Open Colorectal Resection

Surgery for Cancer and Polyps
A Problem in Your Colon

If you are facing surgery for a mass in your colon or rectum, you likely have many questions. Why is surgery needed? Do I have cancer? How much of my colon needs to be removed? Read on to learn about this surgery (known as colorectal surgery).

Why You Need Surgery

Growths that form in the colon can raise your risk of developing colorectal cancer. Removing these growths will help protect you from getting cancer. If you already have a cancerous growth, removing it is the best treatment. In some cases, your doctor may not know for sure whether a growth is cancerous until after it is removed. For all these reasons, colorectal surgery can protect your health and your life.
An Overview of Your Treatment

You will be told how to prepare for your surgery. Following your doctor’s advice helps provide the best possible outcome. Often, surgery is the only treatment you need. In some cases, additional therapy may be needed. After treatment, follow-up care helps with your recovery. It also ensures early detection of any future problems.

Your Diagnosis

Your doctor will evaluate you and perform several tests to learn the exact nature of your colon problem. Then, you and your doctor will work together to develop a treatment plan for you.

Surgical Treatment

During surgery, your doctor removes the affected part of your colon. If you have been diagnosed with cancer, you may have certain other treatments before or after surgery.

Follow-up Care

As you recover from your treatment, you can return to your daily activities. Follow-up exams, a healthy diet, and support from your friends and family can help you get back to your routine.
Understanding the Colon

The colon (also called the large intestine) is a muscular tube that forms the last part of the digestive tract. It absorbs water and stores food waste. The colon is about 4 to 6 feet long. The rectum is the last 6 inches of the colon. The colon and rectum have a smooth lining composed of millions of cells. Changes in these cells can lead to growths in the colon that can become cancerous and should be removed.

How the Colon Works
Semiliquid food waste from the small intestine enters the colon at the cecum (beginning of the colon). As this waste (stool) travels through the colon, it loses water and solidifies. Strong muscles keep the stool moving through the colon. The stool is moved toward the sigmoid colon (last section of the colon). From there, it passes into the rectum, where it is stored until it leaves the body during a bowel movement.

Parts of the Colon

The colon has a smooth lining composed of millions of cells.
When the Colon Lining Changes

Changes that occur in the cells that line the colon or rectum can lead to growths called polyps. Over a period of years, polyps can turn cancerous. Removing polyps early may prevent cancer from ever forming.

Polyps

Polyps are fleshy clumps of tissue that form on the lining of the colon or rectum. Small polyps are usually benign (not cancerous). However, over time, cells in a polyp can change and become cancerous. The larger a polyp grows, the more likely this is to happen. Also, certain types of polyps known as adenomatous polyps are considered premalignant. This means that they will almost always become cancerous if they’re not removed.

Cancer

Almost all colorectal cancers start when polyp cells begin growing abnormally. As a cancerous tumor grows, it may involve more and more of the colon or rectum. In time, cancer can also grow beyond the colon or rectum and spread to nearby organs or to glands called lymph nodes. The cells can also travel to other parts of the body. This is known as metastasis. The earlier a cancerous tumor is removed, the better the chance of preventing its spread.

Staging Colorectal Cancer

Staging cancer determines whether it has spread, and if so, how far. Knowing the cancer stage helps the doctor make the best treatment plan. Colorectal cancer has four stages, based on the location of the tumor. Staging may be done before or during surgery.
Colonoscopy

Colonoscopy is the best test doctors have for finding colorectal polyps and cancer. The test is usually done in the hospital on an outpatient basis. The day before the test, you do a “bowel prep” to clean out your colon. Right before the test, you’re given medication to make you sleepy. The doctor then gently inserts a long, flexible, lighted tube called a colonoscope into your rectum. The scope is guided slowly so the doctor can view the entire colon.

What Colonoscopy May Find

- **Polyps:** Polyps found on the wall of the colon or rectum are removed through the colonoscope. They are then sent to a lab to be tested. If a polyp can’t be removed during colonoscopy (due to the shape, location, or size of the polyp) it must be removed with surgery. In this case, a tissue sample (biopsy) from the surface of a polyp may be taken during colonoscopy. This sample is checked in a lab for cancer cells. However, biopsy of a polyp doesn’t always detect cancer, even if it is present. Whether or not a polyp is cancerous is often determined after the polyp has been removed during surgery.

- **Cancer:** The doctor may find a growth that is obviously cancer. This growth must be removed with surgery.

Risks and Complications

Possible risks and complications of colonoscopy include:

- Bleeding
- A puncture or tear in the colon
- Risks of anesthesia

Screening for Colorectal Polyps and Cancer

Your doctor likely detected a suspicious growth during a test called a colonoscopy. You may have been tested because you had symptoms such as rectal bleeding or a change in bowel habits. Or your colon might have been checked as part of a routine screening for cancer. You may also have certain other tests. These give your doctor more information and help plan your surgery.
Other Screening Tests
One or more of these tests may be done in addition to or instead of a colonoscopy:

- **Fecal occult blood test:** This test checks for blood in stool that you can’t see. Hidden blood maybe a sign of colon polyps or cancer. You use a kit to collect a small sample of stool. This sample is tested in a laboratory.

- **Digital rectal exam (DRE):** This simple test can help detect rectal cancers. The doctor inserts a lubricated gloved finger into the rectum and feels for changes in the rectal lining. A DRE takes less than a minute.

- **Barium enema:** This test lets your doctor view the entire colon and rectum using x-rays. A soft tube is placed into your rectum. The tube is used to fill the colon with liquid barium. This liquid makes the colon show up clearly on x-rays. A small amount of air may be pumped into the colon to make the walls easier to view.

- **Flexible sigmoidoscopy:** This test looks only at your rectum and sigmoid colon. During the test, a flexible, lighted tube (called a sigmoidoscope) is inserted into your rectum. Images of the rectum and sigmoid colon are shown on a video screen.

Tests You May Have Before Surgery
Certain other tests may be done to help get more information before surgery.

- **CT or PET scan.** A CT scan uses x-rays to create images of your body. In a PET scan, a mildly radioactive substance helps detect cancer cells. With either test, the results are displayed on a computer screen.

- **Endoscopic ultrasound.** In this test, a small ultrasound probe is placed into your rectum. The probe creates images of your rectum and anus.
Preparing for Surgery

During colorectal surgery, the affected parts of the colon or rectum are surgically removed. You will be given instructions on how to prepare for your surgery. Follow these instructions carefully. By doing your part, you can help make your surgery a success. You will likely be admitted to the hospital on the day of your surgery. In certain cases, admission to the hospital the day before is needed.

A Few Weeks Before
To help prepare your body for surgery, you will be instructed on what to do during the weeks before surgery.

Risks and Complications
Risks and complications of colorectal surgery include:

- Infection
- Injury to nearby organs, such as the kidneys
- Leaking or separation where the colon is reconnected
- Blood clots
- Risks of anesthesia

Have a medical checkup. Have a thorough physical exam before surgery, as instructed by your doctor. This checks the health of your heart and lungs.

Ask about medications. Tell your surgeon about all medications you take, and ask whether you should stop taking them. This includes prescription medications, aspirin, and other over-the-counter drugs. Also, be sure to mention any herbs or supplements you take.

Quit smoking. If you smoke, do your best to quit now. Smoking increases your risks during surgery and slows healing.
Have only clear liquids. For 12 to 24 hours before your surgery, you will be told not to eat any solid foods and to drink only clear liquids. These liquids include broth, plain coffee, gelatin, and clear fruit juice.

Do your bowel prep. To be sure your colon is clear of stool, you’ll be asked to do a bowel prep the day before surgery. This involves drinking a liquid laxative, using enemas, or both.

Make sure your stomach is empty. Do not have anything to eat or drink, including water and chewing gum, after midnight the night before surgery. (Your bowel prep liquid is okay to drink during this time.) If you are asked to take antibiotic pills before surgery, take them with small sips of water.

The Day Before Surgery
You will be told how to prepare your bowel for surgery. Follow these instructions carefully and ask questions if you have them.

The Day of Surgery
When you arrive at the hospital, you will be asked to fill out certain forms. You will then change into a gown. An IV (intravenous) line will be inserted into your arm. This provides fluids and medications. You’ll meet with your anesthesiologist or nurse anesthetist to discuss the medication that helps you sleep during surgery. Ask any questions you have at this time. Before surgery begins, you’ll be given general anesthesia to put you into a deep sleep. A soft tube called a catheter may be placed into your bladder to drain urine.
Your Surgery
The idea of having part of your colon removed may sound scary. But the fact is that part or all of the colon can be removed without causing serious problems. During surgery, the surgeon removes the affected part of the colon or rectum. This is called resection. Some normal tissue and nearby lymph nodes may also be removed. In most cases, the healthy sections of the bowel are then reconnected (anastomosis).

Reaching the Colon
Your surgery will be done through one incision in your abdomen. This is called open surgery. The incision may be several inches long. Your surgeon can tell you about the incision you will have. In some cases, laparoscopic surgery may be an option. This type of surgery is done with long, lighted instruments through several small incisions in the abdomen. If laparoscopic surgery is an option for you, your surgeon will tell you more.

For open surgery, the surgeon makes an incision in the abdomen. This incision may run vertically around your navel.
Colorectal Resection
The growth and part of the colon or rectum surrounding it are removed (resected) during surgery. The most common types of colorectal resection are listed below.

**Right Hemicolecotomy**
Part or all of the ascending colon and cecum are removed. The colon is then reconnected to the small intestine.

**Left Hemicolecotomy**
Part or all of the descending colon is removed. The transverse colon is then reconnected to the rectum.

**Sigmoid Colectomy**
Part or all of the sigmoid colon is removed. The descending colon is then reconnected to the rectum.

**Low Anterior Resection**
The sigmoid colon and a portion of the rectum are removed. The descending colon is reconnected to the remaining rectum.

**Abdominal Perineal Resection**
Part or all of the sigmoid colon and the entire rectum and anus are removed. A colostomy is then performed.
What Is an Ostomy?
Two kinds of ostomies may be done during colorectal surgery. During a **colostomy**, part of the colon is connected to an opening in the abdomen wall. During an **ileostomy**, the small intestine is connected to an opening in the abdomen wall. For both types, the new opening is called a **stoma**. This is where stool now leaves the body. Stool passes through the stoma into a special bag or appliance. Your healthcare team will tell you whether the stoma is needed for only a short time, or whether it will be permanent.

Adjusting to a Colostomy or Ileostomy
Adjusting to having a colostomy or ileostomy can seem overwhelming. But you won’t do it alone. Before you leave the hospital, an ET (enterostomal therapist) will show you how your ostomy works and how to care for it. And you’ll continue to receive support once you’re home. If your ostomy is permanent, caring for your stoma will, in time, become part of your daily routine. If you have problems, your ET can offer help and advice.

If You Need an Ostomy
After certain types of surgery, the colon and rectum may need to be kept clear of stool while they heal. In other cases, the rectum has been removed or can’t be reconnected to the rest of the colon. In either case, an ostomy is needed. This creates a new opening in the abdomen so waste can leave the body. You may need the new opening for a short time, or permanently. If you had an ostomy during colorectal surgery, your healthcare providers will help you learn how to care for it.
Your Recovery After Surgery

Right After Surgery
If you have a urinary catheter, it will probably be removed shortly after surgery. Your IV line will remain in place for a few days to give you fluids. And you’ll continue to receive medication for pain. Soon after surgery, you’ll be up and walking around. This helps improve blood flow and prevent blood clots. It also helps your bowels return to normal. You’ll be given breathing exercises to keep your lungs clear.

Eating Again
You won’t eat or drink anything until your colon begins working again. When this happens, you’ll begin with a liquid diet. After that, you’ll be given solid foods according to your doctor’s instructions.

Recovering at Home
In most cases, you’ll visit your doctor 7 to 10 days after leaving the hospital. You can get back to your normal routine about a month or two after surgery. Full recovery may take 4 to 6 weeks or longer. While your body heals, you may tire more easily. You also are likely to have some bloating. Loose stools and more frequent bowel movements are common after bowel surgery. This may get better over time, but may never disappear completely.

Resuming Everyday Activities
Being active helps your body heal. But you must protect your healing incisions. Follow these guidelines:

• Walk as much as you feel up to.

• Avoid heavy lifting or vigorous exercise until your doctor says it’s okay. Follow your doctor’s advice about climbing stairs and bathing.

• You can drive when you’re no longer taking pain medications—usually within a week.

When to Call Your Doctor
Call your doctor if you have any of the following after surgery:

• Fever over 101°F (38.3°C)

• Persistent nausea or vomiting

• Unusual redness, swelling, or pain around your incision

• Severe constipation or diarrhea

• Worsening pain
Chemotherapy
Chemotherapy uses medications to attack cancer cells. It is considered **systemic therapy** because it works throughout the body. It’s usually done as an outpatient procedure in a doctor’s office, clinic, or hospital. You may receive the medication in pill form or through an IV line or infusion pump (a device that slowly releases medication into your bloodstream). The treatments are given in cycles so that your body has time to recover. Chemotherapy can have side effects. These include tiredness, nausea, vomiting, hair loss, mouth sores, and an increased risk of infection. Your healthcare provider will discuss how to help control these side effects.

Additional Treatments for Colorectal Cancer

Your doctor may advise other cancer treatments in addition to surgery. These may include radiation, chemotherapy, or both. The goal of these treatments is to stop the cancer’s spread or reduce the chances of it coming back. Treatment usually starts 3 to 6 weeks before or after colon surgery. In some cases you may be treated both before and after your surgery. Talk to your doctor about the risks and benefits of these treatments.

Radiation Therapy
Radiation may be done for rectal cancer. This treatment uses high-energy x-rays to kill cancer cells. It’s considered **localized therapy** because it targets the specific area of the body affected by the cancer. It is usually performed on an outpatient basis in a hospital or radiation clinic. You may have treatments every day for 5 to 7 weeks. Each visit may last up to an hour, but you’ll receive radiation for only a few minutes. Side effects may include bowel and anal irritation, swollen or irritated skin over the treatment site, nausea, and tiredness.
A Healthy Future

Removing colorectal growths with surgery can save your life. After you recover from surgery, have regular visits with your doctor and any recommended screening tests. These help ensure your colon stays healthy. Take care of your body and maintain good health by eating well and staying active.

See Your Doctor
Regular follow-up screening helps make sure your colon stays healthy. Be sure to see your doctor for colonoscopies as often as recommended. If you were treated for colorectal cancer, your doctor will want to see you often for at least the first 2 years after treatment. Be sure to keep all your appointments for office visits and follow-up tests.

Take Care of Your Body
Foods that are low in animal fat and high in fiber help keep your colon healthy. Choose fresh fruits, vegetables, whole grains, and fish or lean chicken. And stay active. Studies show that regular exercise can help reduce your risk of cancer. Being active is good for your body and your overall health.
Colorectal cancer runs in families. For this reason, it is important that your family members be screened for colorectal problems. Have your siblings and children talk to their doctors about colorectal cancer screening. Catching colorectal cancer early can help save lives.

Recommendations for Screening
The American Cancer Society recommends regular screening tests for all adults over age 50. Screening may be recommended earlier and more often for a person who has any of these risk factors:

- A first-degree relative (parent, sibling, or child) who has had polyps or cancer
- A personal history of colorectal cancer or polyps
- A personal history of ulcerative colitis