Index

What You Need To Know About™ Cancer of the Colon and Rectum

U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES
National Institutes of Health
National Cancer Institute

This booklet is about colon and rectal cancer. The Cancer Information Service can help you learn more about this disease. The staff can talk with you in English or Spanish.

The number is 1–800–4–CANCER (1–800–422–6237). The number for deaf and hard of hearing callers with TTY equipment is 1–800–332–8615. The call is free.

Este folleto es acerca del cáncer de colon y recto. Llame al Servicio de Información sobre el Cáncer para saber más sobre esta enfermedad. Este servicio tiene personal que habla español.

El número a llamar es el 1–800–4–CANCER (1–800–422–6237). Personas con problemas de audición y que cuentan con equipo TTY pueden llamar al 1–800–332–8615. La llamada es gratis.

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What You Need To Know About Index

What You Need To Know About™ Cancer of the Colon and Rectum

*Cancer** of the colon or rectum is also called colorectal cancer. In the United States, colorectal cancer is the fourth most common cancer in men, after skin, prostate, and lung cancer. It is also the fourth most common cancer in women, after skin, lung, and breast cancer.

This National Cancer Institute (NCI) booklet has important information about the possible causes, symptoms, diagnosis, and treatment of colorectal cancer. It also has information to help patients cope with the disease.

Scientists are studying colorectal cancer to learn more about it. They are finding out more about its causes and are exploring new ways to prevent, detect, and treat it. This research is increasing our knowledge about colorectal cancer. The NCI provides the most up-to-date information by telephone and on the Internet:

- **Telephone (1–800–4–CANCER)**: Information Specialists at NCI's Cancer Information Service can answer questions about cancer and can send materials published by NCI.
- **Internet (http://cancer.gov)**: Cancer.gov is NCI's Web site. It has a wide range of information that is updated regularly. People can ask questions online and get immediate help through ***LiveHelp***. Many NCI booklets and fact sheets can be viewed at **http://cancer.gov/publications**. People in the United

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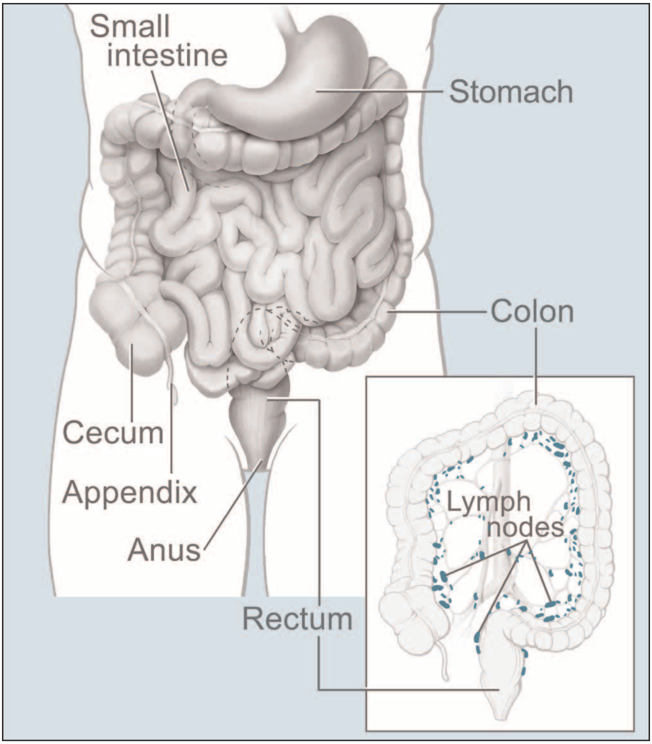
*Words that may be new to readers appear in *italics*. The "Dictionary" section explains these terms. Some words in the "Dictionary" have a "sounds-like" spelling to show how to pronounce them.

States and its territories may use this Web site to order publications. This Web site also explains how people outside the United States can mail or fax their requests for NCI publications.

The Colon and Rectum

The *colon* and *rectum* are parts of the *digestive system*. They form a long, muscular tube called the *large intestine* (also called the large bowel). The colon is the first 4 to 5 feet of the large intestine, and the rectum is the last 4 to 5 inches. The part of the colon that joins to the rectum is the *sigmoid colon*. The part that joins to the small intestine is the *cecum*.



This picture shows the colon and rectum.

Partly digested food enters the colon from the *small intestine*. The colon removes water and nutrients from the food and stores the rest as waste. The waste passes from the colon into the rectum and then out of the body through the *anus*.

Understanding Cancer

Cancer begins in *cells*, the building blocks that make up *tissues*. Tissues make up the *organs* of the body.

Normally, cells grow and divide to form new cells as the body needs them. When cells grow old, they die, and new cells take their place.

Sometimes this orderly process goes wrong. New cells form when the body does not need them, and cells do not die when they should. These extra cells can form a mass of tissue called a growth or *tumor*.

Tumors can be *benign* or *malignant*:

- Benign tumors are not cancer:
  - Benign tumors are rarely life-threatening.
  - Generally, benign tumors can be removed, and they usually do not grow back.
  - Cells from benign tumors do not invade the tissues around them.
  - Cells from benign tumors do not spread to other parts of the body.
- Malignant tumors are cancer:
  - Malignant tumors are generally more serious than benign tumors. They may be life-threatening.
  - Malignant tumors usually can be removed, but sometimes they grow back.

- Cells from malignant tumors can invade and damage nearby tissues and organs.
- Cells from malignant tumors can spread to other parts of the body. The cells spread by breaking away from the original cancer (*primary tumor*) and entering the bloodstream or *lymphatic system*. They invade other organs, forming new tumors and damaging these organs. The spread of cancer is called *metastasis*.

Colorectal Cancer

Cancer that begins in the colon is called *colon cancer*, and cancer that begins in the rectum is called *rectal* cancer. Cancers affecting either of these organs may also be called *colorectal* cancer.

When colorectal cancer spreads outside the colon or rectum, cancer cells are often found in nearby *lymph nodes*. If cancer cells have reached these nodes, they may also have spread to other lymph nodes, the *liver*, or other organs.

When cancer spreads (metastasizes) from its original place to another part of the body, the new tumor has the same kind of abnormal cells and the same name as the primary tumor. For example, if colorectal cancer spreads to the liver, the cancer cells in the liver are actually colorectal cancer cells. The disease is metastatic colorectal cancer, not liver cancer. It is treated as colorectal cancer, not liver cancer. Doctors sometimes call the new tumor "distant" or metastatic disease.

Colorectal Cancer: Who's at Risk?

No one knows the exact causes of colorectal cancer. Doctors can seldom explain why one person develops the disease and another does not. However, it is clear that colorectal cancer is not contagious. No one can "catch" this disease from another person.

Research has shown that people with certain *risk factors* are more likely than others to develop colorectal cancer. A risk factor is anything that is linked to an increased chance of developing a disease.

Studies have found the following risk factors for colorectal cancer:

- **Age**: Colorectal cancer is more likely to occur as people get older. More than 90 percent of people with this disease are diagnosed after age 50. The average age at diagnosis is in the mid-60s.
- **Colorectal *polyps***: Polyps are growths on the inner wall of the colon or rectum. They are common in people over age 50. Most polyps are benign (noncancerous), but some polyps (*adenomas*) can become cancer. Finding and removing polyps may reduce the risk of colorectal cancer.
- **Family history of colorectal cancer**: Close relatives (parents, brothers, sisters, or children) of a person with a history of colorectal cancer are somewhat more likely to develop this disease themselves, especially if the relative had the cancer at a young age. If many close relatives have a history of colorectal cancer, the risk is even greater.

- **Genetic alterations**: Changes in certain *genes* increase the risk of colorectal cancer.
  - *Hereditary nonpolyposis colon cancer* (HNPCC) is the most common type of inherited (genetic) colorectal cancer. It accounts for about 2 percent of all colorectal cancer cases. It is caused by changes in an HNPCC gene. About 3 out of 4 people with an altered HNPCC gene develop colon cancer, and the average age at diagnosis of colon cancer is 44.
  - *Familial adenomatous polyposis* (FAP) is a rare, inherited condition in which hundreds of polyps form in the colon and rectum. It is caused by a change in a specific gene called APC. Unless familial adenomatous polyposis is treated, it usually leads to colorectal cancer by age 40. FAP accounts for less than 1 percent of all colorectal cancer cases.

  Family members of people who have HNPCC or FAP can have *genetic testing* to check for specific genetic changes. For those who have changes in their genes, health care providers may suggest ways to try to reduce the risk of colorectal cancer, or to improve the detection of this disease. For adults with FAP, the doctor may recommend an operation to remove all or part of the colon and rectum.
- **Personal history of colorectal cancer**: A person who has already had colorectal cancer may develop colorectal cancer a second time. Also, women with a history of cancer of the *ovary*, *uterus* (*endometrium*), or *breast* are at a somewhat higher risk of developing colorectal cancer.

- ***Ulcerative colitis* or *Crohn's disease***: A person who has had a condition that causes *inflammation* of the colon (such as ulcerative colitis or Crohn's disease) for many years is at increased risk of developing colorectal cancer.
- **Diet**: Studies suggest that diets high in fat (especially animal fat) and low in *calcium*, *folate*, and *fiber* may increase the risk of colorectal cancer. Also, some studies suggest that people who eat a diet very low in fruits and vegetables may have a higher risk of colorectal cancer. More research is needed to better understand how diet affects the risk of colorectal cancer.
- **Cigarette smoking**: A person who smokes cigarettes may be at increased risk of developing polyps and colorectal cancer.

People who think they may be at risk should discuss this concern with their doctor. The doctor may be able to suggest ways to reduce the risk and can plan an appropriate schedule for checkups.

Screening

Screening for cancer before a person has *symptoms* can help the doctor find polyps or cancer early. Finding and removing polyps may prevent colorectal cancer. Also, treatment for colorectal cancer is more likely to be effective when the disease is found early.

To find polyps or early colorectal cancer:

- People in their 50s and older should be screened.
- People who are at higher-than-average risk of colorectal cancer should talk with their doctor about whether to have screening tests before age 50, what tests to have, the benefits and risks of each test, and how often to schedule appointments.

The following screening tests are used to detect polyps, cancer, or other abnormalities in the colon and rectum. The doctor can explain more about each test:

- ***Fecal occult blood test*** (FOBT): Sometimes cancers or polyps bleed, and the FOBT can detect tiny amounts of blood in the stool. If this test detects blood, other tests are needed to find the source of the blood. Benign conditions (such as *hemorrhoids*) also can cause blood in the stool.
- ***Sigmoidoscopy***: The doctor checks inside the rectum and lower (*sigmoid*) colon with a lighted tube called a *sigmoidoscope*. If polyps are found, the doctor removes them. The procedure to remove polyps is called a *polypectomy*.
- ***Colonoscopy***: The doctor examines inside the rectum and entire colon using a long, lighted tube called a *colonoscope*. The doctor removes polyps that may be found.
- ***Double-contrast barium enema*** (DCBE): A DCBE involves several *x-rays* of the colon and rectum. The patient is given an enema with a barium solution, and air is pumped into the rectum. The barium and air outline the colon and rectum on the x-rays. Polyps may show up on the x-ray.
- ***Digital rectal exam*** (DRE): A rectal exam is often part of a routine physical examination. The doctor inserts a lubricated, gloved finger into the rectum to feel for abnormal areas.

The NCI fact sheet, "Colorectal Cancer Screening: Questions and Answers," has more information about these screening tests. It is available by calling 1–800–4–CANCER and on the Internet at **http://cancer.gov/publications**.

People may want to ask the doctor the following questions about screening:

- Which tests do you recommend for me? Why?
- How much do the tests cost? Will my health insurance plan help pay for screening tests?
- Are the tests painful?
- How soon after the tests will I learn the results?

Symptoms

Common symptoms of colorectal cancer include:

- A change in bowel habits
- Diarrhea, constipation, or feeling that the bowel does not empty completely
- Blood (either bright red or very dark) in the stool
- Stools that are narrower than usual
- General abdominal discomfort (frequent gas pains, bloating, fullness, and/or cramps)
- Weight loss with no known reason
- Constant tiredness
- Nausea and vomiting

Most often, these symptoms are not due to cancer. Other health problems can cause the same symptoms. Anyone with these symptoms should see a doctor so that any problem can be diagnosed and treated as early as possible.

Usually, early cancer does not cause pain. It is important not to wait to feel pain before seeing a doctor.

Diagnosis

If a person has any signs or symptoms of colorectal cancer, the doctor must determine whether they are due to cancer or some other cause. The doctor asks about personal and family medical history and may do a physical exam. The person may have one or more of the tests described on **pages 7 and 8** of the “Screening” section.

If the physical exam and test results do not suggest cancer, the doctor may decide that no further tests are needed and no treatment is necessary. However, the doctor may recommend a schedule for checkups.

If tests show an abnormal area (such as a polyp), a *biopsy* to check for cancer cells may be necessary. Often, the abnormal tissue can be removed during colonoscopy or sigmoidoscopy. A *pathologist* checks the tissue for cancer cells using a microscope.

Staging

If the biopsy shows that cancer is present, the doctor needs to know the extent (*stage*) of the disease to plan the best treatment. The stage is based on whether the tumor has invaded nearby tissues, whether the cancer has spread and, if so, to what parts

People may want to ask the doctor these questions before having a biopsy:

- How will the biopsy be done?
- Will I have to go to the hospital for the biopsy?
- How long will it take? Will I be awake? Will it hurt?
- Are there any risks? What are the chances of *infection* or bleeding after the biopsy?
- How long will it take me to recover? When can I resume a normal diet?
- How soon will I know the results?
- If I do have cancer, who will talk to me about the next steps? When?

of the body. *Staging* may involve some of the following tests and procedures:

- **Blood tests**: The doctor checks for *carcinoembryonic antigen* (CEA) and other substances in the blood. Some people who have colorectal cancer or other conditions have a high CEA level.
- **Colonoscopy**: If colonoscopy was not performed for diagnosis, the doctor examines the entire length of the colon and rectum with a colonoscope to check for other abnormal areas.
- ***Endorectal ultrasound***: An ultrasound probe is inserted into the rectum. The probe sends out sound waves that people cannot hear. The waves bounce off the rectum and nearby tissues, and a computer uses the echoes to create a picture. The picture shows how deep a rectal tumor has grown or whether the cancer has spread to lymph nodes or other nearby tissues.

- **Chest x-ray**: X-rays of the chest can show whether cancer has spread to the lungs.
- ***CT scan***: An x-ray machine linked to a computer takes a series of detailed pictures of areas inside the body. The patient may receive an injection of dye. Tumors in the liver, lungs, or elsewhere in the body show up on the CT scan.

The doctor also may use other tests (such as *MRI*) to see whether the cancer has spread. Sometimes staging is not complete until the patient has surgery to remove the tumor. (Surgery for colorectal cancer is described on **page 16** of the "Treatment" section.)

Doctors describe colorectal cancer by the following stages:

- **Stage 0**: The cancer is found only in the innermost lining of the colon or rectum. *Carcinoma in situ* is another name for Stage 0 colorectal cancer.
- **Stage I**: The cancer has grown into the inner wall of the colon or rectum. The tumor has not reached the outer wall of the colon or extended outside the colon. Dukes' A is another name for Stage I colorectal cancer.
- **Stage II**: The tumor extends more deeply into or through the wall of the colon or rectum. It may have invaded nearby tissue, but cancer cells have not spread to the lymph nodes. Dukes' B is another name for Stage II colorectal cancer.
- **Stage III**: The cancer has spread to nearby lymph nodes, but not to other parts of the body. Dukes' C is another name for Stage III colorectal cancer.
- **Stage IV**: The cancer has spread to other parts of the body, such as the liver or lungs. Dukes' D is another name for Stage IV colorectal cancer.

- ***Recurrent cancer***: This is cancer that has been treated and has returned after a period of time when the cancer could not be detected. The disease may return in the colon or rectum, or in another part of the body.

Treatment

Many people with colorectal cancer want to take an active part in making decisions about their medical care. They want to learn all they can about their disease and their treatment choices. However, shock and stress after the diagnosis can make it hard to think of everything they want to ask the doctor. It often helps to make a list of questions before an appointment. To help remember what the doctor says, people may take notes or ask whether they may use a tape recorder. Some people also want to have a family member or friend with them when they talk to the doctor—to take part in the discussion, to take notes, or just to listen.

The doctor may refer a person with colorectal cancer to a specialist, or the patient may ask for a referral. Specialists who treat colorectal cancer include *gastroenterologists* (doctors who specialize in diseases of the digestive system), *surgeons*, *medical oncologists*, and *radiation oncologists*.

Getting a Second Opinion

Before starting treatment, people with colorectal cancer might want a second opinion about their diagnosis and treatment options. Some insurance companies require a second opinion; others may cover a second opinion if the patient or doctor requests it. It may take some time and effort to gather medical records and arrange to see another doctor. In general, taking several weeks to get a second opinion does not make treatment less effective. In some cases, however, people with colorectal cancer need immediate care.

There are a number of ways to find a doctor for a second opinion:

- The doctor may refer the patient to one or more specialists. At cancer centers, several specialists often work together as a team.
- The Cancer Information Service, at 1–800–4–CANCER, can tell callers about nearby treatment centers.
- A local or state medical society, a nearby hospital, or a medical school can usually provide the names of specialists.
- The American Board of Medical Specialties (ABMS) has a list of doctors who have met certain education and training requirements and have passed specialty examinations. The *Official ABMS Directory of Board Certified Medical Specialists* lists doctors' names along with their specialty and their educational background. The directory is available in most public libraries. Also, ABMS offers this information on the Internet at **http://www.abms.org**. (Click on "Who's Certified.")
- The NCI provides a helpful fact sheet called "How To Find a Doctor or Treatment Facility If You Have Cancer." It is available on the Internet at **http://cancer.gov/publications** and may be ordered from the Cancer Information Service at 1–800–4–CANCER.

Preparing for Treatment

The doctor develops a treatment plan to fit each person's needs. Treatment for colorectal cancer depends mainly on the location of the tumor in the colon or rectum and the stage of the disease. The doctor can describe the treatment choices and the expected results.

People may want to ask the doctor these questions before treatment begins:

- What is the stage of the disease?
- What are my treatment choices? Which do you recommend for me? Will I have more than one kind of treatment?
- What are the expected benefits of each kind of treatment?
- What are the risks and possible *side effects* of each treatment? How can the side effects be managed?
- How will treatment affect my normal activities? Am I likely to have urinary problems? What about bowel problems, such as diarrhea or rectal bleeding? Is treatment likely to affect my sex life?
- What will the treatment cost? Is this treatment covered by my insurance plan?
- Would a *clinical trial* (research study) be appropriate for me?

People do not need to ask all of their questions at once. They will have other chances to ask the doctor to explain things that are not clear and to ask for more information.

Methods of Treatment

Treatment for colorectal cancer may involve *surgery*, *radiation therapy*, or *chemotherapy*. Some people have a combination of treatments. These treatments are described on **pages 16 through 19**.

Colon cancer sometimes is treated differently from rectal cancer. Treatments for colon and rectal cancer are described separately on **page 20**.

At any stage of colorectal cancer, treatments are available to control pain and other symptoms, to relieve the side effects of therapy, and to ease emotional and practical problems. This kind of treatment is called *supportive care*, *symptom management*, or *palliative care*. Information about supportive care is available on NCI's Web site at **http://cancer.gov** and from NCI's Cancer Information Service at 1–800–4–CANCER.

People with colorectal cancer may want to talk to the doctor about taking part in a clinical trial, a research study of new treatment methods. The section on "The Promise of Cancer Research" on **page 25** has more information about clinical trials.

Surgery

Surgery is the most common treatment for colorectal cancer. It is a type of *local therapy*. It treats the cancer in the colon or rectum and the area close to the tumor.

A small malignant polyp may be removed from the colon or upper rectum with a colonoscope. Some small tumors in the lower rectum can be removed through the anus without a colonoscope.

For a larger cancer, the surgeon makes an *incision* into the *abdomen* to remove the tumor and part of the healthy colon or rectum. Some nearby lymph nodes also may be removed. The surgeon checks the rest of the intestine and the liver to see if the cancer has spread.

When a section of the colon or rectum is removed, the surgeon can usually reconnect the healthy parts. However, sometimes reconnection is not possible. In this case, the surgeon creates a new path for waste to leave the body. The surgeon makes an opening (a *stoma*) in the wall of the abdomen, connects the upper end of the intestine to the stoma, and closes the other end. The operation to create the stoma is called a *colostomy*. A flat bag fits over the stoma to collect waste, and a special adhesive holds it in place.

For most people who have a colostomy, it is temporary. It is needed only until the colon or rectum heals from surgery. After healing takes place, the surgeon reconnects the parts of the intestine and closes the stoma. Some people, especially those with a tumor in the lower rectum, need a permanent colostomy. The sections on “Side Effects of Cancer Treatment” on **page 20** and “Rehabilitation” on **page 23** have more information about colostomy.

People may want to ask the doctor these questions before having surgery:

- What kind of operation do you recommend for me?
- Do I need any lymph nodes removed? Will other tissues be removed? Why?
- What are the risks of surgery? Will I have any lasting side effects?
- Will I need a colostomy? If so, will it be permanent?
- How will I feel after the operation?
- If I have pain, how will it be controlled?
- How long will I be in the hospital?
- When can I get back to my normal activities?

Chemotherapy

Chemotherapy uses anticancer drugs to kill cancer cells. It is called *systemic therapy* because it enters the bloodstream and can affect cancer cells throughout the body.

The patient may have chemotherapy alone or combined with surgery, radiation therapy, or both. Chemotherapy given before surgery is called *neoadjuvant therapy*. Chemotherapy before surgery may shrink a large tumor.

Chemotherapy after surgery is called *adjuvant therapy*. Adjuvant therapy is used to destroy any remaining cancer cells and prevent the cancer from coming back in the colon or rectum, or elsewhere.

Chemotherapy is also used to treat people with advanced disease.

Anticancer drugs are usually given through a vein, but some also may be given by mouth. The patient may be treated in an outpatient part of the hospital, at

People may want to ask the doctor these questions before having chemotherapy:

- Why do I need this treatment?
- Which drug or drugs will I have?
- How do the drugs work?
- What are the expected benefits of the treatment?
- What are the risks and possible side effects of treatment? What can I do about them?
- When will treatment start? When will it end?
- How will treatment affect my normal activities?

the doctor's office, or at home. Rarely, a hospital stay may be needed.

Radiation Therapy

Radiation therapy (also called *radiotherapy*) is local therapy. It uses high-energy rays to kill cancer cells. It affects cancer cells only in the treated area.

Doctors use two types of radiation therapy to treat cancer. Sometimes people receive both types:

- ***External radiation***: The radiation comes from a machine. Most patients go to the hospital or clinic for their treatment, generally 5 days a week for several weeks. In some cases, external radiation is given during surgery.
- ***Internal radiation*** (*implant radiation*): The radiation comes from *radioactive* material placed in thin tubes put directly into or near the tumor. The patient stays in the hospital, and the implants generally remain in place for several days. Usually they are removed before the patient goes home.

People may want to ask the doctor these questions before having radiation therapy:

- Why do I need this treatment?
- What are the risks and side effects of this treatment?
- Are there any long-term effects?
- When will the treatments begin? When will they end?
- How will I feel during therapy?
- What can I do to take care of myself during therapy?
- Can I continue my normal activities?

Treatment for Colon Cancer

Most patients with colon cancer are treated with surgery. Some have both surgery and chemotherapy. A colostomy is seldom needed for people with colon cancer.

Although radiation therapy is not commonly used to treat colon cancer, sometimes it is used to relieve pain and other symptoms.

Treatment for Rectal Cancer

For all stages of rectal cancer, surgery is the most common treatment. Some patients receive surgery, radiation therapy, and chemotherapy. About 1 out of 8 people with rectal cancer needs a permanent colostomy.

Radiation therapy may be used before and after surgery. Some people have radiation therapy before surgery to shrink the tumor, and some have it after surgery to kill cancer cells that may remain in the area. At some hospitals, patients may have radiation therapy during surgery. This is called *IORT*. People also may have radiation therapy to relieve pain and other problems caused by the cancer.

Side Effects of Cancer Treatment

Because treatment often damages healthy cells and tissues, unwanted side effects are common. Side effects depend mainly on the type and extent of the treatment. Side effects may not be the same for each person, and they may change from one treatment session to the next. Before treatment starts, the health care team will explain possible side effects and suggest ways to help the patient manage them.

The NCI provides helpful booklets about cancer treatments and coping with side effects. Booklets such as *Radiation Therapy and You*, *Chemotherapy and You*, and *Eating Hints for Cancer Patients* may be viewed, downloaded, and ordered from **http://cancer.gov/publications**. These materials also may be ordered by calling the Cancer Information Service at 1–800–4–CANCER.

Surgery

It takes time to heal after surgery, and the time needed to recover is different for each person. Patients are often uncomfortable during the first few days. However, medicine can usually control their pain. Before surgery, patients should discuss the plan for pain relief with the doctor or nurse. After surgery, the doctor can adjust the plan if more pain relief is needed.

It is common to feel tired or weak for a while. Also, surgery sometimes causes constipation or diarrhea. The health care team monitors the patient for signs of bleeding, infection, or other problems requiring immediate treatment.

People who have a colostomy may have irritation of the skin around the stoma. The doctor, nurse, or *enterostomal therapist* can teach patients how to clean the area and prevent irritation and infection. The section called “Rehabilitation” on **page 23** has more information about how patients learn to care for the stoma.

Chemotherapy

The side effects of chemotherapy depend mainly on the specific drugs and the dose. In general, anticancer drugs affect cells that divide rapidly, especially:

- **Blood cells**: These cells fight infection, help the blood to clot, and carry oxygen to all parts of the body. When drugs affect blood cells, patients are more likely to get infections, bruise or bleed easily, or feel very weak and tired.
- **Cells in hair roots**: Chemotherapy can cause hair loss. The hair grows back, but sometimes the new hair is somewhat different in color and texture.
- **Cells that line the digestive tract**: Chemotherapy can cause poor appetite, nausea and vomiting, diarrhea, or mouth and lip sores. Many of these side effects can be controlled with drugs.

Radiation Therapy

The side effects of radiation therapy depend mainly on the amount of radiation given and the part of the body that is treated. Radiation therapy to the abdomen and pelvis may cause nausea, vomiting, diarrhea, bloody stools, rectal leakage, or urinary discomfort. In addition, the skin in the treated area may become red, dry, and tender.

Patients are likely to become very tired during radiation therapy, especially in the later weeks of treatment. Resting is important, but doctors usually advise patients to try to stay as active as they can.

Although the side effects of radiation therapy can be distressing, the doctor can usually treat or control them.

Nutrition

It is important to eat well during cancer treatment. Eating well means getting enough calories to maintain a good weight and enough protein to keep up strength. Good nutrition often helps people with cancer feel better and have more energy.

But eating well can be difficult. Patients may not feel like eating if they are uncomfortable or tired. Also, the side effects of treatment, such as poor appetite, nausea, vomiting, or mouth sores, can be a problem. Some people find that foods do not taste as good during cancer therapy.

The doctor, dietitian, or other health care provider can suggest ways to maintain a healthy diet. Patients and their families may want to read the National Cancer Institute booklet *Eating Hints for Cancer Patients*, which contains many useful ideas and recipes. The “National Cancer Institute Booklets” section on **page 40** tells how to get this publication.

Rehabilitation

Rehabilitation is an important part of cancer care. The health care team makes every effort to help the patient return to normal activities as soon as possible.

A person with a stoma needs to learn to care for it. Doctors, nurses, and enterostomal therapists can help. Often, enterostomal therapists visit the person before surgery to discuss what to expect. They teach the person how to care for the stoma after surgery. They talk about lifestyle issues, including emotional, physical, and sexual concerns. Often they can provide information about resources and support groups.

Follow-up Care

Follow-up care after treatment for colorectal cancer is important. Even when the cancer seems to have been completely removed or destroyed, the disease sometimes returns because undetected cancer cells remained somewhere in the body after treatment. The doctor monitors the person's recovery and checks for *recurrence* of the cancer. Checkups help ensure that any changes in health are noted. Checkups may include a physical exam (including a digital rectal exam), lab tests (including fecal occult blood test and CEA test), colonoscopy, x-rays, CT scans, or other tests. Between scheduled visits with the doctor, patients should contact the doctor as soon as any health problems appear.

The NCI has prepared a booklet for people who have completed their treatment to help answer questions about follow-up care and other concerns. *Facing Forward Series: Life After Cancer Treatment* provides tips for making the best use of medical visits. It describes how to talk to the doctor about creating a plan of action for recovery and future health.

Support for People with Colorectal Cancer

Living with a serious disease such as colorectal cancer is not easy. People may worry about caring for their families, keeping their jobs, or continuing daily activities. Concerns about treatments and managing side effects, hospital stays, and medical bills are also common. Doctors, nurses, and other members of the health care team can answer questions about treatment, working, or other activities. Meeting with a social worker, counselor, or member of the clergy can be helpful to those who want to talk about their feelings or discuss their concerns. Often, a social worker can suggest resources for financial aid, transportation, home care, or emotional support.

Support groups also can help. In these groups, patients or their family members meet with other patients or their families to share what they have learned about coping with the disease and the effects of treatment. Groups may offer support in person, over the telephone, or on the Internet. Patients may want to talk with a member of their health care team about finding a support group.

The Cancer Information Service can provide information to help patients and their families locate programs, services, and publications.

The Promise of Cancer Research

Doctors all over the country are conducting many types of clinical trials (research studies in which people volunteer to take part). Doctors are studying new ways to prevent, detect, diagnose, and treat colorectal cancer.

Clinical trials are designed to answer important questions and to find out whether the new approach is safe and effective. Research already has led to advances in these areas, and researchers continue to search for more effective approaches.

People who join clinical trials may be among the first to benefit if a new approach is shown to be effective. And if participants do not benefit directly, they still make an important contribution to medicine by helping doctors learn more about the disease and how to control it. Although clinical trials may pose some risks, researchers do all they can to protect their patients.

People who are interested in being part of a clinical trial should talk with their doctor. They may want to read the NCI booklets *Taking Part in Clinical Trials: What Cancer Patients Need To Know* or *Taking Part in Clinical Trials: Cancer Prevention Studies*. The NCI also offers an easy-to-read brochure called *If You Have Cancer…What You Should Know About Clinical Trials*. These NCI publications describe how clinical trials are carried out and explain their possible benefits and risks.

NCI's Web site includes a section on clinical trials at **http://cancer.gov/clinical_trials** with general information about clinical trials as well as detailed information about specific ongoing studies of colorectal cancer. The Cancer Information Service at 1–800–4–CANCER or at ***LiveHelp*** at **http://cancer.gov** can answer questions and provide information about clinical trials.

Research on Prevention

Recent studies suggest that certain drugs may help prevent colorectal cancer. Researchers are studying *aspirin*, *celecoxib*, and other drugs in people with a higher-than-average chance of developing this disease.

Research on Screening and Diagnosis

Researchers are testing new ways to check for polyps and colorectal cancer. One study is looking at the usefulness of *virtual colonoscopy*. This is a CT scan of the colon. Another study is using genetic testing to check stool samples for colorectal cancer cells.

Research on Treatment

Researchers are studying chemotherapy, *biological therapy*, and combinations of treatment:

- Chemotherapy: Researchers are testing new anticancer drugs and drug combinations. They also are studying combinations of drugs and radiation therapy before and after surgery.
- Biological therapy: New biological approaches also are under study. Biological therapy uses the body's natural ability (*immune system*) to fight cancer. For example, researchers are studying treatment with *monoclonal antibodies* after surgery or with chemotherapy. A monoclonal antibody is a substance made in the laboratory that can bind to cancer cells. It can help kill cancer cells.

Dictionary

Abdomen (AB-do-men): The area of the body that contains the pancreas, stomach, intestines, liver, gallbladder, and other organs.

Adenoma (ad-in-O-ma): A noncancerous tumor.

Adjuvant therapy (AD-joo-vant): Treatment given after the primary treatment to increase the chances of a cure. Adjuvant therapy may include chemotherapy, radiation therapy, hormone therapy, or biological therapy.

Anastomosis (an-AS-ta-MO-sis): A procedure to connect healthy sections of tubular structures in the body after the diseased portion has been surgically removed.

Anus (AY-nus): The opening of the rectum to the outside of the body.

Aspirin: A drug that reduces pain, fever, inflammation, and blood clotting. Aspirin belongs to the family of drugs called nonsteroidal anti-inflammatory agents. It is also being studied in cancer prevention.

Benign (beh-NINE): Not cancerous. Benign tumors do not spread to tissues around them or to other parts of the body.

Biological therapy (by-o-LAHJ-i-kul): Treatment to stimulate or restore the ability of the immune system to fight infections and other diseases. Also used to lessen side effects that may be caused by some cancer treatments. Also known as immunotherapy, biotherapy, or biological response modifier (BRM) therapy.

Biopsy (BY-op-see): The removal of cells or tissues for examination under a microscope. When only a sample of tissue is removed, the procedure is called an incisional biopsy or core biopsy. When an entire lump or suspicious area is removed, the procedure is called an excisional biopsy. When a sample of tissue or fluid is removed with a needle, the procedure is called a needle biopsy or fine-needle aspiration.

Breast: Glandular organ located on the chest. The breast is made up of connective tissue, fat, and breast tissue that contains the glands that can make milk. Also called mammary gland.

Calcium (KAL-see-um): A mineral found in teeth, bones, and other body tissues.

Cancer: A term for diseases in which abnormal cells divide without control. Cancer cells can invade nearby tissues and can spread through the bloodstream and lymphatic system to other parts of the body.

Carcinoembryonic antigen (KAR-sin-o-EM-bree-ON-ik ANT-i-jen): CEA. A substance that is sometimes found in an increased amount in the blood of people with certain cancers.

Carcinoma in situ (KAR-si-NO-ma in SYE-too): Cancer that involves only the cells in which it began and that has not spread to nearby tissues.

Cecum (SEE-kum): A pouch that forms the first part of the large intestine. It connects the small intestine to the colon.

Celecoxib (sel-a-KOX-ib): A drug that reduces pain. Celecoxib belongs to the family of drugs called nonsteroidal anti-inflammatory agents. It is being studied for cancer prevention.

Cell: The individual unit that makes up all of the tissues of the body. All living things are made up of one or more cells.

Chemotherapy (kee-mo-THER-a-pee): Treatment with anticancer drugs.

Clinical trial: A type of research study that uses volunteers to test new methods of screening, prevention, diagnosis, or treatment of a disease. The study may be carried out in a clinic or other medical facility. Also called a clinical study.

Colon (KO-lun): The long, tube-like organ that is connected to the small intestine and rectum. The colon removes water and some nutrients and electrolytes from digested food. The remaining material, solid waste called stool, moves through the colon to the rectum and leaves the body through the anus. Also called the large intestine.

Colon cancer (KO-lun): Cancer that develops in the tissues of the colon.

Colonoscope (ko-LAHN-o-skope): A thin, lighted tube used to examine the inside of the colon.

Colonoscopy (ko-lun-AHS-ko-pee): An examination of the inside of the colon using a thin, lighted tube (called a colonoscope) inserted into the rectum. If abnormal areas are seen, tissue can be removed and examined under a microscope to determine whether disease is present.

Colorectal (ko-lo-REK-tul): Having to do with the colon or the rectum.

Colostomy (ko-LAHS-toe-mee): An opening into the colon from the outside of the body. A colostomy provides a new path for waste material to leave the body after part of the colon has been removed.

Crohn's disease: Chronic inflammation of the gastrointestinal tract, most commonly the bowel. Crohn's disease increases the risk for colon cancer.

CT scan: Computed tomography scan. A series of detailed pictures of areas inside the body taken from different angles; the pictures are created by a computer linked to an x-ray machine. Also called computerized tomography and computerized axial tomography (CAT) scan.

Digestive system (dye-JES-tiv): The organs that take in food and turn it into products that the body can use to stay healthy. Waste products the body cannot use leave the body through bowel movements. The digestive system includes the salivary glands, mouth, esophagus, stomach, liver, pancreas, gallbladder, small and large intestines, and rectum.

Digital rectal examination: DRE. An examination in which a doctor inserts a lubricated, gloved finger into the rectum to feel for abnormalities.

Double-contrast barium enema: A procedure in which an enema containing a barium solution is put into the rectum. Barium is a silver-white metallic compound that helps to show the image of the colon and rectum on an x-ray. Air is pumped into the rectum and colon to enhance the x-ray.

Endometrium (en-do-MEE-tree-um): The layer of tissue that lines the uterus.

Endorectal ultrasound (en-do-REK-tul): A procedure in which a probe that sends out sound waves is inserted into the rectum. The sound waves bounce off nearby tissues, and the echoes are changed into pictures (sonograms).

Enterostomal therapist (en-ter-o-STO-mul): A health professional trained in the care of persons with stomas, such as colostomies or urostomies.

External radiation (ray-dee-AY-shun): Radiation therapy that uses a machine to aim high-energy rays at the cancer. Also called external-beam radiation.

Familial adenomatous polyposis (ad-in-O-mut-us pah-li-PO-sis): FAP. An inherited condition in which numerous polyps (growths that protrude from mucous membranes) form on the inside walls of the colon and rectum. It increases the risk for colon cancer. Also called familial polyposis.

Fecal occult blood test (FEE-kul o-KULT): FOBT. A test to check for blood in stool. (Fecal refers to stool; occult means hidden.)

Fiber: The parts of fruits and vegetables that cannot be digested. Also called bulk or roughage. Fiber may be effective in preventing cancer.

Folate: A B-complex vitamin that is being studied as a cancer prevention agent. Also called folic acid.

Gastroenterologist (GAS-tro-en-ter-AHL-o-jist): A doctor who specializes in diagnosing and treating disorders of the digestive system.

Gene: The functional and physical unit of heredity passed from parent to offspring. Genes are pieces of DNA, and most genes contain the information for making a specific protein.

Genetic testing: Analyzing DNA to look for a genetic alteration that may indicate an increased risk for developing a specific disease or disorder.

Hemorrhoid (HEM-uh-ROID): An enlarged or swollen blood vessel, usually located near the anus or the rectum.

Hereditary nonpolyposis colon cancer: HNPCC. An inherited disorder in which affected individuals have a higher-than-normal chance of developing colon cancer and certain other types of cancer, often before the age of 50. Also called Lynch syndrome.

Immune system (im-YOON): The complex group of organs and cells that defends the body against infections and other diseases.

Implant radiation (ray-dee-AY-shun): A procedure in which radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near a tumor. Also called brachytherapy, internal radiation, or interstitial radiation.

Incision (in-SIH-zhun): A cut made in the body to perform surgery.

Infection: Invasion and multiplication of germs in the body. Infections can occur in any part of the body, and can be localized or systemic (spread throughout the body). The germs may be bacteria, viruses, yeast, or fungi. They can cause a fever and other problems, depending on the site of the infection. When the body's natural defense system is strong, it can often fight the germs and prevent infection. Cancer treatment can weaken the natural defense system.

Inflammation (IN-fla-MAY-shun): Redness, swelling, pain, and/or a feeling of heat in an area of the body. This is a protective reaction to injury, disease, or irritation of the tissues.

Internal radiation (ray-dee-AY-shun): A procedure in which radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near a tumor. Also called brachytherapy, implant radiation, or interstitial radiation therapy.

IORT: Intraoperative radiation therapy. Radiation treatment aimed directly at a tumor during surgery.

Large intestine: The long, tube-like organ that is connected to the small intestine and rectum. The large intestine removes water and some nutrients and electrolytes from digested food. The remaining material, solid waste called stool, moves through the large intestine to the rectum and leaves the body through the anus. Also called the colon.

Liver: A large organ located in the upper abdomen. The liver cleanses the blood and aids in digestion by secreting bile.

Local therapy: Treatment that affects cells in the tumor and the area close to it.

Lymph node (limf node): A rounded mass of lymphatic tissue that is surrounded by a capsule of connective tissue. Lymph nodes filter lymph (lymphatic fluid), and they store lymphocytes (white blood cells). They are located along lymphatic vessels. Also called a lymph gland.

Lymphatic system (lim-FAT-ik SIS-tem): The tissues and organs that produce, store, and carry white blood cells that fight infections and other diseases. This system includes the bone marrow, spleen, thymus, lymph nodes, and lymphatic vessels (a network of thin tubes that carry lymph and white blood cells). Lymphatic vessels branch, like blood vessels, into all the tissues of the body.

Malignant (ma-LIG-nant): Cancerous. Malignant tumors can invade and destroy nearby tissue and spread to other parts of the body.

Medical oncologist (MED-i-kul on-KOL-o-jist): A doctor who specializes in diagnosing and treating cancer using chemotherapy, hormonal therapy, and biological therapy. A medical oncologist often is the main health care provider for a person who has cancer. A medical oncologist also may coordinate treatment provided by other specialists.

Metastasis (meh-TAS-ta-sis): The spread of cancer from one part of the body to another. A tumor formed by cells that have spread is called a “metastatic tumor” or a “metastasis.” The metastatic tumor contains cells that are like those in the original (primary) tumor. The plural form of metastasis is metastases (meh-TAS-ta-seez).

Monoclonal antibody (MAH-no-KLO-nul AN-tih-BAH-dee): A laboratory-produced substance that can locate and bind to cancer cells wherever they are in the body. Many monoclonal antibodies are used in cancer detection or therapy; each one recognizes a different protein on certain cancer cells. Monoclonal antibodies can be used alone, or they can be used to deliver drugs, toxins, or radioactive material directly to a tumor.

MRI: Magnetic resonance imaging (mag-NET-ik REZ-o-nans IM-a-jing). A procedure in which radio waves and a powerful magnet linked to a computer are used to create detailed pictures of areas inside the body. These pictures can show the difference between normal and diseased tissue. MRI makes better images of organs and soft tissue than other scanning techniques, such as CT or x-ray. MRI is especially useful for imaging the brain, spine, the soft tissue of joints, and the inside of bones. Also called nuclear magnetic resonance imaging.

Neoadjuvant therapy (nee-o-AD-joo-vant): Treatment given before the primary treatment. Examples of neoadjuvant therapy include chemotherapy, radiation therapy, and hormone therapy.

Organ: A part of the body that performs a specific function. For example, the heart is an organ.

Ovary (O-va-ree): One of a pair of female reproductive glands in which the ova, or eggs, are formed. The ovaries are located in the pelvis, one on each side of the uterus.

Palliative care (PAL-ee-yuh-tiv): Care that prevents or relieves the symptoms of disease or the side effects of treatment. Palliative care is not given to cure a disease but to improve a patient's quality of life. It attempts to meet the patient's physical, emotional, spiritual, and practical needs by helping to relieve pain, depression, or other problems. Also known as comfort care, supportive care, and symptom management.

Pathologist (pa-THOL-o-jist): A doctor who identifies diseases by studying cells and tissues under a microscope.

Polyp (POL-ip): A growth that protrudes from a mucous membrane.

Polypectomy (POL-i-PEK-toe-mee): Surgery to remove a polyp.

Primary tumor: The original tumor.

Radiation oncologist (ray-dee-AY-shun on-KOL-o-jist): A doctor who specializes in using radiation to treat cancer.

Radiation therapy (ray-dee-AY-shun THER-ah-pee): The use of high-energy radiation from x-rays, gamma rays, neutrons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy), or it may come from radioactive material placed in the body near cancer cells (internal radiation therapy, implant radiation, or brachytherapy). Systemic radiation therapy uses a radioactive substance, such as a radiolabeled monoclonal antibody, that circulates throughout the body. Also called radiotherapy.

Radioactive (RAY-dee-o-AK-tiv): Giving off radiation.

Radiotherapy (RAY-dee-o-THER-a-pee): The use of high-energy radiation from x-rays, gamma rays, neutrons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy), or it may come from radioactive material placed in the body near cancer cells (internal radiation therapy, implant radiation, or brachytherapy). Systemic radiation therapy uses a radioactive substance, such as a radiolabeled monoclonal antibody, that circulates throughout the body. Also called radiation therapy.

Rectal: By or having to do with the rectum. The rectum is the last 4 to 5 inches of the large intestine and ends at the anus.

Rectum: The last 4 to 5 inches of the large intestine.

Recurrence: The return of cancer, at the same site as the original (primary) tumor or in another location, after the tumor had disappeared.

Recurrent cancer: Cancer that has returned after a period of time during which the cancer could not be detected. The cancer may come back to the same site as the original (primary) tumor or to another place in the body.

Risk factor: Anything that increases a person's chance of developing a disease. Some examples of risk factors for cancer include a family history of cancer, use of tobacco products, certain foods, being exposed to radiation or other cancer-causing agents, and certain genetic changes.

Screening: Checking for disease when there are no symptoms.

Side effect: A problem that occurs when treatment affects tissues or organs other than the ones being treated. Some common side effects of cancer treatment are fatigue, pain, nausea, vomiting, decreased blood cell counts, hair loss, and mouth sores.

Sigmoid colon (SIG-moyd KO-lun): The S-shaped section of the colon nearest the rectum.

Sigmoidoscope (sig-MOY-du-skope): A thin, lighted tube used to view the inside of the colon.

Sigmoidoscopy (sig-moid-OSS-ko-pee): Inspection of the lower colon using a thin, lighted tube called a sigmoidoscope. Samples of tissue or cells may be collected for examination under a microscope. Also called proctosigmoidoscopy.

Small intestine: The part of the digestive tract that is located between the stomach and the large intestine.

Stage: The extent of a cancer within the body. If the cancer has spread, the stage describes how far it has spread from the original site to other parts of the body.

Staging (STAY-jing): Performing exams and tests to learn the extent of the cancer within the body, especially whether the disease has spread from the original site to other parts of the body. It is important to know the stage of the disease in order to plan the best treatment.

Stoma (STO-ma): A surgically created opening from an area inside the body to the outside.

Supportive care: Care that prevents or relieves the symptoms of disease or the side effects of treatment. Supportive care is not given to cure a disease but to improve a patient's quality of life. It attempts to meet the patient's physical, emotional, spiritual, and practical needs by helping to relieve pain, depression, or other problems. Also known as comfort care, palliative care, and symptom management.

Surgeon: A doctor who removes or repairs a part of the body by operating on the patient.

Surgery (SER-juh-ree): A procedure to remove or repair a part of the body or to find out whether disease is present. An operation.

Symptom: An indication that a person has a condition or disease. Some examples of symptoms are headache, fever, fatigue, nausea, vomiting, and pain.

Symptom management: Care that prevents or relieves the symptoms of disease or the side effects of treatment. Symptom management is not given to cure a disease but to improve a patient's quality of life. It attempts to meet the patient's physical, emotional, spiritual, and practical needs by helping to relieve pain, depression, or other problems. Also known as palliative care, comfort care, and supportive care.

Systemic therapy (sis-TEM-ik THER-a-pee): Treatment using substances that travel through the bloodstream, reaching and affecting cells all over the body.

Tissue (TISH-oo): A group or layer of cells that are alike and that work together to perform a specific function.

Tumor (TOO-mer): A new mass of excess tissue that results from abnormal cell division. Tumors perform no useful body function. They may be benign (not cancerous) or malignant (cancerous).

Ulcerative colitis: Chronic inflammation of the colon that produces ulcers in its lining. This condition is marked by abdominal pain, cramps, and discharges of pus, blood, and mucus from the bowel.

Uterus (YOO-ter-us): The small, hollow, pear-shaped organ in a woman's pelvis. This is the organ in which a fetus develops. Also called the womb.

Virtual colonoscopy (ko-lun-AHS-ko-pee): A method under study to examine the colon by taking a series of x-rays (called a CT scan) and then using a high-powered computer to reconstruct two-dimensional and three-dimensional pictures of the interior surfaces of the colon from these x-rays. The pictures can be saved, manipulated to better viewing angles, and reviewed after the procedure, even years later. Also called computed tomography colography.

X-ray: A type of high-energy radiation. In low doses, x-rays are used to diagnose diseases by making pictures of the inside of the body. In high doses, x-rays are used to treat cancer.

National Cancer Institute Information Resources

You may want more information for yourself, your family, and your doctor. The following National Cancer Institute (NCI) services are available to help you.

Telephone

Cancer Information Service (CIS)

Provides accurate, up-to-date information on cancer to patients and their families, health professionals, and the general public. Information Specialists translate the latest scientific information into understandable language and respond in English, Spanish, or on TTY equipment.

Toll-free: 1–800–4–CANCER (1–800–422–6237)

TTY: 1–800–332–8615 (for deaf and hard of hearing callers)

Internet

http://cancer.gov

The NCI's Cancer.gov™ Web site provides information from numerous NCI sources. It offers current information on cancer prevention, screening, diagnosis, treatment, genetics, supportive care, and ongoing clinical trials. It has information about NCI's research programs and funding opportunities, cancer statistics, and the Institute itself. Cancer.gov also provides live, online assistance through ***LiveHelp***.

Cancer.gov can be accessed at **http://cancer.gov** on the Internet.

National Digestive Diseases Information Clearinghouse Resources

The National Digestive Diseases Information Clearinghouse is a service of the Federal Government's National Institute of Diabetes and Digestive and Kidney Diseases. This Clearinghouse can supply free information about colon polyps and other noncancerous digestive tract problems.

The Web site address for the Clearinghouse is **http://digestive.niddk.nih.gov**. Materials also may be obtained by writing or calling the Clearinghouse:

National Digestive Diseases
Information Clearinghouse
2 Information Way
Bethesda, MD 20892–3570
Tel: 1–800–891–5389 (toll-free) and 301–654–3810

National Cancer Institute Booklets

National Cancer Institute (NCI) publications can be ordered by writing to the address below:

Publications Ordering Service
National Cancer Institute
Suite 3036A
6116 Executive Boulevard, MSC 8322
Bethesda, MD 20892–8322

Some NCI publications can be viewed, downloaded, and ordered from **http://cancer.gov/publications** on the Internet. In addition, people in the United States and its territories may order these and other NCI booklets by calling the Cancer Information Service at 1–800–4–CANCER.

Booklets About Cancer Treatment

Radiation Therapy and You: A Guide to Self-Help During Treatment

Chemotherapy and You: A Guide to Self-Help During Treatment

Helping Yourself During Chemotherapy: 4 Steps for Patients

Eating Hints for Cancer Patients

Understanding Cancer Pain

Pain Control: A Guide for People with Cancer and Their Families

Get Relief From Cancer Pain

Taking Part in Clinical Trials: What Cancer Patients Need To Know

Taking Part in Clinical Trials: Cancer Prevention Studies

La quimioterapia y usted: una guía de autoayuda durante el tratamiento del cáncer (Chemotherapy and You: A Guide to Self-Help During Cancer Treatment)

El dolor relacionado con el cáncer (Understanding Cancer Pain)

La radioterapia y usted: una guía de autoayuda durante el tratamiento del cáncer (Radiation Therapy and You: A Guide to Self-Help During Cancer Treatment)

La participación en los estudios clínicos: lo que los pacientes de cáncer deben saber (Taking Part in Clinical Trials: What Cancer Patients Need To Know)

Si tiene cáncer...lo que debería saber sobre estudios clínicos (If You Have Cancer...What You Should Know About Clinical Trials)

Booklets About Living With Cancer

Advanced Cancer: Living Each Day

Facing Forward Series: Life After Cancer Treatment

Facing Forward Series: Ways You Can Make a Difference in Cancer

Taking Time: Support for People With Cancer and the People Who Care About Them

When Cancer Recurs: Meeting the Challenge

Siga adelante: la vida después del tratamiento del cáncer (Facing Forward Series: Life After Cancer Treatment)

Fact Sheets

Colorectal Cancer Screening: Questions and Answers

How To Find a Doctor or Treatment Facility If You Have Cancer

Cancer Support Groups: Questions and Answers

National Organizations That Offer Services to People With Cancer and Their Families

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What You Need To Know About Index

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