if symptoms are frequent and the patient does not respond to antibiotics and resting of the colon. It is estimated that 15% to 30% of patients with diverticulitis will need surgical intervention (Amerine, 2007; Kelley, 2008; Porth, 2011). A sigmoid colectomy with two-stage temporary colostomy may be required for patients with bowel perforation or obstruction. Laparoscopic surgery is typically performed for colon resection, drainage of abscesses, fistula repair, or reversal of temporary colostomy. Percutaneous drainage is typical for treatment of chronic abscess formation (Amerine, 2007; Burch, 2005; Kelley, 2008; Lewis e al., 2011). It should be noted that the consequences of diverticulitis may be more severe in immune-compromised patients, such as organ transplant recipients, patients with human immunodeficiency virus (HIV), and patients receiving steroid or chemotherapeutic agents. Symptoms are atypical with these patient populations. They also are prone to more perforations and postoperative complications (Jacobs, 2007).

TABLE 2: LIFESTYLE FOR THE PREVENTION AND MANAGEMENT OF DIVERTICULAR DISEASE

✔	Consume a low-fat, high-fiber diet
✔	Drink six to eight glasses of water per day
✔	Avoid use of laxatives or enemas
✔	Exercise on a regular basis
✔	Avoid medication and foods that can cause constipation
✔	Stop smoking

Sourse: Cramer (2008), Kelley (2008), Lewis et al. (2011).

NURSING MANAGEMENT

Nursing management will vary depending on classification of diverticular disease, presence of complications, and subsequent individualized treatment plans. Frequent physical assessment and vital sign monitoring, strict intake and output records, indwelling urinary catheter care, stool guaiac for fecal occult blood, close observation of all lab data, percutaneous drain care, intravenous fluid therapy, and ostomy care are potential aspects of nursing care in the management of the patent with diverticular disease (Amerine, 2007; Lewis et al., 2011). A nasogastric tube to promote gastric decompression may be inserted if an ileus or obstruction ensues (Amerine, 2007).

Patient education is critical to minimizing the risk of recurrence and long-term diverticular complications. We have a wonderful exemplar for patient teaching in Jesus. The countless examples of Christ as a teacher throughout the four gospels suggest that he taught constantly. Jesus often taught using parables—stories that were true-to-life and had special meanings. He also captured the nuances of surrounding circumstances and used those things in his teaching. He recognized the limitations of those he taught and used common words and familiar illustrations. Jesus' teaching example shows us that we must work to understand our patients' comprehension and perspective of their illnesses before we can teach them. We need to assess their abilities, motivation, and barriers to learning before we attempt teaching. To do so, we must engage with our patients, just as Jesus did with his learners, through careful listening, empathy, and for Christians, prayerful guidance from the Holy Spirit.

Several things are important for the nurse to include when teaching patients about diverticulosis. First, work to learn what the patient knows about his or her disease. It might be helpful to discuss the disease with the patient, going over general information about the disease. It will also be vital to review the physician's plan of care with the patient and attempt to learn whether the patient is motivated to work with the treatment plan. When presenting new information it may be useful to include graphics similar to those in Table 1. Visual tools can serve to increase patients' comprehension.

LIFESTYLE CHANGES

Patients diagnosed with diverticular disease generally need to make numerous lifestyle changes; many are motivated to do so to avoid symptoms

TABLE 3: RECOMMENDED DIETARY FIBER: 25 TO 35 GRAMS PER DAY[a]

FOOD	FIBER
Beans	
½ cup great northern beans, kidney, lima, or red beans	5 to 9 grams
½ cup baked beans, peas, lentils, or garbanzo beans	3 to 5 grams
½ cup pinto, white, or black-eyed beans	3 to 5 grams
Cereal and Grains	
½ cup all bran, fiber one, or wheat bran	10 or more grams
½ cup raisin bran or bran flakes	5 to 9 grams
½ cup Wheat Chex	3 to 5 grams
1 packet oatmeal	3 grams
1 whole grain English Muffin	3 to 5 grams
Bread: 1 slice cracked wheat, whole wheat, mixed grain, rye, or oat	1 to 2 grams
1 cup brown rice (cooked)	1 to 2 grams
Fruits	
10 dried prunes	5 to 9 grams
1 apple, pear, papaya, or orange	3 to 5 grams
½ cup blackberries or raspberries	3 to 5 grams
10 dried dates	3 to 5 grams
½ cup applesauce	1 to 2 grams
Vegetables	
½ cup corn, brussell sprouts, or green peas	3 to 5 grams
1 cup spinach, winter squash, turnips, peppers, green beans, cauliflower or carrots	1 to 2 grams
1 potato with skin	1 to 2 grams
10 olives	1 to 2 grams
1 cup mushrooms	1 to 2 grams

[a]From Moore, M. (2005). *Nutritional assessment and care* (5th ed., pp. 550–553). St. Louis, MO: Elsevier Mosby. Copyright 2005 by Elsevier Mosby. Adapted with permission.

and flare ups. Examples of lifestyle changes are shown in Table 2. One of the most critical changes is the need for patients to increase their dietary fiber and minimize fat intake. One method to approach this change might be to review Table 2 with the patient and together identify areas where lifestyle changes may be needed. Most people are able to lower their risk of diverticula formation by ingesting adequate fiber on a daily basis. Engage the patient in a discussion about his or her current eating habits and identify ways to increase dietary fiber and lower fat content (Cramer, 2008; Kelley, 2008; Lewis et al., 2011). It is important to instruct patients to slowly increase their fiber content over a period of 2 to 4 weeks to reduce abdominal bloating, discomfort, and flatulence. Whole grains, fruits, vegetables, high-fiber cereals, and legumes are excellent dietary sources of fiber.

Jesus employed the use of parables in his teaching to couch information in scenarios that were applicable to peoples' lives. Nurses can make their teaching more applicable and understandable to patients by providing them with scenarios along with illustrations, diagrams, and tables. Table 3 provides a brief summary of the fiber content in common foods that may be useful in creating scenarios and guiding the patients' dietary adjustments. You also may arrange for nutrition consults to give the patient additional tools, education, and support. Previously, nuts, popcorn, and seeds were discouraged if a patient was diagnosed with diverticular disease. However, research on the effects of these foods on this disease is inconclusive; in fact, current dietary guidelines now include such foods as part of a healthy, high-fiber diet (Amerine, 2007; Cramer, 2008).

Adequate hydration is a critical area to cover with these patients. Encourage them to drink six to eight glasses of water daily. Maintaining good hydration will help prevent constipation. Instruct patients to avoid the use of laxatives or enemas as these agents increase pressure in the colon and therefore increase the risk of recurrent symptoms.

Physical activity reduces the occurrences of painful episodes and as a result, nurses can encourage the patient to exercise regularly. Exercise potentially aids in lowering body weight and reducing obesity. Instruct patients to avoid medications and foods that cause constipation. Constipation increases colonic pressure and the risk for diverticular disease. Smoking causes vasoconstriction that increases the chances for recurrences. Caffeine intake increases colonic spasms and abdominal discomfort, and should be limited (Lewis et al., 2011; Marrs, 2006).

SPIRITUAL SUPPORT

Spiritual care and support for lifestyle adaptations may be especially helpful for patients who have a history with high-fat, low-fiber diets, obesity, and/or sedentary living. Lifestyle choices that place health at risk are often coping measures or habits that are formed in response to other areas of need for healing in an individual's

Web Resources

- Celebrate Recovery—http://www.celebraterecovery.com
- Rest Ministries—http://www.restministries.com
- Shepherd of Hope—http://www.shepherdofhope.org

life and often require support for full recovery (Baker, 2008; MacNutt, 2005; Shelley & Miller, 2006). Most patients realize that making the necessary lifestyle changes can be much more difficult than they first thought. Jesus invites all who are weary and heavy burdened to come to him for rest (Matthew 11:28-30). The eternal God is their refuge and underneath each of us are his everlasting arms (Deuteronomy 33:27). As the Apostle Paul attests, God's power is highlighted in many areas of a person's life when the body is weakened (2 Corinthians 12:7-10). Bakken reflects, "In modern society we have turned to helping professions, especially medicine, for most of the answers to complex, life-denying problems that are confronted daily and threaten to destroy. Very early in my career as a physician it became clear to me that thinly disguised behind the obvious problem is a hurting person in search of healing, not just a cure" (2009, p. 1).

Providing resources for spiritual care, counseling, and healing prayer are beneficial to health and wholeness. *Rest Ministries* is a Christian organization with a mission to turn illness detours into pilgrimages of hope. They offer resources for individuals, churches, and chronic illness support groups. *Shepherd of Hope* is another ministry resource that may be helpful to the patient with diverticulitis. It provides opportunities for online chats, biblical resources, and support for those suffering with illness, as well as outreach to family members and caregivers. *Celebrate Recovery* offers a 52-week step study that is Christ-centered and based on the Beatitudes (Matthew 5). This resource recognizes people sometimes live their lives enmeshed with hurts that haunt them, hang-ups that lead to pain, and habits that can give rise to illness. Web sites are given for these three ministries in Web Resources.

Life's Healing Choices (Baker, 2007) is an excellent book promoting health and wholeness that may be used for individual or small group Bible study. Within an environment of safety and God's help in making healing choices, missing pieces are put together. For the patient with diverticular disease who desires to form healthier habits regarding food choices, regular exercise, and coping strategies in the face of illness, these tools offer holistic Christian avenues for self-reflection, personal insight, spiritual growth, and healing. There are many online support groups where patients with diverticular disease share experiences and offer encouragement through forums and discussion boards. In addition, companies advertise products to treat diverticular disease. Advise patients to check information and products with their healthcare provider(s) for accuracy and appropriateness to their specific situation.

Accountability with Christian friends and mentors, as well as engaging in regular worship and small group Bible study for continued healing and growth are resources that can be discussed with Christian patients (Bakken, 2009; Shelley & Miller, 2006). Of course, healing prayer spoken out loud with, or silently for, patients is another aspect of nursing care to consider. Praying with patients is a privilege, which involves responsibility, discernment, and permission (MacNutt, 2005; Shelley & Miller, 2006; Sweat, 2009). Nurse ethicist Susan Salladay (2007) states, "Do nurses have an ethical obligation or moral duty to share the gospel with each and every patient? That seems to be an unrealistic expectation if you believe that God opens doors for sharing the gospel at the right time, in the right place, in the right manner, with the right patient, using the right words" (p. 107). Patients ultimately desire to know they are loved and cared for. This is accomplished through compassionate listening, intentional actions, and words that promote sincere connection and foster relationships (Carson, 2011; Salladay, 2011; Shelley & Miller 2006).

WRAP UP

Diverticular disease is on the rise in the 21st century. This disease can lead to life-altering complications. Lifestyle adaptations are beneficial in the management and/or prevention of the disease. Optimal nursing care involves thorough knowledge about the disease, understanding the rationale of individualized treatment plans, patient education, spiritual care, and offering support in the lifelong journey toward health and wholeness.

Amerine, E. (2007). Preventing and managing diverticulitis. *Nursing, 37*(9), 56–62.

Baker, J. (2007). *Life's healing choices*. New York, NY: Howard.

Bakken, K. (2009). *The call to wholeness: Health as a spiritual journey*. Eugene, OR: Wipf and Stock.

Burch, J. (2005). Exploring the conditions leading to stoma-forming surgery. *British Journal of Nursing, 14*(2), 94–98.

Carson, V. (2011). What is the essence of spiritual care? *Journal of Christian Nursing, 28*(3). 173.

Cramer, D. (2008). Understanding bowel disorders: Irritable bowel syndrome and diverticular disease. *Canadian Journal of Health and Nutrition, 30*(6), 51–53.

Jacobs, D. (2007). Clinical practice: Diverticulitis. *New England Journal of Medicine, 357*(20), 121–132.

Kelley, M. (2008). Diverticular disease of the colon: A conservative approach works best. *Journal of the American Academy of Physicians, 21*(6), 48–55.

Lewis, S., Dirksen, S., Heitkemper, M., Bucher, L., & Camera, I. (2011). *Medical-surgical nursing: Assessment and management of clinical problems* (8th ed.). St. Louis, MO: Elsevier.

MacNutt, F. (2005). *Healing*. Notre Dame, IN: Ava Maria.

Marrs, J. (2006). Abdominal complaints: Diverticular disease. *Clinical Journal of Oncology Nursing, 10*(2), 155–158.

McCafferty, M., Roth, L., & Jorden, J. (2008). Clinical management of diverticulitis. *American Surgeon, 74*(11), 1041–1049.

Moore, M. (2005). *Nutritional assessment and care* (5th ed.). St. Louis, MO: Elsevier.

Odyssey, A. (2008). Diverticulosis and diverticulitis. *Journal of Advanced Practice Nursing, 58*(3), 15–18.

Porth, C. (2011). *Essentials of pathophysiology* (3rd ed.). Philadelphia, PA: Lippincott.

Salladay, S. (2007). The 5 "R's" of sharing the gospel. *Journal of Christian Nursing, 25*(2), 107.

Salladay, S. (2011). Confident spiritual care in a postmodern world. *Journal of Christian Nursing, 28*(2), 102–108.

Shelley, J., & Miller, A. (2006). *Called to care*. Downers Grove, IL: InterVarsity.

Sweat, M. (2009). OK to pray? *Journal of Christian Nursing, 26*(3) 180–181.