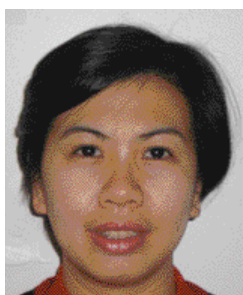


Management of childhood faecal incontinence



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Effective management of children with faecal incontinence may require a multidisciplinary approach, including education, a toileting program, laxatives, dietary modification and psychological therapy. The aim is to achieve regular passage of normal stools into the toilet.

Faecal incontinence refers to the passage of stools in an inappropriate place. It is a common childhood condition that occurs in 1.5 to 3% of children, affecting boys more often than girls. Faecal incontinence can also affect up to 8% of adults.¹

The terminologies used to describe faecal incontinence can be confusing. The terms 'faecal incontinence', 'soiling' and 'encopresis' are commonly used interchangeably, but the Paris Consensus on Childhood Constipation Terminology (PACCT) Group² recommends using the term 'faecal incontinence' in place of 'encopresis' and 'soiling'. Faecal incontinence is usually involuntary, but may be intentional, and some use the term 'encopresis' to refer to this latter group.

Types

Constipation-associated faecal incontinence (involuntary)

Underlying functional constipation is the most common cause of faecal incontinence. The constipation is usually not directly caused by a pathological condition, but may sometimes be associated with medical conditions or medications.

Nonretentive faecal incontinence (voluntary)

Nonretentive faecal incontinence is described as the passage of stools in an inappropriate place by a child with a mental age of 4 years and older, with no evidence of constipation. These children usually have normal bowel motions and anal

IN SUMMARY

- Faecal incontinence refers to the passage of stools in an inappropriate place. It is a common childhood condition that occurs in 1.5 to 3% of children, affecting boys more often than girls.
- Risk factors for faecal incontinence include chronic constipation, dietary factors, cow's milk protein intolerance, poor toilet posture, medical conditions (e.g. hypothyroidism, hypercalcaemia, hypokalaemia and porphyria) and some medications.
- Faecal incontinence has an enormous impact on the self-esteem and social interactions of affected children leading to social isolation.
- An accurate history should be taken from the child and his or her parents and a thorough physical examination is important to rule out organic causes of faecal incontinence.
- A multidisciplinary approach may be required to treat children with faecal incontinence, including education, a toileting program, laxatives, dietary modification and psychological therapy.

Table. PACCT Group's definition of chronic constipation²

The occurrence of two or more of the following characteristics during the past eight weeks:

- frequency of bowel movements less than three per week
- more than one episode of faecal incontinence per week
- large stools in the rectum or palpable on abdominal examination
- passing of stools so large that they may obstruct the toilet
- display of retentive posturing and withholding behaviours
- painful defaecation.

PACCT = Paris Consensus on Childhood Constipation Terminology.



PHOTOLIBRARY

sensation. The faecal incontinence is often a manifestation of emotional disturbance. Faecal incontinence can persist into adulthood in 22% of children with faecal incontinence but without constipation.³

Organic faecal incontinence

Rare organic conditions (such as anorectal malformations, anal stenosis post-anorectal surgery, neurogenic causes including spinal bifida, spinal tumour or trauma) can cause faecal incontinence and should be considered and ruled out in every child who presents with faecal incontinence.

Risk factors

Chronic constipation

There is not yet a universally accepted definition of chronic constipation, although the PACCT Group's definition is commonly used by paediatricians (see Table).²

In chronic constipation the child withholds bowel movements leading to the development of further constipation, faecal impaction and the seepage of soft or liquid faeces (obstipation with overflow). Constipation can cause painful defaecation, which contributes to the vicious cycle of stool withholding and worsening constipation. In severe situations, the chronic constipation leads to stool impaction (causing outflow obstruction),

functional megacolon (characterised by a flaccid, over-distension of the sigmoid colon) and rectal insensitivity, resulting in faecal overflow when the rectum is full. Although the rectal sphincter is normal, transient relaxations are induced by rectal filling leading to incontinence⁴ (see Figure on the next page).

Factors that may cause chronic constipation are described below.

- **Dietary factors.** Low fibre and poor fluid intake are both contributing factors for developing functional constipation.⁵
- **Cow's milk protein intolerance.** This can cause chronic constipation, particularly in childhood. It has been shown to cause anal fissures and inflammation of the rectal mucosa, which resolved with cow's milk avoidance.⁶ Children with a cow's milk protein intolerance may have other manifestations of intolerance to cow's milk such as bronchospasm, dermatitis and rhinitis.
- **Poor toilet posture.** Adult sized toilets are often too high for small children, resulting in poor toilet posture and incomplete stool evacuation, which worsens constipation.
- **Medical conditions associated with constipation.** Conditions such as hypothyroidism, hypercalcaemia, hypokalaemia and porphyria

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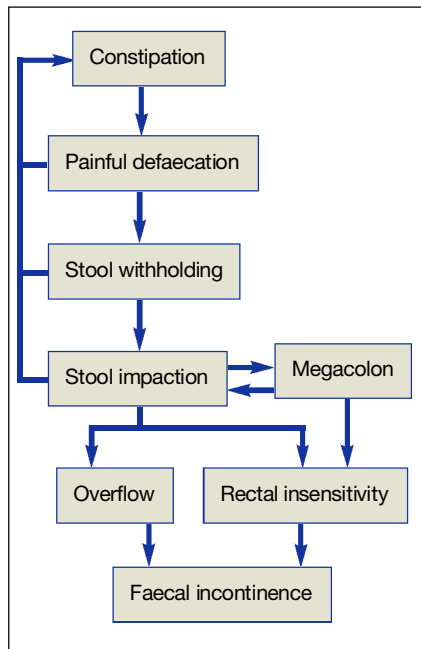


Figure. Mechanism for the development of faecal incontinence associated with constipation.

are associated with constipation. Other conditions such as coeliac disease can rarely present with chronic constipation.

- **Medications.** Some antacids, anticholinergics, antidepressants, antihistamines, iron supplements, opioids and proton pump inhibitors can cause constipation, although this is rare.

Toilet refusal

Toilet refusal is quite common in young children during toilet training. Some children are happy to defaecate into their nappies but refuse to do it in the toilet. These children exhibit retentive posturing and withholding behaviour such as leaning back while sitting on the toilet seat, crossing their thighs or walking on tiptoes to prevent defaecation.¹

What predisposes children to toilet refusal is uncertain, but factors such as previous painful defaecation (which can be caused by anal fissures, perianal infections and cow’s milk protein intolerance²)

or fear/dislike of using the toilet have been shown to provoke stool-withholding behaviour in children. School-age children often avoid defaecating at school because of a dislike of using school toilets. One study found that these children have a sixfold risk of developing functional constipation.⁵

Psychological factor

Children with autistic spectrum disorders and attention deficit hyperactivity disorder (ADHD) have difficulty establishing normal toilet training routines often resulting in constipation or soiling.⁸ Children with oppositional defiant disorder, conduct disorder or other major psychosocial problems may also present with faecal incontinence. Emotional events such as parental separation or the birth of a sibling may trigger stool withholding behaviour and result in constipation-associated faecal incontinence. Rarely, severe emotional distress may lead to nonretentive faecal incontinence.^{5,9}

Impact on the child Psychosocial

Faecal incontinence has an enormous impact on the self-esteem and social interactions of affected children leading to social isolation. These children tend to be bullied at school, ridiculed by their siblings and punished by their parents who often blame them for being lazy or irresponsible. Many children are embarrassed by their soiling and will respond by denial or by hiding their soiled underpants. It has been shown that improvement in soiling results in improvement in psychosocial wellbeing.¹⁰

Other symptoms

Constipation and faecal incontinence can cause bladder symptoms such as urinary incontinence and urinary tract infections. In one study of children with ‘functional constipation’ and ‘encopresis’, 29% of children presented with daytime wetting, 34% had bedwetting and 11% had a

urinary tract infection. With successful treatment of the constipation, most of the patients became dry and further recurrence of urinary tract infections was prevented.¹¹

Evaluation History

An accurate history is crucial for diagnosis and management of faecal incontinence. A detailed history should be taken from both the parents and the child because parents are often not aware of the bowel habits of their school-age child, and are generally poor at recognising the presence of constipation in their child.¹²

The history should include:

- information regarding the general health of the child (to exclude organic causes)
- developmental progress including toilet training and social and emotional adjustments
- if constipation is present or not (to differentiate between retentive and nonretentive faecal incontinence)
- diet history (including fluid, fibre and cow’s milk intake)
- the age of onset of symptoms of faecal incontinence or constipation
- a detailed bowel history – that is, frequency of bowel motions, consistency of motions, whether the child needs to strain to defaecate, associated pain with defaecation and presence of blood. A seven-day stool diary with inclusion of the Bristol stool chart¹³ (see the patient handout on page 57) may be helpful for assessment.

Physical examination

A thorough physical examination is important to rule out organic causes of faecal incontinence. This includes examining the spine, assessing perineal sensation and deep tendon reflexes for detecting neurogenic conditions, an abdominal examination to assess for constipation (as colonic mass is found in 50% of children with significant constipation) and external

examination of the perianal area for inflammation and anal fissures, which may contribute to painful defaecation and stool withholding.

Firm, packed stools are found in the rectum of more than 90% of children with faecal incontinence.³ Rectal examination is not routinely performed if the history is adequate for the diagnosis because it adds little information and often causes distress to a child. However, it may be indicated if there is concern about anal tone or any uncertainty about faecal retention.

Investigation

Most children with faecal incontinence require no or minimal investigations. An abdominal x-ray may be carried out to confirm faecal loading if there is uncertainty about the presence of constipation from the history and examination. Anorectal manometry is available in some specialised centres. This is useful for detecting sphincter abnormalities such as internal sphincter achalasia, sphincter impairment and loss of rectal sensation, but it is not performed as part of the routine assessment for faecal incontinence.

Blood tests are of limited value, but are useful to assess thyroid function and to measure calcium and potassium levels for diagnosing organic causes of constipation. In children with urinary incontinence and faecal incontinence, urine culture will exclude a urinary tract infection.

Management

Effective management of children with faecal incontinence may require a multidisciplinary approach, including education a toileting program, laxatives, dietary modification and psychological therapy. The aim is to achieve regular passage of normal stools into the toilet. The case study in the box on this page gives an example of the management of a boy with chronic constipation and faecal incontinence.

Case study: management of chronic constipation and faecal incontinence in a 9-year-old boy

Mark was a 9-year-old boy who presented with faecal incontinence. He started having this problem from the age of 3 years after the birth of his brother. Mark had smears of faeces in his underpants approximately twice per day and he was usually not aware that he had soiled. Mark reported that he opened his bowel once or twice daily passing 'normal' consistency stools. However, he occasionally passes hard, pebble-like stools. He usually did not strain or experience pain when defaecating. He had not noticed any blood on wiping his bottom.

Mark drank approximately 500 mL of fluid per day and his fibre intake was low. He had no problems with daytime wetting or bedwetting and he did not have a urinary tract infection.

Mark was born at term by an elective caesarean section. His neonatal period was unremarkable, with normal passage of meconium. He had been well in the past apart from mild asthma. His developmental milestones were normal.

On examination Mark's weight and height were on the 50th percentile. Hard faecal masses were palpable on abdominal examination. He had a normal neurological examination including lower limb reflexes and anal wink. The rest of his examination was also unremarkable.

Mark was suspected to have constipation-associated faecal incontinence. He was prescribed macrogol 3350 (Movicol-Half; at a titrating dose of one to 12 sachets daily to disimpact the bowel) and was advised to continue on Movicol-Half at a maintenance dose of two sachets per day to achieve soft, daily bowel motions. Mark was also recommended to increase his fluid and fibre intake. He was advised to use a foot support when defaecating to facilitate complete bowel evacuation.

At three weeks follow up, Mark's faecal incontinence had resolved. He was opening his bowels daily passing soft stools. He was on a maintenance dose of two sachets of Movicol-Half per day and had also increased his fluid intake. His abdomen was soft with no palpable masses. He was advised to continue on Movicol-Half for the next five to six months before attempting to wean off the medication. He was also advised to continue to maintain adequate fluid and fibre intake. If his constipation or faecal incontinence recurred, the maintenance dose of Movicol-Half may need to be increased and he may need to stay on the medication for a longer period of time.

Education

It is important for the child and his or her family to understand how functional constipation occurs, with emphasis on the loss of rectal sensation leading to faecal incontinence. This will alleviate blame and shame and improve co-operation and compliance with treatment. The child and his or her family should both be involved in the management decisions and they need to be aware that treatment may take longer than 12 months because early withdrawal from treatment may result in relapse.

Behavioural interventions

Behavioural interventions include toileting programs and positive reinforcement. The toileting program involves encouraging the child to sit on the toilet for up to five minutes after meals (as the gastrocolic reflex aids defaecation at this time) using correct posture (with foot support for small children to facilitate complete bowel evacuation) and rewards such as star charts for correct behaviour to encourage compliance. Combining behavioural therapy with laxatives is superior to behavioural therapy alone in treating faecal incontinence.¹⁴

Medications

Laxatives are used in conjunction with a toileting program for treating faecal incontinence. The aim is to disimpaction the bowel and then maintain regular bowel motions. There are a range of available laxatives that can be used. The choice of laxatives is not as important as the child's compliance with the treatment regimen. The dose should be titrated for the age, weight, severity of constipation and the child's response (refer to MIMS for dosage information). In general, it is not advisable to prescribe home administration of rectal medication to young children who are already fearful about defaecation.

Laxatives can be classified by their mechanism of action and pharmacological properties, as described below.

- **Stool softeners.** These act as lubricants such as liquid paraffin (Agarol, Parachoc) or surface-wetting agents such as docusate sodium (Coloxyl, Sennesoft) to soften the stools. Treatment is effective within one to three days of administration. Mineral oils such as paraffin are not recommended for children with neurodevelopmental abnormality or severe gastro-oesophageal reflux because of the risk of aspiration pneumonia.
- **Stimulant laxatives.** These increase intestinal motility and can be used with softeners. They are available as oral preparations such as bisacodyl (Bisalax, Dulcolax, Lax-Tab) or sennosides A and B (Bekunis Senna Tablets, Laxettes with Senna/Sennosides, Sennetabs, Senokot), or rectally as suppositories such as glycerol (Glycerin Suppositories, Glycerol Suppositories BP) or as enemas such as the multi-agent preparation containing sodium citrate, sodium lauryl sulfoacetate and sorbitol (Microlax). Rectal formulations are effective within 15 to 30 minutes and oral preparations are

usually effective within six to 12 hours.

- **Osmotic laxatives.** These include lactulose (Actilax, Duphalac, Genlac, Lac-Dol) or macrogol 3350 (Movicol, Movicol-Half). Macrogol is iso-osmotic and increases the fluid content in the stools without causing fluid shifts between the body and the gut.
- **Bulk-forming agents.** These include bran and fibre supplements (e.g. Benefiber) or plantago species such as plantain and psyllium hydrophilic mucilloid (Metamucil, Nucolox). These agents bind water and ions in the colonic lumen and soften stools by increasing bulk, which enhances peristalsis. The full effect may take up to three days to occur.
- **Bowel cleansing solutions.** These potent stimulants are highly effective and include sodium phosphate (Fleet Ready-to-Use Enema) and other laxatives containing sodium sulphate that are not licensed for use in children. They are available in oral or enema preparations but are usually used in the hospital setting.

Disimpaction

It is important to complete bowel disimpaction before starting maintenance therapy. Disimpaction can commonly be managed at home, although families should be warned that the process could take up to five days or more to complete. There are a number of choices of laxatives for disimpaction. The oral route is preferred because it is less invasive and causes less distress to the child. Macrogol 3350 can be employed as a single agent in children as young as 2 years of age.

A combination of a stool softener and a stimulant laxative can also be used; however, rectal laxatives are sometimes necessary. Rectal stimulants alone or in combination with an oral laxative can also be used. The use of potent bowel cleansing solutions are reserved for children who fail simple disimpaction and should occur in the hospital setting.

Maintenance

The mainstay of treatment for chronic constipation is the regular use of laxatives and behavioural therapy to maintain daily normal bowel motions. Maintenance therapy should continue for at least six months.

Treatment of anal fissures

The management of anal fissures should include stool softening and the short-term use of topically anaesthetic agents such as lignocaine 5% (Xylocaine 5% Ointment). Other topical agents such as glyceryl trinitrate ointment have been shown to relax the anal sphincter and speed the healing process of anal fissures.¹⁵ However, the use of this agent is not licensed for children in Australia.

Dietary and fluid modification

A well balanced diet with adequate fibre and fluid intake is recommended (the NHMRC recommends one to two serves of fruit and two to four serves of vegetables for children aged 4 to 7 years, and three to four serves of fruit and four to nine serves of vegetables for adolescents per day).¹⁶ Although low fibre intake is not thought to be the only causative factor in constipation, adequate fibre intake helps to increase faecal bulk, colonic bacteria and gas production, which result in acceleration of colon transit. In children with suspected cow's milk protein intolerance, removal of cow's milk for two weeks may be tried.

Psychological therapy

The small group of children who present with faecal incontinence secondary to complex behavioural and family dysfunction may need psychological intervention in conjunction with behavioural training programs. These children commonly do not have constipation.

Other therapies

Many other therapies have been tried for the treatment of faecal incontinence. The

continued

addition of biofeedback therapy is not more effective than a toileting program combined with laxatives alone.¹⁴ Acupuncture, hypnotherapy and other complementary and alternative medicines have also been used but there is insufficient evidence to support their use.

Follow up and prognosis

Regular follow up (with the use of stool diaries) will aid compliance and allow adjustment of treatment if necessary. When the child establishes normal daily motions without soiling, reduction of laxatives can be considered with discontinuation attempted after six months of effective treatment. Laxative use may need to be resumed if constipation recurs, as premature cessation is the most common cause of relapse.

When to refer

Referral of a child with faecal incontinence for specialist opinion should be considered if:

- the child continues to have problems with constipation/faecal incontinence after three to six months of treatment
- the faecal incontinence causes distress for the child and his or her family and is disruptive to normal activities
- there are significant behavioural problems or family dysfunction that may affect treatment response
- the child is suspected of having an organic cause for his or her constipation/faecal incontinence that requires further investigation (e.g. neurogenic conditions).

Conclusion

Faecal incontinence is commonly encountered in general practice. The GP has a vital role in correctly diagnosing the cause of the problem, educating the child and his or her family about the condition, initiating appropriate management (which may require a multidisciplinary approach in complex cases) and maintaining adequate follow up to ensure treatment success. **MT**

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COMPETING INTERESTS: None.

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