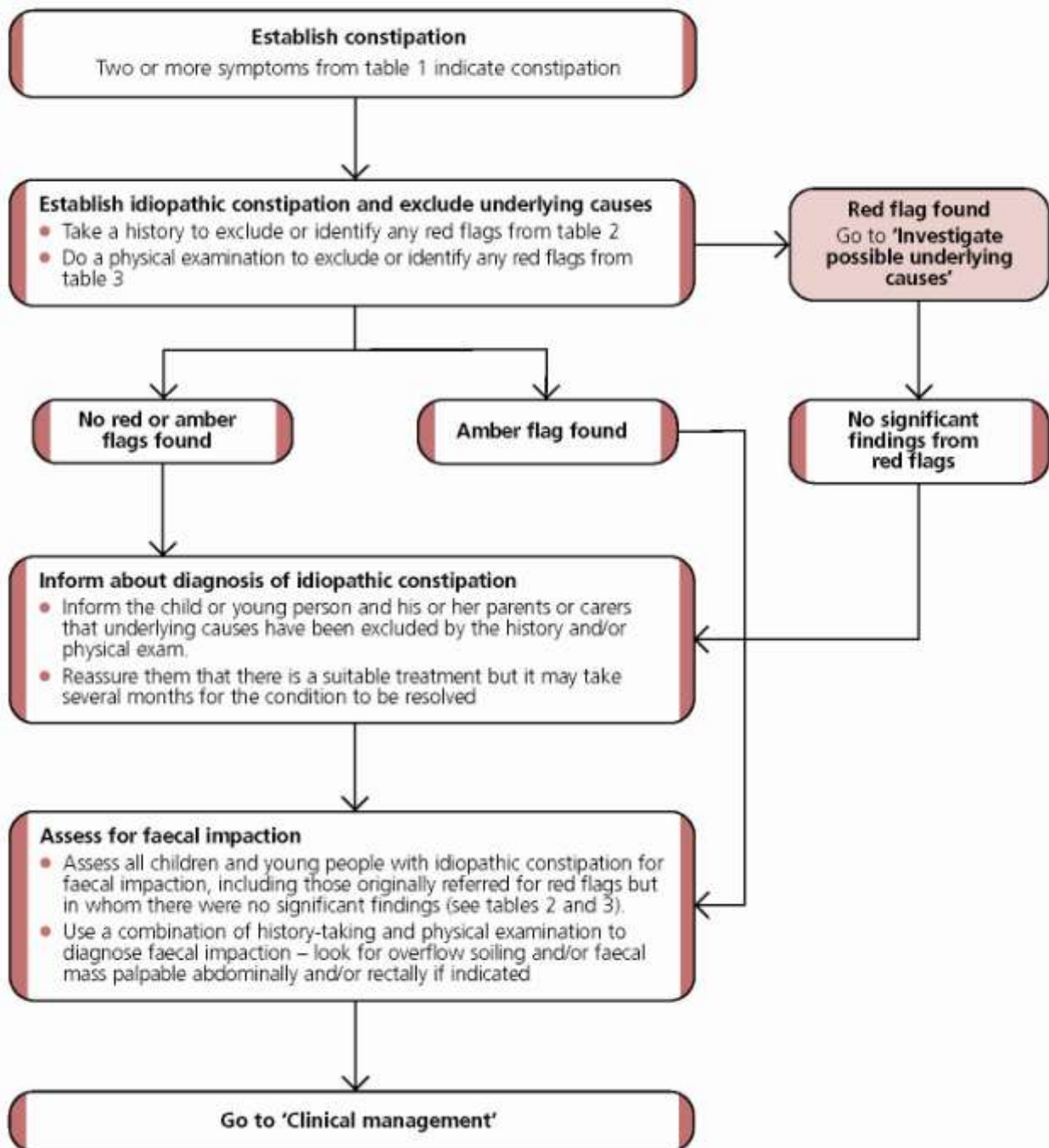


History-taking and physical examination



Investigate possible underlying causes

Red flags found

Do not treat for constipation. **Refer urgently** for tests to a healthcare professional experienced in the specific aspect of child health that is causing concern

Faltering growth (amber flag)

If the history-taking or physical examination shows evidence of faltering growth, treat for constipation and test for coeliac disease and hypothyroidism. See 'Coeliac disease', NICE clinical guideline 86, www.nice.org.uk/guidance/CG86

Possible maltreatment (amber flag)

If the history-taking or physical examination shows evidence of possible child maltreatment, treat for constipation and refer to 'When to suspect child maltreatment', NICE clinical guideline 89, www.nice.org.uk/guidance/CG89

Digital rectal examination

- Refer urgently, to a healthcare professional competent to perform a digital rectal examination and interpret features of anatomical abnormalities or Hirschsprung's disease, children younger than 1 year with idiopathic constipation that does not respond to optimum treatment within 4 weeks
- Do not perform digital rectal examination in children or young people older than 1 year with a 'red flag'. Refer urgently to a healthcare professional competent to perform a digital rectal examination and interpret features of anatomical abnormalities or Hirschsprung's disease (see tables 2 and 3)
- Digital rectal examination should be undertaken only by healthcare professionals competent to interpret features of anatomical abnormalities or Hirschsprung's disease
- Ensure:
 - privacy
 - informed consent is given by the child or young person, or the parent or legal guardian if the child or young person is not able to give it, and is documented
 - a chaperone is present
 - the child or young person's individual preferences about degree of body exposure and gender of the examiner are taken into account
 - all findings are documented

Tests that should not normally be used

- **Rectal biopsy** Do not perform rectal biopsy unless there are or have been clinical features of Hirschsprung's disease, or a family history
- **Manometry** Do not use anorectal manometry to exclude Hirschsprung's disease in children or young people with chronic constipation

Do not use the following to help diagnose idiopathic constipation:

- Abdominal ultrasound
- Gastrointestinal endoscopy
- Plain abdominal radiograph
- Transit studies

Clinical management

Does the child or young person have faecal impaction?
(See 'History-taking and physical examination')

No

Yes

Disimpaction

- Offer the following oral medication regimen:
 - Polyethylene glycol 3350 + electrolytes¹ using an escalating dose regimen (see table 4) as the first-line treatment. Polyethylene glycol 3350 + electrolytes can be mixed with a cold drink
 - Add a stimulant laxative (see table 4) if polyethylene glycol 3350 + electrolytes does not lead to disimpaction after 2 weeks
 - Substitute a stimulant laxative singly or in combination with an osmotic laxative such as lactulose (see table 4) if polyethylene glycol 3350 + electrolytes is not tolerated
 - Inform families that disimpaction treatment can initially increase symptoms of soiling and abdominal pain
- Do not use the following unless all oral medications have failed:
 - rectal medications
 - sodium citrate enemas
- Do not use phosphate enemas unless under specialist supervision in hospital, and if all oral medications and sodium citrate enemas have failed
- Do not perform manual evacuation of the bowel under anaesthesia unless all oral and rectal medications have failed
- Review all children undergoing disimpaction within 1 week

Maintenance therapy

- Start maintenance therapy as soon as the child or young person's bowel is disimpacted
- Reassess the child or young person frequently during maintenance treatment to ensure they do not become reimpacted and assess issues in maintaining treatment such as taking medicine and toileting
- Offer the following regimen for ongoing treatment or maintenance therapy:
 - Polyethylene glycol 3350 + electrolytes as the first-line treatment¹
 - Adjust the dose of polyethylene glycol 3350 + electrolytes according to symptoms and response. As a guide for children and young people who have had disimpaction the starting maintenance dose might be half the disimpaction dose (see table 4)
 - Add a stimulant laxative (see table 4) if polyethylene glycol 3350 + electrolytes does not work
 - Substitute a stimulant laxative if polyethylene glycol 3350 + electrolytes is not tolerated by the child or young person. Add another laxative such as lactulose or docusate (see table 4) if stools are hard
 - Continue medication at maintenance dose for several weeks after regular bowel habit is established. Children who are toilet training should remain on laxatives until toilet training is well established. Do not stop medication abruptly: gradually reduce the dose over a period of months in response to stool consistency and frequency. Some children and young people may require laxative therapy for several years. A minority may require ongoing laxative therapy

¹ At the time of publication (May 2010), Movicol Paediatric Plain is the only macrogol licensed for children under 12 years that includes electrolytes. It does not have UK marketing authorisation for use in faecal impaction in children under 5 years, or for chronic constipation in children under 2 years. Informed consent should be obtained and documented. Movicol Paediatric Plain is the only macrogol licensed for children under 12 years that is also unflavoured.

Diet and lifestyle

Do not use dietary interventions alone as first-line treatment

- Treat constipation with laxatives and a combination of:
 - Negotiated and non-punitive behavioural interventions suited to the child or young person's stage of development. This could include scheduled toileting and support to establish a regular bowel habit, maintenance and discussion of a bowel diary, information on constipation, and use of encouragement and rewards systems.
 - Dietary modifications to ensure a balanced diet and sufficient fluids are consumed.
- Advise parents and children or young people (if appropriate) that a balanced diet should include:
 - Adequate fluid intake (see table 5).
 - Adequate fibre. Recommend including foods with a high fibre content (such as fruit, vegetables, high-fibre bread, baked beans and wholegrain breakfast cereals) (not applicable to exclusively breastfed infants). Do not recommend unprocessed bran, which can cause bloating and flatulence and reduce the absorption of micronutrients.
- Give written information about diet and fluid intake to children and young people and their families.
- Start a cows' milk exclusion diet only on the advice of the relevant specialist services.
- Advise daily physical activity that is tailored to the child or young person's stage of development and individual ability as part of ongoing maintenance.

Information and support

- Provide tailored follow-up to children and young people and their parents or carers according to the child or young person's response to treatment, measured by frequency, amount and consistency of stools (use the Bristol Stool Form Scale to assess this). This could include:
 - telephoning or face-to-face talks
 - giving detailed information about their condition and its management, such as the 'Understanding NICE guidance' leaflet for this guideline (see back cover for details)
 - giving verbal information supported by (but not replaced by) written or website information in several formats about how the bowels work, symptoms that might indicate a serious underlying problem, how to take their medication, what to expect when taking laxatives, how to poo, origins of constipation, criteria to recognise risk situations for relapse (such as worsening of any symptoms, soiling) and the importance of continuing treatment until advised otherwise by the healthcare professional.
- Offer children and young people with idiopathic constipation and their families a point of contact with specialist healthcare professionals, including school nurses, who can give ongoing support.
- Liaise with school nurses to provide information and support, and to help them raise awareness of the issues surrounding constipation with pupils and school staff.
- Refer children and young people with idiopathic constipation that does not respond to initial treatment within 3 months to a practitioner with expertise in the problem.

Specialist investigations and interventions

Clinical investigations

- Test for coeliac disease and hypothyroidism in the ongoing management of intractable constipation if requested by specialist services. See also 'Coeliac disease', NICE clinical guideline 86, www.nice.org.uk/guidance/CG86
- Consider using the following investigations if requested by specialist services in the ongoing management of intractable constipation:
 - radiography
 - transit studies
 - abdominal ultrasound.

Psychological and behavioural interventions

- Do not use biofeedback for ongoing treatment.
- Do not routinely refer children and young people with idiopathic constipation to a psychologist or child and adolescent mental health services unless the child or young person has been identified as likely to benefit from receiving a psychological intervention.

Antegrade colonic enema procedure

- Refer children and young people with idiopathic constipation who still have unresolved symptoms on optimum management to a paediatric surgical centre to assess their suitability for an antegrade colonic enema (ACE) procedure.
- Ensure that all children and young people who are referred for an ACE procedure have access to support, information and follow-up from paediatric healthcare professionals with experience in this procedure.

Table 1 Key components of history-taking to diagnose constipation

Key components	Potential findings in a child younger than 1 year	Potential findings in a child/young person older than 1 year
Stool patterns	<p>Fewer than three complete stools per week (type 3 or 4, see Bristol Stool Form Scale) (this does not apply to exclusively breastfed babies after 6 weeks of age)</p> <p>Hard large stool</p> <p>'Rabbit droppings' (type 1, see Bristol Stool Form Scale)</p>	<p>Fewer than three complete stools per week (type 3 or 4, see Bristol Stool Form Scale)</p> <p>Overflow soiling (commonly very loose [no form], very smelly [smells more unpleasant than normal stools], stool passed without sensation. Can also be thick and sticky or dry and flaky.)</p> <p>'Rabbit droppings' (type 1, see Bristol Stool Form Scale)</p> <p>Large, infrequent stools that can block the toilet</p>
Symptoms associated with defecation	<p>Distress on stooling</p> <p>Bleeding associated with hard stool</p> <p>Straining</p>	<p>Poor appetite that improves with passage of large stool</p> <p>Waxing and waning of abdominal pain with passage of stool</p> <p>Evidence of retentive posturing: typical straight legged, tiptoed, back arching posture</p> <p>Straining</p> <p>Anal pain</p>
History	<p>Previous episode(s) of constipation</p> <p>Previous or current anal fissure</p>	<p>Previous episode(s) of constipation</p> <p>Previous or current anal fissure</p> <p>Painful bowel movements and bleeding associated with hard stools</p>

Table 2 Key components of history-taking to diagnose idiopathic constipation

Key components	Findings and diagnostic clues that indicate idiopathic constipation	'Red flag' findings and diagnostic clues that indicate an underlying disorder or condition: not idiopathic constipation
Timing of onset of constipation and potential precipitating factors	<p>In a child younger than 1 year:</p> <ul style="list-style-type: none"> ● Starts after a few weeks of life ● Obvious precipitating factors coinciding with the start of symptoms: fissure, change of diet, infections <p>In a child/young person older than 1 year:</p> <ul style="list-style-type: none"> ● Starts after a few weeks of life ● Obvious precipitating factors coinciding with the start of symptoms: fissure, change of diet, timing of potty/toilet training or acute events such as infections, moving house, starting nursery/school, fears and phobias, major change in family, taking medicines 	Reported from birth or first few weeks of life
Passage of meconium	Normal (within 48 hours after birth, in term baby)	Failure to pass meconium/delay (more than 48 hours after birth, in term baby)
Stool patterns		'Ribbon stools' (more likely in a child younger than 1 year)
Growth and general wellbeing	<p>In a child younger than 1 year:</p> <ul style="list-style-type: none"> ● Generally well, weight and height within normal limits <p>In a child/young person older than 1 year:</p> <ul style="list-style-type: none"> ● Generally well, weight and height within normal limits, fit and active 	No 'red flag', but see 'amber flag' below.
Symptoms in legs/locomotor development	No neurological problems in legs (such as falling over in a child/young person older than 1 year), normal locomotor development	Previously unknown or undiagnosed weakness in legs, locomotor delay
Abdomen		Abdominal distension with vomiting
Diet and fluid intake	<p>In a child younger than 1 year:</p> <ul style="list-style-type: none"> ● Changes in infant formula, weaning, insufficient fluid intake <p>In a child/young person older than 1 year:</p> <ul style="list-style-type: none"> ● History of poor diet and/or insufficient fluid intake 	

'Amber flag': possible idiopathic constipation (see 'Investigate possible underlying causes')

Growth and general wellbeing:

- Faltering growth (see 'Investigate possible underlying causes')

Personal/familial/social factors:

- Disclosure or evidence that raises concerns over possibility of child maltreatment

Table 3 Key components of physical examination to diagnose idiopathic constipation

Key components	Findings and diagnostic clues that indicate idiopathic constipation	'Red flag' findings and diagnostic clues that indicate an underlying disorder or condition: not idiopathic constipation
Inspection of perianal area: appearance, position, patency, etc	Normal appearance of anus and surrounding area	Abnormal appearance/position/patency of anus: fistulae, bruising, multiple fissures, tight or patulous anus, anteriorly placed anus, absent anal wink
Abdominal examination	Soft abdomen. Flat or distension that can be explained because of age or excess weight	Gross abdominal distension
Spine/lumbosacral region/gluteal examination	Normal appearance of the skin and anatomical structures of lumbosacral/gluteal regions	Abnormal: asymmetry or flattening of the gluteal muscles, evidence of sacral agenesis, discoloured skin, naevi or sinus, hairy patch, lipoma, central pit (dimple that you can't see the bottom of), scoliosis
Lower limb neuromuscular examination including tone and strength	Normal gait. Normal tone and strength in lower limbs	Deformity in lower limbs such as talipes Abnormal neuromuscular signs unexplained by any existing condition, such as cerebral palsy
Lower limb neuromuscular examination: reflexes (perform only if 'red flags' in history or physical examination suggest new onset neurological impairment)	Reflexes present and of normal amplitude	Abnormal reflexes

Table 4 Laxatives: recommended doses

Laxatives	Recommended doses ^a
<p>Macrogols</p> <p>Polyethylene glycol 3350 + electrolytes</p>	<p>Paediatric formula: Oral powder: macrogol 3350 (polyethylene glycol 3350)^b 6.563 g; sodium bicarbonate 89.3 mg; sodium chloride 175.4 mg; potassium chloride 25.1 mg/sachet (unflavoured).</p> <ul style="list-style-type: none"> ● Disimpaction <ul style="list-style-type: none"> – Child under 1 year: ½–1 sachet daily (non-BNFC recommended dose) – Child 1–5 years: 2 sachets on 1st day, then 4 sachets daily for 2 days, then 6 sachets daily for 2 days, then 8 sachets daily (non-BNFC recommended dose) – Child 5–12 years: 4 sachets on 1st day, then increased in steps of 2 sachets daily to maximum of 12 sachets daily (non-BNFC recommended schedule) ● Ongoing maintenance (chronic constipation, prevention of faecal impaction) <ul style="list-style-type: none"> – Child under 1 year: ½–1 sachet daily (non-BNFC recommended dose) – Child 1–6 years: 1 sachet daily; adjust dose to produce regular soft stools (maximum 4 sachets daily) (for children under 2, non-BNFC recommended dose) – Child 6–12 years: 2 sachets daily; adjust dose to produce regular soft stools (maximum 4 sachets daily) <p>Adult formula: Oral powder: macrogol 3350 (polyethylene glycol 3350) 13.125 g; sodium bicarbonate 178.5 mg; sodium chloride 350.7 mg; potassium chloride 46.6 mg/sachet (unflavoured).</p> <ul style="list-style-type: none"> ● Disimpaction <ul style="list-style-type: none"> – Child/young person 12–18 years: 4 sachets on 1st day, then increased in steps of 2 sachets daily to maximum of 8 sachets daily (non-BNFC recommended dose) ● Ongoing maintenance (chronic constipation, prevention of faecal impaction) <ul style="list-style-type: none"> – Child/young person 12–18 years: 1–3 sachets daily in divided doses adjusted according to response; maintenance, 1–2 sachets daily
<p>Osmotic laxatives</p> <p>Lactulose</p>	<ul style="list-style-type: none"> ● Child 1 month to 1 year: 2.5 ml twice daily, adjusted according to response ● Child 1–5 years: 2.5–10 ml twice daily, adjusted according to response (non-BNFC recommended dose) ● Child/young person 5–18 years: 5–20 ml twice daily, adjusted according to response (non-BNFC recommended dose)

Continued

Table 4 Laxatives: recommended doses (continued)

Laxatives	Recommended doses ^a
Stimulant laxatives	
Sodium picosulfate ^c	Non-BNFC recommended doses Elixir (5 mg/5 ml) <ul style="list-style-type: none"> ● Child 1 month to 4 years: 2.5–10 mg once a day ● Child/young person 4–18 years: 2.5–20 mg once a day Non-BNFC recommended dose Perles ^d (1 tablet = 2.5mg) <ul style="list-style-type: none"> ● Child/young person 4–18 years: 2.5–20 mg once a day
Bisacodyl	Non-BNFC recommended doses By mouth <ul style="list-style-type: none"> ● Child/young person 4–18 years: 5–20 mg once daily By rectum (suppository) <ul style="list-style-type: none"> ● Child/young person 2–18 years: 5–10 mg once daily
Senna ^e	Senna syrup (7.5 mg/5 ml) <ul style="list-style-type: none"> ● Child 1 month to 4 years: 2.5–10 ml once daily ● Child/young person 4–18 years: 2.5–20 ml once daily Senna (non-proprietary) (1 tablet = 7.5 mg) <ul style="list-style-type: none"> ● Child 2–4 years: ½–2 tablets once daily ● Child 4–6 years: ½–4 tablets once daily ● Child/young person 6–18 years: 1–4 tablets once daily
Docusate sodium ^f	<ul style="list-style-type: none"> ● Child 6 months–2 years: 12.5 mg three times daily (use paediatric oral solution) ● Child 2–12 years: 12.5–25 mg three times daily (use paediatric oral solution) ● Child/young person 12–18 years: up to 500 mg daily in divided doses

^aAll drugs listed above are given by mouth unless stated otherwise. Unless stated otherwise, doses are those recommended by the British National Formulary for Children (BNFC) 2009. Informed consent should be obtained whenever medications/doses are prescribed that are different from those recommended by the BNFC.

^b At the time of publication (May 2010) Movicol Paediatric Plain is the only macrogol licensed for children under 12 years that includes electrolytes. It does not have UK marketing authorisation for use in faecal impaction in children under 5 years, or for chronic constipation in children under 2 years. Informed consent should be obtained and documented. Movicol Paediatric Plain is the only macrogol licensed for children under 12 years that is also unflavoured.

^c Elixir, licensed for use in children (age range not specified by manufacturer). Perles not licensed for use in children under 4 years. Informed consent should be obtained and documented.

^d Perles produced by Dulcolax should not be confused with Dulcolax tablets which contain bisacodyl as the active ingredient.

^e Syrup not licensed for use in children under 2 years. Informed consent should be obtained and documented.

^f Adult oral solution and capsules not licensed for use in children under 12 years. Informed consent should be obtained and documented.

Table 5 American dietary recommendations

Age	Total water intake/day (including water in food)	Water from drinks/day
Infants 0–6 months	700 ml assumed to be from breast milk	
7–12 months	800 ml from milk and complementary foods and beverages	600 ml
1–3 years	1300 ml	900 ml
4–8 years	1700 ml	1200 ml
Boys 9–13 years	2400 ml	1800 ml
Girls 9–13 years	2100 ml	1600 ml
Boys 14–18 years	3300 ml	2600 ml
Girls 14–18 years	2300 ml	1800 ml

Institute of Medicine (2005) Dietary reference intakes for water, potassium, sodium chloride and sulfate. Washington DC: The National Academies Press.

The above recommendations are for adequate intakes and should not be interpreted as a specific requirement. Higher intakes of total water will be needed for those who are physically active or who are exposed to hot environments. It should be noted that obese children and young people may also need higher total intakes of water.

Bristol Stool Form Scale

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces; entirely liquid