

Constipation- Emergency management in children

Purpose

This document provides clinical guidance for all staff involved in the care and management of a child presenting to an Emergency Department (ED) with constipation in Queensland.

This guideline has been developed by senior ED clinicians and Paediatricians across Queensland, with input from Gastroenterology specialist staff, Lady Cilento Children's Hospital, Brisbane. It has been endorsed for use across Queensland by the Statewide Emergency Care of Children Working Group in partnership with the Queensland Emergency Department Strategic Advisory Panel and the Healthcare Improvement Unit, Clinical Excellence Division.

Key points

- Constipation is a clinical diagnosis for children with infrequent and hard stools
- Most (95%) children have a diagnosis of functional faecal retention (no underlying anatomical or physiological abnormality)
- Thorough assessment (history and examination) can identify red flags for an organic cause (which requires specialist referral)
- Investigations including abdominal X-ray are not routinely required
- Management of functional faecal retention consists of disimpaction/maintenance therapy and behaviour program to reduce the vicious cycle of fear and enable a normal functioning bowel
- Appropriate prompt management is necessary to avoid the potential impact on mental health and social functioning.

Introduction

Constipation is a very common ED presentation in children.

Definition

The term "constipation" is used to describe a decrease in stool frequency for more than 2 weeks (i.e. less than 3 per week in a child ≥ 4 years) associated with hard stools which can be painful to pass.¹

The normal frequency of stooling decreases with age from infancy until around 3 years when the average is 1 stool per day. Some older breast-fed children can have normal but infrequent stools (e.g. can be up to several weeks apart) but these remain soft and so the child is not considered to be constipated.



Faecal incontinence (soiling) may result from chronic rectal retention of stool with passive overflow or stool loss during withholding attempts.² The term encopresis is no longer used as it is considered pejorative and implies deliberate faecal soiling.

Epidemiology

Constipation is an important problem in children. It is estimated 1 in 10 children will seek medical attention for constipation. Childhood constipation accounts for approximately 3-5% of all general paediatrician and 25% of all paediatric gastroenterology visits.²

Causes

Causes of constipation in children	
Underlying pathology (5% of cases)	No underlying pathology (95% of cases)
Anatomical or physiological abnormalities including: <ul style="list-style-type: none"> • Hirschsprung disease • coeliac disease • hypothyroidism • hyperparathyroidism / hypercalcaemia • cow's milk protein allergy • occult spinal dysraphism 	Functional faecal retention. Contributing factors may include: pain, fever, inadequate dietary and fluid intake, psychological issues, toilet training, medicines and family history. The passage of a hard, painful stool may result in withholding behaviours which results in functional faecal retention which further increases stool firmness and size. This exacerbates fear of stooling and creates a common vicious cycle.

Assessment

The aim of the assessment (history and clinical examination) is to identify children who have red flags to suggest an organic cause (to enable appropriate referral). Once organic causes have been excluded, questioning may identify possible triggers to withholding behaviours.

Red flags to suggest underlying pathology in a child with constipation

- Delayed passage of meconium (> 48 hours)
- Perianal disease
- Blood in stool (gross or occult)
- Thin strip-like stool
- Vomiting (especially bilious)
- Systemic symptoms (fever, weight loss, delayed growth)
- Extra intestinal symptoms of Inflammatory Bowel Disease (rashes, arthritis, sore eyes, mouth ulcers)
- Urinary symptoms (frequent UTI or retention)
- Abnormal lower limb neurology
- Deviated gluteal cleft
- Patulous anus



History

History taking should include specific information on:

- the passage of meconium
- the frequency and consistency of stools and presence of blood
- other symptoms – vomiting, urinary, systemic or extra-intestinal symptoms
- (if no red flags identified) potential withholding behaviours and possible triggering event for withholding.

Examination

The child should be examined for any red flags to suggest an organic cause.



Seek senior emergency/paediatric advice if any red flags are identified on assessment.

Digital rectal examination is not usually required however the anus should be visualised for signs of perianal disease. In the rare case that it is deemed necessary, it should be done with caution and only once on senior emergency/paediatric advice. This type of invasive examination can increase psychological distress in children.

Diagnosis

Functional faecal retention is a likely diagnosis for children who have **ALL** of the following:

- a history of reducing frequency of stools with the passage of hard or no stools for > 2 weeks
- no red flags on assessment
- a soft non-tender abdomen with or without palpable masses particularly in lower left quadrant on examination

Functional Faecal Retention

- after a period of normal stooling the child develops constipation
- onset may be acute (following a trigger event) or gradual

Attempts at withholding are often mistaken by the family for efforts to defecate due to the associated smells, cramping discomfort and “straining”. However, if “straining” is occurring in a defensive posture it is more likely the child is trying to withhold the stool than pass it.

Identifying withholding

For the child a “call to stool” can be associated with fear, anxiety, attempted denial and disruptive behaviour. It is important to ask specifically **what the child does** when the family perceive the child needs to pass a bowel motion.

Common postures (especially in toddlers)	Common behaviours
<ul style="list-style-type: none"> • going rigid or stiff especially in an extended posture • clenching buttocks • standing or walking tip toed • crossed, extended legs • “attempting” to pass a stool curled up in a ball/sitting with legs straight out/on all fours or standing upright 	<ul style="list-style-type: none"> • hiding when passing stools • running away • wanting the security of the diaper when passing stools • wanting reassurance when passing stools • a stated fear of passing a stool



Possible trigger events for withholding

Possible trigger events include:

- toilet training
- disrupted routine e.g. intercurrent illness, travel, arrival of new sibling
- starting day care/kindergarten/school - especially if toilets lack privacy
- acute constipation - single episode of painful/hard stools for any reason (viral illness) can be enough to begin withholding

Investigations

Investigations such as abdominal X-rays and blood tests are only indicated for children with identified red flags on specialist advice.

Management

Refer to Appendix 1 and 2 for a summary of the recommended emergency management and medications for a constipated child.



Seek senior emergency/paediatric advice if any red flags are identified on assessment.

Children with suspected underlying pathology will be managed by specialist services.

The management of functional constipation requires stool softeners and behaviour modification to tackle the fear of painful defecation. Treatment should be maintained until the child's stretched bowel has recovered to a normal calibre (demonstrated by a return to regular bowel habits) and any behaviour modification training is complete.

The rectum must be emptied of impacted stool and then kept empty (to prevent a stool mass forming and getting firmer) until the fear of stooling has gone and a reliable bowel habit has been established. Faecal impaction (large faecal mass in either rectum or abdomen unlikely to be passed on demand) may cause overflow incontinence which indicates the need to increase (not decrease) the stool softener dose.

Duration of laxative treatment is usually at least 3 months and often much longer. Parents should be reassured that their child will not become dependent on medication to go to the toilet. A return to overly firm stools on reduction of medication is merely an indication that the bowel needs more time to recover and stool softeners should be maintained for longer.

Any attempts at toilet training should be ceased until stools are soft and regular.

Medication

Polyethylene glycol (PEG 3350) has been shown to be the safest, most effective and most palatable product. Evidence supports the use of polyethylene glycol (PEG 3350) over traditional laxatives such as lactulose and milk of magnesia. Osmolax is the current preferred product for infants, toddlers and older children as it is flavourless and readily available.^{3,4} Movicol products contain electrolytes, potentially making their use safer in very young infants and those predisposed to electrolyte imbalance but it has a salty taste which is more difficult to conceal. Most children prefer, and can safely be given Osmolax.

Stool softeners should not be prescribed for neonates unless under the guidance of a paediatrician.



Medication for the treatment of constipation in children				
Medication	Flavour	Amount	PEG 3350 Content	Electrolytes
Movicol- Full	Flavourless, lemon-lime, chocolate	1 sachet	13.125g	Yes
Movicol- Half/ Junior	Half- Lemon-lime Junior- Flavourless	1 sachet	6.563g	Yes
Osmolax	Flavourless	Small scoop Large scoop	8g 17g	No
Clearlax	Flavourless	1 sachet	17g	No
Golyteley	Flavourless, pineapple	In 4L jug	236g in 4L =7.375g in 125ml	Yes

Polyethylene glycol (PEG 3350) dosing for the treatment of constipation in children	
Initial disimpaction dose (PO)	1.5g/kg/day for 3 days Given in presence of impacted stool. Review after 3 days to determine if treatment has been successful.
Maintenance dose (PO)	Adjust Movicol/Osmolax dose according to symptoms and response. A guide to the starting maintenance dose is half the disimpaction dose (on average 0.78g/kg/day). Dose should be customised to the child, by increasing or decreasing the total dose by around 25% every 2-3 days until stools are soft.

Stools should be kept soft and unformed using this maintenance dose for several months until regular soft pain free stools have returned and any psychological impact has been reduced through behaviour modification. Treatment should then be gradually reduced, to ascertain if the bowel has recovered enough. Stool will become firmer as the laxative is withdrawn. However, if the stools become difficult, painful or less frequent than every 1-2 days, medication should be reinstated at a therapeutic dose, to reduce the incidence of further large hard painful stools.

Treatment failure

The most common cause of treatment failure is stopping the medication too soon or using doses that are too small.⁵ Err on the side of prolonged treatment given the safety of the medication long term and the emotional impact of relapse.

Behaviour modification and education of family

Education post-disimpaction for the child and family is essential to reduce the vicious cycle of fear and frustration and enable a normal functioning bowel.² Many parents are stressed and frustrated, often blaming the child for laziness or carelessness. The success of treatment requires a culture change for the family to one of positive reinforcement. The child should be encouraged to take advantage of the body's natural gastro-colic reflex post meals by attempting to sit for 3 minutes approximately 15 minutes after breakfast, lunch (or afternoon tea for school children) and dinner. This is referred to as sitting practice and the child should be rewarded in some way for undertaking this, EVEN if they are unable to pass a stool.



Sitting practice

- Correct sitting position is important and children may require a child sized seat insert and/or stool under their feet.
- The child could also be encouraged to contract their abdominal muscles while sitting on the toilet e.g. by blowing up a balloon, or blowing a pinwheel.
- Sticker charts with the promise of some small reward if a certain goal is achieved can be useful (however, any reward should be realistic and achievable).
- Rewards should be for behaviours that are within the child's control, i.e. taking medication and doing sitting practice. Bowel motions and soiling events are not to be rewarded or punished.
- Stool diaries and resources such as the [Bristol Stool Chart](#) can help the child and family monitor progress. This can also be brought to any future reviews for the health professional to assess the success of treatment.

When to escalate care

Follow your local facility escalation protocols for children of concern. Transfer is recommended if the child requires care beyond the level of comfort of the treating hospital. Clinicians can contact the services outlined below to escalate the care of a paediatric patient.

Generally, gastroenterology referrals for constipation will not be accepted before a general paediatrician has assessed the child. Exceptions include children with red flags suggesting organic disease such as inflammatory bowel disease, or older school-aged-children with severe faecal incontinence.

Service	Reason for contact by clinician	Contact
Local Paediatric service	For specialist paediatric advice and assistance with local transfers as per local arrangements.	As per local arrangements
Children's Advice and Transport Coordination Hub (CATCH)	For access to specialist paediatric advice and assistance with inter-hospital transfer of non-critical patients into and out of Lady Cilento Children's Hospital. For assistance with decision making regarding safe and appropriate inter-hospital transfer of children in Queensland. For QH staff, click here for the QH Inter-hospital transfer request form (access via intranet).	(07) 3068 4510 24 hours CATCH website
Telehealth Emergency Management Support Unit (TEMSU)	For access to generalist and specialist acute support and advice via videoconferencing, as per locally agreed pathways, in regional, rural and remote areas in Queensland.	TEMSU QHEPS website 24 hours
Retrieval Services Queensland (RSQ)	For access to telehealth support for, and to notify of, critically unwell patients requiring retrieval in Queensland. For any patients potentially requiring aeromedical retrieval or transfer in Queensland.	RSQ QHEPS website 24 hours



When to consider discharge

Most children with constipation will be safe to discharge home.

On discharge, parent/carers should be provided with the following:

- [Treatment Plan](#)
- [Constipation Factsheet](#)

Follow-up

Recommended follow-up is based on the outcome of the assessment.

- children with red flags for organic constipation - refer as directed by specialist
- children who appear to have treatment failure due to either medication resistance or 'medication dependence' after 6 months of adequate treatment – referral to local paediatric service. Maintenance doses of medication should be continued during this time.
- children with no red flags – refer to GP for review in 3 to 5 days if given impaction dose, otherwise in 7 – 10 days.

If there is a significant delay accessing clinic appointments with specialty teams, a 1-month trial of strict dairy free diet can be performed while waiting, in children over 12 months of age. This is to evaluate for cow's milk protein intolerance as a cause for persistent or medication-resistant constipation. This diet requires calcium supplementation and two protein containing meals daily. It should be supervised by a dietician or general practitioner to ensure nutritional safety. A bowel diary should be kept before, during and after the diet to objectively document response.

When to consider admission

As per consultation, a patient may be admitted under specialist service for further investigation.

Related documents

Guidelines

- [NICE Guideline May 2010: Constipation in children and young people: Diagnosis and management of idiopathic childhood constipation in primary and secondary care](#)
- [Guidelines for the Evaluation and Treatment of Constipation in Children. Children's Health Services 2011](#) (QH staff only)

Forms and Factsheets

- [Treatment Plan](#)
- [Constipation Factsheet](#)



References

1. NICE Guideline: Constipation in children and young people: Diagnosis and management of idiopathic childhood constipation in primary and secondary care. May 2010 <http://www.nice.org.uk/guidance/CG99>
2. Connor, Frances. Evaluation and Treatment of Constipation in Children. Children's Health Services 2011 <http://qheps.health.qld.gov.au/childrenshealth/docs/education/alliedhealth/ot-toil-guidelines.pdf>
3. Loening-Baucke V, Krishna R, Pashankar DS. Polyethylene glycol 3350 without electrolytes for the treatment of functional constipation in infants and toddlers. J Pediatr Gastroenterol Nutr 2004;39:536-9.
4. Michail S, Gendy E, Preud'Homme D, Mezoff A. Polyethylene glycol for constipation in children younger than eighteen months old. J Pediatr Gastroenterol Nutr 2004;39:197-9.
5. Clayden GS. Management of chronic constipation. Arch Dis Child 1992;67:340-4.

Guideline approval

Document ID	CHQ-GDL-60003-Constipation	Version no.	1.0	Approval date	13/8/18
Executive sponsor	Executive Director Medical Services			Effective date	13/8/18
Author/custodian	Statewide Emergency Care Children Working Group			Review date	13/8/21
Supersedes	CHQ-GDL-00739				
Applicable to	QH Medical and nursing staff				
Document source	Internal (QHEPS) + External https://www.childrens.health.qld.gov.au/guideline-constipation-emergency-management-in-children/				
Authorisation	Executive Director Clinical Services LCCH				
Keywords	Constipation, paediatric, emergency, guideline, 00739, children				
Accreditation references	NSQHS Standards (1-10): 1,4,9				

Disclaimer

This guideline is intended as a guide and provided for information purposes only. The information has been prepared using a multidisciplinary approach with reference to the best information and evidence available at the time of preparation. No assurance is given that the information is entirely complete, current, or accurate in every respect.

The guideline is not a substitute for clinical judgement, knowledge and expertise, or medical advice. Variation from the guideline, taking into account individual circumstances may be appropriate.

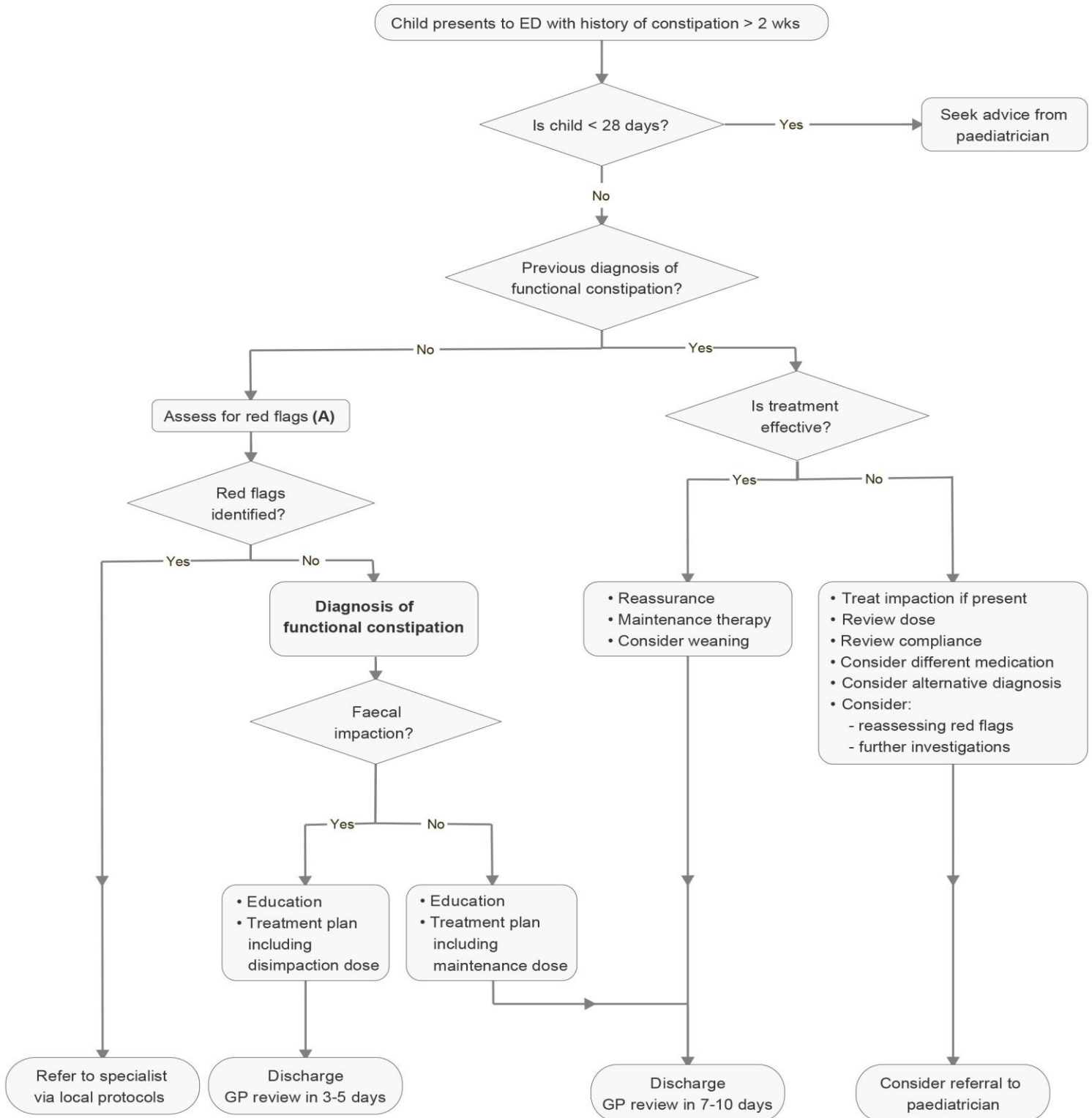
This guideline does not address all elements of standard practice and accepts that individual clinicians are responsible for:

- Providing care within the context of locally available resources, expertise, and scope of practice
- Supporting consumer rights and informed decision making in partnership with healthcare practitioners including the right to decline intervention or ongoing management
- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary
- Ensuring informed consent is obtained prior to delivering care
- Meeting all legislative requirements and professional standards
- Applying standard precautions, and additional precautions as necessary, when delivering care
- Documenting all care in accordance with mandatory and local requirements

Queensland Health disclaims, to the maximum extent permitted by law, all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs incurred for any reason associated with the use of this guideline, including the materials within or referred to throughout this document being in any way inaccurate, out of context, incomplete or unavailable.



Constipation - Emergency Management in Children - Flowchart



A. Red flags to suggest underlying pathology

- Delayed passage of meconium (> 48 hours)
- Perianal disease
- Blood in stool (gross or occult)
- Thin strip-like stool
- Vomiting (especially bilious)
- Systemic symptoms (fever, weight loss, delayed growth)
- Extra intestinal symptoms of Inflammatory Bowel Disease (rashes, arthritis, sore eyes, mouth ulcers)
- Urinary symptoms (frequent UTI/retention)
- Abnormal lower limb neurology
- Deviated gluteal cleft
- Patulous anus

For more information refer to the *Statewide Paediatric Guideline: Constipation - Emergency Management in Children*

CHQ-GDL-60003 – Constipation – Emergency management in children



Constipation - Emergency Management in Children – Medications

Medication for the treatment of constipation in children				
Medication	Flavour	Amount	PEG 3350 Content	+electrolytes
Osmolax	Flavourless	Small scoop	8g	No
		Large scoop	17g	
Movicol- Full	Flavourless, lemon-lime, chocolate	1 sachet	13.125g	Yes
Movicol- Half/ Junior	Half- Lemon-lime Junior- Flavourless	1 sachet	6.563g	Yes
Clearlax	Flavourless	1 sachet	17g	No
Golyteley	Flavourless, pineapple	In 4L jug	236g in 4L =7.375g in 125ml	Yes

Polyethylene glycol (PEG 3350) dosing for the treatment of constipation in children	
Initial disimpaction dose (PO)	<p>1.5g/kg/day for 3 days</p> <p>Given in presence of impacted stool.</p> <p>Review after 3 days to determine if treatment has been successful.</p>
Maintenance dose (PO)	<p>Adjust Movicol/Osmolax dose according to symptoms and response.</p> <p>A guide to the starting maintenance dose is half the disimpaction dose (on average 0.78g/kg/day). Dose should be customised to the child, by increasing or decreasing the total dose by around 25% every 2-3 days until stools are soft.</p>

