University of Saskatchewan
MDIBDC
Multidisciplinary Inflammatory Bowel Disease Clinic

Surgery for Ulcerative Colitis

Why and when is surgery needed?

- About one-third of people with UC will eventually need surgery, either for complications of the disease or ongoing severe symptoms despite medications[1]. The risk of requiring removal of the colon is highest during the first 1 to 2 years following a diagnosis of UC.

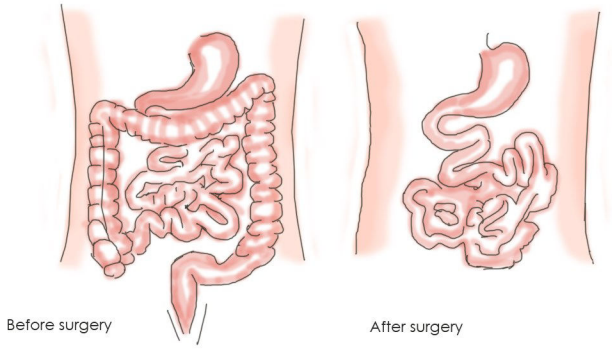
- Surgery usually involves removing the entire colon, called a *total colectomy*. Complications of UC that may require surgery include perforation of the bowel, severe inflammation of the colon, or development of colon cancer. Arthritis and eye inflammation related to UC may be improved after surgery.[2]

- Patients with UC are at increased risk of developing colon cancer. The risk increases with longer duration of disease and more extensive colonic involvement.

What kind of surgery is involved?

- There are two main types of surgery. Firstly, a total proctocolectomy involves removing the entire colon, rectum, and anus and brings the end of the small bowel to the skin to form an ileostomy (Figure 1). This essentially cures the disease, removes the risk of colon cancer and improves the individual's quality of life. However, the ostomy is permanently in place and a stool appliance must be worn.

Figure 1. Graphic illustration of what the intestine looks like before and after a total proctocolectomy.



[1] Hwang JM, Varma MG. Surgery for inflammatory bowel disease. *World J Gastroenterol* 2008; 14(17): 2678-2690
[2] Goudet P, Dozois RR, Kelly KA, Ilstrup DM, Phillips SF. Characteristics and evolution of extraintestinal manifestations associate

- Alternatively, a restorative proctocolectomy involves removing the colon and rectum and constructing a pouch out of small bowel to act as a replacement rectum to store stool and absorb water (Figure 2). This is called *ileal pouch anal anastomosis,* or IPAA. Patients with IPAA do not have an ostomy and don't need to wear an appliance, as they can control their own bowel movements as before surgery. However, IPAA is not suitable for everyone, and complications can occur.

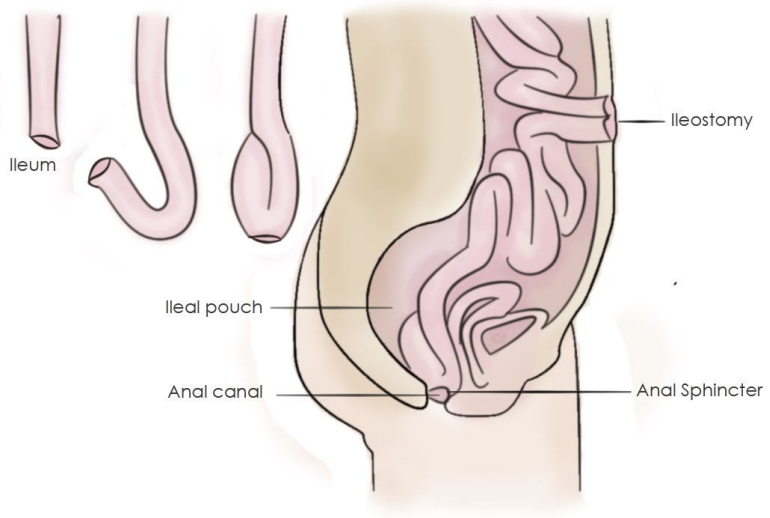


Figure 2. Graphic illustration of a the anatomy of a restorative proctocolectomy (IPAA)

. What do I need to know about IPAA?

Most people are very satisfied with the results of IPAA. In fact, 98% of patients say they would have the surgery again or would recommend it to someone else.[7] Symptoms and bowel function usually improve substantially but problems can persist. Most people will have four to six bowel movements per day, but this may be more frequent in the first months after surgery as the pouch slowly adapts.[3]

- IPAA is usually done in two stages. First, the ileal pouch (Figure 3) is constructed and attached to the anus after removal of the colon and rectum. A temporary ileostomy is formed to protect the pouch while it heals (Figure 2). After three to four months a second surgery is done to close the ileostomy. The procedure is safe, but up to 60% (60/100) of patients may have some complications (Table 1). These complication can include infection, need for reoperation, or removal of the pouch.[4] About 9% of people develop narrowing of the pouch or anus that can block stool passage. This is called a stricture. Unfortunately, patients may experience mild soiling or spotting of their underwear during the day or night, with some having more significant incontinence (the inability to control bowel movements)[3]. Increasing dietary fiber or taking anti-diarrheal medications can help reduce incontinence and seepage. One in 10 (10%) patients with IPAA will need to be changed to an ileostomy within 10 years.[5] Despite complications, most patients report an overall improvement in quality of life[6], and less than 20% (20 /100 people) of patients experience social, work, or sexual restrictions.[7]

Figure 3. Graphic representation of an ileal J pouch

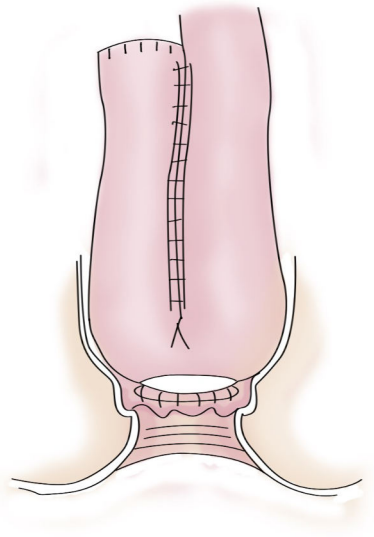


Table 1. Complications following IPAA

Complication	Risk Out of 100 people	Percentage
Infection	7/100	7%
Re-operation	24/100	24%
Removal of pouch	4/100	4%
Stricture	9/100	9%
Soiling	17/100	17%
Incontinence	4/100	4%
Pouchitis	50/100	50%
Sexual problems:	4/100	4%
- erectile dysfunction	1-2/100	1-2%
- ejaculation difficulties	2-3/100	2-3%
- painful intercourse	4/100	4%
- infertility	50/100	50%

What about sexuality and pregnancy?

- Sexual problems after IPAA are rare, but do occur in less than 4% of patients. Problems may include erectile dysfunction or painful intercourse. Overall, more patients are more satisfied with their sexual health after IPAA than before.[10] The surgery causes scarring within the pelvis that can affect fertility. Women attempting to become pregnant are more likely to need fertility treatments, and up to half will be unable to conceive.[11] IPAA does not change the safety of pregnancy for the mother or the fetus. Natural deliveries are still possible, although caesarean section delivery is more common after IPAA.[12] Erectile dysfunction can occur in 1 to 2 % of men because of damage to pelvic nerves, while ejaculation difficulties may occur in 3 to 4% of men.

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