

# Indications for surgery

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Surgery has a significant role in managing complications of IBD and in improving quality of life for patients with IBD. Current best practice ensures that surgeons and stoma therapists are an integral part of the multidisciplinary team throughout a patient's journey and that surgery is not presented as a last resort. Patients are then more likely to accept timely surgical intervention when indicated and be better prepared for life with a temporary or permanent stoma. The overall lifetime risk of colectomy for a patient with UC is about 20%. Common indications for surgery in the emergency setting include refractory acute severe colitis or its complications, including perforation, toxic megacolon or, rarely, colonic haemorrhage not controlled by endoscopic or interventional radiological means. The indications for surgery in UC are: severe or fulminating disease failing to respond to medical therapy; chronic disease with anaemia, frequent stools, urgency and tenesmus; maintained without substantial doses of steroids with harmful side effects; intolerance or side effects of medical therapy required to control the disease, e.g. steroid psychosis, azathioprine-induced pancreatitis; growth retardation in children or adolescents; neoplastic change: patients who have severe dysplasia or carcinoma; associated sclerosing cholangitis; extraintestinal manifestations; rarely, severe haemorrhage or stenosis causing obstruction.

(a) Figure 75.6 Subfascial closure of the rectal remnant following subtotal colectomy and end-ileostomy for acute ulcerative colitis remnant can alternatively be brought to the skin as a mucus fistula

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Population-based studies show that approximately 70% of patients with CD will require a bowel resection in the first decade after diagnosis, and 40% will require a further resection in the decade after their index resection. Recent population-based data in the era of monoclonal antibodies suggest that the incidence of surgery may be falling, but surgery nevertheless remains a key component of treatment. Surgical resection will not cure CD. Surgery therefore focuses on managing the complications of the disease ( Summary box 75.2 ). As many of these indications for surgery may be relative, joint management by an aggressive physician and a conservative surgeon is ideal and decisions regarding surgical intervention are best made by a multidisciplinary team in consultation with the patient and recognising their preferences. The fundamental principle is to preserve healthy gut and to maintain adequate function. Intestinal resection should be kept to the minimum required to treat the local consequences of disease to mitigate against the potential for short bowel syndrome (see Chapter 91 ). In laparoscopic surgery it may be more difficult to assess the full length of the small intestine, so up-to-date preoperative small bowel imaging is important. While surgery carries perioperative risks, it also carries significant benefits, notably in patients with isolated terminal ileal disease, in whom a pro-

longed period of good health may be achieved. The relative benefits of surgical resection and long-term medical therapy in CD can be very finely balanced and require careful consideration and discussion with the patient within the setting of a combined gastroenterological and surgical IBD clinic. Summary box 75.2 Principles of management of CD

Occasionally unsuspected ileal inflammation is found during emergency appendicectomy. Determining whether or not to resect the ileum in this situation is a complex clinical decision that should be made by a senior surgeon.

Close liaison between physician and surgeon is crucial. Both medical and surgical treatment options should be considered; however, surgery should not be delayed when there is a clear indication. Patients must be optimised prior to surgery; this may include radiological drainage of sepsis, antibiotic treatment and nutritional support. CD is a chronic relapsing disease with a high likelihood of reoperation; the surgeon must take every reasonable effort to preserve bowel length and sphincter function. Shared decision making with patients to accommodate their treatment preferences.

Ileitis is an expression of CD rather than another aetiology such as Yersinia infection; an assessment of the likelihood of remission with medical therapy rather than surgery; risk of enterocutaneous fistulation from appendiceal base leakage; and an assessment of the rest of the small bowel for the presence of additional sites of inflammation. In the current era of monoclonal therapy, it would be controversial to resect uncomplicated terminal ileitis found during an emergency procedure for suspected appendicitis, as this is likely to respond to medical therapy. If reasonably safe, appendicectomy is now encouraged for histological confirmation in limited previously undiagnosed disease, with appendicectomy carried out using a laparoscopic stapler to reduce the risk of enterocutaneous fistula (see Chapter 76). The course of CD after surgery is unpredictable, but recrudescence (a better term than recurrence) is common. Symptomatic recrudescence does not seem to be related to the presence of disease at the resection line. The cumulative probability of recrudescence requiring surgery for ileal disease is approximately 20%, 40%, 60% and 80% at 5, 10, 15 and 20 years, respectively, after a previous resection. Surgery for CD is technically demanding as the involved mesentery is thickened and oedematous and healing may be impaired (see Chapter 65). The patient may be malnourished, on immunosuppressants or have active infection/sepsis, or potentially all three. Decision making regarding the timing and nature of surgery to be undertaken is key to a satisfactory outcome of surgical treatment, and frequently requires experience and multidisciplinary discussion with other health care professionals and, most importantly, the patient. A key decision must be made whether to anastomose the apparently healthy bowel ends after macroscopically apparent disease has been resected, as anastomotic leaks and fistulation represent a considerable problem after surgery for CD. Intra-abdominal septic complications are more common if one or more of the following risk factors are present: current high-dose steroid therapy (>10 mg prednisolone for >4 weeks before surgery); current or very recent (<14 days) preoperative monoclonal antibody therapy; preoperative significant weight loss (>10% pre-morbid weight); coexisting abdominal sepsis (notably an abscess or fistula); low serum albumin <30 g/L. If any risk factors are present (and particularly if more than one risk factor is present as the risks appear to be additive), one should consider exteriorising the bowel to create a stoma, with distal segment closure left close to the ileostomy site, and plan a delayed anastomosis when the risk factors have been corrected. Ileocaecal or colonic resections can be undertaken laparoscopically.

roscopically , with the potential advantage of smaller incisions and potentially shorter recovery time. Reoperative surgery Walter Hermann von Heineke , 1834–1901, Professor of Surgery , Erlangen, Germany . Jan Mikulicz-Radecki , 1850–1905, surgeon, Kraków and later Königsberg and Wrocław , Poland. John Miller Turpin Finney , 1863–1942, surgeon, Johns Hopkins Medical School, Baltimore, MD, USA. adhesions and fistulae can be difficult to safely dissect laparoscopically . Laparotomy should be considered in this setting. Although CD is usually regarded as a contraindication to ileal pouch surgery , the other options (panproctocolectomy or total colectomy with ileorectal anastomosis) are frequently appropriate and there may be considerable rectal sparing in CD, justifying the latter. Where the diagnosis of CD is firmly established, segmental rather than total colectomy may be appropriate. The range of operations performed for CD depends on the pattern of disease; the most common are outlined below:

- /uni25CF Ileocaecal resection is the usual procedure for terminal ileal disease, with a primary anastomosis between the ileum and the ascending or transverse colon, depending on the extent of the disease. Ileostomy without primary anastomosis is indicated if the patient is unwell, has active infection or is nutritionally depleted.
- /uni25CF Segmental resection of short segments of small or large bowel strictures can be performed.
- /uni25CF Colectomy and ileorectal anastomosis may be undertaken for colonic CD with rectal sparing and a normal anus.
- /uni25CF Subtotal colectomy and ileostomy for Crohn's colitis accounts for 8% of such procedures for acute colonic disease. The indications are similar to those for UC.
- /uni25CF Temporary loop ileostomy . This can be used either in patients with acute distal CD, allowing remission and later restoration of continuity , or in patients with severe perianal or rectal disease.
- /uni25CF Panproctocolectomy . Many patients with severe anal disease failing to respond to medical treatment will eventually require a permanent colostomy . When this occurs in a setting of severe colonic disease, proctocolectomy and permanent ileostomy may be required.
- /uni25CF Strictureplasty . Strictured areas of CD ( Figure 75.15a ) can be treated by strictureplasty , a local widening procedure, to avoid small bowel resection and is thus an important bowel-sparing technique. Strictureplasty is particularly useful for the treatment of fibrostenotic disease when there is little or no active inflammation in the involved segment. Strictureplasty is contraindicated in the presence of a phlegmon, Crohn's associated cancer or haemorrhage due to mucosal ulceration. If there is any concern about malignancy at the site of a stricture, then frozen biopsy carried out intraoperatively may allow a strictureplasty to take place rather than resection, although resection and formal histological assessment remains the better option if there is any doubt. Multiple strictureplasties can be performed and strictureplasty can be combined with resection. The Heineke–Mikulicz technique of an antimesenteric longitudinal incision that is closed transversely is the most common technique. A Finney antimesenteric side-to-side anastomosis is used to treat long segments of stenosis when preservation of bowel length is important ( Figure 75.15b ). Recent clinical research has pointed towards the importance of the mesentery in disease recurrence following resection (see Chapter 65 ). Complete excision of macroscopically diseased mesentery may reduce the incidence of recurrence, as may anastomotic techniques that ensure that an anastomosis is fashioned on the antimesenteric aspect of the bowel (Kono-S procedure). Irrespective of the site of resection or anastomotic technique used, it is important to follow patients closely in the postoperative months to ensure that recrudescence of CD is identified at a very early stage and medical treatment reinstated. A strong case can be made for restarting prophylactic biological treatment subject to endoscopic review at 6 months following resection.

Figure 75.15 (a) Crohn's disease affecting the jejunum and ileum (jejunoileitis) with multiple strictures and bowel dilatation between skip lesions. (b) Same patient following multiple

strictureplasties: Heineke–Mikulicz (arrows) and Finney (arrowheads).

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