

# Rectal prolapse and surgery for faecal incontinence

Judith Johnston  
Athur Harikrishnan

## Abstract

Both rectal prolapse and faecal incontinence are common, multifactorial conditions that present both electively to colorectal and pelvic floor clinics, and to the emergency take. The conditions can be complex to treat as can the medical conditions of the elderly patients they can affect. Treatments are evolving but will often involve significant buy in from patients and their carers. This article highlights some of these surgical interventions to enable trainees to have discussions in outpatient settings.

**Keywords** Faecal incontinence; rectal prolapse; surgery

## Introduction

The true incidence of rectal prolapse and faecal incontinence is unclear, but both are relatively common. The reason for this lack of clarity is the stigmatizing nature of the conditions but it is thought to be around 2.5 to 5 per 100,000 population for rectal prolapse<sup>1,2</sup> and between 1% and 18% of the adult population affected by faecal incontinence.<sup>3</sup> While both conditions can affect anyone, they are more common in elderly women. There are numerous factors which can influence the conditions which can complicate their treatment. We will elucidate some of the numerous management options available.

## Rectal prolapse

Rectal prolapse is the protrusion or intussusception of the rectum through the anus<sup>4</sup> more commonly seen in those assigned female at birth at a ratio of 9:1.<sup>5</sup> While the condition can occur at any age, it is most common in the post-menopausal group and after the sixth decade of life. Conceptualizing rectal prolapse as a form of hernia can assist in understanding both the pathophysiology and management.<sup>6</sup>

Risk factors for developing a rectal prolapse include:<sup>4</sup>

- increasing parity, particularly large babies delivered vaginally
- obesity
- neurological/spinal abnormalities

- connective tissue disorders (e.g., Marfan's, Ehlers–Danlos syndrome)
- psychiatric illness (e.g., anorexia nervosa).

Patients commonly present with a lump at the anus, which may require manual reduction. Presenting symptoms includes faecal incontinence in 50%–80% of patients and constipation in 20%–50%.<sup>7</sup> Other symptoms are perineal heaviness, bleeding or mucous discharge from the anus and tenesmus.<sup>8</sup> Symptoms may occur intermittently, after episodes of raised intra-abdominal pressure (defaecation, coughing, sneezing), on standing, or be present all the time.<sup>8</sup> Patients with rectal prolapse typically present electively to the outpatient clinic but may be seen as an emergency if the prolapse becomes incarcerated with pain and bleeding, or the patient develops gangrene of the rectum.

Patients presenting with rectal prolapse should undergo investigations to assess the underlying aetiology of the prolapse along with discussion within the pelvic floor multidisciplinary team. Investigations should include colonoscopy (in order to exclude lesions causing a lead point for rectal prolapse), ano-rectal physiology, colonic transit studies (associated constipation influences treatment choices) and proctography. There is also a role for 3D or high resolution endoanal or transvaginal ultrasound.<sup>9</sup>

Rectal prolapse may be partial thickness (mucosa only) or full thickness with all layers of the rectal wall involved. Mucosal prolapse is typically associated with haemorrhoids or anal sphincter incompetence. Mucosal prolapse appears as a lump at the anus with radial folds across the mucosa (Figure 1). There is no groove between the rectum and the anal skin as the anoderm will be everted. In full-thickness prolapse, the anal lump will demonstrate concentric rings (Figure 1) with a palpable groove between the rectum and anal skin; these concentric rings will allow delineation from haemorrhoids. Differentiation between types is important as treatment options are dictated by the type of prolapse.

Mucosal prolapse is usually treated<sup>4</sup> with relatively minor interventions such as:

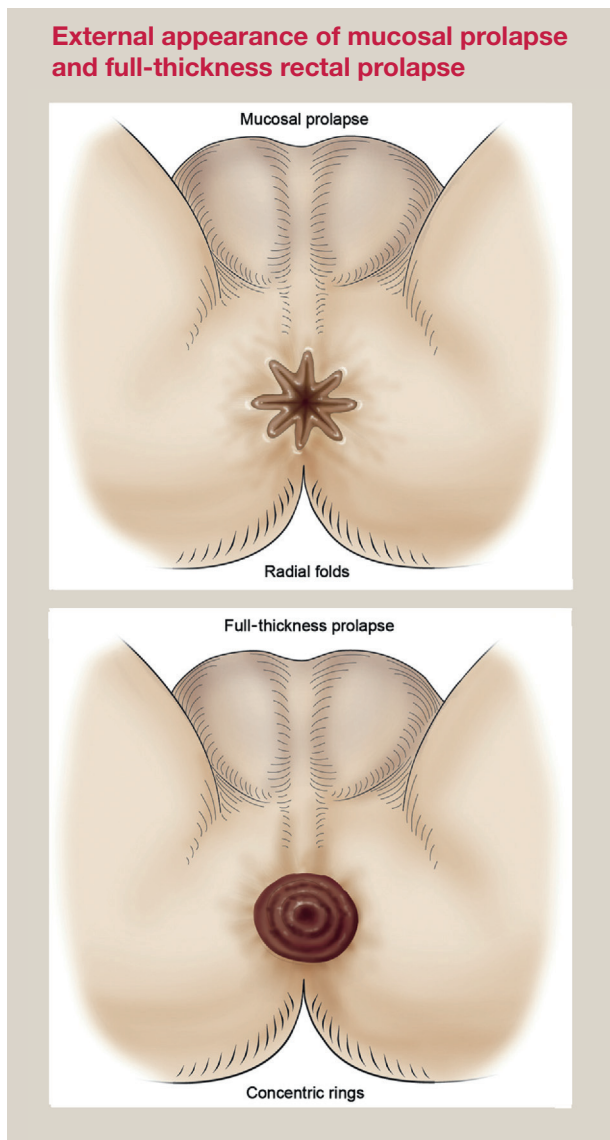
- stool-bulking agents and fibre
- injection sclerotherapy
- mucosal banding/plication/excision/radiofrequency ablation
- haemorrhoidectomy/haemorrhoidal artery ligation if associated with haemorrhoids
- PPH (procedure for prolapse and haemorrhoids) or STARR procedure (stapled transanal rectal resection), reserved for selected specialist centres in the UK.

Most interventions for mucosal prolapse can be done on an outpatient or day case basis, providing the patient has few other comorbidities.

Full-thickness prolapse may be managed with stool-bulking agents and fibre if the patient is too frail for surgery,<sup>10</sup> or reduction of acute prolapse with glucose or similar<sup>11</sup> but definitive treatment for this condition is almost exclusively surgical.<sup>4</sup> Surgical interventions for full-thickness prolapse can be divided into abdominal and perineal approaches. There is some evidence to suggest that abdominal approaches offer improved outcomes<sup>1</sup> but overall there is little difference to outcome and all approaches improve patient quality indexes.<sup>12</sup> The choice of approach therefore depends on multiple factors

**Judith Johnston MBBS MRCS** is a Specialty Registrar in Yorkshire, UK. Conflicts of interest: none declared.

**Athur Harikrishnan MS MPhil FRCS (Gen Surg)** is a Consultant Colorectal Surgeon at the Northern General Hospital, Sheffield, UK and Training Programme Director for General Surgery in the Yorkshire and Humber Deanery. Conflicts of interest: none declared.



**Figure 1**

such as surgeon preference, comorbidities, gender, age and sexual activity.<sup>4</sup> Perineal approaches are usually chosen for elderly or frail patients as they are less invasive than abdominal approaches and can be performed under regional rather than general anaesthesia. Young adult males may opt for a perineal approach given the potential for erectile dysfunction after mobilization of the rectum during an abdominal procedure.<sup>4</sup> Abdominal procedures are usually chosen for those with associated urogenital prolapse<sup>4</sup> to allow both problems to be addressed simultaneously. Patients with constipation and full-thickness rectal prolapse are typically offered a resection rectopexy (abdominal approach) as resection of the redundant colon reduces constipation postoperatively.<sup>4,8</sup>

**Perineal approaches**

**Delorme’s procedure:** A sleeve of prolapsed rectal mucosa is excised, and the underlying muscle layer of the rectal wall is plicated (Figure 2). It has low morbidity and mortality with minimal impact on bowel function and continence. Recurrence

rates are relatively high at 10%–15%,<sup>1</sup> but the procedure can be repeated in those who become symptomatic.

**Altemeier’s procedure (perineal rectosigmoidectomy)** involves resection of the redundant rectosigmoid with hand-sewn or stapled coloanal anastomosis by dissecting into the peritoneal cavity through the prolapsed peritoneal lining of the pouch of Douglas (Figure 3).<sup>4,13</sup> As with all anastomoses, there is a risk of anastomotic leak with this procedure which causes pelvic sepsis. However, given that this is usually localized to the perineum it is often well-tolerated, even in the elderly. Continence has been demonstrated to improve after Altemeier’s procedure. The recurrence rate after Altemeier’s is 16%–30% at 2 years.<sup>1</sup> Associated levatorplasty has been demonstrated to reduce recurrence rates.<sup>1</sup>

Thiersch wire (anal encirclement) is a wire or nylon suture placed around the anus to narrow it and prevent prolapse. This is perceived to have high recurrence rates and has largely fallen out of favour.

**Abdominal approaches**

Abdominal procedures can be performed open or laparoscopically. Laparoscopic procedures offer reduced morbidity and a shorter length of stay<sup>1,14</sup> but are not technically feasible in all patients due to previous surgery or respiratory compromise. There is also an increasing prevalence of procedures being performed robotically.<sup>15</sup> All procedures involve rectopexy (mobilization of the rectum which is then attached to the sacrum with either mesh or sutures), but selected patients may also undergo resection of the redundant sigmoid colon associated with the prolapse as this has been shown to reduce postoperative constipation.<sup>8,14</sup>

**Rectopexy** can be performed using sutures or mesh to attach the rectum to the sacrum. Recently, concern has been raised about the risks of mesh infection and mesh erosion, particularly with sling procedures. Serious mesh complications after surgery for rectal prolapse are relatively uncommon, but patients should be counselled appropriately prior to undergoing this type of surgery. In all procedures using mesh, the surgeon should aim to close the peritoneum over the mesh to reduce the risk of small bowel obstruction.<sup>4</sup> Faecal incontinence is improved in up to 60% of patients<sup>10</sup> but defecatory disorders are common postoperatively with constipation in up to 40%<sup>8</sup> and evacuatory difficulties.<sup>4</sup>

Preservation of the lateral rectal ligaments may reduce postoperative constipation but causes an increase in recurrence rates.<sup>8,14</sup> Rectopexy may be performed using either an anterior or a posterior approach. It is unclear from the current literature which approach gives the best outcomes.<sup>1,14</sup> Anterior approaches include Ripstein procedure and ventral mesh rectopexy. Posterior approaches include Well’s procedure and Orr-Loygue procedure.

- Ripstein procedure involves posterior mobilization of the rectum followed by insertion of a piece of mesh sutured to the sacrum and onto the anterior wall of the rectum. Recurrence rates vary from 0 to 10% with sling complications in up to 16.5%.<sup>13</sup>
- Ventral mesh rectopexy is based around the concept that anterior rectal wall intussusception initiates the rectal prolapse.<sup>4</sup> The rectum is mobilized anteriorly to allow fixation of the mesh to the distal rectovaginal septum

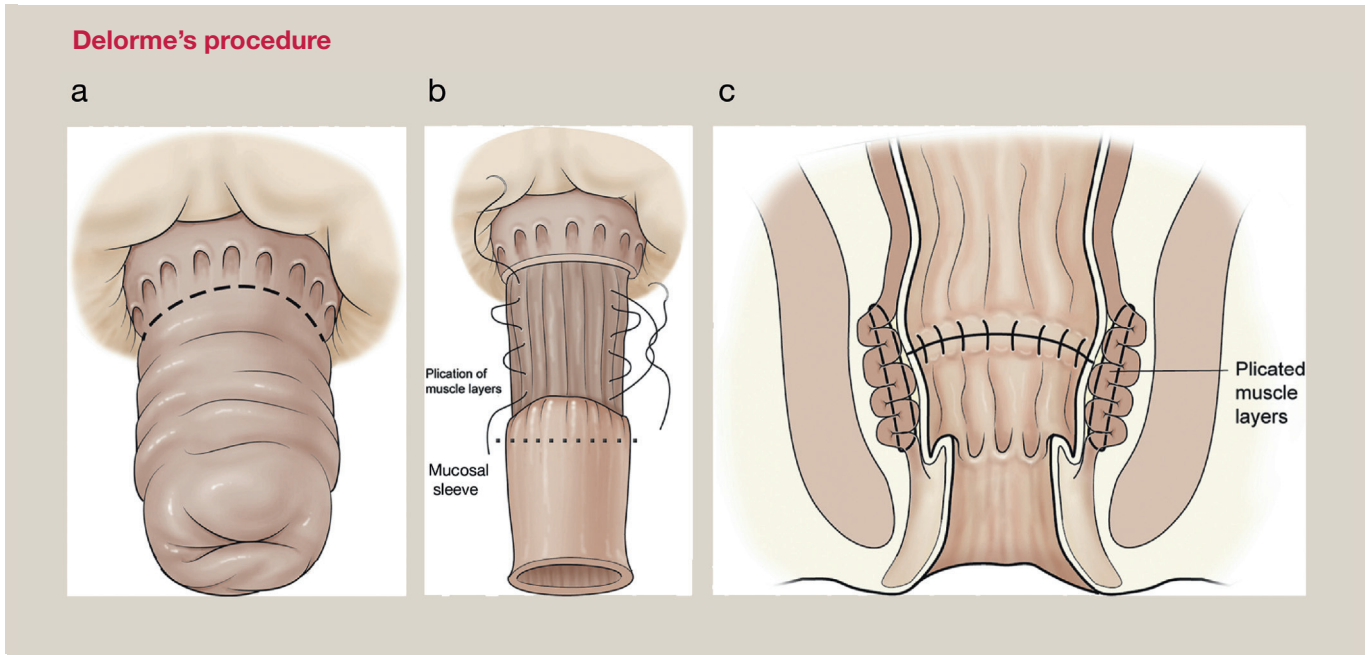


Figure 2

(Figure 4).<sup>4,14</sup> The mesh supports the rectovaginal septum and elevates the pelvic floor.<sup>14</sup> Approximately 3%–4% of patients develop recurrence after ventral mesh rectopexy<sup>4,16</sup> with 4.6% developing mesh-related complications at 10 years.<sup>1</sup>

- Well's procedure involves posterior mobilization of the rectum with mesh being placed posteriorly, wrapped around the lateral aspects of the rectum and attached to the sacrum. This leaves the anterior wall of the rectum free, so it reduces the chance of stricture formation compared to anterior procedures.<sup>13</sup> Recurrence rates are like those for Ripstein procedures.
- Orr-Loygue procedure is a ventral rectopexy with posterior mobilization of the rectum down to the pelvic floor.<sup>17</sup> This procedure has higher rates of postoperative constipation than ventral rectopexy without posterior mobilization,<sup>17</sup> due to rectal denervation during posterior mobilization.<sup>4</sup>

**Resection rectopexy** involves resection of the redundant sigmoid colon and upper rectum with fixation of the remaining rectum to the sacrum.<sup>10</sup> The rectum is often fixed to the sacrum with sutures rather than mesh due to increased risk of infection after a colonic resection.<sup>4</sup> Resection rectopexy has superior results to rectopexy alone but comes with a significant morbidity risk given the presence of a colorectal anastomosis and its potential to leak. Recurrence rates are estimated at 2%–9%.<sup>13</sup>

Resection of the redundant colon above the rectopexy reduces the incidence of postoperative constipation and may prevent volvulus of the sigmoid.<sup>13</sup>

For patients with recurrent prolapse, further surgery carries a significant risk of postoperative bowel dysfunction with obstructive or incontinence symptoms.<sup>4</sup> Perineal approaches can be safely repeated, whereas patients who have undergone an abdominal procedure are typically offered a perineal procedure.

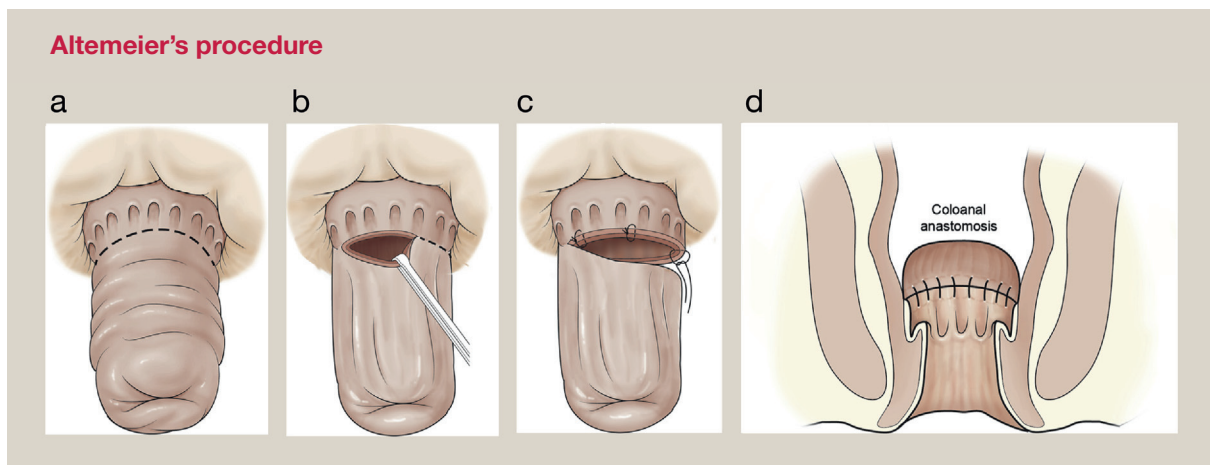


Figure 3

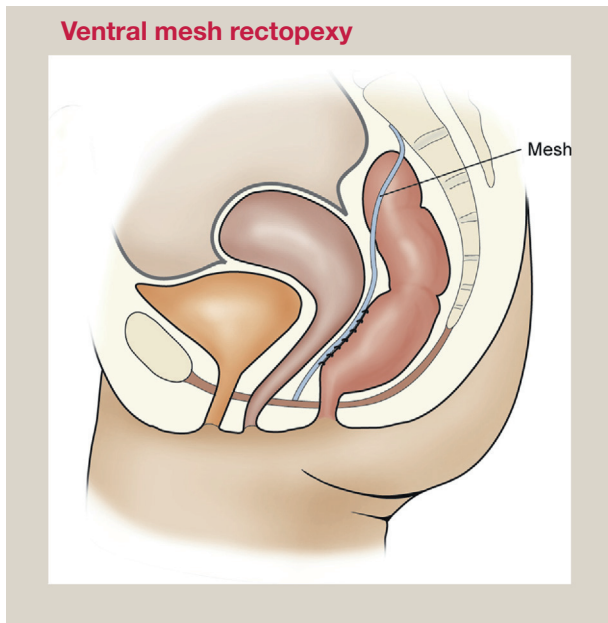


Figure 4

### Faecal incontinence

Faecal incontinence is a socially debilitating condition defined as the involuntary loss of solid or liquid stool through the anus in those who were previously continent.<sup>8,18</sup> Prevalence is estimated between 1% and 18%<sup>3</sup> but is likely to be underreported due to embarrassment and the socially debilitating nature of the condition. It can be subdivided into passive (loss without awareness) or urge (inability to defer defaecation until a socially appropriate time) incontinence<sup>19</sup> and this will largely depend on the underlying aetiology. Urge incontinence suggests external anal sphincter or rectal pathology.<sup>3</sup> Faecal incontinence is often a result of a complex interplay of underlying factors rather than a single pathology. This makes it complex to treat and often requires a trial-and-error approach to management. Continence is reliant upon stool consistency, rectal capacity and compliance, local reflexes, anal sphincter and pelvic floor function and ano-rectal sensation<sup>3,8</sup> being normal. Conditions that affect any of these factors may lead to faecal incontinence, for example:

- trauma, including obstetric and sexual<sup>20</sup>
- anal surgery – fistulae, haemorrhoidectomy
- rectal prolapse
- inflammatory bowel disease
- functional bowel disorders including irritable bowel syndrome and constipation/faecal impaction
- radiation proctitis
- neurological disorders – multiple sclerosis, muscular dystrophies, spina bifida, pudendal neuropathy, spinal trauma
- low anterior resection syndrome (after low anterior resection usually for rectal cancer)
- congenital abnormalities – anal agenesis, Hirschsprung's.

Patients presenting with faecal incontinence should undergo a thorough assessment to establish the underlying aetiology to allow appropriate treatment to be offered. This should include a detailed history (including obstetric and urogynaecological

histories), objective assessment with a standardized scoring system (e.g. St Mark's Incontinence Score, Faecal Incontinence Severity Score, Cleveland Clinic Florida/Wexner Faecal Incontinence Score, Rome criteria)<sup>3,18</sup> and examination to assess for rectal prolapse, perianal scarring, fistulae, ano-rectal cancers and spinal pathology. Investigations may include flexible sigmoidoscopy, endoanal ultrasound (to assess sphincter defects), ano-rectal physiology (to assess reflexes, rectal capacity/compliance and sphincter function) and defecating proctogram (to assess for obstructive defaecation syndrome, rectal intussusception and pelvic floor descent) depending on the likely cause established from the history.<sup>8</sup> Given that faecal incontinence is often a multifactorial problem with many underlying causes, numerous treatments are available for managing the problem. These can be divided into medical (conservative) and surgical modalities (Table 1). The rest of this article will focus on surgical treatment of faecal incontinence. Surgical treatments are usually reserved for those where medical management has failed to control their symptoms.

### Treatment

**Sphincter repair or sphincteroplasty** is delayed repair of a defect in the sphincter muscles.<sup>3</sup> This is performed either in lithotomy or prone. An incision is made between the anus and introitus to allow exposure of the sphincter muscles. Scar tissue at the site of the defect is excised, the muscle ends overlapped and sutured to recreate a complete muscular sphincter (Figure 5).<sup>2</sup> An anterior levatorplasty can be combined with the sphincter repair, where the margins of the two levators are plicated. Between 40% and 45% of patients report satisfaction with their outcomes at 5–10 years.<sup>3</sup> Sphincteroplasty can be repeated if there is a demonstrable defect postoperatively.

**Pelvic floor repair:** When the pelvic floor is lax, the anal sphincter mechanism descends and the normal ano-rectal angle is lost.<sup>10</sup> Posterior pelvic floor repair aims to increase the length of the anal canal and move it forwards restoring the normal ano-rectal angle and improving continence.<sup>3,10</sup> Long-term results are disappointing and consequently posterior anal repair is no longer recommended.<sup>10,14</sup>

**Neosphincter:** Sphincter replacement can be performed either as autologous muscle transposition or insertion of an artificial material to replace the anal sphincter if local repair of the sphincter is not feasible.

Muscle transposition uses either the gluteals, or more commonly the gracilis.<sup>3</sup> Insertion of an electric stimulator to cause permanent constriction of the muscle (or dynamic graciloplasty) is now the most performed muscle transposition procedure.<sup>3</sup> Stimulated procedures have significantly better efficacy than non-stimulated meaning that non-stimulated procedures are no longer performed.<sup>3</sup> Both stimulated and non-stimulated muscle transposition procedures come with significant morbidity, so less aggressive surgical options are often preferred for treating faecal incontinence.<sup>3</sup>

Artificial sphincters are a fluid-filled silicone cuff that sit around the anal canal to recreate or reinforce the anal sphincter (Figure 6).<sup>3</sup> Typically, a pressure-regulating balloon connected to the cuff sits in the retro-rectal space of Rezius and can be

**Medical and surgical treatment options for faecal incontinence**

Medical	Surgical
Pads	Anal sphincter repair (anterior and posterior)
Dietary modification	Pelvic floor repair (pre-anal, post-anal or total)
Pelvic floor muscle training	Neosphincter/sphincter reconstruction
Biofeedback	Sphincter augmentation
Anal plugs	Sacral nerve stimulation
Rectal irrigation/manual evacuation	Radiofrequency ablation
Percutaneous tibial nerve stimulation	Antegrade continence enema (ACE)
Anal electrostimulation	Stoma
Faecal collection devices	Rectal prolapse repair
Drugs e.g. Loperamide, codeine, laxatives, amitriptyline (rectal hypersensitivity), cholestyramine (bile salt malabsorption diarrhoea), psyllium (stool-bulking), steroids (IBD), enemas, suppositories	Haemorrhoidectomy

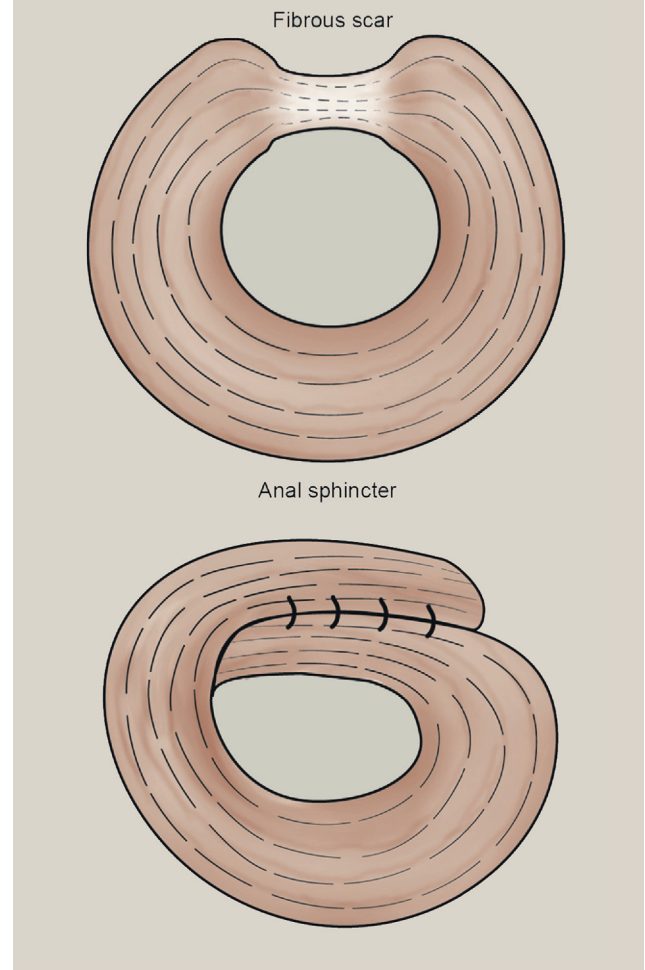
**Table 1**

controlled by the patient using a pump implanted into the labia majora or scrotum.<sup>3</sup> Artificial sphincters are highly successful if they can be implanted and retained without complications.<sup>14</sup> However, there is a high incidence of significant complications with only 59% of patients still having a functional artificial sphincter at 5 years.<sup>18</sup> These include infection (acute and chronic), device erosion, anorectal ulceration, device malfunction, device migration, pain and constipation.<sup>14</sup> Most complications usually resolve with explantation of the device. Given the high risk of complications, artificial anal sphincters are usually reserved for patients where all other treatments have failed or there is extensive sphincter destruction (>180°).<sup>14</sup>

**Magnetic anal sphincter:** A string of titanium beads with magnetic cores is implanted to encircle the anus.<sup>3,18</sup> Pressure generated during defaecation overcomes the magnetic attraction between the beads allowing them to separate and the anal canal to open.<sup>18</sup> These devices are easier to insert than artificial anal sphincters and do not require manipulation by the patient to function<sup>3</sup> but there is limited evidence supporting their use at present with long-term outcomes still awaited and the terminated SaFaRI trial suggesting higher morbidity and lower efficacy than previously thought.<sup>21</sup>

Injectable bulking agents are injected into the submucosal or intersphincteric plane to cause fibrosis and collagen deposition, narrowing the anal canal.<sup>3,18</sup> Ultrasound-guided injections have better short-term outcomes than blind procedures.<sup>18</sup> Agents used include autologous fat, silicone, carbon beads, Teflon and

**Overlapping sphincter repair**



**Figure 5**

stabilized hyaluronic acid.<sup>3,18</sup> Given the current lack of evidence for their use<sup>14</sup> and the short duration during which they seem to be effective, injectable bulking agents are reserved for patients with minor symptoms only.

**Sacral nerve stimulation (SNS):** Stimulation of the sacral nerves is thought to recruit additional function from the anal sphincters and pelvic floor muscles, as well as reducing the rectal sensory threshold<sup>3</sup> therefore reducing episodes of faecal incontinence (Figure 7). SNS is an expensive intervention and therefore all patients undergo a two- to three-week trial<sup>3,22</sup> with a temporary sacral nerve stimulator to assess whether their symptoms respond. With the patient prone, the S3 foramina are cannulated under fluoroscopic guidance.<sup>3</sup> Stimulation of the S3 nerve root will cause ‘bellowing’ of the pelvic floor and plantar flexion of the ipsilateral hallux.<sup>3</sup> Bilateral S2 to S4 foramina should be tested to assess for the best response.<sup>3</sup> Once the most effective foramina have been selected, the wire is then connected to a portable external stimulator. Patients are then asked to record a symptom diary for 2–3 weeks and those with >50% improvement will go on to have a permanent SNS implanted.<sup>3</sup>

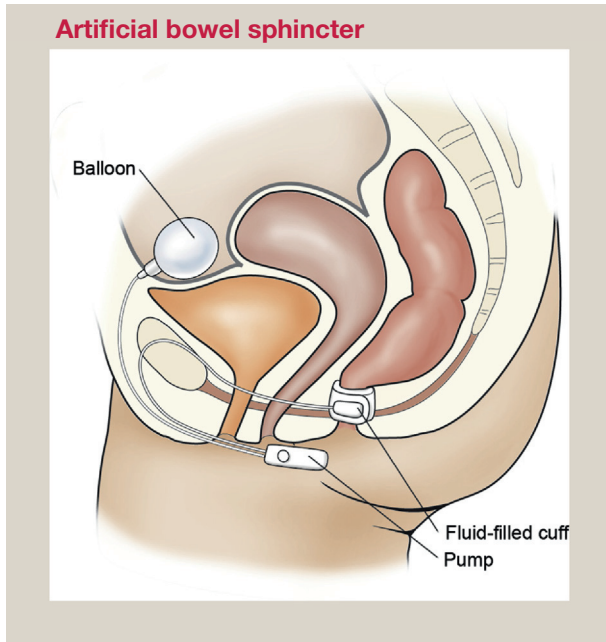


Figure 6

The patient will be given a hand-held device to deactivate the SNS and allow defaecation<sup>3</sup> at a convenient time; 74% of patients report >50% improvement in symptoms at 5 years with improved quality of life.<sup>3</sup> Complications occur in approximately 15% of SNSs and include pain, paraesthesia, altered sensation and infection.<sup>3</sup> SNS batteries need changing every 5 years and therefore the patients must be willing to undergo recurrent intervention, however newer devices can be rechargeable.<sup>23</sup>

**Radiofrequency energy:** Here, temperature-controlled radiofrequency energy is applied to the anal sphincter complex<sup>18</sup> to improve function. At present, most studies have failed to demonstrate a 50% improvement in weekly faecal incontinence episodes<sup>18</sup> with long-term effects also not maintained.<sup>24</sup>

**Antegrade continence enemas (ACE)** were originally used in children with severe constipation, where the appendix was brought out onto the surface of the skin as an appendicostomy to allow enemas to be given antegrade or proximally.<sup>3</sup> This has been adapted for use in adults with faecal incontinence, where seepage secondary to constipation or colonic motility disorders is the cause for their incontinence.<sup>3,22</sup> In adults, a colonoscopically guided percutaneous catheter is placed into the caecum and the caecum is anchored to the abdominal wall.<sup>3</sup> This allows for antegrade enemas or irrigation of the colon. Infections around the catheter and leakage from the catheter site can be problematic, but most patients tolerate ACE well with 91% still using them at 4 years.<sup>3</sup>

**Stoma:** For patients where all other treatments have failed to adequately improve their symptoms, an end colostomy usually allows resumption of normal activities and a significant improvement in quality of life. Eighty-four per cent of patients who have a colostomy for faecal incontinence would opt to have

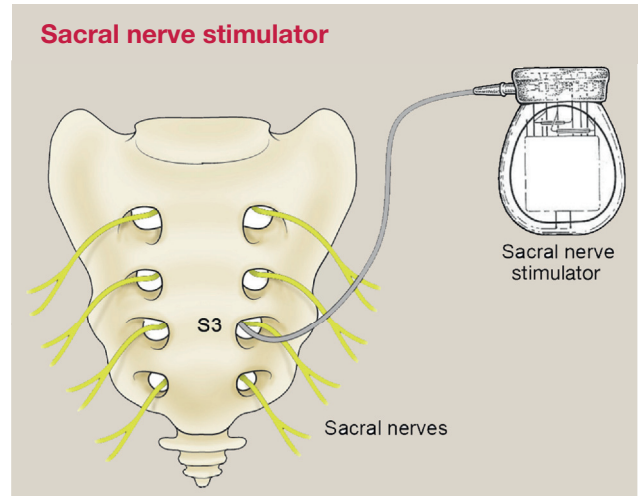


Figure 7

a stoma again.<sup>3</sup> Patients should undergo colostomy formation without proctectomy<sup>3</sup> to allow for restoration of continuity in the future should the patient wish.

A multitude of surgical options are available with faecal incontinence, each with their own benefits and drawbacks. Patients should be appropriately counselled about these prior to making any treatment decisions, as several of them require significant patient engagement to be successful. At present there is a lack of high-quality randomized controlled trial evidence for surgery for faecal incontinence. Most of the recent evidence has focussed on sacral nerve stimulation and injectable bulking agents, both of which have drawbacks for certain patients. The most recent Cochrane review concluded that it is impossible to differentiate between surgical procedures (other than sacral nerve stimulation and injectable bulking agents) at present.<sup>14</sup> Therefore, treatment decisions should be tailored to individual patients only after careful discussion with an expert in managing faecal incontinence. ◆

REFERENCES

- 1 Bordeianou L, Paquette I, Johnson E, et al. Clinical practice guidelines for the treatment of rectal prolapse. *Dis Colon Rectum* 2017; **60**: 1121–31.
- 2 Kairaluoma MV, Kellokumpu IH. Epidemiologic aspects of complete rectal prolapse. *Scand J Surg* 2005; **94**: 207–10.
- 3 Lehur PA. Incontinence. In: Clark S, ed. *Colorectal surgery: a companion to specialist surgical practice*. Companion: Elsevier, 2018.
- 4 Fearhead N. Functional problems and their surgical management. In: Clark S, ed. *Colorectal surgery E-book: companion to specialist surgical practice*. Elsevier Health Sciences, 2018.
- 5 Corman M. Rectal prolapse, solitary rectal ulcer, syndrome of the descending perineum, and rectocele. *Colon and Rectal Surgery*. Philadelphia, PA: Lippincott Williams and Wilkins, 2004.
- 6 Keller DS, Smart N. Is rectal prolapse a hernia? *Colorectal Dis* 2022; **24**: 351–2.
- 7 Beck DE, Roberts PL, Saclarides TJ, et al. *The ASCRS textbook of colon and rectal surgery*. Springer, 2011.

- 8 MacKay GJ, Dorrance HR, Molloy RG, et al. *Colorectal surgery*. Oxford University Press, 2010.
- 9 Jeong HY, Yang SJ, Cho DH, et al. Comparison of 3-dimensional pelvic floor ultrasonography and defecography for assessment of posterior pelvic floor disorders. *Ann Coloproctol* 2020; **36**: 256–63.
- 10 Smith CP. *Essential revision notes for intercollegiate MRCS: book 2*. PasTest Ltd, 2006.
- 11 Myers JO, Rothenberger DA. Sugar in the reduction of incarcerated prolapsed bowel. Report of two cases. *Dis Colon Rectum* 1991; **34**: 416–8.
- 12 Senapati A, Gray RG, Middleton LJ, et al. Prosper: a randomised comparison of surgical treatments for rectal prolapse. *Colorectal Dis* 2013; **15**: 858–68.
- 13 Hamel CT, Wexner SD. *Rectal prolapse. Surgical treatment: evidence-based and problem-oriented*. Zuckschwerdt, 2001.
- 14 Tou S, Brown SR, Nelson RL. Surgery for complete (full-thickness) rectal prolapse in adults. *Cochrane Database Syst Rev* 2015; **2015**: Cd001758.
- 15 Faucheron JL, Trilling B, Girard E. Robotic ventral mesh rectopexy for rectal prolapse: a few years until this becomes the gold standard. *Tech Coloproctol* 2019; **23**: 407–9.
- 16 Gurland B. Ventral mesh rectopexy: is this the new standard for surgical treatment of pelvic organ prolapse? *Dis Colon Rectum* 2014; **57**: 1446–7.
- 17 Samaranayake CB, Luo C, Plank AW, et al. Systematic review on ventral rectopexy for rectal prolapse and intussusception. *Colorectal Dis* 2010; **12**: 504–12.
- 18 Paquette IM, Varma MG, Kaiser AM, et al. The American society of colon and rectal surgeons' clinical practice guideline for the treatment of fecal incontinence. *Dis Colon Rectum* 2015; **58**: 623–36.
- 19 Brown SR, Wadhawan H, Nelson RL. Surgery for faecal incontinence in adults. *Cochrane Database Syst Rev*, 2013.
- 20 Markland AD, Dunivan GC, Vaughan CP, et al. Anal intercourse and fecal incontinence: evidence from the 2009-2010 national health and nutrition examination survey. *Am J Gastroenterol* 2016; **111**: 269–74.
- 21 Jayne DG, Williams AE, Corrigan N, et al. Sacral nerve stimulation versus the magnetic sphincter augmentation device for adult faecal incontinence: the SaFaRI RCT. *Health Technol Assess* 2021; **25**: 1–96.
- 22 National Institute for Health and Care Excellence (NICE). *Faecal incontinence in adults: management [CG49]*, 2007.
- 23 De Wachter S, Knowles CH, Elterman DS, et al. New technologies and applications in sacral neuromodulation: an update. *Adv Ther* 2020; **37**: 637–43.
- 24 Vergara-Fernandez O, Arciniega-Hernández JA, Trejo-Avila M. Long-term outcomes of radiofrequency treatment for fecal incontinence: are the results maintainable? *Int J Colorectal Dis* 2020; **35**: 173–6.

### Practice points

- Rectal prolapse and faecal incontinence are often multifactorial in origin, which can make them complex to treat
- Treatment often involves significant patient or family participation, meaning that their involvement in decisions around treatment options is vital to improve outcomes
- Surgery for rectal prolapse may be via an abdominal or perineal approach. The choice of procedure depends upon comorbidities and previous surgery but both patient and surgeon preference also play a significant part
- Multiple surgical options exist for managing faecal incontinence. There is little high-quality evidence for many of these and again, choice of treatment largely depends on patient preference