Trusted Information to Help Manage Your Care from the American Society of Clinical Oncology

ASCOanswers

Colorectal Cancer

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CONQUER CANCER FOUNDATION
of the American Society of Clinical Oncology
# Colorectal Cancer

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ASCO ANSWERS is a collection of oncologist-approved patient education materials developed by ASCO for people with cancer and their caregivers.

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Introduction

It is one of many people’s biggest fears—sitting in the doctor’s office and hearing the word cancer. People diagnosed with colorectal cancer often say they were stunned by their diagnosis and couldn’t hear, much less remember, what was said afterward. However, absorbing the news of a cancer diagnosis is a key part of the coping process.

In the weeks to come, you may find it helpful to have a family member or a friend come to your appointments with you. They will not only give you some much needed support, but they can also help listen to and remember the information given by your health care team. Using this ASCO Answers guide may also be helpful. This booklet was designed to explain some of the medical terms doctors may use when talking about your cancer and help you keep track of the specifics of your colorectal cancer diagnosis and treatment plan. Throughout this guide, you will find questions to ask your doctor, nurse, or another member of your health care team, as well as plenty of space to write down their answers or other important information. There are also check boxes you can use to identify the tests, procedures, and treatments that will make up your cancer care plan.

However you choose to accurately keep track of this information, it is important to do so. Getting the specific facts about your diagnosis will help you make the best decisions based on your situation in the coming days. Additionally, being an informed, involved patient and voicing your questions and concerns will help you and your health care team form a partnership in your care. Tell your doctor and nurse how you prefer to be given information about your diagnosis, treatment, and prognosis (chance of recovery), as well as how much information you want. Don’t be afraid to ask questions or to let your health care team know you don’t know what questions to ask.
# My Health Care Team

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Colorectal Cancer Basics

The colon and rectum make up the large intestine, which plays an important role in the body’s ability to process waste. The colon makes up the first five to six feet of the large intestine, and the rectum makes up the last six inches, ending at the anus. The colon has four sections. The ascending colon is the portion that extends from a pouch called the cecum (the beginning of the large intestine into which the small intestine empties) on the right side of the abdomen. The transverse colon crosses the top of the abdomen. The descending colon takes waste down the left side. Finally, the sigmoid colon at the bottom takes waste a few more inches, down to the rectum. Waste leaves the body through the anus.

Colorectal cancer usually begins as a polyp that develops on the inner wall of the colon or rectum.

Colorectal cancer development

Colorectal cancer begins when healthy cells in the lining of the colon or rectum change and grow uncontrollably, forming a mass called a tumor. A tumor can be benign (noncancerous) or malignant (cancerous, meaning it can spread to other parts of the body).

Colorectal cancer usually begins as a polyp, a noncancerous growth that may develop on the inner wall of the colon or rectum as people get older. The majority of polyps bulge into the colon, forming a mound on the wall that can be easily seen during a colonoscopy. However, about 10% of colon polyps are flat and difficult to find with a colonoscopy unless a dye is used to highlight them. If not treated or removed, both types of polyps can become cancerous, regardless of their size. These changes usually take years to occur; however, when a person has an uncommon inherited syndrome, cancer-causing changes may happen within months to years. Both genetic and environmental factors can cause these changes.

Most colon and rectal cancers are a type of tumor called adenocarcinoma, which is cancer of the cells that line the inside tissue of the colon and rectum. Other types of cancer that can begin in the colon or rectum, but occur far less often, include carcinoid tumor, gastrointestinal stromal tumor (GIST), and lymphoma. These rare types of colorectal cancer are not addressed in this guide, but information about them can be found at www.cancer.net/cancer-types.

Colorectal cancer spread

As a cancerous tumor grows in the colon or the rectum, cancer cells may break away and be carried to other parts of the body by the bloodstream or lymphatic
system. During this process, known as metastasis, the cancer cells start to grow and develop into new tumors. One of the first places colorectal cancer usually spreads is to the lymph nodes (tiny, bean-shaped organs that fight infection).

Colorectal cancer can also spread farther away from the large intestine to other parts of the body, such as the liver, lungs, peritoneum (the tissue lining the abdomen), or a woman’s ovaries. However, even if the cancer has spread, treatment is always an option.

**Colorectal cancer genetics**

The cause of colorectal cancer is not known, but certain factors appear to increase the risk of developing the disease. One of these factors is genetic mutations (changes) that can be passed down from one generation to the next.

Colorectal cancer is more likely to develop in a person who has had a parent, sibling, or child with colorectal cancer, particularly if the family member was diagnosed with colorectal cancer before age 60. Members of families with certain uncommon inherited conditions also have a significantly increased risk of developing colorectal cancer; these include familial adenomatous polyposis (FAP), attenuated familial adenomatous polyposis (AFAP), Gardner syndrome, hereditary nonpolyposis colorectal cancer (HNPCC), Juvenile Polyposis syndrome (JPS), Muir-Torre syndrome, MYH-associated polyposis (MAP), Peutz-Jeghers syndrome (PJS), and Turcot syndrome. Relatives of women with uterine cancer may also be at higher risk.
Only genetic testing can determine whether a person has a genetic mutation; however, these tests are not recommended for everyone. Most experts strongly recommend that people who are considering genetic testing first talk with a genetic counselor (an expert trained to explain the risks and benefits of genetic testing).

QUESTIONS TO ASK THE DOCTOR

- Who will be part of my health care team, and what will each member do?
- If I have a family history of colorectal cancer, should I see a genetic counselor? Should my family members?
- Where can I find more information about colorectal cancer?
- Whom should I contact if I have any questions or concerns?

NOTES:
Understanding Your Diagnosis

A diagnosis of colorectal cancer usually begins when a doctor discovers an abnormality during a screening test, such as a colonoscopy, sigmoidoscopy, fecal occult blood test, double contrast barium enema, or stool DNA test. After this, the doctor will use a number of tests and procedures to determine whether the abnormality is cancer. If it is, imaging tests may be used to find out whether the cancer has spread to other parts of the body.

Not every test is right for every person. Your doctor may consider factors such as your age, medical condition, symptoms, and previous test results when choosing a diagnostic test. Talk with your doctor about the test(s) that will provide the most useful information about your condition.

Tests and procedures

☐ Colonoscopy
This procedure allows the doctor to look inside the entire rectum and colon while a patient is sedated. A colonoscope (a flexible, lighted tube) is inserted into the rectum and passed through the entire colon to look for polyps or cancer. During this procedure, a doctor can remove polyps or other tissue for further examination. If colorectal cancer is discovered, a complete diagnosis that accurately describes the location and spread of the cancer may not be possible until the tumor is surgically removed.

☐ Biopsy
A biopsy is the removal of a small amount of tissue for examination under a microscope. This sample is then analyzed by a pathologist (a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease). A biopsy may be performed during a colonoscopy, or the analysis may be done on any tissue removed during surgery. Sometimes, a computed tomography (CT) scan or ultrasound is used to help perform a needle
biopsy (removing tissue through the skin with a needle that is guided into the tumor). Although other tests can suggest that cancer is present, only a biopsy can make a definite diagnosis of colorectal cancer.

**Molecular testing of the tumor**
Your doctor may recommend running laboratory tests on the tumor sample removed during a biopsy or surgery to identify specific genes, proteins, and other factors unique to the tumor. Results of these tests will help your doctor decide whether your treatment options will include a type of treatment called targeted therapy.

**Blood tests**
Because colorectal cancer often bleeds into the large intestine or rectum, people with the disease may become anemic (have an abnormally low level of red blood cells). As a result, doing a complete blood count can indicate whether bleeding is occurring.

Another blood test detects the levels of a protein called carcinoembryonic antigen (CEA). High levels of CEA may indicate that a cancer has spread to other parts of the body. CEA is not an absolute test for colorectal cancer because levels are high for only about 60% of people with colorectal cancer that has spread to other organs from the colon. In addition, other medical conditions can cause CEA to increase. CEA tests are most often used to monitor colorectal cancer for patients already receiving treatment and are not used as screening or diagnostic tests.

**IMAGING TESTS**

**CT scan**
A CT scan creates a three-dimensional picture of the inside of the body with an x-ray machine. A computer then combines these images into a detailed, cross-sectional view that shows any abnormalities or tumors. Sometimes, a contrast medium (a special dye) is injected into a patient’s vein or given orally (by mouth) to provide better detail. For a person with colon cancer, a CT scan can check to see whether the cancer has spread to the lungs, liver, or other organs. It is often done before surgery.

**Magnetic resonance imaging (MRI)**
An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. A contrast medium (a special dye) may be injected into a patient’s vein or given orally to create a clearer picture. An MRI is the best imaging test to find out where the colorectal cancer has grown.

**Ultrasound**
An ultrasound is a procedure that uses sound waves to create a picture of the internal organs to find out if the cancer has spread. Endorectal ultrasound is commonly used to find out how deeply rectal cancer has grown and can be used to help plan treatment. However, this test cannot accurately detect cancer that has spread to nearby lymph nodes or beyond the pelvis. An ultrasound can also be used to view the liver, although CT scans or MRIs are preferred because they are better at detecting tumors in the liver.

Learn more about what to expect when having common tests, procedures, and scans at [www.cancer.net/tests](http://www.cancer.net/tests).
**Chest x-ray**

An x-ray is a way to create a picture of structures inside the body using a small amount of radiation. An x-ray of the chest helps doctors find out whether the cancer has spread to the lungs.

**Positron emission tomography (PET) scan**

A PET scan is a way to create pictures of organs and tissues inside the body. A small amount of a radioactive substance is injected into a patient’s vein. This substance is absorbed mainly by organs and tissues that use the most energy. Because cancer tends to use energy actively, it absorbs more of the radioactive substance. A scanner then detects this substance to produce images of the inside of the body.

**Stages**

People with colorectal cancer are often given a stage along with their diagnosis. The stage is a way to describe where the cancer is located, if or where it has spread, and whether it is affecting other parts of the body. Doctors use diagnostic tests to determine the cancer’s stage, so staging may not be complete until all of the tests are finished. Knowing the stage will help your doctor decide what treatment plan will be best and can help predict your prognosis.

Doctors assign the stage of the cancer using a number zero (0) through four (Roman numerals I through IV) and often a letter A, B, or C.

The stages of colorectal cancer are:

**Stage 0.** This is called cancer in situ. The cancer cells are only found in the mucosa (the inner lining) of the colon or rectum.

**Stage I.** The cancer has grown through the mucosa and has invaded the muscular layer of the colon or rectum. It has not spread into nearby tissue or lymph nodes.

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**STAGE 0**

![STAGE 0 Diagram](image)

**STAGE I**

![STAGE I Diagram](image)
**Stage IIA.** The cancer has grown through the wall of the colon or rectum but has not spread to nearby tissues or lymph nodes.

**Stage IIB.** The cancer has grown through the layers of the muscle to the visceral peritoneum (the lining of the abdomen). It has not spread to nearby lymph nodes or anywhere else in the body.

**Stage IIC.** The tumor has spread through the wall of the colon or rectum and has grown into nearby structures. It has not spread to nearby lymph nodes or anywhere else in the body.

**Stage IIIA.** The cancer has grown through the inner lining or into the muscle layers of the intestine. It has spread to one to three lymph nodes, or there are nodules made up of tumor cells found in structures near the colon that do not appear to be lymph nodes. The cancer has not spread to other parts of the body.

**Stage IIIB.** The cancer has grown through the bowel wall or into surrounding organs. It has spread to one to three lymph nodes, or there are nodules made up of tumor cells in structures near the colon that do not appear to be lymph nodes. However, the cancer has not spread to other parts of the body.

**Stage IIIC.** The cancer of the colon, regardless of how deep it has grown, has spread to four or more lymph nodes but not to other distant parts of the body.

**Stage IVA.** The cancer has spread to one other part of the body, such as the liver or lungs.

**Stage IVB.** The cancer has spread to more than one part of the body.

**Recurrent.** The cancer has come back after treatment. The disease may be found in the colon, rectum, or in another part of the body.
STAGE IVA

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Grades

Doctors may also use the term “grade” when talking about colorectal cancer. The grade describes how much the tumor looks like healthy tissue when viewed under a microscope. The grade of colorectal cancer can help the doctor predict how quickly the tumor might grow and spread.

Tumors that look more like healthy tissue have different types of cells grouped together and are called low grade or well differentiated, while a tumor that looks less like healthy tissue is called high grade, poorly differentiated, or undifferentiated. In most situations, the prognosis is better for a person who has a lower-grade cancer.

DIAGNOSIS SUMMARY

PRIMARY TUMOR LOCATION:
- Colon
- Rectum

TYPE:
- Adenocarcinoma
- Carcinoid tumor
- Gastrointestinal stromal tumor (GIST)
- Lymphoma

STAGE:
- Stage 0
- Stage I
- Stage IIA
- Stage IIB
- Stage IIC
- Stage IVA
- Stage IVB
- Recurrent

GRADE:
-GX—cannot be assessed, undetermined
- G1—similar to healthy colorectal tissue, well differentiated, low grade
- G2—still has some features of healthy colorectal tissue, moderately differentiated, intermediate grade
- G3—very different from healthy colorectal tissue, poorly differentiated, high grade
- G4—extremely different from healthy colorectal tissue, undifferentiated, high grade
QUESTIONS TO ASK THE DOCTOR ABOUT YOUR DIAGNOSIS

• Where is the cancer located?
• What stage and grade is the cancer? What does this mean?
• What other diagnostic tests or procedures may be necessary?
• How can I prepare myself for each test or procedure?
• Where do I need to go to have these tests?
• When will I get the results? How will I get the results (over the phone, at the next appointment, etc.)?
• Who will explain these results to me?
• Should I see another doctor for a second opinion? Can you give me referrals (names of doctors to see)?
• If I decide to get a second opinion, will I have to repeat any tests or procedures?
• What is my prognosis?

NOTES:
Colorectal Cancer Treatment

In cancer care, different types of doctors often work together to create an overall treatment plan that combines different types of treatments. For colorectal cancer, this team usually includes a gastroenterologist (a doctor who specializes in the function and disorders of the gastrointestinal tract), surgeon, medical oncologist, and radiation oncologist. The treatment options and recommendations your doctors give you will depend on several factors, including the type and stage of cancer, possible side effects, and your preferences and overall health.

When making treatment decisions, you are also encouraged to consider participating in a clinical trial. A clinical trial is a research study that tests a new treatment to evaluate whether it is safe, effective, and possibly better than the standard treatment.

Before treatment begins, it is important to discuss the goals and possible side effects of your treatment plan, including the likelihood that the treatment will work and its potential effect on your quality of life. To start a conversation with your doctor, you may want to ask:

- What are my treatment options?
- Will I need more than one type of treatment?
- Based on the results of molecular testing, do you recommend targeted therapy? Why or why not?
- What treatment plan do you recommend for me? Why?
- What is the goal of the treatment(s) you are recommending? Is it to eliminate the cancer? To relieve my symptoms? Or both?
- What is the expected timeline for my treatment plan?
- When do I need to make a decision about starting treatment?

**Surgery**

Surgery is the removal of the tumor and surrounding tissue during an operation. This is the most common treatment for colorectal cancer and is often called surgical resection. Part of the healthy colon or rectum and nearby lymph nodes will also be removed. Although both general surgeons and specialists may perform

### MY TREATMENT PLAN
- Surgery
- Radiation therapy
- Chemotherapy
- Targeted therapy
- Clinical trial
- Palliative/supportive care

### TREATMENT GOALS
- Eliminate the cancer
- Slow cancer growth/spread
- Shrink the tumor
- Relieve symptoms
- Manage side effects
- Other:

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colorectal surgery, many people talk with specialists who have additional training and experience in colorectal surgery.

Some patients may be able to have laparoscopic colorectal cancer surgery. With this technique, several viewing scopes are passed into the abdomen while a patient is under anesthesia (medication to block the awareness of pain). The incisions are smaller and the recovery time is often shorter than with standard colon surgery. Laparoscopic surgery is as effective as conventional colon surgery at removing the cancer. Surgeons who perform laparoscopic surgery have been specially trained in that technique.

Sometimes as part of surgery to treat rectal cancer, a person may need to have a colostomy. This is a surgical opening, or stoma, through which the colon is connected to the abdominal surface to provide a pathway for waste to exit the body. This waste is then collected in a pouch worn by the patient. Sometimes, the colostomy is only temporary to allow the rectum to heal, but it may be permanent. With modern surgical techniques and the use of radiation therapy and chemotherapy before surgery when needed, most people who receive treatment for rectal cancer do not need a permanent colostomy.

In general, the side effects of surgery include pain and tenderness in the area of the operation. The operation may also cause constipation or diarrhea, which usually goes away after a while. People who have a colostomy may have irritation around the stoma. The doctor, nurse, or a specialist in colostomy management (called an enterostomal therapist) can teach the patient how to clean the area and prevent infection.

Many people need to retrain their bowel after surgery, which may take some time and assistance. People should talk with their doctor if they do not regain good control of bowel function.

**QUESTIONS TO ASK THE DOCTOR ABOUT SURGERY**

- Which type of surgery do you recommend? Why?
- What is the goal of this surgery?
- Will lymph nodes or any other tissue need to be removed?
- Where will the scar be, and what will it look like?
- Will I need to be admitted to a hospital for this operation? If so, how long will I need to stay in the hospital?
- Will I need to have a colostomy? If so, for how long?
- Will I have difficulty controlling my bowel function after surgery? If so, how will this side effect be managed?
Radiation therapy

Radiation therapy is the use of high-energy x-rays to destroy cancer cells and is commonly used for treating rectal cancer because this type of tumor tends to recur near where it originally started. A doctor who specializes in giving radiation therapy to treat cancer is called a radiation oncologist.

External-beam radiation therapy uses a machine located outside the body to deliver x-rays to where the cancer is located. Radiation treatment is usually given five days a week for several weeks and may be given in a doctor's office or at a hospital.

For some people, specialized radiation therapy techniques, such as intraoperative radiation therapy (a high, single dose of radiation therapy given during surgery) or brachytherapy (placing radioactive “seeds” inside the body), may help get rid of small areas of the tumor that could not be removed during surgery.

For rectal cancer, radiation therapy may be used before surgery (called neoadjuvant therapy) to shrink the tumor so it is easier to remove or after surgery (called adjuvant therapy) to destroy any remaining cancer cells. Chemotherapy may be given at the same time as radiation therapy (called chemoradiation therapy) to increase its effectiveness. Chemoradiation therapy is often used for rectal cancer before surgery to avoid a colostomy, reduce scarring of the bowel in the area where the radiation therapy was given, and decrease the chance that the cancer will recur.

Side effects of radiation therapy may include fatigue, mild skin reactions, upset stomach, and loose bowel movements. It may also cause bloody stools (bleeding through the rectum) or blockage of the bowel. Most side effects go away soon after treatment is finished. Long-term side effects, such as sexual problems and infertility (the inability to have a child) in both men and women, may occur after radiation therapy to the pelvis. Before treatment begins, talk with your doctor about the possible side effects of your treatment and the available options for preventing and managing them.
QUESTIONS TO ASK THE DOCTOR ABOUT RADIATION THERAPY

• Which type of radiation therapy do you recommend? Why?
• How often will my radiation treatments occur, and how long will I receive treatment?
• How much time will each treatment take?
• What will I experience when I receive radiation therapy? Will it hurt or cause me discomfort?
• Could this treatment affect my sex life? If so, how and for how long?
• Could this treatment affect my ability to become pregnant or have children? If so, should I talk with a fertility specialist before treatment begins?

NOTES:
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Chemotherapy

Chemotherapy is the use of drugs to destroy cancer cells, usually by stopping the cancer cells’ ability to grow and divide. Systemic chemotherapy is delivered through the bloodstream to reach cancer cells throughout the body. Chemotherapy is usually given by a medical oncologist, a doctor who specializes in treating cancer with medication.

Chemotherapy may be given after surgery to eliminate any remaining cancer cells. For some people with rectal cancer, the doctor will give chemotherapy and radiation therapy before surgery to reduce the size of a rectal tumor and reduce the chance of the cancer returning after treatment. Chemotherapy for colorectal cancer is usually injected directly into a vein, although some chemotherapy can be given as a pill.
Common drug treatments for colorectal cancer are:
- Fluorouracil (5-FU, Adrucil)
- 5-FU with leucovorin (Wellcovorin), a vitamin that improves the effectiveness of 5-FU
- Capecitabine (Xeloda), an oral form of 5-FU
- 5-FU with leucovorin and oxaliplatin (Eloxatin), a combination called FOLFOX
- 5-FU with leucovorin and irinotecan (Camptosar), a combination called FOLFIRI
- Irinotecan alone
- Capecitabine with either irinotecan or oxaliplatin
- Any of the above with either cetuximab (Erbitux) or bevacizumab (Avastin)
- FOLFIRI with ziv-aflibercept (Zaltrap)

Chemotherapy may cause vomiting, nausea, diarrhea, or mouth sores. In addition, patients may be unusually tired, and there is an increased risk of infection. Neuropathy (tingling or numbness in the feet or hands) may also occur with some drugs. Hair loss is an uncommon side effect of the drugs used to treat colorectal cancer. Medications are available to ease most of these side effects. If side effects are particularly difficult, the dose of drug may be lowered or a treatment session may be postponed. Most of the side effects of chemotherapy usually go away once treatment has finished.

**QUESTIONS TO ASK THE DOCTOR ABOUT CHEMOTHERAPY**

- Which type of chemotherapy do you recommend?
- How long will I need to have chemotherapy?
- How will the treatment be given?
- How will we know if it’s working?
- How will chemotherapy affect my daily life? Will I be able to work, exercise, and perform my usual activities?
- What are the potential short- and long-term side effects of each medication?
- Where can I get more information about the medication(s) I will be taking?
- If I am worried about the cost of treatment, who can help me with this concern?

**NOTES:**
Targeted therapy

Targeted therapy is a treatment that targets the cancer’s specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. This type of treatment blocks the growth and spread of cancer cells while limiting damage to healthy cells. These drugs are becoming more important in the treatment of colorectal cancer.

Research studies show that not all colorectal cancers have the same targets. To find the most effective treatment, your doctor may run tests to identify genes, proteins, and other factors specific to your tumor. These results can help better match you with the most effective treatment option. Currently there are two main types of targeted therapy used to treat colorectal cancer: anti-angiogenesis therapy and epidermal growth factor receptor (EGFR) inhibitors.

Anti-angiogenesis therapy
This targeted treatment is focused on stopping angiogenesis, which is the process of making new blood vessels. Because a tumor needs the nutrients delivered by blood vessels to grow and spread, the goal of anti-angiogenesis therapy is to literally “starve” the tumor.

Bevacizumab is a type of anti-angiogenesis therapy called a monoclonal antibody. When given with chemotherapy, bevacizumab increases the length of time patients with advanced colorectal cancer live. In 2004, the U.S. Food and Drug Administration (FDA) approved bevacizumab along with chemotherapy for the first-line (first treatment given) treatment of advanced colorectal cancer. Recent studies have shown it is also effective as second-line therapy along with chemotherapy.

Ziv-aflibercept is another type of anti-angiogenesis therapy that is combined with FOLFIRI chemotherapy as a second-line treatment for metastatic colorectal cancer. In addition, the drug regorafenib (Stivarga) was approved in 2012 for patients with metastatic colorectal cancer who have already received certain types of chemotherapy and other targeted therapies.

EGFR inhibitors
Researchers have found that drugs that block EGFR, such as cetuximab and panitumumab (Vectibix), may be effective at stopping, slowing, or stabilizing the growth of colorectal cancer, as well as shrinking colorectal tumors. However, additional research has shown that cetuximab and panitumumab do not work as well for tumors that have specific mutations to a gene called KRAS. According to a provisional clinical opinion from ASCO, all patients with metastatic colorectal cancer who may receive anti-EGFR therapy, such as cetuximab and panitumumab, should have their tumors tested for KRAS gene mutations. If the tumor has a mutated form of the KRAS gene, ASCO recommends against using anti-EGFR antibody therapy. Furthermore, the FDA recommends that both cetuximab and panitumumab only be given to patients with tumors with non-mutated (sometimes called wild type) KRAS genes. Additional research is underway to determine what role cetuximab and panitumumab might play in patients with metastatic colorectal cancer who have had surgery and who have not previously been given chemotherapy.

The side effects of targeted therapy include a rash on the face and upper body, which can be prevented or reduced with various treatments. Talk with your doctor about other possible side effects of targeted therapy and how they can be managed.
QUESTIONS TO ASK THE DOCTOR ABOUT TARGETED THERAPY

• Based on my test results, will I benefit from targeted therapy? Why or why not?
• How long will I need to have this treatment?
• How will the treatment be given?
• What are the possible side effects of this treatment? How will these side effects be managed?
• How will my treatment be monitored?
• If I am worried about managing the cost of treatment, who can help me with this concern?

NOTES:
Clinical trials

Doctors and scientists are always looking for better ways to treat people with colorectal cancer. To make scientific advances, doctors conduct research studies involving volunteers, called clinical trials.

Many clinical trials are focused on evaluating whether a new treatment is safe, effective, and possibly better than the current (standard) treatment. These types of studies evaluate new drugs, different combinations of existing treatments, new approaches to radiation therapy or surgery, and new methods of treatment. There are also clinical trials that study new ways to ease symptoms and side effects during treatment and ways to manage late effects that may occur after treatment.

People who participate in clinical trials are often among the first to receive new treatments before they are widely available. However, there is no guarantee the new treatment will be safe, effective, or better than the standard treatment.

People decide to participate in clinical trials for many reasons. For some people with colorectal cancer, a clinical trial is the best treatment option available. Because standard treatments are not perfect, patients are often willing to face the added uncertainty of a clinical trial in the hope of a better result. Other people volunteer for clinical trials because they know these studies are the only way to make progress in treating colorectal cancer. Even if they do not benefit directly from the clinical trial, their participation may help other people with colorectal cancer in the future.

Some people worry if they participate in a clinical trial they may receive no treatment by being given a placebo or a “sugar pill.” However, the use of placebos in cancer clinical trials is rare. When a placebo is used in a study, it is done with the full knowledge of the participants.

If you decide to join a clinical trial, you will participate in a process known as informed consent. During informed consent, the doctor should list all of your options and help
you understand how the new treatment is different from the standard treatment. The doctor must also list all of the risks of the new treatment, which may or may not be different from the risks of the standard treatment. Finally, the doctor must explain what will be required of each patient in order to participate in the clinical trial, including the number of doctor visits, tests, the schedule of treatment, and the costs you may need to pay.

Keep in mind, even if you decide to participate in a clinical trial you may stop participating at any time for any personal or medical reason.

To learn more about clinical trials, visit www.cancer.net/clinicaltrials.

QUESTIONS TO ASK THE DOCTOR ABOUT CLINICAL TRIALS

- How do clinical trials help people with colorectal cancer?
- What clinical trials are open to me?
- What happens during a clinical trial?
- How do the costs of participating in a clinical trial compare with the costs of standard treatment?
- Where can I learn more about clinical trials?

NOTES:
Managing symptoms and side effects

In addition to treatment to slow, stop, or eliminate colorectal cancer, an important part of cancer care is relieving a person’s symptoms and side effects. This approach is called palliative or supportive care, and it includes supporting the patient with his or her physical, emotional, and social needs.

Palliative care can help a person at any stage of illness. People often receive treatment for the cancer and treatment to ease side effects at the same time. In fact, patients who receive both often have less severe symptoms, better quality of life, and report they are more satisfied with treatment.

Palliative treatments vary widely and often include medication, nutritional changes, relaxation techniques, and other therapies. You may also receive palliative treatments similar to those meant to eliminate the cancer, such as surgery and radiation therapy, so it is important to understand the goals of each treatment in your treatment plan.

Before treatment begins, talk with your health care team about the possible side effects of your specific treatment plan and supportive care options. And during and after treatment, be sure to tell your doctor or another member of your health care team if you are experiencing a problem so it can be addressed as quickly as possible.

For more information about palliative care, visit www.cancer.net/palliativecare.

QUESTIONS TO ASK THE DOCTOR ABOUT PALLIATIVE / SUPPORTIVE CARE

- What can be done to manage any symptoms and side effects I may experience?
- Can you recommend someone who specializes in palliative care?
- Where can I receive palliative care services?
- What other support services are available to me? To my family?
- How will my treatment be monitored?
- If I am worried about managing the cost of treatment, who can help me?
Developing a treatment plan

In general, colorectal cancer that has been diagnosed as stage 0, I, II, or III can usually be removed with surgery. However, many patients with stage III colorectal cancer receive chemotherapy after surgery to increase the chance of eliminating the disease. Stage IV is not often curable, but it is treatable, and the growth of the cancer and the symptoms of the disease can be successfully managed. Clinical trials are also a treatment option for each stage.

STAGE 0
The usual treatment is a polypectomy (removal of a polyp) during a colonoscopy. There is no additional surgery unless the polyp cannot be fully removed.

STAGE I
Surgical removal of the tumor and lymph nodes is usually the only treatment needed.

STAGE II
Patients should talk with their doctor about whether more treatment is needed after surgery since some patients receive adjuvant chemotherapy to destroy any remaining cancer cells. However, cure rates for surgery alone are quite good, and there are few benefits of additional treatment for people with this stage of colon cancer. A clinical trial is also an option after surgery.

For patients with rectal cancer, radiation therapy is usually given in combination with chemotherapy, either before or after surgery.

STAGE III
Treatment usually involves surgical removal of the tumor followed by adjuvant chemotherapy. A clinical trial is also an option. For patients with rectal cancer, radiation therapy may be used along with chemotherapy before or after surgery.

STAGE IV (METASTATIC)
At this stage the cancer has spread to another location in the body, such as the liver, lungs, peritoneum, or a woman’s ovaries. Patients with this diagnosis are encouraged to talk with doctors who are experienced in treating this stage of cancer because there can be different opinions about the best treatment plan.

At this stage, surgery to remove the portion of the colon where the cancer started usually cannot eliminate the cancer, but it can help relieve blockage of the colon or other complications. Surgery may also be used to remove parts of other organs that contain cancer (called resection) and can cure some people if a limited amount of cancer has spread to a single organ, such as the liver or lung. Even when curing the cancer is not possible, surgery may add months or even
years to a person’s life. Determining who can benefit from surgery for cancer that has spread to the liver is often a complicated process that involves doctors of multiple specialties working together to create the best plan.

Another option to eliminate tumors that have spread to the liver or lungs is radiofrequency ablation (RFA). RFA uses energy in the form of radiofrequency waves to heat and destroy cancer cells. Not all liver or lung tumors can be treated with this approach. Sometimes, RFA can be done through the skin or during surgery. Although this can spare healthy liver and lung tissue that might be removed during a regular surgery, there is also a chance that part of the tumor will be left behind.

Your health care team may also recommend a treatment plan that includes radiation therapy and/or chemotherapy, which can be used to slow the spread of the disease and often temporarily shrink a cancerous tumor. In addition, palliative/supportive care will be important to help relieve symptoms and side effects.

For most patients, a diagnosis of metastatic cancer is very stressful and, at times, difficult to bear. Patients and their families are encouraged to talk about the way they are feeling with doctors, nurses, social workers, or other members of the health care team. It may also be helpful to talk with other patients, including through a support group.

RECURRENT COLORECTAL CANCER

If colorectal cancer returns after the original treatment, it is called recurrent cancer. Cancer recurs because small areas of cancer cells are difficult to find and can sometimes remain in the body after treatment. Over time, these cells may multiply and grow into a mass large enough to be found and diagnosed. Colorectal cancer may come back in the same place (called a local recurrence), nearby (regional recurrence), or in another place (distant recurrence).

If a recurrence occurs, the cycle of testing will begin again to learn as much as possible about the recurrence. After testing is done, you and your doctor will talk about your treatment options. Generally, the treatment options for recurrent cancer are the same as those for metastatic cancer and include surgery, chemotherapy, radiation therapy, and palliative care. Your doctor may also suggest clinical trials that are studying new ways to treat recurrent colorectal cancer.

People with recurrent cancer often experience emotions such as disbelief or fear. Patients are encouraged to talk with their health care team about these feelings and ask about support services to help them cope.

For more information about colorectal cancer treatment, visit www.cancer.net/colorectal.
QUESTIONS TO ASK THE DOCTOR ABOUT YOUR TREATMENT PLAN

• Who will be coordinating my overall treatment and follow-up care?
• What is the goal of my treatment plan?
• What clinical trials are open to me?
• What is my prognosis?
• Whom should I contact for support and emotional help for me? For my family?

NOTES:
Fearing the side effects of colorectal cancer treatment is common, but it may help to know that preventing and controlling side effects is a major focus of your health care team. Before starting treatment, talk with your health care team about which side effects are most likely to happen (and which are not). Then, once treatment begins, let your health care team know what side effects you are experiencing so they can help manage them.

The specific side effects you may experience during and after treatment for colorectal cancer depend on a number of factors, including the cancer’s location, your individual treatment plan, and your overall health. However, some of the potential physical, emotional, and social effects experienced by people receiving treatment for colorectal cancer are described in this section.

Physical effects

Fatigue. Cancer and its treatment often cause a persistent sense of tiredness or exhaustion. Most people receiving cancer treatment experience some type of fatigue, which can make even a small effort, such as walking across a room, seem like too much. Fatigue often seriously affects people’s daily activities, including the ability to be involved with their family or to socialize. It is important to tell your doctor if you are experiencing fatigue because there are things your health care team can do to help.

Changes in bowel function. Colorectal cancer and its treatment may cause bowel problems, such as diarrhea (frequent and watery bowel movements), gas, loss of control of bowel movements, and increased urgency with bowel movements. The severity of these issues usually decreases with time, and most people find they settle into a new normal following treatment. The same is true for people who have a colostomy as part of their surgery. Although it may take time to adjust, a colostomy should not restrict you from the activities of your daily life. If you have concerns about your bowel function, talk with a member of your health care team for advice about how to manage these issues.
Pain. Pain can be caused by the tumor, be a side effect of cancer treatment, or result from causes not related to the cancer at all. Untreated pain can make other aspects of cancer seem worse, such as fatigue, weakness, nausea, constipation, sleep disturbances, depression, and anxiety. However, it is important to know that up to 95% of cancer pain can be treated successfully using medication or other strategies. Your doctor or a pain specialist can help you find an effective pain-relief strategy.

Sexual issues. Both men and women being treated for colorectal cancer may experience sexual problems, including a decrease or loss of libido (sex drive); an inability to achieve or maintain sexual arousal, such as lubrication in women or an erection in men; the delay or absence of orgasm following normal arousal, such as premature ejaculation in men; and pain during sexual intercourse. Even though it may feel awkward, it is important to discuss these issues with your doctor or another member of your health care team. In addition, couples counseling may help you have productive conversations with your spouse or partner about how to cope with sexual side effects and support each other.

Infertility. Some treatments for colorectal cancer may cause temporary or permanent infertility. If this is a concern for you, talk with your doctor about the possible fertility-related side effects of your treatment plan and options for preserving your fertility before treatment begins.

Nausea and vomiting. Nausea and vomiting are common side effects of many cancer treatments. Nausea is feeling the urge to vomit or throw up. Vomiting may happen in expectation of treatment, within 24 hours after treatment, or two or more days after treatment. Mild nausea and vomiting can be quite uncomfortable, but it usually does not cause serious problems. Severe vomiting, on the other hand, can cause dehydration, electrolyte imbalances (loss of minerals from the body, such as potassium and sodium), weight loss, and depression. In addition to medications that help prevent nausea and vomiting, many people find that behavioral treatments can help control these side effects. Talk with your health care team about ways to change the expectation and fear of nausea and vomiting.

Chemo brain. Cancer survivors commonly use the term “chemo brain” to describe difficulty thinking clearly after cancer treatment. Approximately 20% of people who undergo chemotherapy will experience some cognitive side effects. These difficulties vary in severity and sometimes make it hard to complete daily activities. People who experience severe problems concentrating, multitasking, or understanding or remembering things should talk with their doctor or another member of the health care team to learn about medication, cognitive rehabilitation and training, and other ways to manage these issues.

Psychosocial effects

In addition to physical side effects, you may experience psychosocial (emotional and social) effects. For many people, the diagnosis and treatment of colorectal cancer is stressful and can trigger difficult emotions. Physical
changes that may occur during treatment, such as having a colostomy, can make a person feel uncomfortable and self-conscious. Even changes that aren’t visible, such as fatigue, infertility, or sexual side effects, can make you feel differently about yourself.

Research has shown that sharing fears and anxieties with family or friends, counselors, clergy, or support groups helps strengthen patients emotionally, and perhaps even physically. Because not all people find it easy to open up to others, you may want to express your feelings in other ways, such as:

- Writing in a journal or starting a blog
- Artistic projects, such as painting
- Praying or meditating
- Reading
- Slowing down and reflecting

However, even with outlets to express their feelings, sometimes patients (and those closest to them) continue to experience psychosocial effects. If you are feeling anxious, depressed, or stressed about your diagnosis and treatment, think about telling a member of your health care team, such as an oncology nurse. Oncology nurses not only have a wealth of experience and knowledge about cancer, cancer treatment, and side effects, but they can also provide you with emotional and social support, as well as help you develop effective coping strategies.

Another good resource is an oncology social worker. An oncology social worker can help you navigate the health care system; find support to manage the day-to-day challenges of living with cancer; and provide counseling, education, information services, discharge and home care planning services, and referrals to community resources for both you and your family and friends. Oncology social workers practice in many settings, including cancer centers, hospitals, doctors’ offices, cancer-related agencies, hospices, and private practices. If there is not an oncology social worker at the place where you receive treatment, call the nearest cancer center or university/teaching hospital and ask if there is one on staff.

Learn more about coping with the physical and emotional effects of colorectal cancer at www.cancer.net/coping. For a list of support organizations and other resources, visit www.cancer.net/support.
QUESTIONS TO ASK THE DOCTOR ABOUT SIDE EFFECTS

- What are the potential short- and long-term side effects of my treatment plan?
- Are there ways to help me prepare for treatment and decrease the chance of experiencing side effects?
- What can be done to manage any side effects I may experience?
- What support services are available to me? To my family?

NOTES:
Follow-Up Care

After treatment for colorectal cancer ends, talk with your doctor about developing a follow-up care plan. This plan will include regular physical examinations and medical tests to monitor your recovery for the coming months and years. It will also involve watching for signs that the cancer has come back, in addition to taking care of any ongoing or late effects of treatment.

ASCO recommends the following as part of a follow-up care plan for people diagnosed with stage II or III colorectal cancer:

**Follow-up care for colorectal cancer often includes regular physical examinations, CEA tests, and colonoscopy or sigmoidoscopy, and may include CT scans.**

**Regular visits with your doctor.** Most colorectal cancer recurrences develop within five years after surgery. Doctor visits are recommended every three to six months for the first three years, every six months during years four and five, and as often as you and your doctor decide after five years. Regularly scheduled appointments help increase the likelihood of finding a treatable recurrence, as can keeping an eye out for signs that the cancer has come back.

The symptoms of a potential recurrence include:

- A change in bowel habits
- Diarrhea, constipation, or feeling that the bowel does not empty completely
- Bright red or very dark blood in the stool
- Stools that look narrower or thinner than normal
- Discomfort in the abdomen, including frequent gas pains, bloating, fullness, and cramps
- Weight loss with no known explanation
- Constant tiredness or fatigue
- Unexplained iron-deficiency anemia (low number of red blood cells)

Talk with your doctor if these symptoms last for several weeks or become more severe. However, it is also possible that these symptoms may be caused by a medical condition that is not cancer, especially for general symptoms.
like abdominal discomfort, bloating, and irregular bowel movements.

**Carcinoembryonic antigen (CEA) test.** The CEA test is a blood test. High levels of CEA may indicate that a cancer has spread to other parts of the body. The CEA test should be done every three months for people with stage II or III colorectal cancer for at least three years after adjuvant chemotherapy has finished.

**CT scan.** A CT scan of the chest and abdomen is recommended for people who have a higher risk of recurrence and are healthy enough to undergo surgery if a new tumor is discovered. A CT scan of the pelvis is recommended for people who are at high risk for rectal cancer recurrence, especially those who have not had radiation therapy. Talk with your doctor to develop a plan based on your risk of recurrence.

**Colonoscopy.** This test allows the doctor to look for polyps or second cancers in the entire rectum and colon. After surgery, a colonoscopy is recommended after three years and then, if it is normal, every five years after that. Some people, such as those with specific inherited conditions, may require colonoscopy screening more frequently. Talk with your doctor about an appropriate schedule for colonoscopy testing based on your medical history and risk of recurrence.

**Flexible proctosigmoidoscopy.** This imaging test is used to check for polyps, second cancers, and other abnormalities in the rectum and lower colon. People with stage II or III rectal cancer who did not have radiation therapy aimed at the pelvic area should have a proctosigmoidoscopy every six months for five years.

People recovering from colorectal cancer are also encouraged to follow established guidelines for good health, such as maintaining a healthy weight, not smoking, minimizing alcohol intake, eating a balanced diet, and having recommended cancer screening tests. Talk with your doctor to develop a plan that is best for your needs. Moderate exercise can help rebuild your strength and energy level. Your doctor can help you create a safe exercise plan based upon your needs, physical abilities, and fitness level.

For cancer treatment summaries and survivorship care plans, visit [www.cancer.net/survivorship](http://www.cancer.net/survivorship).
QUESTIONS TO ASK THE DOCTOR ABOUT FOLLOW-UP CARE

• After my treatment has ended, what will my follow-up care plan include?
• Which follow-up tests will I need, and how often will I need them?
• How often will I need to see a doctor?
• What is the chance that the cancer will return?
• Is there anything I can do to reduce the risk of recurrence?
• What symptoms should I tell you about right away?

NOTES:
Colorectal Cancer

Dictionary

**Adjuvant therapy:** Treatment given after the main treatment to reduce the chance of cancer coming back by eliminating any remaining cancer cells. It usually refers to chemotherapy and/or radiation therapy given after surgery.

**Benign:** A tumor that is not cancerous. The tumor does not usually invade nearby tissue or spread to other parts of the body.

**Biopsy:** The removal of a small amount of tissue for examination under a microscope. Other tests can suggest colorectal cancer is present, but only a biopsy can make a definite diagnosis.

**Brachytherapy:** Radiation treatment given using small radioactive “seeds” or pellets placed inside the body near the tumor (also called internal radiation therapy).

**Carcinoembryonic antigen (CEA) test:** A blood test that detects the level of a protein called carcinoembryonic antigen (CEA). High levels of CEA may indicate that a cancer has spread to other parts of the body. CEA is not an absolute test for colorectal cancer because levels are high for only about 60% of people with colorectal cancer that has spread to other organs. CEA tests are most often used to monitor colorectal cancer for patients already receiving treatment and are not done as screening tests.

**Cells:** The basic units that make up the human body.

**Chemoradiation therapy:** Chemotherapy that is given at the same time as radiation therapy to increase the effectiveness of the radiation therapy.

**Chemotherapy:** The use of drugs to destroy cancer cells.

**Clinical trial:** A research study that involves volunteers. Many clinical trials test new treatments and/or prevention methods to find out whether they are safe, effective, and possibly better than the current standard of care (the best known treatment).

**Colonoscopy:** A screening or diagnostic test that allows the doctor to look inside the entire rectum and colon while a patient is sedated. A colonoscope (a flexible, lighted tube) is inserted into the rectum and the entire colon to look for polyps or cancer. During this procedure, a doctor can remove polyps or other tissue for further examination.

**Colostomy:** A surgical opening that connects the large intestine to the abdominal surface, providing a pathway for waste to exit the body. The waste is then collected in a pouch worn by the patient.

**Computed or computerized axial tomography (CT or CAT) scan:** An imaging technique that creates a 3D picture of the inside of the body using an x-ray machine.

**Cure:** To fully restore health. This term is sometimes used when a person’s cancer has not returned for at least five years after treatment. However, the concept of “cure” is difficult to apply to cancer because undetected cancer cells can sometimes remain in the body after treatment, causing the cancer to return later. Recurrence after five years is still possible.
**Enterostomal therapist:** A health care professional who specializes in caring for patients with a colostomy or other stoma.

**External-beam radiation therapy:** Radiation therapy given from a machine located outside the body.

**Follow-up care plan:** A personalized schedule of follow-up examinations and tests that the doctor recommends after a patient's active treatment period. This may include regular physical examinations and/or medical tests to monitor the patient’s recovery for the coming months and years. This may also be called a survivorship care plan; it is often used in conjunction with a treatment summary.

**Grade:** A way of describing how much a tumor looks like healthy colorectal tissue when viewed under a microscope. In general, the pathologist is looking for differences in the size, shape, and staining characteristics of the cells. A tumor that looks more like healthy tissue is called low grade or well differentiated, while a tumor that looks less like healthy tissue is called high grade, poorly differentiated, or undifferentiated.

**Imaging test:** A procedure that creates pictures of internal body parts, tissues, or organs to make a diagnosis, plan treatment, check whether treatment is working, or observe a disease over time.

**In situ:** In place. Refers to cancer that has not spread to nearby tissue (also called localized or noninvasive cancer).

**Invasive cancer:** Cancer that has spread outside the layer of tissue in which it started and has the potential to grow into other tissues or other parts of the body (also called infiltrating cancer).

**Laboratory test:** A procedure that evaluates a sample of blood, urine, or other substance from the body to make a diagnosis, plan treatment, check whether treatment is working, or observe a disease over time.

**Late effects:** Side effects of cancer treatment that occur months or years after treatment has finished.

**Lymphatic system:** A network of small vessels, ducts, and organs that carry fluid to and from the bloodstream and body tissues. Through the lymphatic system, cancer can spread to other parts of the body.

**Malignant:** Refers to a tumor that is cancerous. It may invade nearby healthy tissue or spread to other parts of the body.

**Metastasis:** The spread of cancer from the place where it began to another part of the body. This occurs when cancer cells break away from the primary tumor and travel through the blood or the lymphatic system to the lymph nodes, lungs, liver, or other organs.

**Neoadjuvant therapy:** Treatment given before the main treatment. It may include chemotherapy and/or radiation therapy given before surgery to shrink a tumor so it is easier to remove.

**Oncologist:** A doctor who specializes in treating people with cancer. The five main types are medical, surgical, radiation, gynecologic, and pediatric oncologists.

**Palliative/supportive care:** Any form of treatment that concentrates on reducing a patient’s symptoms or treatment-related side effects, improving quality of life, and supporting patients and their families.

**Pathologist:** A doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.
Polyp: A noncancerous growth that may develop on the inner wall of the colon or rectum as people get older. If not treated or removed, a polyp can develop into cancer. There are several forms of polyps. Adenomatous polyps, or adenomas, are growths that may become cancerous and can be detected with a colonoscopy.

Polypectomy: The surgical removal of a polyp.

Positron emission tomography (PET) scan: A diagnostic test used to detect cancer and find out the cancer’s stage. This scan is sometimes used to evaluate the effectiveness of cancer treatments, such as chemotherapy or radiation therapy. A PET scan is often used to complement information gathered from a computed tomography (CT) scan, magnetic resonance imaging (MRI), or physical examination.

Primary cancer: The area in the body where a cancer started.

Prognosis: Chance of recovery; a prediction of the outcome of a disease.

Psychosocial effects: Emotional and social concerns related to cancer and cancer treatment that can greatly affect patients’ well-being. These may include lack of information and support; emotional difficulties, including depression and anxiety; lack of transportation; disruptions to work, school, and family life; and insufficient financial resources.

Radiation therapy: The use of high-energy x-rays or other particles to destroy cancer cells (also called radiotherapy).

Recurrence: Cancer that has returned after a period during which the cancer could not be detected. Local recurrence means that the cancer has come back in the same general area where the original cancer was located. Regional recurrence refers to cancer that has come back in the lymph nodes or other tissues near the original cancer site, usually by direct spread. Distant recurrence refers to cancer that has come back and has spread to other parts of the body, usually by traveling through the lymphatic system or bloodstream.

Regimen: A treatment plan that includes which treatments and procedures will be done, medications and their doses, the schedule of treatments, and how long the treatment will last.

Response: Shrinkage of the cancer as a result of chemotherapy, radiation therapy, targeted therapy, or other treatment.

Risk: The likelihood of an event.

Screening: The process of checking whether a person has a disease or has an increased chance of developing a disease when the person has no symptoms.

Secondary cancer: Describes either a new primary cancer (a different type of cancer) that develops after treatment for the first type of cancer or cancer that has spread to other parts of the body from the place where it started (see metastasis).

Side effect: An undesirable result of treatment, such as fatigue, nausea, vomiting, or sexual issues.

Sigmoidoscopy: A screening or diagnostic test that allows a doctor to see inside the lower 20 inches of the sigmoid colon and rectum.
**Stage:** A way of describing where the cancer is located, if or where it has spread, and whether it is affecting other parts of the body.

**Standard of care:** Care that experts agree or guidelines show is the most appropriate and/or effective for a specific disease.

**Stoma:** A surgically constructed opening, such as a colostomy.

**Surgery:** The removal of cancerous tissue from the body during an operation.

**Survivorship:** This term means different things to different people. Two common definitions include having no disease after the completion of treatment and the process of living with, through, and beyond cancer.

**Targeted treatment:** Treatment that targets specific genes, proteins, or other molecules that contribute to cancer growth and survival.

**Tumor:** A mass formed when healthy cells change and grow uncontrollably. A tumor can be benign (noncancerous) or malignant (cancerous, meaning it can spread to other parts of the body).

**Treatment summary:** A written summary of the therapy(ies) that the patient had during the active treatment period. This is often used in conjunction with a follow-up care plan to help monitor a survivor’s long-term health.

For more definitions of common terms you may hear before, during, and after treatment, visit www.cancer.net/dictionaryresources.