

Chronic constipation in adults

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Chronic constipation in adults is a common and often debilitating problem that may present to almost any medical practitioner as it can have many causes. The most recent Rome criteria provide a useful research and clinical tool for defining chronic, functional constipation (box 1).¹ For the problem to be described as chronic, the Rome criteria need to have been met for the previous three months, with the onset of symptoms six months prior to diagnosis. We prefer a more inclusive definition of chronic constipation: any patient experiencing consistent difficulty with defecation. This review examines the evidence for the modern approach to treating chronic constipation and is based largely on systematic reviews and randomised controlled trials where these are available.

Who gets chronic constipation?

Since the most recent Rome criteria were published, a well conducted Spanish epidemiological study found that the prevalence of self reported constipation was 29.5% yet only half of those met the Rome criteria.² This study found that females had a higher incidence of constipation than males and that physical exercise and a high fibre diet were protective. The disparity between self reported incidence and failure to meet the Rome criteria highlights the difficulties in defining the condition. A systematic review of constipation in North America similarly found an average prevalence of 12-19%; increasing prevalence with increasing age; and female to male preponderance of 2.2:1.³

What causes constipation?

Box 2 summaries the simple causes of chronic constipation. Constipation resistant to simple measures may have both functional and organic causes. Careful investigation allows targeted treatment that will often be conservative. Causes include painful anorectal conditions unresponsive to simple measures; irritable bowel syndrome; obstructive defecation syndrome; and slow transit constipation.

What are the principles of managing constipation in primary care?

Many cases of constipation can be effectively managed in primary care. After exclusion of red flag symptoms,

history and examination may guide initial management, which should be directed at the suspected cause.

Basic advice

Small series of comparative positions for defecation suggest that patients should be encouraged to adopt a "semi-squatting" position to defecate (figure).⁷

Simple measures

Many patients may require only simple interventions to relieve constipation. Dietary modifications such as increasing fibre intake and ensuring good hydration are logical but do not have a formal evidence base.

Where dietary methods are unsuccessful simple treatments can be started. A recent systematic review of randomised controlled trials assessed the efficacy of simple interventions. It found good evidence for the use of polyethylene glycol and moderate evidence for lactulose and psyllium (isphagua) husk but few data on the use of other common agents such as senna, bisacodyl, and stool softeners.⁸ Laxatives should be directed at the specific problem: bulking agents for those with poor dietary fibre intake; softeners for those with hard stools; and stimulant laxatives for poor colonic motility (such as with opiate use).

Investigations

A recent systematic review found no evidence to support the use of blood tests or abdominal radiography.⁹ The British Society of Gastroenterology's guidelines advise that investigations in primary care should be limited to full blood count to exclude anaemia⁵ and thyroid function assessment to exclude hypothyroidism. Other investigations may be relevant if other more unusual causes are suspected, but more complex investigations are undertaken in secondary care.

Local analgesia

Anal fissures may initially be treated with local application of 0.2-0.4% glyceryl trinitrate ointment, local application of calcium channel blocker ointment, or injection with botulinum toxin type A. A systematic review found that all of these agents were equally efficacious, but glyceryl trinitrate ointment has a higher side effect profile.¹⁰ Stool softeners and local anaesthetic gels will also relieve pain and constipation.

SOURCES AND SELECTION CRITERIA

We searched the Cochrane database for systematic reviews using the term constipation. We also searched Medline 1950 to April 2008, Embase, and PubMed, using the terms "chronic constipation", "slow-transit constipation", "irritable bowel syndrome", "levator ani syndrome", and "obstructive defecation" for titles and MESH headings. Two authors screened all abstracts and retrieved suitable articles for full critical appraisal.

Box 1 Rome criteria*

- Presence of two or more of the following symptoms:
 - Straining during at least 25% of defecations
 - Lumpy or hard stools in at least 25% of defecations
 - Sensation of incomplete evacuations for at least 25% of defecations
 - Sensation of anorectal obstruction/blockage for at least 25% of defecations
 - Manual manoeuvres to facilitate at least 25% of defecations (such as digital evacuation, support of the pelvic floor)
 - Fewer than three bowel movements a week
- Loose stools are rarely present without the use of laxatives

*Criteria have to have been met for the previous three months, with the onset of symptoms six months prior to diagnosis

Monitoring response to treatment

Scoring systems can be useful to monitor progress. The Bristol stool chart (developed by K W Heaton and S J Lewis, Bristol University) is widely available and can be used to monitor dietary manipulations or response to laxatives.

Irritable bowel syndrome in which constipation is predominant feature

Most investigations are likely to be normal in patients with irritable bowel syndrome. The British Society of Gastroenterology's guidelines include a full blood count as the only mandatory investigation in suspected cases of irritable bowel syndrome in which constipation is the predominant feature. Education and reassurance form the basis of management for this patient group. To encourage self management discuss possible symptom triggers, which may be physical, dietary, or psychological. A *BMJ* review¹¹ and recent NICE guidance¹² give detailed information about management of irritable bowel syndrome.

When to refer for specialist care

If dietary intervention, laxatives, and other approaches fail, referral to a specialist is indicated.

Psychological treatment for irritable bowel syndrome

Psychological referral is indicated for patients with irritable bowel syndrome who fail to respond to simple and pharmacological interventions after 12 months.¹²

Painful anorectal conditions

Conditions such as anal fissure, haemorrhoids, abscess, or fistula usually require specialised management when conservative measures fail. The management of haemorrhoids has recently been described in a *BMJ* clinical review.¹³

Levator ani syndrome is a condition characterised by recurrent chronic rectal pain without detectable organic cause. This pain is typically worse on walking and may be brought on by defecation. It is often reproducible with coccygeal traction with a specific trigger point on the levator muscle at digital rectal examination. Several theories of pathophysiology exist, but precise aetiology is yet to be defined.

Reports of treatment strategies vary and include digital massage, local anaesthetic injection, electrogalvanic stimulation, muscle relaxants, and biofeedback (an operant feedback technique where defecation retraining is achieved through simulated defecation). Small case series have recommended local anaesthetic injection,¹⁴ although high quality evidence is not available.

Levator ani syndrome must be differentiated from proctalgia fugax, with the pain usually being more shortlived, lasting typically less than 30 minutes, often occurring at night. Treatment is with amitriptyline and gabapentin. When the condition is suspected, referral is usually indicated for both conditions to rule out organic causes such as fistula, abscess, proctitis, and rare presacral tumours.

Obstructed defecation

Obstructed defecation is a broad term for a pathophysiological condition describing the inability to evacuate contents from the rectum.¹⁵ The causes may be anatomical or functional. Anatomical causes include ultrashort segment Hirschsprung's disease, rectocele, intussusception, enterocoele, sigmoidocoele, and

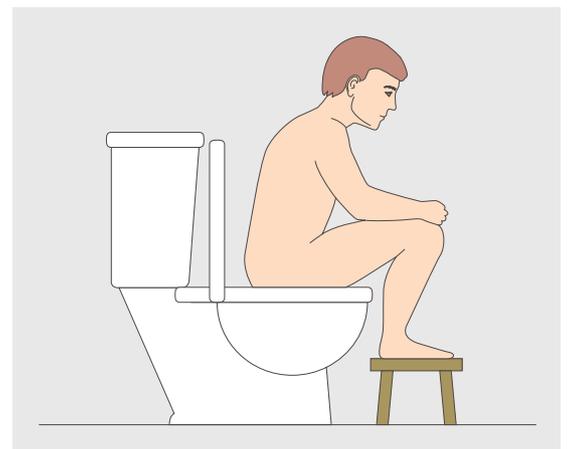


Fig 1 | The correct position for defecation

Box 2 Simple causes of constipation

Dietary

Low fibre, dieting, dementia, depression, anorexia, fluid depletion

Metabolic

Diabetes mellitus, hypercalcaemia, hypokalaemia, hypothyroidism, porphyria

Neurological

Parkinson's disease, spinal cord pathology, multiple sclerosis

Iatrogenic

Antacids that contain aluminium, iron, anticholinergics, antidepressants, opiates for analgesia

Painful anorectal conditions

Anal fissure, haemorrhoids, abscess, fistula, levator ani syndrome, proctalgia fugax

TIPS FOR NON-SPECIALISTS

- Most cases of constipation can be managed in primary care with attention to likely causative factors and simple targeted interventions
- Red flag symptoms mandate early specialist referral
- If simple interventions fail, consider specialist referral to evaluate possible unusual causes
- New non-surgical and surgical treatments are being developed constantly
- Many patients with debilitating symptoms can be helped greatly with specialist interventions

perhaps genital prolapse. Functional causes have confusing and varied nomenclature. The basic pathology behind these conditions is rectoanal neuromuscular malcoordination, hence proposal of the term dyssynergic defecation as a blanket term. Several terms have been used in the literature to specify individual types of malcoordination (anismus, paradoxical puborectalis contraction, pelvic floor dyssynergia).¹⁶

Symptoms include a feeling of incomplete evacuation, passage of hard stools, the need to self digitate rectally or vaginally, a need for laxative or enema for defecation, rectal discomfort, excessive straining and repeat visits to defecate. In some patients, symptoms of faecal or urinary incontinence may coexist.

Vaginal and rectal examination is necessary to assess for presence of a rectocele, perineal descent, apical vaginal prolapse, cystocele, full thickness rectal prolapse, and rectal mucosal ulceration. Common investigations are anorectal manometry (including a balloon expulsion test) to assess neuromuscular coordination and power, and defecating proctography. Dynamic magnetic resonance imaging of the pelvic floor and colonic transit time studies may be required.¹⁵

Treating obstructive defecation

Conservative treatment includes a high fibre diet, adequate hydration, regular physical activity, enemas, laxatives, and rectal irrigation.¹⁵ Behavioural therapy with biofeedback training to teach patients to relax their pelvic floor can be useful.¹⁷ The effectiveness and duration of the effects are variable, but the therapy has low morbidity. A *BMJ* clinical review discussed biofeedback for constipation.¹⁸

UNANSWERED QUESTIONS

- The efficacy of many commonly prescribed drugs, such as stool softeners, senna, and bisacodyl, remains to be defined
- The role and long term outcomes of new surgical procedures for obstructed defecation need further evaluation
- More work is required determining the efficacy of simple treatments such as botulinum toxin type A for obstructed defecation to define when and if these can be recommended to patients
- The cause of slow transit constipation (and whether this is the same in all patients with slow transit) remains to be found; an answer might guide therapeutic options, although all options in slow transit constipation are supported only by low level evidence
- Sacral nerve stimulation may present a therapeutic breakthrough, although evidence on this is extremely limited

Paradoxical puborectalis contraction

Failure to relax the puborectalis muscle on attempted defecation causes this condition. If conservative treatment (usually biofeedback) has failed, it may be treated with an injection of type A botulinum toxin into puborectalis muscle and external anal sphincter. A case series found that this treatment was successful in 50-75% of cases but the effect was short lived, and therefore reinjection may be needed, as well as inducing temporary incontinence.¹⁹

Solitary rectal ulcer syndrome

This presents with tenesmus, straining, and passage of obvious blood or mucus. A biopsy of the ulcer is needed to exclude malignancy. Conservative treatments should be tried, but if they fail, surgery is recommended when there is full thickness rectal prolapse or intractable haemorrhage.¹⁴

Rectocele

This is defined as herniation of the anterior rectal and posterior vaginal wall into the vaginal lumen. This is an important cause of anorectal symptoms, but most cases are asymptomatic. As before, conservative treatments should be tried before surgery.

Only the minority of rectoceles need to be repaired, and indications for this are incomplete emptying of the rectocele or the rectocele causing obstruction to complete rectal emptying, assessed both clinically and on defecating proctography. Surgical repairs include traditional transvaginal posterior colporrhaphy, and transrectal or transperineal repair with prosthetic material. Newer techniques include the double stapled trans-anal rectal resection (commonly known as STARR) and single stapled trans-anal prolapsectomy with perineal levatorplasty (STAPL). A randomised controlled trial showed significant symptomatic improvement after each of these procedures in 88% and 76% of cases respectively two years after follow-up; however, concerns over continence of patients have been raised, and up to a third of patients develop urgency of defecation.²⁰

Rectal intussusception and rectal prolapse

Dietary management and biofeedback are key to managing these patients. Surgery may be needed if there is additional faecal incontinence or associated full thickness rectal prolapse.¹⁵ Surgery would be an abdominal procedure (open or laparoscopic) or a perineal procedure (especially in elderly patients). Traditional procedures involve full posterior rectal mobilisation and fixation to surrounding structures, often with concomitant segmental colonic resection. Major complications, worsening constipation, and recurrence are not uncommon. Laparoscopic ventral rectopexy for full thickness rectal prolapse or intussusception is a new procedure available at a few pelvic floor units in the United Kingdom. Initial results are encouraging with low recurrence rates and reduction in constipation symptoms.²¹

SUMMARY POINTS

Chronic constipation is a common and debilitating condition
 Many cases can be managed in primary care with simple measures
 Investigations can often identify a cause for resistant constipation and thus guide treatment
 Targeted surgery can be of great benefit to carefully selected patients

Sigmoidocele and enterocoele

Sigmoidocele and enterocoele involve the prolapse of a portion of terminal bowel into the rectovaginal pouch. They are confirmed on defecating proctography and classified according to the degree of descent into the pelvis.²² Surgery is required for severe sigmoidoceles and enterocoeles.

Slow transit constipation

Slow transit constipation is a delayed colorectal transit time and is usually measured with a radio-opaque marker study in which different shaped markers are ingested and their progress followed on serial abdominal radiography. Slow transit constipation may occur after pelvic trauma, usually either surgery or complicated childbirth, or may be idiopathic. The exact pathophysiology behind idiopathic cases is not known, although neuropathy, colonic myopathy, or mesenchymopathy have been proposed.²³

Stimulant laxatives are a logical initial treatment, but we were unable to find evidence for the success or otherwise of this intervention. Reports of small numbers of cases with isolated slow transit constipation and successful biofeedback therapy do exist.¹⁸

Self administered antegrade colonic enemas may be possible if access to the proximal colon is fashioned usually by exteriorising the appendix as a stoma providing access for the patient to self administer antegrade enemas.²⁴

Subtotal colectomy with ileorectal anastomosis has remained the intervention of choice for slow transit constipation that is unresponsive to other approaches. Patients' satisfaction rates have been reported as between 77%²⁵ and 90%,²⁶ confirming that this can be an appropriate management strategy for well informed patients having surgery in a unit with appropriate expertise. Patient selection is important. Segmental resection has been advocated by some authors for patients with isolated slow transit segments.

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ADDITIONAL EDUCATIONAL RESOURCES

- Rome Foundation (www.romecriteria.org)—Publishes guidelines on the diagnosis and management of a range of functional gastrointestinal disorders
- British Society of Gastroenterology (www.bsg.org.uk)—Publishes guidelines for the management of irritable bowel syndrome and other causes of chronic constipation
- Core (www.corecharity.org.uk)—This charity for research and information on gut and liver disease provides a useful information leaflet for patients on constipation