

Contents: The management of constipation

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Constipation is commonly seen in general practice. While it is often considered to be a trivial symptom, it can cause distress as well as serious complications if not treated effectively. In addition, as the NHS spends millions of pounds each year on laxatives, appropriate use of these agents is essential.

This *Bulletin* discusses the common causes of constipation as well as the treatment options available in general practice.

What is constipation?

Constipation is difficult to define as the perception of 'normal' bowel habit varies from person to person. What one regards as constipation, another may regard as normal bowel activity. Many elderly people incorrectly assume they are constipated if they do not have a daily bowel movement.

The British National Formulary (BNF) defines constipation as: *the passage of hard stools less frequently than the patient's own normal pattern*. This allows for the huge variation in bowel habits seen across the population. The 'Rome' criteria (see **table 1**) may also assist the diagnosis of chronic constipation.^{1,2}

How common is constipation?

About 10% of the UK population are regularly constipated.³ While only 3% of young adults are constipated, it is a significant problem in the elderly with 20% or more affected.³ It is also more common in women due to their slower intestinal transit rate.³

SUMMARY

- * Constipation can be defined as *the passage of hard stools less frequently than the patient's own normal pattern*. Patients should be aware that a daily bowel movement is not always necessary or 'normal'.
- * Initial assessment should involve investigation of possible causes of constipation, such as drugs or poor diet. However, it is not always possible to identify an obvious underlying cause.
- * Colorectal cancer should be suspected in any adult aged over 45 who presents with alarm symptoms or altered bowel habit without an obvious cause. Such patients should be referred for further investigation.
- * **Along with removal of possible causes, dietary advice is the first step in the management of uncomplicated constipation.** Laxatives should be reserved for cases where dietary intervention has failed, unless rapid relief of symptoms is required.
- * Where appropriate, patients should be encouraged to gradually increase their dietary fibre intake. They should aim to eat at least one fibre rich food at every meal, as well as drinking at least two litres of fluid a day. However, a high fibre intake should be avoided in certain patients, such as immobile, elderly patients and those with faecal impaction.
- * The evidence surrounding the effectiveness of laxatives is limited. At present, it is not possible to determine if fibre supplementation is superior to laxative use or which laxative is the most effective. Choice of treatment depends on the presenting symptoms, the nature of the complaint, patient acceptability and cost. **If possible, long-term laxative use should be avoided.**

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Two or more of the following symptoms should be present for at least **three** months:

- Straining at defecation at least 25% of the time.
- Lumpy and/or hard stools at least 25% of the time.
- A sensation of incomplete bowel evacuation at least 25% of the time.
- Two or fewer bowel movements a week.

Table 1. The 'Rome' criteria for the diagnosis of chronic constipation^{1,2}

What is causing the constipation?

Constipation has many potential causes (see **table 2**) which are not always possible to identify. Consideration of the following may help to identify causes:

- How does the patient define constipation?
- What are the symptoms and how long have they been present?
- What is the stool consistency?
- How much dietary fibre and fluid is being taken?
- Have there been any recent dietary or lifestyle changes?
- What medicines is the patient taking?

Generally, there is no need to refer constipated patients with long-standing symptoms which are unchanged and not severe. However, rectal examination of the frail and elderly may be necessary to check for impaction. Further investigation of all cases should be considered where:

- Constipation is a new symptom which is not due to changes in lifestyle, diet or drug therapy.
- Symptoms are severe and unresponsive to treatment.
- **Alarm symptoms** are present (e.g. constipation alternating with diarrhoea, rectal bleeding, passing mucus per rectum, abdominal pain, weight loss, anorexia, tenesmus (painful and ineffectual straining).

Colorectal cancer should be suspected in patients aged over 45 who present with any change in their bowel habits.⁴ Referral is prudent unless an obvious cause is found. This is particularly the case for those with a family history of colorectal cancer, or who have **alarm symptoms**.

How should constipation be managed?

Changing potentially constipating medication, together with dietary advice may be enough to relieve constipation in many cases. Although laxatives are not always necessary, they may be needed in the short term to provide rapid initial relief of severe symptoms.

Dietary fibre

Not only is dietary fibre needed to maintain the normal functions of the gastro-intestinal (GI) tract, it is thought to be useful in both the prevention and treatment of constipation.⁵ Although there are very few good quality published studies to support this, a meta-analysis of 20 studies showed that increasing dietary bran intake to approximately 20g a day, increased stool weight and decreased gut transit time.⁶ This was the case in both constipated and non-constipated patients.

Patients should aim to eat at least one fibre-rich food at every meal (see **insert**). If possible, 18 to 30g of fibre per day should be consumed along with at least two litres of fluid per day. To minimise the risk of flatulence, distension and bloating, fibre intake should be increased gradually over a period of weeks or months.³ Patients should be encouraged to persist with their new diet as it may take up to a month before they benefit fully.

However, any advice given must be realistic and tailored to the individual. For example, a fluid intake of two litres per day may be difficult to achieve in some elderly patients, or even contra-indicated, e.g. in patients with heart failure. A high fibre diet should also be avoided in certain patients. If colonic obstruction is present, increasing fibre intake may cause faecal incontinence due to overflow.⁷ This is most commonly seen in immobile elderly patients or those with opioid-induced constipation. In patients with a hypotonic colon or megacolon/rectum, bulk in the colon does not trigger peristalsis and defecation. Increasing fibre intake in these patients may worsen problems.

Thorough, unhurried advice will help ensure patients are clear about how to change their dietary habits. This may be helped by providing written materials such as the table of fibre-rich foods given in the **insert** to this *Bulletin*. Local dieticians may also be able to provide information leaflets.

Drug treatment

It is important patients are aware that dietary changes can still be beneficial, even if laxatives are needed. In general, laxatives should only be used:

- Where straining may exacerbate conditions such as angina.
- To reduce the risk of rectal bleeding, e.g. in haemorrhoids.
- Where bowel motility has been reduced by drugs such as opiates or anticholinergics.
- In elderly patients who have weak abdominal and perineal muscles.
- Where dietary interventions have persistently failed.

Laxatives may also be used to clear the bowel before surgery or a diagnostic procedure, or to expel parasites after anthelmintic treatment. Prolonged treatment is not usually required, except occasionally in the elderly or some patients with neurological disease or injury.

What is the evidence for the effectiveness of laxatives?

Good quality evidence of the effectiveness of laxatives is limited. A systematic review of laxative use in the **elderly** was unable to determine what is effective treatment.² Many of the studies found were not comparative and involved small numbers of patients. Another systematic review examined the treatment of chronic constipation in adults.⁸ Of 733 trials identified, only 36 studies involving a total of 1,815 patients were considered to be of sufficient quality to be included.

In chronic constipation, fibre or laxative use increased bowel movements by an average of 1.4 per week. Overall symptom improvement was significantly

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| <p>Dietary</p> <ul style="list-style-type: none"> • Inadequate fibre intake • Dehydration due to low fluid intake <p>Behavioural/psychological</p> <ul style="list-style-type: none"> • Ignoring the call to stool <ul style="list-style-type: none"> - busy lifestyle - reluctance to use public toilet /bedpan - lack of privacy in hospital • Depression <p>Lack of physical activity</p> <ul style="list-style-type: none"> • e.g. immobility due to age or illness <p>Pregnancy</p> <ul style="list-style-type: none"> • Hormone changes may slow gut transit <p>Colorectal disorders</p> <ul style="list-style-type: none"> • Colorectal cancer • Painful rectal disease such as haemorrhoids or anal fissures • Irritable bowel syndrome <p>Neurological disorders</p> <ul style="list-style-type: none"> • Any illness causing immobility • Neuropathies (e.g. due to diabetes) <p>Metabolic disorders</p> <ul style="list-style-type: none"> • Hypercalcaemia • Hypothyroidism | <p>Drugs</p> <p>Many drugs have the potential to cause constipation. Prescribers should check the patient's medication history, including those bought 'over the counter'.</p> <ul style="list-style-type: none"> Antacids* (containing aluminium or calcium) Anti-diarrhoeals* Antihistamines* Antimuscarinics (as used for treating Parkinson's disease, e.g. benzhexol, orphenadrine) Calcium antagonists Cholestyramine Cough suppressants* (e.g. codeine and, less commonly, pholcodine) Diuretics (if dehydration occurs) Iron preparations* Levodopa Monoamine-oxidase inhibitors (MAOIs) Opioid analgesics* Phenothiazine antipsychotics Tricyclic antidepressants Vinca alkaloids (such as vincristine or vinblastine) <p>* Available to buy 'over the counter'.</p> |
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Table 2. Some common causes of constipation.

better with fibre or laxatives compared with placebo in eight out of ten trials. However, the review could not establish whether fibre is more effective than laxatives, or if one laxative class is superior to another.⁸

Which laxative to prescribe?

As evidence comparing laxatives is limited, the choice of agent is made according to the nature of the constipation and patient preference. In addition, some laxatives are more expensive than others (see **cost table**).

The way in which a laxative exerts its effect also determines its likely side-effects and onset of action. Although some laxatives have complex mechanisms of action, they can be subdivided into three main groups of drugs, which are discussed below.

Bulk-forming laxatives

These agents supplement dietary fibre intake to increase the weight and water absorbency of stools. Although wheat bran is effective, ispaghula, sterculia and methylcellulose may be useful in those who cannot tolerate bran. All bulk laxatives must be taken

with at least one glass of water, but they should not be taken immediately before going to bed.

Bulk laxatives take several days to exert their effect and are not suitable for acute relief.⁹ They are contra-indicated in patients with faecal impaction or existing bowel obstruction. However, they may be appropriate for long-term use when patients have normal gut motility and otherwise uncomplicated constipation.

Clinically, there appears to be little to choose between the different agents. Palatability and convenience of use are very important if patients are to adhere to treatment. Patient acceptability and cost (see **cost table**) are the deciding factors when choosing what to prescribe.

Stimulant laxatives

Laxatives such as bisacodyl, dantron (danthron) and senna, stimulate nerves to produce colonic contraction and decrease fluid reabsorption. Docusate also acts as a stool softener, but is considered to be comparatively ineffective when used alone.⁹

As a laxative effect is seen within 6-12 hours, oral stimulant

laxatives are taken at night to produce a morning bowel motion. They often cause abdominal cramps and are contraindicated in patients with bowel obstruction. As chronic use may lead to fluid and electrolyte imbalance, colonic atony and tolerance to their effects, they are usually reserved for intermittent or short-term use.¹⁰

Preparations of a combination of dantron with either docusate (co-danthrusate) or poloxamer '188' (co-danthramer) are widely used. However, the systematic review mentioned earlier found no evidence that these agents are more effective than other, cheaper laxatives.²

Prescribers should be aware that the licensed indications for dantron containing laxatives have recently changed. **They are no longer indicated for the general management of constipation in the elderly.** They should only be used for analgesic-induced constipation in palliative care, or in the short term where bowel motion must be free from strain.

Osmotic laxatives

Osmotic laxatives exert their effect by retaining fluid in the bowel or by changing the pattern of water distribution in the faeces. **Lactulose (and the similar agent, lactitol) should only be used when other laxatives have failed to produce an effect.** As well as commonly causing bloating, flatulence and cramping, they are very sweet and unpalatable to some patients. They are also relatively expensive (see **cost table**). In addition, they must be taken **regularly** for up to three days before an effect is seen, making them unsuitable for rapid relief of constipation, or for 'as required' dosing.

There is no convincing evidence that lactulose (or lactitol) provide an advantage over other, less expensive laxatives.¹¹ To illustrate this, a study in 77 long stay elderly patients, showed that a combination of senna with fibre improved ease of evacuation and stool consistency significantly more than lactulose, and at a lower cost.¹²

A preparation containing polyethylene glycol and various electrolytes is also available (**Movicol**). Although limited evidence suggests it may offer a slight advantage over lactulose,¹³ published studies comparing it with other laxatives are lacking. It is also relatively expensive (see **cost table**). The place in therapy of *Movicol* remains unclear, although it may be useful in impacted or chronic cases where other interventions have failed.

Magnesium salts produce rapid bowel evacuation and when given in large doses cause defecation in one to two hours.⁹ They should be reserved for bowel clearance prior to surgery, and are not suitable for regular use, other than in patients with megarectum.

Suppositories and enemas

When oral laxatives have not produced a bowel movement or when rapid relief of rectal loading is required, a suppository or enema may be appropriate. A rectal evacuant may also give a more predictable response than an oral agent, allowing chronically constipated patients to time defecation to fit their lifestyle. Although an effect is usually seen within one to two hours of administration,⁹ enemas may need to be repeated several times to clear impacted faeces.

The choice of rectal laxative depends on the site and the type of stools.¹⁴ Soft stools in the rectum can be evacuated using a stimulant, such as a bisacodyl suppository. Hard stools need to be softened by using, for example a glycerol suppository (which has both stimulant and softening properties). In severe cases, a softening enema such as arachis oil can be given overnight to soften hard stools in the rectum before giving a stimulant agent, such as a phosphate enema.

Management of constipation in specific patient groups

Constipation in children

Management of constipation in children can be complex and often requires specialist advice.

In addition, there is often a large psychological component to a child's constipation.¹⁵

It is important not to allow constipation in children to become chronic. Generally, dietary manipulation and behavioural methods should be tried first, with children also encouraged to eat fibre rich foods and drink plenty of fluids. Fruit juices may be a useful adjunct. Detailed discussion of the use of laxatives in children is beyond the scope of this *Bulletin*, and specialist advice should be followed.

Constipation in palliative care

Common causes of constipation in this group include drugs, especially opioids, immobility, GI obstruction and neurological problems.¹⁴ Management involves careful attention to fluid intake, diet and mobility as well as the regular use of a laxative as soon as opioids are started.

Evidence comparing laxatives in this patient group is lacking. One study compared senna with lactulose in 91 terminally ill patients taking opioids.¹⁶ As no difference was found between the two groups, senna was preferred due to its lower cost.

Some experts believe that opioid-induced constipation requires both a stimulant and a softening laxative action, e.g. senna used with docusate. The use of combination dantron products is common in palliative care. However, as stated earlier, there is no good quality evidence to show that they are superior to other, cheaper laxatives.

Constipation in pregnancy

Constipation is reported in 11-38% of pregnant women, probably due to increased levels of circulating progesterone.¹⁷ A Cochrane review of interventions for treating constipation in pregnancy, found the evidence to be severely limited with only one trial considered to be suitable for inclusion.¹⁷ The review concluded that, despite the lack of good quality evidence, increasing dietary fibre in the form of bran

or wheat fibre is the treatment of choice in pregnancy.

If dietary and lifestyle measures fail, bulking agents or stimulant laxatives such as senna may be used. Dantron laxatives should be avoided during pregnancy and also in breast-feeding mothers.

Conclusions

Once constipation has been confirmed after a thorough assessment, initial advice should be given on increasing fibre and fluid intake. If these measures are ineffective, or an obvious cause cannot be eliminated, a laxative may be required.

Evidence is limited around which laxative is the most effective. Choice of agent depends on the presenting symptoms, nature of complaint, patient acceptability and cost. Local laxative policies have been developed in many areas and should be followed wherever possible.

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