

# The management of chronic constipation

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## Abstract

Chronic constipation is a common problem in childhood. A minority of cases are due to an underlying organic cause and such cases can usually be identified through a thorough history and examination, with focused investigations. Constipation can have a significant impact on the social and emotional development of a child, as well as affecting the family dynamics. It is important to take these factors into consideration when assessing and treating a child and a multidisciplinary approach to care has been shown to be the most effective. Although there is a general consensus regarding the principles of treatment, the evidence behind the choice of laxative is still lacking. Effective treatment requires the disimpaction of retained stool followed by re-establishment of a regular bowel habit. Whilst approximately 70% of children will become symptom free off all medication, a significant cohort continues to have symptoms despite a prolonged period of treatment.

**Keywords** constipation; faecal incontinence; laxatives; macrogol; soiling

## Introduction

Constipation is a common paediatric complaint, with a commonly quoted prevalence of 3% of all referrals to general paediatric outpatients and 25% of paediatric gastroenterology clinics. This review aims to discuss the assessment and management of children presenting with chronic constipation, which is often distressing for both child and the family, impacting on their quality of life.

## Definition

The definition of childhood constipation considers the frequency of bowel motions, the consistency of motions and the presence of associated discomfort. Whole gut transit time increases with age, with stool frequency reducing from four stools per day in neonates to 1.7 stools a day at 1 year of age. A total of 96% of 1–4 year olds open their bowels between three times a day to once every other day.<sup>1</sup>

Constipation has been defined across all age groups as a delay or difficulty in defecation that persists for 2 weeks or more. The Paris Consensus on Childhood Constipation Terminology

(PACCT) group and the more recent Rome III criteria have produced more precise definitions.

PACCT defined childhood constipation as the occurrence of two or more of the following six criteria in the previous 8 weeks: frequency of movements less than three a week; more than one episode of faecal incontinence a week; large stools in the rectum or palpable on abdominal examination; passing of stools so large that they may obstruct the toilet; retentive posturing and withholding behaviour; painful defecation. The group defined the term faecal incontinence as the passage of stool in an inappropriate place, and divided this into: organic (i.e. secondary to an underlying pathology) or functional, which is further subdivided into (i) constipation-associated (previously referred to as 'soiling') and (ii) non-retentive (previously referred to 'encopresis').<sup>2</sup>

## Aetiology

Although a number of conditions can cause constipation (see Table 1), more than 95% of children have no identifiable underlying organic cause, which is referred to as 'functional constipation'.

Acute constipation can be triggered by any event that causes a delay in bowel opening, be that weaning onto solids, an acute illness, a period of immobility, a lack of access to a toilet or simply being too engrossed in activities to go. Pain associated with the passage of a hard stool may result in voluntary stool withholding and a vicious cycle develops whereby the child becomes fearful of defecation, withholds further and stool accumulates in the rectum and colon. This may be exacerbated by the development of an anal fissure.

Some children with constipation have abnormal defecation dynamics on anal manometry, in that they will contract their external anal sphincter rather than relax it on defecation but it is not clear whether this is a primary pathology or a secondary learned behaviour.

Rectal capacity increases (referred to as mega rectum) and the child's awareness of the need to defecate appears to diminish as faecal retention occurs. As retention increases small amounts of retained stool may leak, referred to as faecal incontinence or overflow soiling. This is often of liquid, foul-smelling stool but soiling can be of any consistency. A key feature of overflow soiling is the child's lack of awareness of the need to defecate.

## Presentation

The presenting symptoms vary with age, with one study showing only 31% children presenting with 'classical constipation' (that is, the passage of hard, infrequent stools).<sup>3</sup>

A total of 98% of healthy term infants and 76% of preterm infants pass meconium within the first 24 hours of age and by 48 hours all healthy term infants should have done so.<sup>4</sup> Failure to do so should prompt evaluation for an ano-rectal abnormality or intestinal obstruction.

Toddlers usually present with a history of reduced stool frequency, the passage of hard stools, often associated with pain, and rectal bleeding. Withholding is suggested by the passage of infrequent enormous stools and these children often adopt odd postures such as crossing their legs, going rigid, hiding etc. when

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## Causes of chronic childhood constipation

### Non-organic causes

Diet	Poor diet, food fads Inadequate fluid intake Excessive milk intake
Psychological/behavioural	Toilet refusal/ignoring the urge to go School bullying Developmental delay
Drugs	Oxybutynin Opiate analgesia Loperamide
Other	Sexual abuse

### Organic causes

Anal–rectal abnormalities	Congenital
	Hirschsprung's disease Imperforate anus Anal stenosis Anterior anus
	Acquired
	Anal fissure Perianal infection (group A streptococcal)
Food intolerance	Cow's milk intolerance Coeliac disease
Gastrointestinal	Inflammatory bowel disease Cystic fibrosis
Neurological	Spina bifida Cerebral palsy Hypotonia of any cause
Endocrine/metabolic	Hypothyroidism Hypercalcaemia Electrolyte imbalance – hypokalaemia, hypomagnesium

**Table 1**

the sensation to defecate occurs. Parents often misinterpret this as straining to pass stool.

Although older children may have similar symptoms as younger children it is often harder to obtain a clear history of constipation symptoms, particularly from adolescents, who can find such discussions embarrassing, and the use of stool charts (see [Figure 1](#)) and diaries may be helpful. Overflow soiling becomes a more prominent symptom as children get older, and is present in half of those presenting after 3.5 years.<sup>3</sup> The family or health professionals may mistake soiling for diarrhoea. Abdominal pain is also more prominent in this age group, as well as non-gastrointestinal symptoms including anorexia, general malaise, urinary symptoms and headache.

As discussed in a previous review, children with physical disabilities and developmental delay, including social development disorders, are more likely to suffer from constipation.<sup>5</sup>

## Initial assessment

A thorough history and examination will identify the few children who require further investigation for organic disease. It should also highlight factors that might influence your future management plan.

### History

[Table 2](#) outlines specific areas that should be addressed in the history.

It is important to clarify any previous laxative treatment and the child's response to this, which often also highlights the parents' attitudes to laxatives and any problems with compliance. Urinary tract infections and daytime wetting are more common in children with constipation but day wetting should alert the clinician to the possibility of a spinal problem.

In our experience constipation is not a common primary presentation of childhood sexual abuse but it is important to consider it and to explore other features that may suggest the possibility, such as behavioural and emotional problems.

There is a need to establish the impact constipation has on the child and their family. Faecal incontinence in particular can be very stressful, causing embarrassment to the child and affecting peer relationships. Parents may not understand that the child is not aware of the soiling episodes and may view the soiling as a deliberate act of defiance. Education may be affected, with nursery placements jeopardised if a young child is not fully continent and older children often reporting embarrassment, bullying and school avoidance. The quality of life in children with constipation has been reported to be lower than that in children affected by other chronic gastrointestinal illnesses.<sup>6</sup>

### Examination

Physical examination aims to establish the degree of faecal loading and identify any physical clues to underlying pathology. Growth parameters are a good indicator of general health and possible endocrine causes. Abdominal examination may reveal distension or palpable faeces but a normal examination does not exclude faecal loading. Inspection of perineum allows assessment of the position and patency of anus, possible infection and any perianal changes such as anal fissures and skin tags. Although some advocate digital rectal examination, this is not routinely part of our practice as it rarely provides additional information and can be distressing. Examination of spine and neurological examination of lower limbs, including gait, may help identify spinal lesions.

## Investigations

If the history or examination raises the possibility of an underlying organic cause, this should be investigated in a focused manner (see [Table 3](#)). Poor response to treatment may also prompt further investigation and we have, for instance, identified cow's milk protein intolerance in children who have responded poorly to laxatives.

Abdominal x-ray is the most common type of imaging used in constipation. It is essential in neonates with possible obstruction but may also be helpful in the older child if the history is unclear or examination proves difficult. Grading of faecal loading on x-ray has been shown to correlate with the severity of symptoms.

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