



# Surgery and Inflammatory Bowel Disease

Although frequently thought of as a “last resort”, surgery for both Crohn’s disease and ulcerative colitis can be an integral part of therapy. In some cases, an operation is needed on an urgent or emergency basis. In these circumstances, removal of the bowel or correction of other problems related to inflammatory bowel disease (IBD) may be needed to quickly restore the patient’s health. In other cases, an operation is used to supplement medical treatments that are available.

Surgery is best used in conjunction with medical therapy. In selected cases, surgery may be best early in the disease. Overall, many patients with IBD will require some type of surgical procedure during their illness. The goals of surgery are to reduce or resolve symptoms and to improve general health, nutritional status, growth, and sexual development, while trying to preserve as much bowel as possible.

The decision about surgical therapy should be based on clinical history of the patient, with additional information from radiologic (MRI, CT, ultrasound, or X-ray) and endoscopy tests. Patients and their families should discuss this decision with their entire health care team, which

usually consists of multiple specialists including a pediatric gastroenterologist or nurse practitioner, pediatric surgeon, nutritionist, and psychologist.

## General Terms

There are two main techniques used to perform IBD surgery: laparotomy and laparoscopy. Laparotomy, or open surgery, is a more traditional method using one abdominal incision. Laparoscopy uses instruments inserted into the abdominal cavity through several small openings, thus leaving several very small scars. When performed by a surgeon familiar with the technique, laparoscopy allows for an easier and faster recovery. Today, many operations for IBD can be performed laparoscopically. Ultimately, it is safest for the surgeon to make the final decision on which type of procedure to perform

## Surgery for Ulcerative Colitis

In ulcerative colitis, the inflamed portion of bowel is limited to the colon (large intestine). Therefore, removal of the entire colon can be considered a cure for the disease.



However, removal of the entire colon may be associated with complications and commonly requires certain lifestyle adjustments. The type of surgery performed depends on the exact reasons for the surgery and should be tailored individually for each patient.

#### ► **SURGICAL INDICATIONS FOR ULCERATIVE COLITIS:**

##### **Emergent/urgent**

- Uncontrollable bleeding
- Unresponsive to medical therapy
- Bowel perforation
- Bowel obstruction
- Toxic megacolon
- Cancer

##### **Elective**

- Unresponsive to medical therapy

##### **Types of surgical procedures for ulcerative colitis:**

- **Proctocolectomy with end-ileostomy:**  
This involves removal of the large bowel, and the end of the small bowel then sticks out through the skin. The small bowel is attached to a bag on the abdomen to collect stool. The opening of the intestine through the skin surface is called an ostomy.
- **Total colectomy with ileal pouch anal anastomosis:**  
This involves removal of the large bowel with creation of a “pouch” (reservoir) out of the small bowel, which is connected to the anus. Creation of the pouch allows for reduced frequency of bowel movements after the operation. This is the preferred surgery for ulcerative colitis when possible. This is typically done in 2–3 stages.
- **Total colectomy with ileorectal anastomosis:**  
This involves removal of the large intestine with a straight connection between the end of the small bowel and the anus, without creation of a pouch. Without the pouch, there tends to be more frequent bowel movements for the first 6–12 months after the operation.

## **Surgery for Crohn’s Disease**

As with ulcerative colitis, a patient with Crohn’s disease may develop complications that require an emergency or urgent operation. In contrast to ulcerative colitis, any operation for Crohn’s disease carries a significant chance

of disease recurrence and the need for further operations. Therefore, surgery for Crohn’s disease should not be considered a definitive cure.

However, there are still several scenarios in which surgery is the best decision for a child with Crohn’s disease. For example, occasionally there is a segment of bowel that is so diseased that it does not heal even with the strongest medications. In this instance, surgery is especially important if the diseased segment is affecting the child’s growth and development.

Additionally, once an area of bowel is significantly scarred (stricture), it is unlikely that any medications can improve the damage. This area of bowel may become narrowed and cause symptoms of bowel blockage (obstruction). Although patients with these types of complications may not need an emergency operation, they may not feel better until diseased areas of bowel are removed.

#### ► **SURGICAL INDICATIONS FOR CROHN’S DISEASE:**

##### **Emergent/urgent**

- Uncontrollable bleeding
- Obstruction
- Perforation
- Abscess or fistula

##### **Elective**

- Failure of medical therapy
- Stricture
- Perianal disease

##### **Types of surgical procedures for Crohn’s disease:**

- **Strictureplasty:** This involves cutting the surface of the bowel over the stricture (narrowing), then sewing the bowel wall back together perpendicular to incision. This widens the bowel to allow easier passage of contents, although it does slightly shorten the bowel.
- **Limited bowel resection (removal of a diseased segment of bowel):** This generally involves removal of as little bowel as possible but enough to alleviate complications that the diseased segment of bowel was causing.
- **Bowel diversion with ostomy:** This involves re-directing the flow of stool through the bowel by cutting the intestine above the severely diseased bowel and bringing it to the skin surface through an

ostomy. Stool then drains into a bag attached to the skin by adhesives rather than through the anus. This operation can allow severely diseased regions of bowel to heal and can be temporary or permanent.

- **Other procedures:** Patients with Crohn's disease may also need operations to drain collections of pus inside the abdomen (abscess) or to help treat abnormal connections (fistulae) between the bowel and other locations, such as other portions of bowel, bladder, vagina, or skin. These conditions can be especially problematic in the area around the anus (perianal disease). New non-surgical techniques are being developed to deal with treating fistulas. In adult patients, plugs loaded with stem cells are showing promise.

Whenever an operation for a child or adolescent with IBD is considered, it is important to choose a surgeon who is familiar with the unique aspects of pediatric IBD care and with the various surgical techniques, including state-of-the-art advances in IBD surgery.

Numerous support organizations can provide valuable information on quality of life after surgery. Also, it may be beneficial for surgical candidates to talk to those who have undergone similar procedures. It is always advisable to make home care arrangements and address health insurance administrative issues before undergoing surgery.

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**IMPORTANT REMINDER:** This information from the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) is intended only to provide general educational information as a definitive basis for diagnosis or treatment in any particular case. It is very important that you consult your doctor about your specific condition.

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