

G. Haddock

Surgery in inflammatory bowel disease (IBD) is challenging. Failure to control disease by medical means and the consequences of this, usually account for the majority of cases coming to surgery. A much smaller group of patients present acutely, with complications including intestinal obstruction, toxic megacolon, acute GI haemorrhage and fistulating disease.

There are a number of operations, which may be required to treat a child with inflammatory bowel disease:

1. Small bowel resection
2. Small bowel strictureplasty
3. Terminal or loop ileostomy
4. Right hemicolectomy
5. Subtotal colectomy
6. Colostomy
7. Treatment of fistulating/ulcerating perianal and perineal Crohn's disease
8. J-pouch ileoanoplasty

In operating on any patient with IBD, careful consideration needs to be given to the impact of drugs (steroids and immunosuppressants) on patient healing. Thought must also be given to the need for thromboprophylaxis.

## 1. Small bowel resection (see Chap. E14)

The technique for small bowel resection is outlined in chapter E14. The surgeon should look for intestine that is normal to the human eye to deter-

mine the resection site, bearing in mind that this may well still be affected by microscopic disease.

## 2. Small bowel strictureplasty

This operation is useful where there is a short length of strictured small bowel to avoid resection.

### Steps

Figure 1:

- Identify the limits of the stricture
- Place a stay suture on either side of the stricture
- Incise the stricture longitudinally along the length of the affected small bowel

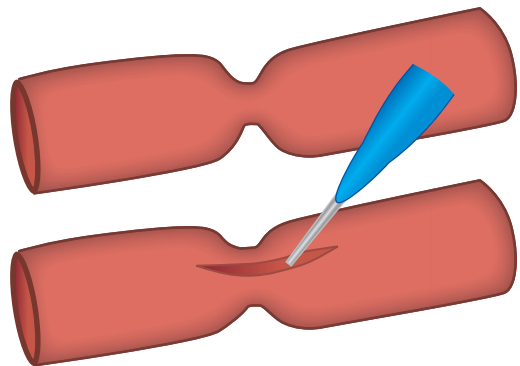


Fig. 1

Figure 2:

- Holding the stay sutures apart, close the enterotomy using interrupted single layer, serosubmucosal sutures placed transversely until the strictureplasty is closed.

---

Graham Haddock (✉)  
Consultant Paediatric and Neonatal Surgeon  
[Ghaddock@udcf.gla.ac.uk](mailto:Ghaddock@udcf.gla.ac.uk)

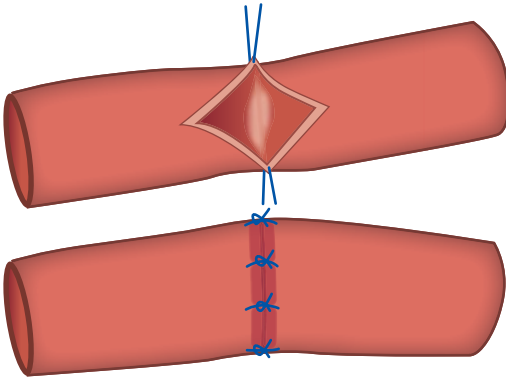


Fig. 2

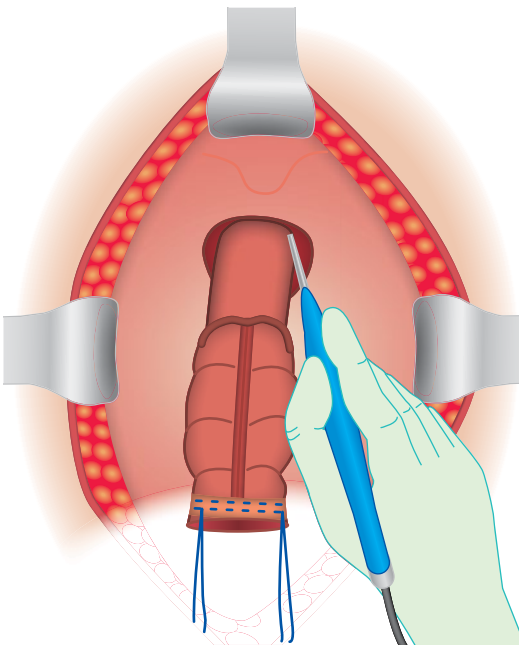


Fig. 3

### 3. Terminal or loop ileostomy (see Chap. E13)

### 4. Right hemicolectomy (see Chap. E15)

### 5. Subtotal colectomy (see Chap. E16)

### 6. End or loop colostomy (see Chap. E13)

## 7. Treatment of fistulating or ulcerating perianal and perineal disease

Fistulating and ulcerating perianal and perineal Crohn's disease can be most challenging. The principles of surgery are as follows: Identify all cavities and tracks – MRI can sometimes be useful in this process, but careful examination under anaesthetic is essential. All abscess cavities should be opened out widely and drained. Granulation tissue in the cavity should be curetted out and the cavity packed. High fistulae may need placement of a seton suture, although children do not tolerate this well. Rarely a defunctioning stoma may be needed.

## 8. J-pouch ileoanoplasty and completion proctectomy

Restorative J-pouch ileoanoplasty and completion proctectomy is possible in children who have undergone subtotal colectomy for ulcerative colitis. It should be avoided in Crohn's disease and in indeterminate colitis, due to the risk of this becoming Crohn's disease in the future.

### Steps

The patient is placed supine with the legs in the Lloyd–Davis position. Access to the anus is essential. The ileostomy should be circumcised and fully mobilized. This can be closed using a linear cutting stapling device. The old midline abdominal wound is reopened and great care taken to divide all adhesions. Particular care needs to be taken to free up the root of the small bowel mesentery – failure to do this may result in difficulty getting the J-pouch to reach the anus.

Figure 3:

- The rectum is now mobilized using monopolar diathermy
- The superior rectal vessels if left intact at the original colectomy, act as a useful marker to the retro-rectal dissection.

- The pelvic nerves and ureters should be identified and avoided during the dissection. This is best achieved by keeping the dissection close to the rectal wall using monopolar diathermy.
- Care should be taken in dissecting the rectum off of the vagina in girls and the seminal vesicles in boys.
- Dissection should be continued down to within 1 centimetre of the dentate line.
- The distal end of the small bowel is sutured to the proximal limb taking care to ensure that the small bowel mesentery is not compromised and will not be divided when the linear cutting stapler is fired.
- A small hole is created in the distal end of the j-pouch and two firings of a 75mm linear cutting stapler are made to create the pouch.

Figure 4:

- A stapling device is then placed across the rectum and closed. Before firing, the level is checked by placing a finger in the anal canal. If satisfactory, the stapling device is fired and the rectum amputated.

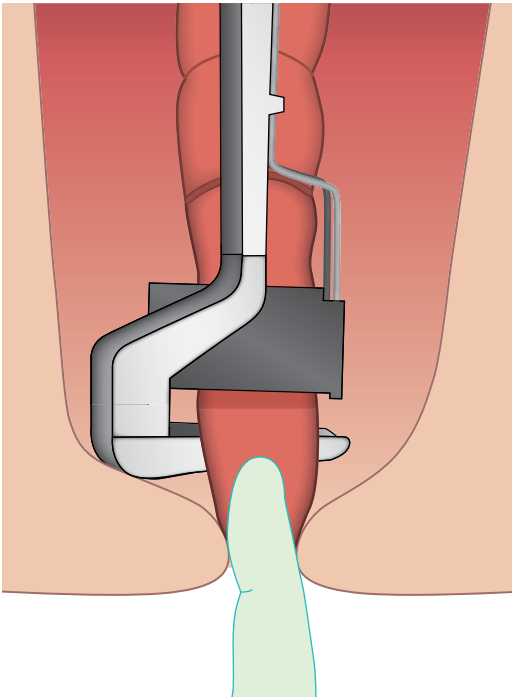


Fig. 4

Figure 5 (1<sup>st</sup> two diagrams):

- The terminal ileum is now prepared for pouch formation.
- A 15cm long pouch is usually adequate in children.
- A Babcock clamp is placed on the site corresponding to the apex of the pouch.

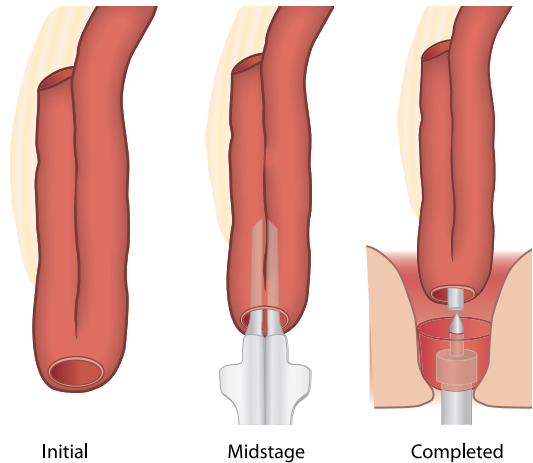


Fig. 5

Figure 5 (last diagram):

- An appropriately sized circular stapling device is identified.
- A purse-string suture of monofilament nylon is then placed around the circumference of the open end of the J-pouch.
- The anvil of the stapling device is placed inside the open end of the J-pouch and the purse-string suture is tied in place.
- The stapling device is introduced through the anus and the spike of the device extended to pierce the rectal staple line.
- The anvil contained in the pouch is locked onto the end of the spike and care is taken to check the orientation of the pouch in relation to its blood supply.
- The stapling device is then closed and fired.
- The stapling device is removed by a gentle to-and-fro twisting movement.
- A tube drain may be left alongside the pouch and brought out through the abdominal wall.

Figure 6:

- A new loop ileostomy is fashioned using a loop of small bowel just proximal to the pouch.
- The abdominal wound is closed using a mass closure technique.

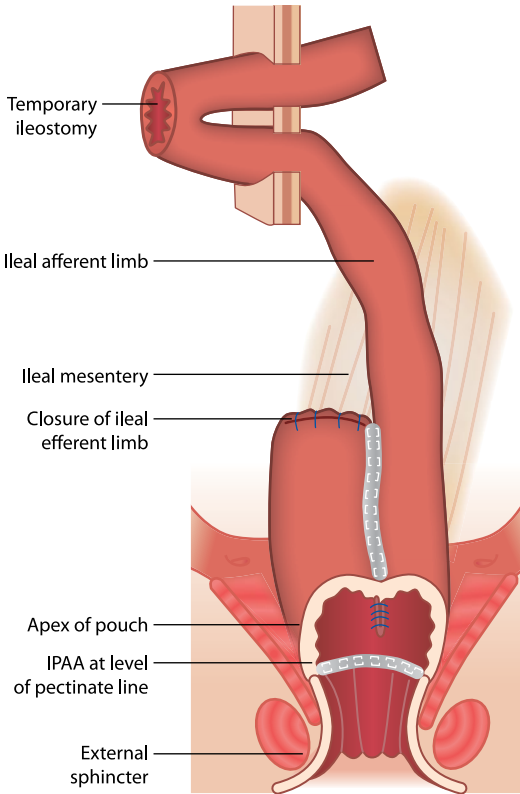


Fig. 6