

Rectal Cancer: A Patient Guide

The Rectum

The organs in the body that help digest food are part of the digestive system, also called the gastrointestinal (GI) tract. The small and large intestines are parts of the GI tract. See Figure 1. The GI tract removes nutrients from the food you eat and stores the waste until it passes out of the body.

The last five or six feet of the large intestine is called the colon, and the last eight inches of the colon is called the rectum. The rectum is a pouch that stores solid waste (stool) until it leaves the body through the anus, which is the opening to the outside of the body. The anal sphincter muscles are a ring of muscles around the anus that open and close the anal opening and help to control the flow of bowel movements. A person feels the urge to have a bowel movement when about ½ cup of stool enters the lower rectum. If you don't empty stool immediately, then the urge for a bowel movement goes away until more stool enters the rectum.

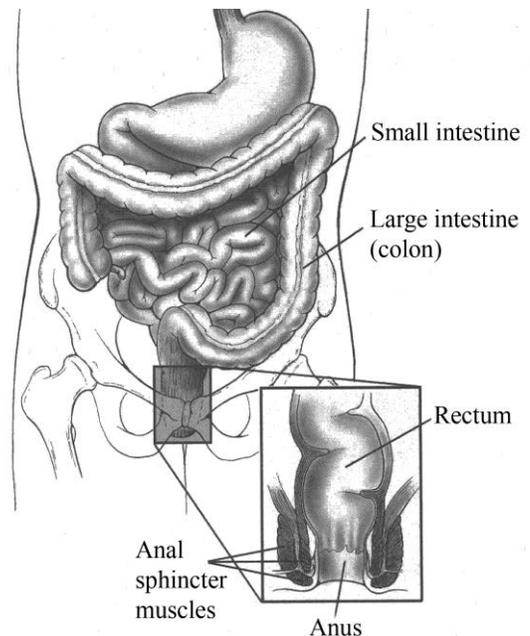


Figure 1
The rectum and anus

Cancer of the Rectum

Many kinds of cells make up all organs like the rectum. Cells are the basic unit of life. Normally, cells grow, divide and produce more cells as they are needed to keep the body healthy and functioning properly. Sometimes, however, cells can grow abnormally – they keep dividing when new cells are not needed. The mass of extra cells forms a growth or tumor. Tumors can be either benign (not cancerous) or malignant (cancerous).

Cancer that begins in the rectum is called rectal cancer. Rectal cancer can cause two types of problems: local disease and distant disease.

Local Disease

Some rectal cancers are small and do not grow beyond the inner rectal wall. Some rectal cancers can grow through the rectal wall and press against, attach to, or involve vital organs. The cancer can affect the bladder, local nerves, vagina (in women), prostate (in men), tailbone and blood

vessels in the lower part of the body. The cancer may also cause abnormal bowel movements and blockage. This blockage may cause several problems, such as: rectal pain, bleeding with bowel movements, pencil-shaped stools, constipation, diarrhea, bloating/abdominal cramps or the sensation of incomplete emptying.

Distant Disease

Rectal cancers grow in the original site and then can spread through the bloodstream and lymph nodes to other parts of the body. The lungs and liver are the most common destinations for this spread. When cancer grows beyond the original site, it is called metastasis.

After Diagnosis

After rectal cancer is diagnosed, other tests and exams are done to determine the extent of the cancer. This process is called staging. Your doctor needs to know the stage of your cancer so that he or she can recommend the most appropriate and effective treatment plan for you.

The stage of a cancer varies from patient to patient and depends on three major factors:

- How far the cancer has penetrated into the rectal wall
- Whether the lymph nodes near the rectum are involved
- Whether the cancer has metastasized

Some of the tests and exams that are used to determine stage are described below.

Colonoscopy

A colonoscopy examines the rectum and entire colon using an instrument called a colonoscope, a flexible, lighted instrument, inserted through the anus/rectum.

Sigmoidoscopy/Proctoscopy

Sigmoidoscopy/proctoscopy is an examination of the rectum and part or all of the sigmoid colon using a flexible, lighted instrument, inserted through the anus/rectum.

Proctoscopy

A proctoscopy is an examination of the rectum and sigmoid colon using a rigid, lighted instrument, inserted through the anus. This procedure allows your doctor to estimate the distance of the tumor from the anus and evaluate if the sphincter muscles are affected by the cancer. These two factors influence the type of surgery recommended.

Rectal Biopsy

A rectal biopsy removes a tissue sample from the rectum, for examination under a microscope to make a diagnosis. The biopsy can be performed with any of the scopes described above.

Endoscopic Ultrasound

An ultrasound of the rectum (endoscopic ultrasound) uses sound waves to produce pictures of the rectal wall. This exam will help the doctor determine how deep the tumor penetrates the rectal wall, if the tumor goes through the wall and if there are enlarged rectal lymph nodes.

Rectal or Pelvic Magnetic Resonance Imaging (MRI)

This type of MRI creates computerized images of the rectum to help determine where the tumor is located in relation to nearby organs and structures.

Computed Tomography Scan

A computerized tomography (CT) scan takes multiple highly-detailed pictures of your internal organs which are analyzed by a computer. The CT provides information about many organs, including the lungs, liver, kidneys, lymph nodes and pelvic bones.

Other tests may include a chest X-ray and blood tests.

After your doctor reviews your test results, he or she will explain your cancer to you in detail. You may want to write down your questions so that you and your doctor can discuss them when you meet. Your personal wishes and general health are important factors to consider when planning and deciding your treatment. In all cases, the goal of treatment is to remove the tumor and surrounding lymph nodes with a margin of healthy tissue and to maintain or regain rectal function if possible.

Treatment for Rectal Cancer

The treatment for rectal cancer may involve multiple types of treatment including surgery, chemotherapy and radiation treatment. Your treatment depends on many factors, which your doctor will discuss with you. Sometimes chemotherapy and radiation therapy may be given before surgical resection. In other cases surgery is performed first, and then if indicated, chemotherapy and radiation therapy follows. There are other situations where surgery is the only treatment required. These treatments and treatment combinations are described below.

Surgical Treatment

Surgery is the primary and most common treatment for rectal cancer. Generally, the surgeon removes the tumor along with part of the healthy colon and rectum and nearby lymph nodes. In most cases, the surgeon is able to reconnect the healthy portions of the rectum.

If possible, your surgeon will preserve the anus and sphincter muscles so that bowel function can be reestablished after surgery. The type of surgery used is based upon:

1. The tumor size
2. Location of the tumor
3. Whether the tumor invades other organs or structures

Types of Surgery

Local Excision

Depending on the location of the tumor, this procedure is an option if your cancer is found at a very early stage and in the mid to lower portion of the rectum. It involves removing the tumor along with a portion of the healthy tissue around it (Figure 2). This procedure is performed

through the anus, and no lymph nodes are removed.

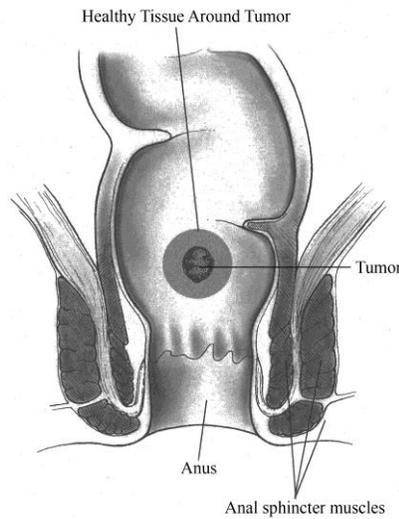


Figure 2
Local Excision

Low Anterior Resection (LAR) and Proctectomy

These procedures involve removing the tumor and a larger area of healthy tissue around it, along with the surrounding lymph nodes (Figure 3). An abdominal incision is required. The remaining ends of the colon and rectum are then connected with sutures (stitches) or stapled together – this is called an anastomosis (Figure 4).

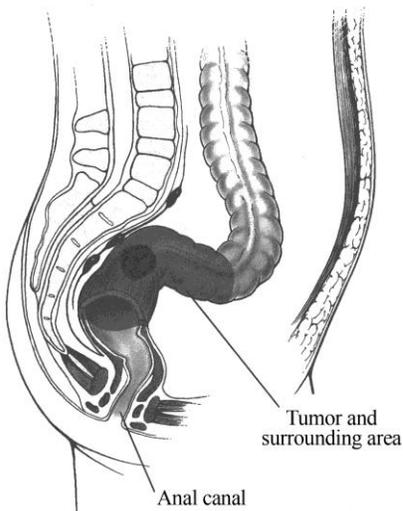


Figure 3
Low Anterior Resection (LAR)

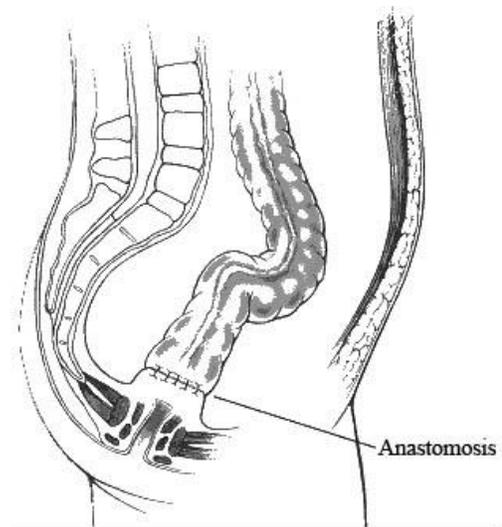


Figure 4
Proctectomy

A proctectomy involves removing the entire rectum down to the level of the anal canal, see Figure 4. In this case, the remaining end of the colon is sutured or stapled to the anal canal. You will most likely have a temporary ostomy after the LAR or proctectomy. An ostomy is described in detail at the bottom of this page. An ostomy is an opening in the abdominal wall where a bag

is attached to catch your stool.

Abdominal-Perineal Resection (APR)

This procedure is required if the tumor is very low in the rectum, near or involving the anus or the sphincter muscles. In this case, lymph nodes, the rectum and anus are removed along with the sphincter muscles. This type of surgery for rectal cancer requires a permanent colostomy. See Figures 5 and 6 below.

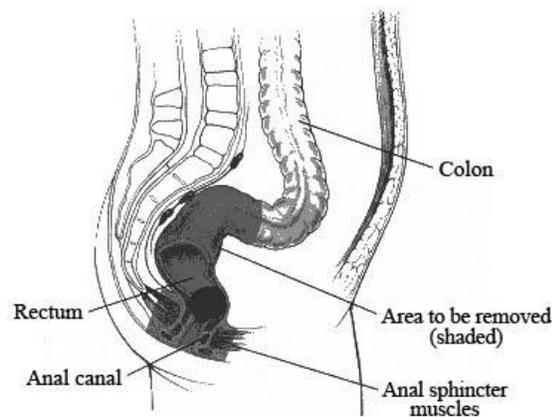


Figure 5
Abdominal-Perineal Resection (APR)

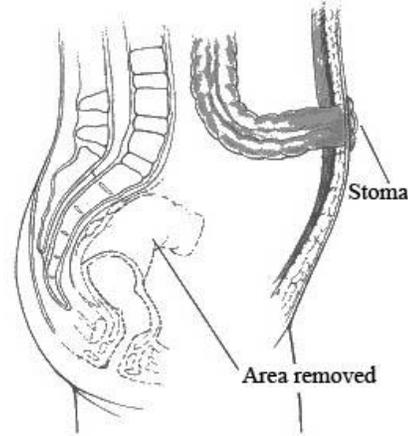


Figure 6
Colostomy and Stoma

An Ostomy/Stoma at the Time of Rectal Surgery

A temporary or permanent ostomy may be necessary at the time of your rectal cancer surgery. An ostomy involves bringing a segment of the intestine up to the abdominal wall and making an opening to the outside of your body. This opening is called a stoma. See Figure 6. Body waste, called stool, leaves the body through the stoma.

If there is a chance that you may have a temporary or permanent ostomy, a wound ostomy continence (WOC) nurse will visit you both before and after surgery. A WOC nurse has advanced training to care for patients who have ostomies. Your WOC nurse will teach you how to manage your stoma in the most effective and acceptable way for you. A stoma does not limit or impair physical function. You can still lead a normal, active life.

Before Surgery, the WOC Will

- Assist in identifying the location and placement of the stoma. The goal is to place the stoma at the location that best fits your body size, shape and waist line.
- Give you basic information to help you understand more about the stoma.

After Surgery, the WOC Will

- Talk to you about your ostomy, its care and will help you learn how to care for yourself.
- Teach you how to manage your stoma in the most effective and acceptable way for you. A stoma does not limit or impair physical function. You can return to a normal, active life.

The most common ostomies are ileostomy and colostomy.

Ileostomy

When an ileostomy is created, the stoma is made from the last portion of the small intestine. The stool that leaves the body is loose and watery, similar to diarrhea. Just as diarrhea can cause irritation around the anus, the liquid stool from an ileostomy can cause irritation around the stoma. Therefore, skin care is a very important part of self-care.

If you notice redness, burning or skin problems around the stoma, report these signs to your WOC nurse. Your nurse will teach you how to protect your skin.

Patients who have an ileostomy can dehydrate (lose fluids) easily. You will receive information on how to manage your ileostomy output. Your nurse and/or WOC nurse will talk with you about increasing your fluid intake.

An ileostomy can usually be surgically reversed within two to three months, which allows time for the colon or rectum to heal after surgery. Afterwards, bowel movements are reestablished through the anus. You will need to use ointment to protect the external skin around your anus until your bowels are functioning normally. See “Bowl Function After Cancer Treatment” on Page 8 for information on bowel function after an ileostomy reversal.

Colostomy

The stoma for a colostomy is made from the colon, also known as the large intestine. Because waste leaves the body in the form of solid stool, there is less chance of skin irritation around the stoma. A colostomy can be temporary or permanent. Some patients with low rectal cancers require a permanent colostomy. If the colostomy is temporary, it can be reversed in two to three months, similar to an ileostomy.

Radiation Treatment and Chemotherapy

Your doctor may recommend radiation treatment and/or chemotherapy before or after surgery:

- Neoadjuvant (also called preoperative) therapy is radiation and/or chemotherapy given **before** surgery.
- Adjuvant therapy is radiation and/or chemotherapy given **after** surgery.

The primary goal of preoperative **and** adjuvant therapy is to reduce the risk of the cancer recurring locally or metastasizing to another organ.

A secondary goal of preoperative therapy is for the tumor to respond to the treatment by shrinking or becoming smaller. A smaller tumor may allow for complete surgical removal of the tumor and preservation of the anal sphincter muscles. Based upon the stage of your rectal cancer, you may receive treatment before or after surgery.

Radiation Treatment

Radiation treatment is a localized treatment using high-energy X-rays to destroy cancer cells.

During daily outpatient visits, Monday through Friday, patients receive a prescribed amount of radiation that is directed to the tumor and local lymph nodes.

Radiation treatment side effects are very specific to the treatment area. For example, treatments to the lower abdomen or pelvic area cause changes in the mucous lining of the digestive tract (small and large intestines). These changes usually cause diarrhea. This side effect is temporary and usually goes away after the course of treatment is completed. However, in rare instances diarrhea may continue. During your radiation treatment, it is best to stop the medicinal fiber program and follow a low fiber diet, and then resume fiber after treatment is completed. Your nurse or dietitian can give you information on a low fiber diet.

Ask your doctor about questions or concerns you have regarding radiation treatment.

Chemotherapy

Chemotherapy involves taking drugs either intravenously (through a vein) or by mouth. Chemotherapy is often given along with radiation to increase the effectiveness of the radiation treatment.

Also, chemotherapy is used alone to decrease the risk of metastatic disease for patients with high-risk rectal tumors, such as large tumors that extend through the rectal wall to other organs or to the lymph nodes.

If your doctor recommends chemotherapy, you will receive written information about your type of chemotherapy. Because chemotherapy affects your whole body, its side effects are more general. The side effects you experience will depend on the type and dosage of the medication as well as your individual response to it. While receiving chemotherapy, you will follow a program to manage your symptoms during treatment. Your medical oncologist will explain to you side effects that you may experience from your specific chemotherapy drugs.

Rectal Cancer Treatment Summary

Stage of Cancer	Tumor Characteristics	Treatment Plan
Early Stage Rectal Cancer	<ul style="list-style-type: none"> • Tumor does not grow through rectal wall • No involved lymph nodes 	<ul style="list-style-type: none"> • Surgery only – with or without a stoma
Locally Advanced Rectal Cancer	<ul style="list-style-type: none"> • Tumor has grown through rectal wall • Rectal lymph nodes are involved • Tumor invades a neighboring organ, such as: <ul style="list-style-type: none"> – Vagina – Prostate – Bladder – Bone 	<ul style="list-style-type: none"> • Neoadjuvant/preoperative radiation with chemotherapy • Surgery with temporary or permanent stoma • Postoperative chemotherapy • Reversal of temporary stoma

Clinical Trials

During your treatment for rectal cancer, your doctor may suggest that you take part in a clinical trial for a new treatment. Clinical trials are research studies in which patients help doctors find ways to improve cancer care. Scientists only conduct clinical trials when they believe that the treatment under study may be superior to other treatments. Each study tries to answer scientific questions to find better ways to prevent, diagnose or treat cancer.

Bowel Function After Cancer Treatment

Your health care team will help you learn how to manage your bowel function. Your doctor can prescribe medicinal fiber that will help slow down frequent stools. You may need to learn how to properly take anti-diarrhea medicine at home until your bowel function improves. Over time your bowel function will improve, but it may never be the same as before surgery, radiation and chemotherapy treatment.

You should begin a bowel management program that can meet your needs. Your nurse will give you written instructions for the exercises, medications and bowel management. Ask for a copy of the patient education handout, “Bowel Management: A Guide for Patients.” However, the bowel management program is not recommended for patients who are currently receiving chemotherapy or radiation therapy.

You will learn how to do special sphincter strengthening exercises to increase the function of the anal canal. Improved sphincter tone increases your ability to control stools and prevent leakage or incontinence. Refer to the handout “Kegel Exercises.”

Sexuality After Cancer Treatment

Sexuality involves both physical and emotional components.

Surgery and radiation can cause physical changes that can affect sexual function and the ability to conceive children (fertility) after treatment. Your doctor can answer questions about how surgery or radiation may affect your physical ability to have intercourse. Also, if you have concerns about your fertility after cancer treatment, please discuss this with your doctor.

Cancer treatment, such as surgery, chemotherapy, radiation treatment or a combination of therapies, can also affect your body image and the way you see yourself sexually. Although intercourse is still possible with an ileostomy or colostomy, it is common to feel self-conscious or have different feelings about your body. Because of these feelings and symptoms, your desire for sexual intercourse and your response to it may be very low. You may want to try having sexual intimacy without sexual intercourse.

The first step in dealing with your concerns is being aware of and talking about them. If you are having difficulty coping with issues such as body image, desire and response, please discuss your concerns with your doctor or WOC nurse. He or she can refer you to additional staff that can

help you work through your feelings and concerns.

For more information, ask for a copy of the handout “Sexuality and Your Cancer Treatment.”

Learning to Live With Rectal Cancer

Members of your health care team include surgeons, medical oncologists, radiation oncologists, physician assistants (PAs), nurses, WOC nurses, dietitians, pharmacists, clerical staff and social workers. They all provide an important part of your care and work together to meet your specific needs.

Your health care team is available to answer any questions you may have about your health care during and after treatment. Ask them about follow-up care to help guide you in the management of your condition.

As a part of your follow-up care, you will return to your clinic regularly to have physical exams and tests such as blood work and X-rays. It is important to keep these follow-up appointments as part of your overall cancer treatment.

A cancer diagnosis is often emotionally, financially and socially challenging to patients and their loved ones. To help you cope, MD Anderson offers many resources to assist you. The following resources are available to help you.

MD Anderson Resources

Videos

MDA-TV offers special patient education videos that will reinforce the information provided by members of your health care team. To view the videos listed below, follow these steps:

1. Press **Menu** on the nurse call/TV remote to see the **Main Menu**.
2. Select **Patient Ed Videos**.
3. Press the Number Keys to enter the video’s ID number.

You may watch videos 24 hours a day, seven days a week. To see the complete list of patient education videos, please ask your nurse for a copy of the “Patient Education Guide.”

Understanding and Managing Your Bowel Function - #115

This video provides information on how the bowel works and helpful hints for bowel management. It also discusses appropriate questions to ask and when to seek professional help related to bowel function.

Living With an Ostomy Series

In Control: Life After Your Ostomy - #281

Living with a Urostomy - #164

Guide to Managing Your Chemotherapy Treatment - #250

This video provides information about chemotherapy and related side effects. Patients discuss their experiences with chemotherapy.

MD Anderson Cancer Center Colorectal Page

www.mdanderson.org/diseases/colorectal/

This site provides news and information on treatment, research, clinical trials, prevention, screening guidelines, community resources and more.

Bowel Management Class

- Main Building - Held every Wednesday at 11 a.m. - noon in the Patient Education Classroom, Main Building, Floor 4, near Elevator A, through The Learning Center, in Room R4.1121.
- Mays Clinic - Held the second and fourth Tuesday of every month at 1:30 - 2:30 p.m. in the Mays Clinic Patient Education Classroom, Floor 2 near the Tree Sculpture, behind the Learning Center, in Room ACB2.1049.

For more information about the class or other bowel management questions contact MD Anderson's bowel management specialist:

Annette Bisanz, RN, MPH
713-792-6012

The Learning Center

The Learning Center is a consumer health library with the latest information on cancer care, support, prevention and general health and wellness issues.

- Theodore N. Law Learning Center, Main Building, Floor 4, 713-745-8063
- Levit Family Learning Center, Mays Clinic, Floor 2, 713-563-8010
- Holden Foundation Learning Center, Jesse H. Jones Rotary House International, 713-745-0007

Department of Social Work

Highly skilled clinical social workers provide short-term counseling free of charge. The Department of Social Work also provides guidance with advance directives, medical powers of attorney, living wills and identifying community resources.

713-792-6195

More Resources

The following organizations provide accurate, up-to-date rectal cancer information to patients and their families.

American Cancer Society

800-ACS-2345 (1-800-227-2345)
www.cancer.org

The American Cancer Society (ACS) is a voluntary national health organization with local offices around the country. The ACS supports research, provides information about cancer, and offers many programs and services to patients and their families.

National Cancer Institute

www.cancer.gov

The National Cancer Institute (NCI) has valuable cancer-related health information for over 200 cancer types, clinical trials, cancer statistics, prevention, screening, treatment and news.

United Ostomy Associations of America, Inc.

800-826-0826

www.uoaa.org

The United Ostomy Associations of America, Inc. (UOAA) is an association of affiliated, non-profit support groups committed to improving the quality of life of people who have or will have an intestinal or urinary diversion. Call the toll-free number to locate the nearest support group.

Sexuality Information and Education Council of the United States (SIECUS)

www.siecus.org

SIECUS is a national, nonprofit organization that affirms that sexuality is a natural and healthy part of living. SIECUS develops, collects and disseminates information and promotes comprehensive education about sexuality.