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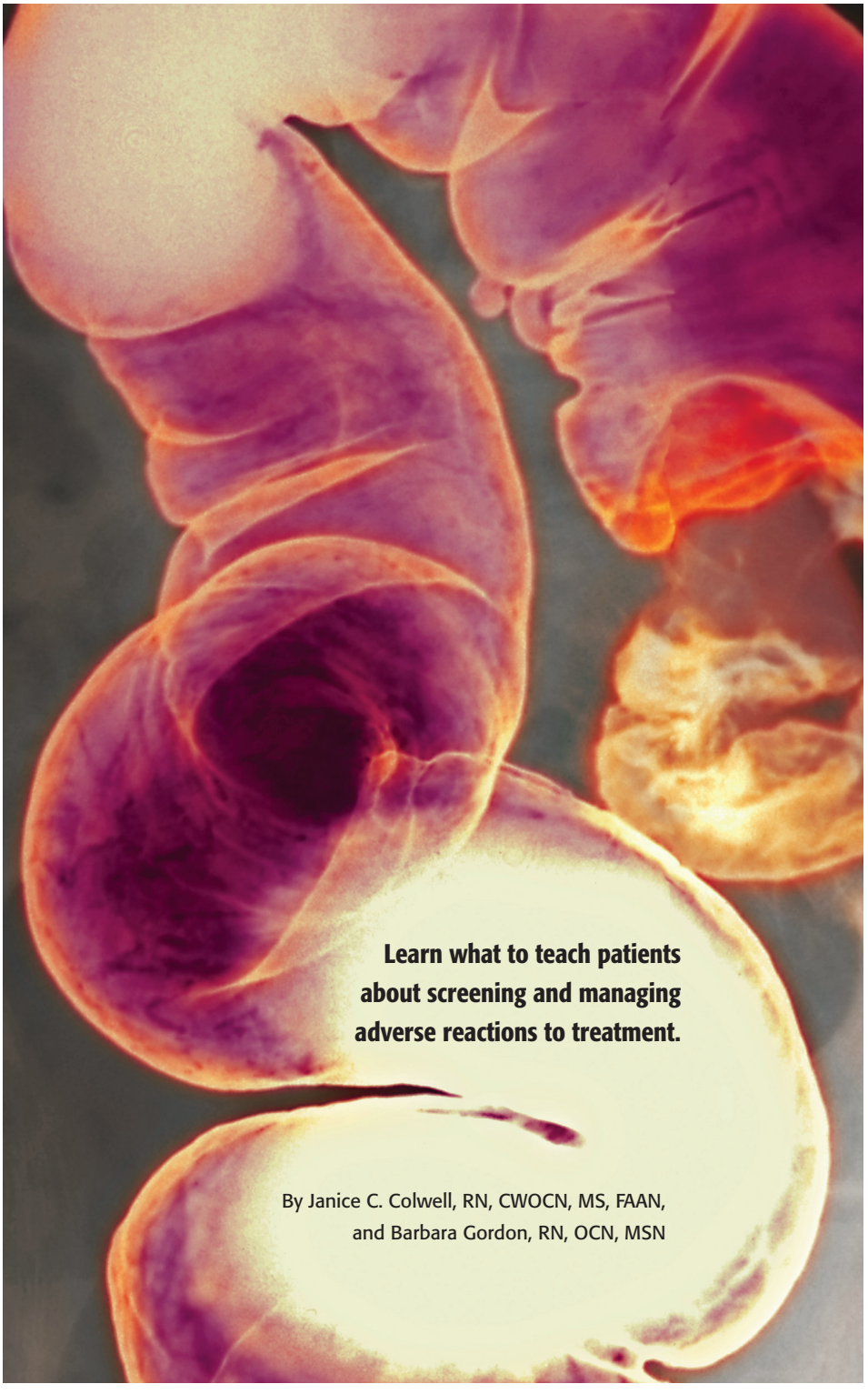
Helping patients combat colon cancer



Learn what to teach patients about screening and managing adverse reactions to treatment.

By Janice C. Colwell, RN, CWOCN, MS, FAAN, and Barbara Gordon, RN, OCN, MSN

COLORECTAL CANCER is the third most frequently diagnosed cancer in the United States. In 2008, about 148,810 people received this diagnosis and an estimated 49,960 died of the disease.[1]

The term colorectal cancer includes cancers of both the colon and the rectum. Cancer occurring below the small intestine and above the last 6 inches (15 cm) of the gastrointestinal (GI) tract is termed *colon cancer*, which can affect any of the colon's four sections:

- ascending colon
- transverse colon
- descending colon
- sigmoid colon.

Rectal cancer affects the last 6 inches of the GI tract.[2] (See *A look at the colon and rectum* for details.)

Because medical and surgical treatment and complications of colon and rectal cancers vary, this article will focus on colon cancer. Deaths from colon cancer have decreased over the past 30 years, possibly because of earlier diagnosis through screening and better treatments. Read on to learn what to teach your patients about screening and how to help those diagnosed with colon cancer manage the effects of treatment.

Who's at risk?

The risk for colon cancer is equal among men and women. Aging increases risk: More than 90% of cases are diagnosed in people age 50 or older. Additional risk factors include personal or family history of adenomatous polyps or colorectal cancer, inflammatory bowel disease, and hereditary colon and rectal cancer syndromes (such as familial adenomatous polyposis and hereditary nonpolyposis colorectal cancer). Modifiable risk factors include the following:

- cigarette smoking
- a diet high in red meats (beef, lamb, liver) and processed meats (hot dogs, bologna, and other luncheon meat) and low in fruits and vegetables
- obesity

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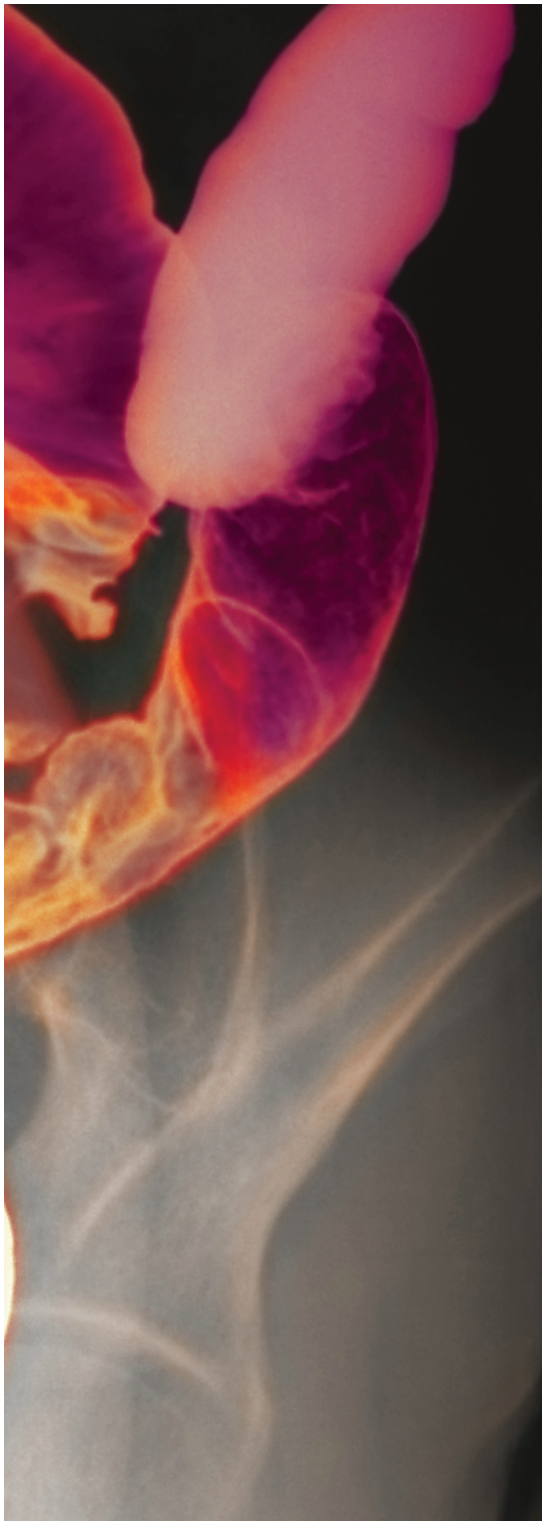


• adult-onset diabetes
• limited physical activity.[2]

How colon cancer develops

A series of events, rather than one, probably leads to the development of colon cancer. Researchers are beginning to determine that changes in DNA can cause normal cells to become cancerous. Cancers can be caused by changes in the DNA that affect cell division, causing some cells to turn on oncogenes (genes that speed up cell division) and turn off tumor suppressor genes (genes that slow down cell division). Changes in several genes appear necessary to cause colorectal cancer.[2]

Evidence suggests that most colon cancers develop from adenomatous polyps, but not all colon polyps are adenomas, and more than 90% of all polyps never progress to cancer.[3] Determining which polyps will become cancerous is impossible, so colonoscopy is recommended to detect and remove adenomatous polyps. Complete removal of colonic adenomas significantly decreases the risk of the polyp becoming malignant.

Location and stage determine symptoms

The signs and symptoms of colon cancer depend on tumor location and the stage of the disease. Early-stage disease may not cause any specific warning signs, but the following can occur with more advanced disease:

• *ascending colon.* Stool in the ascending colon is liquid, so a tumor in this region can become quite large before obstructing stool flow. Tumors in the ascending colon tend to cause insidious blood loss, so anemia may be the first sign of the problem.

• *transverse or descending colon.* A tumor here may impede the passage of more solid stool, causing the patient to have cramping and constipation that lasts for more than a few days.

• *sigmoid colon.* A tumor in the sigmoid colon is associated with the passage of bright red blood through the rectum, a change in bowel habits, and a narrowing in stool caliber.

Obstruction by colon cancer most often occurs in the sigmoid or descending colon, causing abdominal distension and constipation. Other complications include GI bleeding, perforation, and metastasis with impairment of organ function.

Screening for trouble

Colon cancer is highly curable when detected early. If cancer is detected at an early stage, 5-year survival is about 90%, so screening is vital.[2] In late 2008, the U.S. Preventive Services Task Force (USPSTF) issued recommendations on screening for colorectal cancer.[4] Under these guidelines, an adult age 50 to 75 with average risk and no signs or symptoms suggestive of colorectal cancer can choose one of these options:

• colonoscopy every 10 years
• sigmoidoscopy every 5 years with a high-sensitivity fecal occult blood test (FOBT) every 3 years
• high-sensitivity FOBT annually.

Colonoscopy is the most reliable method for colon cancer screening because it offers direct visualization of the entire colon, detection and removal of polyps, and diagnostic tissue sampling. People with known risk factors should have a colonoscopy at age 40 or earlier, depending on the risk factor. Those at high risk (having a family history of colorectal cancer or chronic inflammatory bowel disease) need screening earlier.[2]

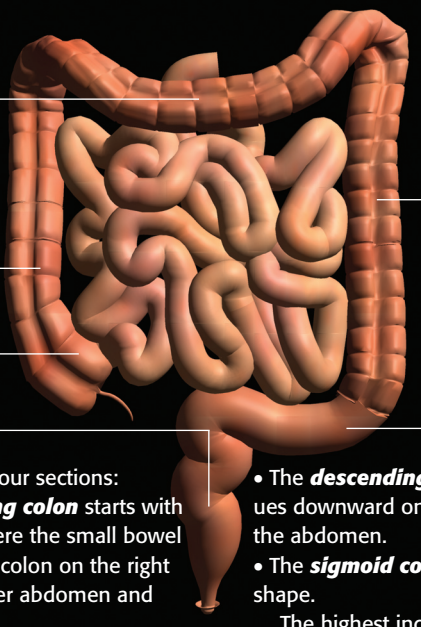
Anyone with average risk who's had a colonoscopy without findings of colon cancer or adenomatous polyps doesn't require further screening for 10 years. Anyone with benign polyps should undergo screening every 3 to 5 years.[3]

The USPSTF recommends against routine screening for adults ages 76 to 85 except in special circumstances because the mortality benefit from early detection and treatment declines after age 75. Screening in adults over age 85 isn't recommended because the risks outweigh the benefits.[4]

Follow-up tests tell more

At age 60, Caroline Finch undergoes a screening colonoscopy, and the physician removes three polyps. Biopsy

A look at the colon and rectum



The colon has four sections:
- The ***ascending colon*** starts with the cecum, where the small bowel attaches to the colon on the right side of the lower abdomen and moves upward.
- The ***transverse colon*** crosses from the right to the left side in the upper abdomen.
- The ***descending colon*** continues downward on the left side of the abdomen.
- The ***sigmoid colon*** has an "S" shape.

The highest incidence of colon cancer is in the sigmoid and ascending colon. The *rectum* is the final 6 inches of the digestive tract.

reveals adenocarcinoma, so Ms. Finch requires several additional tests:
- *complete blood cell count* to identify anemia due to local blood loss
- *chemistry panel* to determine advanced disease. Elevated liver enzymes may indicate metastasis to the liver.
- *carcinoembryonic antigen* (CEA) test. If the patient's blood CEA level is elevated before surgical removal of the tumor, monitoring postoperative CEA levels can be useful to detect tumor recurrence after resection.
- *computed tomography (CT) scan*, which may be done to screen for metastasis to the liver or other organs.

Surgery aims for cure

Surgery offers the best chance of cure for colon cancer, but the type and extent depends on the cancer location and stage. The depth of tumor penetration into the bowel wall is an important indicator of prognosis: The deeper it penetrates, the worse the prognosis. Involvement of local lymph nodes also worsens the prognosis.

The aim of surgery for colon cancer is to achieve cure, if possible, and to prevent recurrence. Although surgery is the main treatment, it may not be an option for some older adults with other serious health issues, especially cardiovascular or respiratory disease. The healthcare provider will carefully weigh the potential benefits of any proposed intervention against the risks. Because Ms. Finch is otherwise healthy, she's scheduled for surgery.

The standard surgical treatment for colon cancer is a colectomy (sometimes called a hemicolectomy or segmental resection), which involves removing part of the colon, as well as nearby lymph nodes with primary anastomosis (suturing or stapling the two remaining ends of the intestine together). To accurately determine the extent of lymph node involvement, the surgeon will remove 12 to 15 lymph nodes and send them for pathologic examination. Removal of fewer nodes is regarded as a relative high-risk factor in terms of prognosis and plays a role in decision making regarding the need for adjuvant therapy.

Patients who undergo surgery for colon cancer rarely need a permanent colostomy; however, if the colon was perforated, the patient may require a colostomy until the resected area heals.

Among patients with colon cancer, 80% have potentially curative surgery; among those who have a recurrence, 80% have liver involvement. In patients with metastasis only to the liver, a sizable proportion can have long-term survival with surgical resection of the liver disease.[5]

Setting the stage for ongoing treatment

Cancer staging is used to describe the extent and spread of disease. Colon cancer is staged using the TNM staging system:
- **T (tumor)**: the extent of the primary tumor through the layers of the colon
- **N (nodes)**: the absence or presence of metastasis to lymph nodes and the number of nodes involved
- **M (metastasis)**: the absence or presence of distant metastasis.

After all the diagnostic information has been gathered, a treatment plan is devised based on expertise from a medical and a surgical oncologist.

Adjuvant therapy to reduce recurrence risk

Adjuvant therapy is systemic treatment administered to help reduce the risk of cancer recurrence and increase the chance of cure. Chemotherapy, the principal method of adjuvant therapy for colon cancer, is generally started 6 to 7 weeks after surgery.

Adjuvant chemotherapy in completely resected stage III colon cancer improves long-term survival. Ongoing clinical trials are currently exploring the benefits of adjuvant chemotherapy in high-risk stage II patients, but no data are available that support adjuvant therapy for patients with stage I disease.[6,7]

Ms. Finch's colon cancer has been staged as T1, N2, M0 (a stage III cancer), which means the cancer has grown into the submucosa of the colon and has spread to four or more regional lymph nodes, but hasn't metastasized to distant sites. This

makes her a candidate for adjuvant chemotherapy.

Fluorouracil (5-FU) and leucovorin have been the mainstay of chemotherapy for colorectal cancer for 40 years. Newer agents include irinotecan, oxaliplatin, and capecitabine. The National Comprehensive Cancer Network recommends one of the following therapies: 5-FU/leucovorin/oxaliplatin, capecitabine, 5-FU/leucovorin, participation in a clinical trial or observation for stage III or stage IV disease that's been surgically resected.[7] The standard of choice is 5-FU/leucovorin/oxaliplatin; the other therapies are given depending upon toxicities or tumor progression.

Targeted therapy with monoclonal antibodies

Targeted therapy, also known as biological therapy, is designed to stop cancer cell growth. It may be used alone or with chemotherapy. Monoclonal antibodies are a type of targeted therapy developed to recognize and attack specific structures on cancer cells. A wave of clinical trials is focusing on the use of these targeted agents to combat colon cancer. Antibodies such as cetuximab and panitumumab, which target epidermal growth factor receptor, and bevacizumab, which targets vascular endothelial growth factor, have been effective against metastatic disease.[7]

Long-term follow-up

Surveillance recommendations for a patient with surgically resected colon cancer haven't been standardized. Ms. Finch should have a colonoscopy 1 year after surgery; if the results are normal, she should have another in 3 years, then every 5 years as long as no abnormalities are found.[2] If a polyp is found on colonoscopy, the recommendation is to repeat the colonoscopy in 1 year.

Follow-up care will most likely include a history and physical examination every 3 to 6 months for the first 2 years, then every 6 months for a total of 5 years. A patient whose cancer is staged II or higher may have a serum CEA test every 3 to 6 months for 2 years, then every 6 months for a total of 5 years. Annual CT scans of the chest, abdomen, and pelvis also may be done for 3 years if the patient has a high risk of recurrence.

Teach your patient what to expect

Any patient with a cancer diagnosis is faced with many new situations and unfamiliar feelings. Coping with the cancer diagnosis, undergoing diagnostic tests, recovering from surgery, and making treatment decisions can be overwhelming.

Acknowledge to Ms. Finch that living with colon cancer may be one of the biggest challenges she'll face in her lifetime. Emphasize that colon cancer is treatable and she can live a very fulfilling life. Encourage her to be proactive in managing her disease and to adhere to the treatment plan her clinicians recommend.

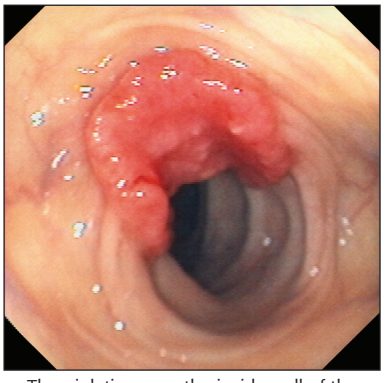
Educate her about what to expect and how to adapt to physical changes. Ask her to identify her support team of family members or friends and ask her permission to include them in your teaching.

Explain to Ms. Finch that her bowel habits may change after colon surgery. Typically, bowel movements increase in frequency and stools become loose. Reassure her that, depending on the length of bowel resected, this change may be temporary until healing occurs.

Advise Ms. Finch to follow a low-residue diet for the first 6 weeks after surgery, avoiding foods such as raw fruits and vegetables. As bowel edema subsides, she can begin to reintroduce these foods. Explain that although she may have frequent loose stools until healing occurs, she may in the future need to use fiber supplements to decrease the frequency of bowel movements and increase stool consistency.

How to manage the effects of chemotherapy

Adverse reactions to chemotherapy vary, but usually include appetite changes, fatigue, hand-foot syndrome (redness of the palms of the hands and soles of the feet), neuropathy, mucositis, and diarrhea.



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The pink tissue on the inside wall of the colon is an adenocarcinoma.

Appetite changes. If your patient's appetite decreases, suggest eating five or six small meals a day. Snacking when she's hungry might help her maintain proper nutrition during chemotherapy. Also suggest these tips:

- Drink fluids between meals rather than with meals. Drinking during a meal can cause you to quickly feel full.
- Eat food that's at room temperature to decrease odor and reduce taste. Food that produces fewer aromas may be less likely to trigger nausea.
- Try light exercise, such as a 20-minute walk, about an hour before meals to stimulate your appetite.
- Eat nutritious snacks that are high in calories and protein. These include dried fruits, nuts, yogurt, cheese, eggs, milk shakes, ice cream, cereal, pudding, and granola bars.

Mucositis (ulcerative lesions in the mouth, lips, and GI tract) can contribute to loss of appetite. Explain to Ms. Finch that the best way to manage mouth ulcers is to prevent them or treat them early. If she's receiving chemotherapy with 5-FU or other agents that cause mucositis, advise her to swish ice chips in her mouth 5 minutes before the infusion and to continue for 30 minutes. (If she wears dentures, she should remove them beforehand.) To manage mucositis, local anesthetics or analgesics may help dull the pain. Other suggestions include the following:

- Brush teeth gently with fluoride toothpaste and a soft toothbrush.
- Floss gently.
- Rinse or gargle with a solution of saltwater and baking soda

(½ teaspoon of salt and ½ teaspoon of baking soda in 8 ounces of water).

- Remove dentures between meals if the tissue underneath becomes sore.
- Choose foods that require little or no chewing.
- Avoid acidic, spicy, salty, coarse, or dry foods.

Fatigue. Some fatigue due to chemotherapy is normal. Advise Ms. Finch to plan a nap during the day if possible. Alert her to contact her healthcare provider if she becomes short of breath or if she remains fatigued despite rest; these symptoms may be caused by chemotherapy acting on the rapidly dividing cells in the bone marrow. If chemotherapy interrupts red blood cell (RBC) production, the number of circulating RBCs in the bloodstream can decrease over time, resulting in anemia. Depending on the patient's presenting symptoms, blood work may be done during chemotherapy to monitor for anemia as well as leukopenia and thrombocytopenia.

Numbness of the fingers and toes. Hand-foot syndrome can occur with chemotherapy and continue afterward. The skin on the hands and feet appears red and peels, and it becomes tender and painful. Certain chemotherapy drugs, including oxaliplatin, may cause tingling, numbness, or pain in the fingers and toes. These sensations may be worsened by holding or touching cold items, so advise your patient to avoid handling iced beverages and frozen foods.

Your role in improving survival

By teaching your patients about colon cancer screening and assisting those with this diagnosis adhere to treatment, you can help improve survival with this common but treatable malignancy. ✧

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