Colectomy

Shared Decision Making and Dialogue Tool for the Patient and Doctor

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Overview

What is a colectomy?
A colectomy is the surgical removal of a portion, or all, of the large intestine, which is also called the colon or bowel.

Why are colectomies performed?
Colectomies are performed to remove diseased or damaged tissue. This damage may be caused by benign (noncancerous) diseases, such as diverticular disease, ulcerative colitis and Crohn’s disease, or colorectal polyps, which are growths on the lining of the colon or rectum. Colectomies are also performed to remove cancer tissues and cells in the colon.1,2

Colectomy procedures are named according to the portion(s) of colon being removed. For instance, a Sigmoid Colectomy is the removal of part, or all, of the sigmoid colon.

How does the colon heal?
After the affected portion of the colon is removed, the two open ends of the intestine are reconnected. This is called an anastomosis. Sometimes a period of healing is needed before the reconstruction can take place. In this case, the surgeon will make a new opening (called an ostomy or stoma) to the outside of the abdomen. The large intestine or a portion of the small intestine is then connected to the opening, where a bag is attached to collect body waste. When the opening is connected to the large intestine, this procedure is called a colostomy. When the opening is connected to the small intestine, or ileum, this procedure is called an ileostomy.

In most cases a colostomy or ileostomy is only temporary and will be surgically closed after surgery. Sometimes the two ends may not be able to be put back together, which may require a permanent ostomy. The need for a permanent ostomy depends on individual diagnosis and health factors, as well as the location of the damaged tissue. Your doctor will discuss these factors with you.

In order to help your intestinal reconnection heal, your doctor and dietician may put you on a low-fiber diet that will reduce your bowel movements.2

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Understand How Your Procedure Will be Performed—Open or Laparoscopic Surgery

Colectomies can be performed through open surgery—in which an incision is made in the abdomen and the diseased section of colon is removed—or through minimally invasive laparoscopic surgery. In a laparoscopic colectomy and robot-assisted laparoscopic colectomy, small incisions are made in the abdomen. Hollow tubes are inserted into the incisions. The abdomen is then inflated with carbon dioxide, which allows the surgeon to see the intestines and organs clearly. Small instruments inserted through the tubes are used to remove diseased colon or a tumor.

Laparoscopic surgeries are associated with less scarring and postoperative pain, shorter recovery time, and earlier return of colon function. Whether your operation will be performed open or laparoscopically will depend on the condition and size of the diseased area or tumor, and its location. Your health, age and anesthesia risk are also important considerations.

Sometimes a procedure can start out as minimally invasive, but may have to be converted to open surgery based on factors such as obesity, a history of prior surgery causing dense scar tissue, inability to visualize organs, bleeding problems during the operation, and other underlying medical conditions. A conversion to an open colectomy may occur in 14% of patients having a laparoscopic colectomy. This decision is made by the surgeon and is based on what is best for you.

The large intestine consists of four main segments—the ascending, transverse, descending, and sigmoid colon. These segments all connect to the rectum.

The small intestine is located between the stomach and the large intestine, and is where most of the end absorption of food takes place.
The names of the different colectomy procedures are based on which portion(s) of colon are being removed. Your surgeon will remove the portion(s) of your colon that have damaged or diseased tissue.

<table>
<thead>
<tr>
<th>Left hemicolectomy</th>
<th>Right hemicolectomy</th>
<th>Total proctocolectomy</th>
<th>Segmental resection</th>
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<tr>
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<td><strong>What is removed?</strong></td>
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<tr>
<td>The descending (left) colon</td>
<td>The ascending (right) colon</td>
<td>The rectum and all, or part, of the colon</td>
<td>One or more short segments of the colon</td>
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<thead>
<tr>
<th>Low anterior resection</th>
<th>Sigmoid colectomy (sigmoidectomy)</th>
<th>Abdominal perineal resection</th>
<th>Total colectomy</th>
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<td><strong>What is removed?</strong></td>
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<td>The upper part of the rectum</td>
<td>All, or part, of the sigmoid colon. The descending colon is then reconnected to the rectum</td>
<td>The sigmoid colon. The sigmoid colon, rectum and anus, and a permanent colostomy is constructed</td>
<td>The entire colon. The small intestine is then connected to the rectum</td>
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</tbody>
</table>

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What are the Possible Risks and Complications of Surgery?

All surgical procedures have risks but the risk for serious complications depends on the type of surgery and your medical condition and age.

The most common complications associated with colectomy include*:

- **Anastomotic leak**
  A leak from the connection between the two ends of the intestine occurs in 1.8-44% of colectomies. Your risk for a leak may be higher if you are of older age, obese, use certain medications, or if you are a smoker or drink alcohol.

- **Wound infection (deep or at skin level)**
  Infections occur in 12.4% of colectomies. Antibiotics given before surgery along with special soaps and the use of triclosan-coated antibacterial sutures can help reduce the risk of infection.

- **Return to surgery**
  Return to surgery occurs in 6.1% of colectomy cases. This can be due to many factors, including excessive bleeding or a bowel leakage.

Less common complications associated with colectomy include*:

- **Urinary tract infection**
- **Breathing problems or pneumonia**
  Pneumonia is an infection in the lungs. It occurs in 2.3% of colectomy cases. You can help reduce your risk of pneumonia by stopping smoking prior to surgery, and by taking deep breaths and getting up and walking as soon as possible after your surgery.
- **Excessive bleeding or blood clot**
- **Death**
  Death occurs in 1.2% of cases. Your surgical team is prepared to reduce all risks of death.
- **Renal (kidney) failure**
- **Heart complication**

You may also experience:

- **Adverse reactions to medications or anesthesia**
- **Dehydration**
- **Injury to nearby organs such as the spleen, liver, kidneys, stomach, intestines, bladder or reproductive organs**
- **Bowel blockages**
- **Formation of internal scar tissue (adhesions)**

*Risks are based on the ACS Risk Calculator for Partial Colectomy with Anastomosis—2015. The ACS Surgical Risk Calculator estimates the risk of an unfavorable outcome. Data is from a large number of patients who had a surgical procedure similar to this one. If you are healthy with no health problems, your risks may be below average. If you smoke, are obese, or have other health conditions, then your risk may be higher. This information is not intended to replace the advice of a doctor or health care provider. To check your risks go to http://riskcalculator.facs.org

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Preventing 

Prepare for Surgery
Prior to surgery, your doctor will perform various tests, which may include a stool test, blood work, a colonoscopy, X-rays, CAT Scan, or flexible sigmoidoscopy, which is a test where the doctor inserts a small and flexible tube into your rectum to see inside. Your surgeon and anesthesia provider will also discuss your health history, home medications, and postoperative pain control options. Your medications may be adjusted before surgery, and your doctor may prescribe additional medications, such as an antibiotic and a medication to clean out your intestines. You may also be asked to stop smoking and to adjust what you eat and drink prior to surgery.

Recovery after Surgery

The average length of stay in the hospital is 3 days for a laparoscopic or open colectomy. The amount of pain you have will depend on your health factors, and how much of your colon was removed. If you have a laparoscopic procedure, you may experience pain in your shoulder due to gas that was inserted in your abdomen during your surgery. A walk may help decrease the pain. You will receive medication for pain and nausea, as needed.

Your doctor and a dietician will discuss what you should eat after surgery. Depending on how frequent your bowel movements are, they may also suggest a low-fiber diet to reduce the amount and frequency of stools. This helps your intestinal reconnection heal.

You will be instructed on how to care for your wound before you go home. Your doctor should be able to tell you how soon you can shower, what to expect with scarring, and when you can resume normal or more strenuous activities.

Once you are discharged from the hospital, you should call your surgeon right away if your wound is red, hot, and swollen, you have continued nausea, vomiting, leakage from the wound, blood in the stool, severe pain, stomach cramping, chills or a high fever (over 101°F or 38°C), odor or increased drainage from your incision, a swollen abdomen, or no bowel movements for 3 days.

Will insurance cover my surgery?
Your insurance company may cover all or part of the cost of your surgery. Since insurance plans differ in the amount of coverage they provide, it’s best for you to check your benefit plan or call your insurance company directly to find out what you will be responsible for paying.

You may also want to talk to your doctor’s office staff about your health insurance options. They may be able to help guide your conversations with your insurance company.

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The benefits of shared decision making
A growing body of evidence shows that patients who are more actively involved in their healthcare experience have better health outcomes and incur lower costs.10

TOPIC TO DISCUSS:
Risk of potential complications during surgery, including risk of anastomotic leak

DID YOU KNOW
• One of the most common complications of a colectomy is anastomotic leak, which occurs in up to 44% of patients having a colectomy5

TOPIC TO DISCUSS: Whether a temporary or permanent ostomy may be necessary

DID YOU KNOW
• A permanent ostomy may be needed when the rectum is removed during a colectomy or if the muscles that help control bowel movements have failed. This is often due to more serious colon disease, such as cancer12

TOPIC TO DISCUSS: Ways you can avoid complications such as blood clots and pneumonia after surgery

DID YOU KNOW
• You may be able to reduce your risk of these complications if you quit smoking prior to surgery and get up and walk around as soon as possible after surgery5

TOPIC TO DISCUSS: How the diagnosis was determined (which tests were used to make the diagnosis)

DID YOU KNOW
• Tests to check the health of your colon may include: a stool test, blood work, a colonoscopy, X-rays, CAT Scan, or flexible sigmoidoscopy8,9

TOPIC TO DISCUSS: How the surgery will be performed

DID YOU KNOW
• Laparoscopic surgery is the preferred approach for colon cancer11

TOPIC TO DISCUSS: Which portion(s) of your colon will be removed

DID YOU KNOW
• Colectomy procedures are named according to the portion(s) of colon being removed. For instance, a Sigmoid Colectomy is the removal of part, or all, of the sigmoid colon

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TOPIC TO DISCUSS: Expected length of stay in the hospital after surgery

DID YOU KNOW
• The average length of stay in the hospital is 3 days for a laparoscopic or open colectomy.

TOPIC TO DISCUSS: What to expect after the surgery in terms of postoperative pain, resolution of symptoms, recovery time, and digestive function

DID YOU KNOW
• The amount of pain you have will depend on your health factors, and how much of your colon was removed; however, your doctor will prescribe medication to help with the pain.
• In order to help your intestinal reconnection heal, your doctor and dietician may put you on a low-fiber diet that will reduce your bowel movements.

TOPIC TO DISCUSS: What types and sizes of scars to expect

DID YOU KNOW
• A laparoscopic colectomy can often be performed through your belly button, so scars are less noticeable.
• A laparoscopic colectomy results in smaller scars than open colectomy.

By the end of your discussion, you should feel confident that you understand all the factors involved and that, together with your doctor, you’ve made the best decision.
References

Resources
www.fascrs.org
www.nlm.nih.gov/medlineplus/colonicdiseases.html
www.sages.org

Statements about laparoscopic colectomy from leading associations
The American Society of Colon and Rectal Surgeons (ASCRS)
The ASCRS issued the following statement regarding laparoscopic colectomy for the treatment of colon cancer: “…in most circumstances, minimally invasive surgery is preferred given appropriate expertise and experience. Most importantly, the laparoscopic procedure should achieve the same goals as the open approach; and when this is not possible, conversion to a laparotomy approach is recommended.” 11

Clinics in Colon & Rectal Surgery
“Laparoscopic colectomy, in experienced hands, with select patients, is similar to open colectomy in terms of safety as measured by operative and perioperative morbidity and mortality; and based on the equivalent cancer outcomes, it is safe to proceed with laparoscopic colectomy in patients with colon cancer.” 13

Cochrane Database Systematic Review
“Under traditional perioperative treatment, laparoscopic colonic resections show clinically relevant advantages in selected patients…. the laparoscopic approach should be preferred in patients suitable for this approach to colectomy.” 14

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