

The management of constipation

SUMMARY

This *Bulletin* provides a general overview of the management of constipation, including advice on the use of laxatives. It updates *MeReC Bulletin* Vol 10, No 9 (1999).

- If constipation is confirmed, and underlying conditions are reasonably excluded, the first step in the management of constipation should be appropriate dietary and lifestyle changes. If this is ineffective or impractical, a short course of laxatives may relieve symptoms and restore normal bowel function.
- Prolonged treatment with laxatives is not usually necessary. However, this may be required in situations where constipation or faecal impaction may re-occur if treatment is stopped (e.g. those who are immobile through age or illness, or receiving opioids in palliative care, and for some children to prevent relapse).
- There is little clinical evidence on which to judge the relative effectiveness and tolerability of individual laxatives. Therefore, choice should be based on symptoms, patient preferences, side effects and cost of medicines.



What is constipation? How common is it?

Constipation is characterised by persistent difficult, infrequent or seemingly incomplete defecation,¹ which may be accompanied by abdominal pain or bloating.² Definition in terms of bowel frequency alone is imprecise, as bowel patterns vary widely between healthy individuals. International consensus (Rome II) diagnostic criteria for constipation define it in terms of frequency of multiple symptoms (e.g. straining, hard stools) and/or a bowel movement frequency of less than three times per week.¹ However, these criteria are mainly used for research purposes and are of limited help in general practice.

Reported UK prevalence rates of constipation vary widely between studies. One survey identified 8.2% of women as suffering from constipation according to Rome diagnostic criteria. Another identified 52% of women and 39% of men to have constipation, when it was defined as frequently straining at stool on more than 25% of occasions.² Constipation is more common in women than men, and increases with age in the elderly.²

Causes and complications

In most cases, there is no identifiable underlying physical or pathological cause for constipation. Less frequently, it is a result of a defecatory disorder (most commonly a dysfunction of the pelvic floor or anal

sphincter) or a slow transit time.³ Mild cases of constipation are often intermittent and may result from dietary changes (e.g. reduced fibre and fluid intake), stress, or immobility (e.g. due to illness). However, constipation may be a consequence of an underlying condition (e.g. dehydration, irritable bowel syndrome, intestinal obstruction, painful anal conditions, and some metabolic, neurological and psychiatric disorders).⁴ Constipation may also be drug related (see **Panel 1** on page 22). About half of the patients admitted to specialist palliative care units have constipation, but about 80% of patients will require laxatives, mainly due to the use of opioid analgesics.⁵

Ageing *per se* does not cause constipation. The increasing prevalence of constipation with age in older people likely reflects changes in their mobility, diet or fluid intake.²

If persistent and inadequately managed, complications of constipation can be disabling. These may include haemorrhoids, faecal impaction, intestinal obstruction or perforation, faecal and urinary incontinence, urinary tract infection, rectal bleeding, general weakness and psychological disorders.⁴ Increased intrathoracic pressure while straining to defecate can give rise to a reduction in coronary, cerebral and peripheral circulation, and may lead to the development of hernias, worsening of gastro-oesophageal reflux, and transient ischaemic attacks and syncope in older people.⁴

Transient changes in bowel habit are commonly brought about by changes in diet, lifestyle or stress

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Panel 1: Some drugs that may cause constipation⁴

- antacids (containing aluminium or calcium)
- amiodarone
- anticholinergics (e.g. tricyclic antidepressants, antihistamines, antipsychotics)
- antidiarrhoeals
- antiparkinsonian drugs
- calcium-channel blockers
- calcium supplements
- clonidine
- disopyramide
- diuretics
- iron preparations
- lithium
- non-steroidal anti-inflammatory drugs
- opioids

Once underlying conditions are reasonably excluded, the first step in the management of constipation should be appropriate dietary and lifestyle advice

How should constipation be managed?

PRODIGY guidelines define the goals of constipation management as:⁴

- establishing what the normal frequency of defecation is for the individual
- establishing regular, comfortable defecation, using the least number of drugs (ideally none) for the shortest possible time
- preventing laxative dependence
- relieving discomfort.

Establishing what is normal for a particular person and, therefore, whether they actually have constipation or not can be difficult. Possible causes should be investigated and eliminated where possible. It is important to ascertain that the constipation is not caused by an underlying undiagnosed condition. People with constipation should be advised to consult their GP for further investigation if any of the symptoms shown in **Panel 2** are present.

Colorectal cancer is a frequent concern, and any change in bowel habit may potentially need investigating. However, a transient change in bowel habit to harder stools and/or decreased frequency of defecation, by itself, is a low-risk symptom for colorectal cancer according to Department of Health referral guidelines.⁶ Unless there are other overriding concerns of the patient or doctor, or there are abnormalities detected on abdominal/rectal examination or haemoglobin measurement, patients can be managed in the first instance by a 'treat, watch and wait strategy' for three months.⁶ However, if symptoms persist then the level of risk should be assessed and the patient referred for further investigation through a routine or fast-track appointment, as appropriate.

If underlying conditions can be reasonably excluded, then the first step in the management of constipation should be appropriate dietary and lifestyle advice.

Panel 2: Symptoms requiring referral to a GP

- blood in the stools
- severe abdominal pain
- unintentional weight loss
- co-existing diarrhoea
- persistent symptoms
- tenesmus (continuous feeling of the need to defecate without production of significant amounts of faeces)
- failure of previous medicines

Dietary and lifestyle advice

Diets with a high fibre content are effective in increasing stool weight and bowel movement frequency. Numerous studies suggest a benefit in constipation.² Although effects may be seen after a few days, a high-fibre diet (e.g. about 30g/day) should be tried for at least a month before its effects are determined. A table of the dietary fibre content of common foods can be found in a supplement to this *Bulletin* (available at <http://www.npc.co.uk/merec.htm>).

A high-fibre diet requires an adequate fluid intake (e.g. two litres of water/day). However, drinking this amount of fluid is problematic for some people.⁴ A high-fibre diet should be used with caution in patients who have obstructive symptoms or faecal impaction, and may be ineffective in slow-transit constipation (e.g. secondary to opioid use) or if constipation is caused by a defecatory disorder.

Observational studies suggest an association between constipation and reduced **physical activity**.^{7,8} Encouraging exercise is particularly good health advice for patients with constipation, where lack of mobility may be a contributing factor.

Laxatives

Laxatives are not always necessary. However, their use may be appropriate:⁴

- if there is no response to adequate lifestyle and dietary advice (e.g. after one month)
- if there is faecal impaction
- if the constipation or painful defecation is associated with illness, following surgery, or during pregnancy
- when the patient is elderly and has a poor diet
- if the constipation is drug induced
- if the patient has a medical condition in which bowel strain is undesirable (e.g. coronary heart disease)
- in preparation for an operation/investigation.

Although laxatives are generally considered effective, there is insufficient clinical evidence from randomised controlled trials (RCTs) to objectively assess their relative effectiveness and tolerability.^{2,9-11} As a result, laxative choice should be based on symptoms, patient preferences, side effects and cost.

In general, the lowest effective dose of a laxative should be used, and this should be reduced once symptoms resolve.⁴ Long-term use is not normally necessary. However, it may be required in situations where constipation and faecal impaction could re-occur if treatment is stopped. Examples include during the use of opioids in palliative care, in progressive neurological conditions (e.g. Parkinson's disease, multiple sclerosis), where there is immobility due to old age or illness, and in some children to prevent relapse. There is no

good evidence to suggest that regular laxative use prevents constipation.¹¹

General information to guide choice of laxative follows. However, it should be remembered that some patient groups may have specialist needs (see next section).

Bulk-forming laxatives (ispaghula husk, methylcellulose, sterculia) have been shown to decrease abdominal pain and improve stool consistency.⁹ However, they are only required if dietary fibre cannot be increased sufficiently.⁴ Unprocessed wheat bran (taken with food or fruit juice) is an effective bulk-forming preparation.¹² Bulking agents are not appropriate for acute relief, as they may take several days to work, but they are a good option for long-term control. Drinking adequate amounts of fluid is essential to avoid intestinal obstruction. Flatulence and abdominal distension are the most common side effects.

Faecal softeners/lubricants (arachis oil enema, docusate sodium) are used to soften stools and ease defecation. Docusate sodium has a stimulant action also, and can be particularly useful in the management of conditions for which rectal administration would be painful (e.g. haemorrhoids or anal fissures). Liquid paraffin is no longer recommended for use.

Osmotic laxatives (lactulose, macrogols, magnesium salts, phosphates, sodium citrate) work by drawing fluid from the body into the bowel or by retaining fluid in the bowel that they are administered with. A good fluid intake should be encouraged.⁴

Clinical trials generally indicate a benefit of lactulose over placebo.¹³ However, its place in therapy alongside other agents is unclear.¹³ Lactulose needs to be taken regularly. It may take a few days to have an effect, and is not suitable for rapid relief of constipation.⁴ Side effects include flatulence, abdominal cramps and discomfort. Some people find lactulose unpalatable.⁴

Macrogols (*Movicol*, *Idrolax*) are the most recently introduced laxatives. Three small RCTs (total n<300) have shown improvements in symptoms after 2–20 weeks of treatment versus placebo.¹⁴ Results from another RCT (n=115) suggest that macrogols may be more effective than lactulose in increasing stool frequency and reducing straining during defecation over four weeks.¹⁵ Macrogols produced less flatulence than lactulose, but liquid stools were more frequent with macrogols over the first two weeks.¹⁵ Side effects of macrogols include abdominal distension, pain and nausea. Although macrogols have shown some benefits over placebo and lactulose in small, short-term trials, there is insufficient evidence to recommend their routine use over other well-established, less expensive agents.

Oral magnesium salts or rectal preparations containing phosphates or sodium citrate may be used occasionally for rapid bowel evacuation, but should be used with caution in the elderly and debilitated.¹²

Stimulant laxatives act by direct stimulation of colonic nerves to cause movement of faecal mass. Senna and bisacodyl are used most commonly, and are often a suitable choice for short-term use to allow normal bowel function to be restored. They are usually taken at bedtime to produce an effect the next morning. Dantron is restricted to use in terminally ill patients because of concerns over potential carcinogenicity.¹² Glycerol or bisacodyl suppositories can be used for rapid evacuation (typically within 1–2 hours after administration).

The most common side effect with stimulant laxatives is abdominal cramp, and they should not be used if there is a possibility of intestinal obstruction. Caution is needed in long-term use, as excessive use may result in diarrhoea and related metabolic effects, such as hypokalaemia. However, despite concerns in the past, there is no convincing evidence that chronic use of stimulant laxatives significantly affects colonic function, or that there is any causative link with cancer.¹⁶

The British National Formulary (BNF)¹² and individual Summaries of Product Characteristics (SPCs)¹⁷ should be consulted for more product-specific information.

Special situations

Dietary changes and exercise may be effective for constipation in women who are pregnant^{18,19} or breast-feeding. Laxatives should only be taken for short periods on medical advice after considering the benefits and potential risks. Agents that are not absorbed or are poorly absorbed from the gastrointestinal tract (e.g. bulk-forming agents, faecal softeners, or osmotic agents), are generally preferred.^{4,20} Only dantron is specifically contra-indicated. Senna is acceptable for short periods in moderate doses if other measures fail,²⁰ but should be used cautiously in the third trimester of pregnancy.⁴

Specialist management of constipation may be required for children, people who are frail and very inactive, and those in palliative care. Specific advice for these groups is outside the scope of this *Bulletin*, but advice can be found in PRODIGY guidelines⁴ and other articles.^{21–25} **Table 1** on page 24 contains information on age restrictions for laxative use in children.

Biofeedback training is available in some specialised centres in the UK, and may be helpful in some patients with slow transit constipation or impaired evacuation who are resistant to simple measures or laxatives.²⁶

There is insufficient evidence to recommend the routine use of macrogols over other well-established, less expensive laxatives.

Table 1: Age restrictions on the use of laxatives in children

Note: The use of laxatives in children should be discouraged unless prescribed by a doctor.¹² For specific dosing information refer to the BNF¹² or SPCs.¹⁷

| | | |
|------------------------|--|--|
| Bulk-forming | Ispaghula husk, sterculia, methylcellulose | ≥6 years old Note: Ispaghula husk: <6 years old only on medical advice Although no age restriction is specified for methylcellulose, the BNF suggests there is no appropriate formulation for use in children <7 years old |
| Faecal softener | Docosate sodium (oral) | Capsules not recommended for children Paediatric oral solution: ≥6 months to 12 years old |
| | Docosate sodium (rectal) | <i>Fletcher's Enemette</i> (5ml): >3 years old <i>Norgalax Micro-enema</i> (10g): >12 years old |
| | Arachis oil (rectal) | Enema: >3 years old (only under medical supervision) |
| Osmotic | Lactulose | No age restriction |
| | Macrogols | <i>Idrolax</i> : ≥8 years old <i>Movicol</i> : ≥12 years old (<i>Movicol-Half/Paediatric</i> : 2–11 years for faecal impaction only) |
| | Magnesium salts | <i>Magnesium hydroxide mixture BP</i> : ≥6 years old (<6 years only on medical advice) |
| | Phosphates or sodium citrate (rectal) | ≥3 years old Note: <i>Relaxit Micro-enema</i> : <3 years old – use half nozzle length <i>Carbalax</i> suppositories: ≥12 years old |
| Stimulant | Bisacodyl | <10 years old on medical advice (Tablets ≥4 years old; paediatric suppositories <4 years old) |
| | Dantron | Terminally ill only Note: Co-danthrusate only suitable for children ≥6 years old |
| | Senna | Tablets/granules: >12 years old (6–12 years on medical advice) Syrup (<i>Senokot</i>): >6 years old (2–6 years on medical advice) |
| | Sodium picosulfate | <10 years old on medical advice (Capsules (<i>Dulco-lax Perles</i>): ≥4 years old; elixir: no age restriction) |
| | Glycerol suppositories BP | 2g/1g: children/infants 4g: >12 years old |

Conclusion

If diagnosis is confirmed, and concerns over underlying conditions are alleviated, constipation may be managed successfully by dietary and lifestyle changes. Where these simple measures are ineffective or impractical, a short course of laxatives may relieve symptoms and restore normal bowel function. As there is insufficient clinical evidence with which to guide choice, laxatives should be chosen on a case-by-case basis according to symptoms, patient preferences, side effects and cost.

References

- Thompson WG, Longstreth GF, Drossman DA, et al. Functional bowel disorders and functional abdominal pain. *Gut* 1999;45(suppl II):II43–7.
- Petticrew M, Watt I, Sheldon T. Systematic review of the effectiveness of laxatives in the elderly. *Health Technol Assessment* 1997;1(13).
- Lembo A, Camilleri M. Chronic constipation. *N Engl J Med* 2003;349:1360–8.
- Sowerby Centre for Health Informatics at Newcastle. Constipation. PRODIGY 2002. Available from: URL: <http://www.prodigy.nhs.uk>. Accessed July 2004.
- Fallon M, O'Neill B. ABC of palliative care. Constipation and diarrhoea. *BMJ* 1997;315:1293–6.
- Department of Health. Referral guidelines for bowel cancer 2002. Available from URL: <http://www.acpghi.org.uk/download/GUIDELINES-bowelcancer.pdf>. Accessed July 2004.
- Dukas L, Willett MD, Giovannucci EL. Association between physical activity, fiber intake, and other lifestyle variables and constipation in a study of women. *Am J Gastroenterol* 2003;98:1790–6.
- Peters HPF, De Vries WR, Vanberge-Henegouwen GP, et al.

Potential benefits and hazards of physical activity and exercise on the gastrointestinal tract. *Gut* 2001;48:435–9.

- Tramonte SM, Brand MB, Mulrow CD, et al. The treatment of chronic constipation in adults: a systematic review. *J Gen Intern Med* 1997;12:15–24.
- Jones MP, Talley NJ, Nuyts G, et al. Lack of objective evidence of efficacy of laxatives in chronic constipation. *Dig Dis Sci* 2002;47:2222–30.
- Petticrew M, Rodgers M, Booth A. Effectiveness of laxatives in adults. *Qual Health Care* 2001;10:268–73.
- British National Formulary. No 47. London: British Medical Association/Royal Pharmaceutical Society of Great Britain; 2004.
- Kot TV, Pettit-Young NA. Lactulose in the management of constipation: a current review. *Ann Pharmacother* 1992;26:1277–82.
- Bazian Ltd. Constipation in adults. *Clin Evid* 2004;11:571–82.
- Attar A, Lemann M, Ferguson A, et al. Comparison of a low dose polyethylene glycol electrolyte solution with lactulose for treatment of chronic constipation. *Gut* 1999;44:226–30.
- Wald A. Is chronic use of stimulant laxatives harmful to the colon? *J Clin Gastroenterol* 2003;36:386–9.
- Summaries of product characteristics. Available from: URL: <http://www.medicines.org.uk/>. Accessed July 2004.
- Broussard BS. Constipation during pregnancy. *Int J Childbirth Education* 1996;11:40–2.
- Jewell DJ, Young G. Interventions for treating constipation in pregnancy (Cochrane Review). In: *The Cochrane Library*, Issue 2, 2004. Chichester, UK: John Wiley & Sons, Ltd.
- UK Drugs in Lactation Advisory Service. Laxatives. Available from: URL: <http://www.ukmicentral.nhs.uk/drugpreg/guide.htm>. Accessed July 2004.
- Anon. Managing constipation in children. *Drug Ther Bull* 2000;38:57–60.
- Anon. Helping children with constipation. Treatment notes. 2002. Available from: URL: <http://www.nelh.nhs.uk/treatmentnotes>. Accessed July 2004.
- Price KJ, Elliott TM. Stimulant laxatives for constipation and soiling in children (Cochrane Review). In: *The Cochrane Library*, Issue 2, 2004. Chichester, UK: John Wiley & Sons, Ltd.
- Anon. The use of strong opioids in palliative care. *MeReC Briefing* 2003;22:1–8.
- McMillan SC. Assessing and managing opiate-induced constipation in adults with cancer. *Cancer Control* 2004;11(suppl1):3–9.
- Kamm MA. Constipation and its management. *BMJ* 2003;327:459–60.

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