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Common benign perianal conditions

Getting to the bottom of the problem

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Most patients presenting with anorectal symptoms will have benign anorectal pathology and can be successfully treated in the primary care setting; however, specialist referral should always be considered for patients with any suspicious symptoms or signs.

Key points

- **Although most patients with anorectal symptoms presenting to their GPs have benign disease, the possibility of proximal colorectal pathology, including colorectal neoplasia, should always be considered and if suspected excluded by appropriate investigation.**
- **Common benign anorectal disorders include internal and external haemorrhoids, anal fissures, anal abscesses and fistulas, rectal prolapse and pruritus ani.**
- **The combination of presenting symptoms and signs, including pain, bleeding, presence of a lump or mass, discharge, and/or pruritus, is usually the key to diagnosis.**
- **Most patients with symptomatic haemorrhoids, fissures and pruritus ani can be managed in the primary care setting.**
- **In patients with disorders where the predisposing cause is defaecatory dysfunction (haemorrhoidal disorders, anal fissures or rectal prolapse), conservative management aimed at correcting this should always be discussed, whether or not surgical intervention is undertaken.**

Anorectal symptoms are commonly encountered in general practice and may be secondary to a diverse group of conditions (see the box on page 51). Most presentations are due to benign anorectal disease, but the possibility of proximal colorectal pathology, including colorectal neoplasia, should always be considered and if suspected excluded by appropriate investigation, usually colonoscopy or flexible sigmoidoscopy, depending on the patient's age and presentation. Factors and symptoms that increase the suspicion of more significant pathology ('red flags') are listed in the box on page 51.

Disorders of defaecation (constipation, obstructed defaecation and faecal incontinence) often predispose to, or are associated with, anorectal pathology and may need investigation and treatment on their own merit. Systemic conditions and sexually transmitted infections may also present with anorectal symptoms. Full discussion of these disorders is beyond the scope of this article.

ANORECTAL ANATOMY

The anal canal is approximately 3 to 4 cm in length, depending on gender and parity, and extends from the anal verge to the anorectal junction (Figure 1). This lies at the level of the puborectalis muscle sling, at the upper extent of the external sphincter. The dentate line is 1 to 2 cm from the anal verge and marks where the squamous epithelium (ectoderm) transitions from squamous to columnar epithelium (endoderm). Anal epithelium is insensate above the dentate line.

Eight to 10 anal glands open into the anal crypts at the base of the anal columns at the level of the dentate line. The gland ducts extend a varying distance through the anal wall into the internal sphincter and occasionally the external sphincter.

Haemorrhoids are 'cushions' of vascular tissue and are part of the normal anal canal anatomy.[1] They are blood-filled spaces (sinusoids) supported by a matrix of fibrous tissue and smooth muscle, located in the submucosal plane. There are three primary

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COMMON ANORECTAL CONDITIONS

- Haemorrhoidal disorders
- Anal skin tags
- Anal fissures
- Perianal abscesses
- Anal fistulas
- Anorectal neoplasia
  – benign
  – malignant
- Rectal prolapse
- Infections, including sexually transmitted diseases (herpes simplex, HIV infection, syphilis, condylomata acuminata)

'RED FLAGS': WHEN TO CONSIDER REFERRAL

- Age over 40 years
- Family history (colorectal cancer or inflammatory bowel disease)
- Blood mixed in with the stool
- Change in bowel habit
- Persistent symptoms despite treatment
- Systemic symptoms such as weight loss, abdominal pain
- Iron deficiency anaemia

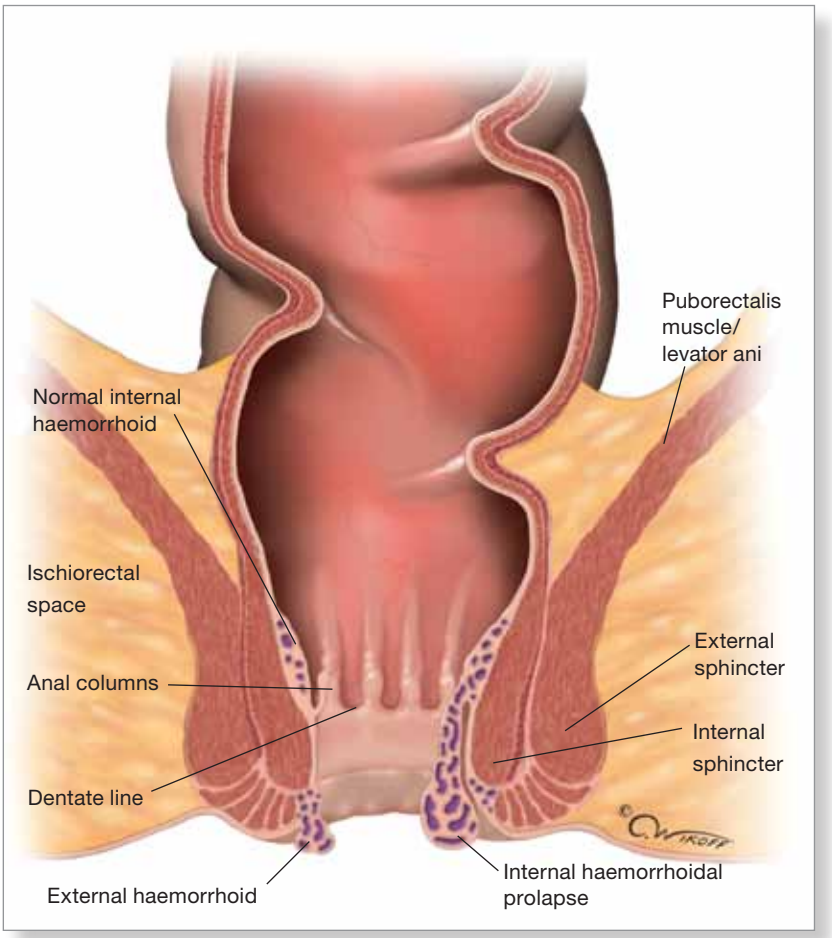

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Figure 1. Anorectal anatomy, showing internal haemorrhoidal prolapse and external haemorrhoid.

haemorrhoids, best described as left lateral, right anterolateral and right posterolateral in position. Haemorrhoids have a role in anal continence, contributing 15 to 20% of the normal anal resting pressure, and help provide a seal. Internal haemorrhoids originate above the dentate line and external haemorrhoids below.

The anal sphincter mechanism comprises an inner smooth muscle, responsible for most of the anal resting tone, and an outer striated muscle, the external sphincter, which is under voluntary control. The anorectum is an important functional unit with respect to maintenance of faecal continence. The rectum acts as a reservoir, which has a distal sphincter mechanism.

GENERAL ASSESSMENT

Most patients attribute any anorectal symptom to 'piles'. A thorough history, including a defaecation and sexual history, is essential to making the correct diagnosis. The history, however, can sometimes be difficult to elicit as patients may be embarrassed talking about their symptoms or be anxious about being examined.

Presentation is usually with one of more of the following anal symptoms:

- pain
- bleeding
- lump or mass
- discharge
- pruritus.

The combination of symptoms is often the key to diagnosis (Table).

A general physical examination should be performed together with examination of the anorectum, and the patient needs to be made comfortable. The anorectal examination is usually done in the left decubitus position. It

TABLE. DIAGNOSIS OF COMMON PERIANAL CONDITIONS ACCORDING TO PREDOMINANT SYMPTOMS

Condition	Typically associated symptoms				
	Bleeding	Anal pain	Anal lump or mass	Anal discharge	Pruritus
Haemorrhoids	+		+	+ (mucus)	+
Anal skin tags			+		+
Thrombosed internal or external haemorrhoids		+	+		
Fissure	+	+	+ (sentinel tag)		
Perianal abscess		+	+	+/- (purulent)	
Fistula-in-ano				+ (purulent)	+
Rectal prolapse	+		+	+/- (mucus)	
Anorectal malignancy	+	+/-	+/-	+/-	+/-
Infections		+/-	+/-	+/-	+

should include a careful inspection of the perineum at rest and then with the patient straining or bearing down which everts the anus. Note should be made of the condition of the skin and whether there are any areas of induration, swelling or discharge. An internal digital examination using a lubricated glove not only determines if there are any palpable anorectal lesions or blood but also the nature and the colour of the stool and the anal tone and sphincter strength, which is assessed by asking the patient to contract (squeeze) the sphincter. If anal pain is the presenting symptom an internal examination is not always possible and referral may be needed for an examination under anaesthesia. A proctoscopy and rigid sigmoidoscopy will help confirm the diagnosis and exclude proximal rectal pathology.

GENERAL PRINCIPLES OF MANAGEMENT

Most patients with symptomatic haemorrhoids, fissures and pruritus ani can be, and are, managed in the primary care setting. However, specialist referral should always be considered for any suspicious signs or symptoms (see the box on page 51), and for definitive treatment.

In disorders where the predisposing cause is defaecatory dysfunction (haemorrhoidal disorders, anal fissures or rectal prolapse) conservative management aimed at correcting this should always be discussed, whether or not further surgical intervention is undertaken. Management is generally aimed at optimising bowel function by increasing dietary fibre and fluid intake and improving defaecation dynamics. Psyllium, sterculia, guar gum, inulin and methylcellulose are commonly used fibre supplements. Stool softeners may also be used to minimise straining and ease passage of the stool when anal discomfort is a symptom. Patients should be advised to avoid straining and spending prolonged periods sitting on the toilet.

SYMPTOMATIC HAEMORRHOIDS

Haemorrhoidal disease results from pathological changes to the structural components of the vascular cushions, including degeneration of the internal sphincter, loss of the supporting connective tissue and vascular dilatation.[2] Advancing age and increased intra-abdominal pressure (for example, from prolonged straining, pregnancy or obesity) are associated with the development of symptoms.

Diagnosis

Patients with symptomatic haemorrhoids ('piles') typically complain of:

- bright red, painless bleeding, which is usually intermittent and only associated with defaecation – blood is usually seen on the toilet paper or staining the water in the bowl; blood mixed in with the stool is never haemorrhoidal
- a palpable anal lump
- mucus discharge
- pruritus ani
- difficulty with anal toileting due to prolapse, which can result in minor post defaecation soiling (Figures 2 and 3).

Uncomplicated haemorrhoids are not painful, although significant prolapse can be associated with discomfort (Figure 3).

Internal haemorrhoids are classified according to the degree of prolapse, which in turn guides treatment:

- grade 1: bleed but do not prolapse
- grade 2: prolapse beyond the dentate line but reduce spontaneously
- grade 3: prolapse beyond the dentate line and need to be manually reduced
- grade 4: irreducible prolapse.

Grade 4 haemorrhoids will be visible at rest (Figure 3); lesser degrees of prolapse may be confirmed by asking the patient to bear down. Internal haemorrhoids are rarely palpable and anoscopy is the best way of confirming the diagnosis.

Treatment

Treatment is only indicated for symptomatic haemorrhoids and the type of intervention depends on the degree of prolapse and severity of symptoms. A multitude of over-the-counter preparations are available, including local anaesthetics, topical corticosteroids and mild astringents but the evidence of their effectiveness is lacking. They tend to have a soothing effect, but do not actually cure the underlying condition.

First-, second- and small third-degree haemorrhoids may be treated using nonexcisional techniques, including rubber band ligation (the initial procedure of choice[3]), injection sclerotherapy and coagulative therapies. Fourth degree haemorrhoids and third degree haemorrhoids that have not improved with the above may be treated by stapled or excisional haemorrhoidectomy or Doppler-guided haemorrhoidal artery ligation (HAL).

THROMBOSED HAEMORRHOIDS

Diagnosis

External haemorrhoids arise from below the dentate line and are covered with squamous epithelium; therefore they rarely bleed. They usually only become symptomatic when they thrombose. Patients present with an acutely painful purplish perianal lump, often following an episode of straining at stool, without signs of sepsis.

Figure 2. Internal and external haemorrhoidal prolapse. Symptoms: bleeding and prolapse.

Figure 3. Chronic internal (grade 4) prolapse associated with prolapse-related mucosal changes (polypoid appearance). Symptoms: protrusion, bleeding and mucus discharge.

Treatment

Patients need to be reassured that this is a self-limiting condition. Pain generally peaks after three to four days and then gradually subsides over one to two weeks. Unless the patient presents within the first 24 to 48 hours of the onset of symptoms, management is usually nonsurgical. After this time the anatomical planes are oedematous and there is greater potential risk of damaging the underlying sphincter mechanism if excision is performed. Options for symptomatic relief include topical anaesthetics, sitz baths and hirudoid creams.

EXTERNAL SKIN TAGS

External skin tags (Figure 4) are redundant fibrotic skin at the anal verge and are often confused or coexist with external haemorrhoids. They may be sequelae of external haemorrhoid thrombosis. Concerns about cosmesis and difficulty with anal toileting are the main associated symptoms. They need to be formally excised if causing significant symptoms.

ANAL FISSURE

An anal fissure is a tear in the anal mucosal lining (Figure 5), which is usually the result of direct trauma such as the passage of a hard stool, although fissures can also be associated with diarrhoea. Pain causes internal sphincter contraction (spasm), which then creates a high-pressure zone. This impedes blood supply to the anal canal, resulting in mucosal ischaemia. If predisposing factors are not corrected, an acute traumatic mucosal tear will fail to heal,[4] and with time will develop into a chronic ischaemic ulcer.

Figure 4. Anal skin tags. Symptoms: 'lumps' and difficulty with anal toileting.

Figure 5. Anterior acute and posterior chronic anal fissures. Symptoms: severe anal pain on defaecation and bright red bleeding.

Ninety per cent of fissures are found in the posterior midline, and up to 25% in the anterior midline.[5] Fewer than 1% of fissures occur in a lateral position and if an anal fissure is in an atypical location other conditions should be considered, including Crohn's disease, tuberculosis, dermatological conditions, anal cancer, HIV infection and syphilis.

Diagnosis

The classical presentation is severe anal pain on defaecation, which the patient often describes as 'tearing' or sharp, associated with small volume fresh perirectal bleeding. Throbbing discomfort may follow, which is more a generalised ache secondary to sphincter spasm; this may last from minutes to hours after defaecation. Blood is usually seen on the toilet paper or as a smear on the surface of the stool. Gently parting the buttocks will often reveal the base of fissure in the posterior or anterior midline. Chronic fissures are associated with indurated fibrotic edges, an external skin tag (sentinel pile), and an internal hypertrophied anal papilla. Fibres of the internal sphincter may also be seen in the base. Most patients with severe anal pain secondary to an acute or chronic fissure will not tolerate a digital examination and if there is any doubt about the diagnosis an examination under anaesthesia may be required.

Treatment

Normalisation of bowel function is essential. The pain may be so severe some patients restrict their diet so that they can avoid going to the toilet, but the resultant hard stool only exacerbates the problem. Patients need to be reassured that most fissures will heal with medical management.

Topical anaesthetic creams and sitz baths are used for pain relief, in addition to stool softeners. Oral analgesics tend to provide minimal relief in this situation and may exacerbate constipation. Recommended first-line medical treatment is topical 0.2% glyceryl trinitate.[5-6] Patients need to be counselled that it may take 10 to 12 weeks for the fissure to heal and be advised of the side effects of systemic absorption of medication, including headaches and dizziness. To minimise these side effects they should wear gloves when applying the paste and handling the tube. Topical calcium channel blockers, including topical nifedipine or 2% diltiazem gel, are also used but are less readily available in Australia, although they can be made up by compounding pharmacists.

Second-line therapy includes injection of botulinum toxin into the internal sphincter,[5-6] which results in temporary sphincter paralysis. A lateral sphincterotomy remains the gold standard of treatment,[7] but it is reserved for fissures that are refractory to the above because of the risk of postoperative incontinence, particularly in females.

Anal dilation has been abandoned because of the uncontrolled injury to the internal sphincter and unacceptable rates of incontinence.

ANAL ABSCESS AND FISTULA

Anorectal infections may present acutely as an abscess or chronically as a discharging fistula – that is, an abnormal tract between the anus and anal verge, or less often between the vagina or urethra.

Figure 6. Anal fistula in the left anterior quadrant. Symptoms: persistent purulent discharge and irritation following a painful perianal lump, which had 'burst'.

Most cases of perianal sepsis are idiopathic or cryptoglandular in origin.[8] Anal gland obstruction results in stasis of glandular secretions, with abscess formation if they become secondarily infected. Abscesses typically form in the intersphincteric space, but can extend into the ischiorectal fossa, or supralevator/suprasphincteric spaces. They are classified according to their location as submucosal, intersphincteric, ischiorectal or supralevator.

A minority of cases are secondary to an underlying disease process, including Crohn's disease, local radiation, malignancy, trauma, tuberculosis, HIV infection, hidradenitis suppurativa, lymphogranuloma venereum, perianal actinomycosis and rectal duplication.[9] Rectal and foreign body trauma should also be considered. In these situations the associated fistula tract is often atypical.

Diagnosis

An abscess presents as an exquisitely tender lump that has been increasing in size over a few days; pain is usually constant but may be exacerbated by defaecation. A tender, erythematous, fluctuant and occasionally indurated mass is found on examination. Systemic symptoms and

Figure 7. Full thickness rectal prolapse. Symptoms: protrusion, chronic defaecatory dysfunction, small volume bright red bleeding and mucus discharge.

signs of sepsis may or may not be present.

Investigations are rarely required in the acute setting. However, if the abscess is supralevator, external signs may be absent and the abscess may only be felt on digital examination or diagnosed on endorectal ultrasound, CT or MRI, the choice of investigation depending on local expertise and availability.

Fistulas usually present on the background of a previous abscess, the patient concerned that the wound has failed to heal, or *de novo* with a discharging opening in proximity to the anal verge (Figure 6).

Treatment

Abscesses require incision and drainage under a general anaesthetic. Antibiotics are unnecessary once the abscess has been drained except in the setting of extensive cellulitis, systemic sepsis, valvular heart disease, or patients with diabetes or who are immunocompromised.

Fistula repair relies on the elimination of the internal opening and eradication of the fistula tract while preserving sphincter integrity and continence. It is often a challenging problem and in the case of complex fistulas treatment is usually staged, with a period of controlled drainage by means of a Seton drain.

Evaluation of the course of the tract in relation to the sphincter complex before definitive surgery may include imaging of the sphincter (endoanal ultrasound or MRI). The surgical approach then depends on the aetiology, location, type and complexity of the tract; how much of the sphincter mechanism is involved; and if there is pre-existing impairment of continence. Fistulotomy is reserved for simple tracts that are submucosal or involve less than one-third of the sphincter complex. Surgical options for complex tracts include permanent Seton drainage, advancement flaps, fistula plugs, fibrin glue and the ligation of the intersphincteric fistula tract (LIFT) procedure. The main complications of surgery are recurrence and postoperative incontinence.

RECTAL PROLAPSE (PROCIDENTIA)

A rectal prolapse is protrusion of the rectum, which may be:

- complete full thickness prolapse of the rectal wall beyond the anal canal (Figure 7)
- mucosal prolapse only
- incomplete (occult), where intussusception (telescoping) of the rectum on itself occurs internally, without external protrusion.

Aetiological factors are not completely understood but include excessive straining at stool, weakness of the pelvic floor and anal sphincter complex, connective tissue disorders, and deficient support of the rectum to the pelvic structures.[10] Risk factors include advancing age, female gender, multiparity and vaginal delivery.[10] It is six times more common in women than men.

Diagnosis

Patients are often aware of a mass protruding through the anus. Initially a prolapse is usually only felt with defaecation, and may be confused with haemorrhoidal prolapse, but with time may occur with any increase in intra-abdominal pressure. Small prolapses usually reduce spontaneously with pelvic contraction, but as they enlarge will need to be manually reduced. Associated symptoms include bleeding, mucus discharge, discomfort (rather than pain) and faecal incontinence.

Patients with internal intussusception often complain of constipation and a feeling of incomplete evacuation. This history may precede development of an external prolapse.

The prolapse may be easily apparent when the patient bears down. The anus often appears patulous and has poor tone. If not apparent in the left lateral position, the patient should be sat on a toilet and asked to strain. Clinical assessment includes assessment of the anal sphincter and whether or not there is concomitant pelvic floor pathology such as a rectocoele, enterocoele or cystocoele, which may require formal urogynaecological assessment.

If a prolapse is suspected on the history but unable to be confirmed clinically, a defaecating proctogram is the investigation of choice. Investigations may also include a colonoscopy, anorectal physiology studies and a colonic transit study.

Treatment

Optimisation of defaecatory function is usually all that is required for internal intussusception. External prolapse in adults usually requires surgical intervention. Mucosal prolapse may be treated by rubber band ligation, or a surgical mucosectomy. Surgical approaches for full thickness external prolapse are either:

- perineal, including the Delorme and Altemeier procedures (perineal proctosigmoidectomy).
- abdominal, usually performed laparoscopically. These procedures involve some form of rectopexy with or without concomitant bowel resection.

The type of surgery is determined by patient factors and surgeon expertise. Perineal procedures are associated with lower morbidity but a higher risk of recurrence and persistent bowel dysfunction. Abdominal procedures are

associated with better long-term success and function but higher morbidity.

PRURITUS ANI

Causes and investigations

An itchy bottom, a symptom rather than a condition *per se*, can result from a variety of causes,[11] including:

- anorectal disorders (haemorrhoids, skin tags, anal fistulas, anal fissures, faecal incontinence)
- infections (pinworm, candidiasis, human papilloma virus infection, herpes simplex virus infection)
- poor hygiene, excess sweating, obesity
- cancers (squamous cell carcinoma, Bowen's disease)
- systemic diseases (diabetes, thyroid disease, uraemia, blood dyscrasias, jaundice)
- dermatological conditions (eczema, psoriasis, contact dermatitis, atopic dermatitis)
- local irritants (soap, perfumed or dyed toilet paper, tight fitting clothing)
- drugs (prolonged steroid use, colchicine)
- diet (milk, caffeine, spicy foods, citrus foods, beer, tomatoes)
- environmental factors
- psychological factors (anxiety, depression).

An obvious cause is not identified in all patients.

Investigation may include skin scrapings or biopsies for histology and culture.

Treatment

Treatment is of the underlying cause, but supportive measures include:

- avoiding soap and other irritants
- avoiding local trauma to the skin caused by excessive anal toileting and scratching
- adequately drying the skin (using a hairdryer or cornstarch to absorb excess moisture)
- improving anal hygiene (using wet wipes)
- using in the short-term topical corticosteroids (prolonged use leads to epithelial breakdown and exacerbation of the problem)
- using skin barrier creams or ointments that contain zinc oxide (such as nappy rash creams) or mineral oils and paraffin (e.g. sorbolene)
- using topical anaesthetics
- taking night-time antihistamines to prevent scratching.

Intradermal injection of methylene blue and topical capsaicin may be beneficial in cases refractory to usual measures.[12,13]

CONCLUSION

Anorectal symptoms are common in people of all ages, and for the most part are usually intermittent and self-limiting. Patients tend to present because of anxiety about serious underlying pathology, because their symptoms are severe or because they are having a significant impact on their quality of life. Most will have benign anorectal pathology and will be successfully treated in the primary care setting. GPs should always be alert, however, to the fact that a minority of patients will have more significant pathology such as colorectal cancer or inflammatory bowel disease, where suspicion should be raised by the presence of other symptoms, the patient's age or because symptoms persist despite treatment. These patients should be referred promptly for further investigation and a specialist opinion. MT

REFERENCES

1. Thomson WH. The nature of haemorrhoids. Br J Surg 1975; 62: 542-552.
2. Haas PA, Fox TA Jr, Haas GP. The pathogenesis of hemorrhoids. Dis Colon Rectum 1984; 27: 442-450.
3. MacRae HM, McLeod RS. Comparison of hemorrhoidal treatment modalities. A meta-analysis. Dis Colon Rectum 1995; 38: 687-694.
4. Schouten WR, Briel JW, Auwerda JJ. Relationship between anal pressure and anodermal blood flow. The vascular pathogenesis of anal fissures. Dis Colon Rectum 1994; 37: 664-669.
5. Perry WB, Dykes SL, Buie WD, Rafferty JF. Practice parameters for the management of anal fissures (3rd rev). Dis Colon Rectum 2010; 53: 1110-1115.
6. Nelson RL, Thomas K, Morgan J, Jones A. Nonsurgical therapy for anal fissure. Cochrane Database Syst Rev, 2012; (2): CD003431.
7. Nelson RL, Chattopadhyay A, Brooks W, et al. Operative procedures for fissure in ano. Cochrane Database Syst Rev 2011; (11): CD002199.
8. Rizzo JA, Naig AL, Johnson EK. Anorectal abscess and fistula-in-ano: evidence-based management. Surg Clin North Am 2010; 90: 45-68, Table of Contents.
9. Williams JG, Farrands PA, Williams AB, et al. The treatment of anal fistula: ACPGBI position statement. Colorectal Dis 2007; 9 (Suppl 4): 18-50.
10. Madiba TE, Baig MK, Wexner SD. Surgical management of rectal prolapse. Arch Surg 2005; 140: 63-73.
11. Schubert MC, Sridhar S, Schade RR, Wexner SD. What every gastroenterologist needs to know about common anorectal disorders. World J Gastroenterol 2009; 15: 3201-3209.
12. Sutherland AD, Faragher IG, Frizelle FA. Intradermal injection of methylene blue for the treatment of refractory pruritus ani. Colorectal Dis 2009; 11: 282-287.
13. Lysy J, Sistiery-Ittah M, Israelit Y. Topical capsaicin – a novel and effective treatment for idiopathic intractable pruritus ani: a randomised, placebo controlled, crossover study. Gut 2003; 52: 1323-1326.

COMPETING INTERESTS. None.