Queensland Paediatric Guideline

Emergency

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, Queensland Children's Hospital, Brisbane. It has been endorsed for use across Queensland by the Queensland Emergency Care of Children Working Group in partnership with the Queensland Emergency Department Strategic Advisory Panel and the Healthcare Improvement Unit, Clinical Excellence Queensland.

Key points

- A diagnosis of constipation requires a minimum two- week period of stools that are less frequent **and** hard.
- A thorough assessment (history and examination) can identify red flags to suggest underlying pathology (which requires specialist referral).
- Investigations including abdominal X-ray are not routinely required.
- Most (95%) children with constipation have no underlying anatomical or physiological abnormality, and so have a diagnosis of functional faecal retention.
- The management of functional faecal retention consists of stool softeners and a behaviour program to reduce the vicious cycle of fear and enable a normal functioning bowel.
- Prompt management is necessary to avoid the potential impact on mental health and social functioning.

Introduction

Constipation is a common problem in children with an estimated 1 in 10 children seeking medical attention. Constipation accounts for approximately 3-5% of all General Paediatrician and 25% of all Paediatric Gastroenterology visits.[2]

A diagnosis of constipation" requires a decrease in stool frequency for more than two weeks (i.e. less than three per week in a child over three years of age) AND hard stools which can be painful to pass.[1]

The normal frequency of stooling decreases with age from infancy until around three years when the average is one stool per day. A child with infrequent stools that remain soft (as can occur in older breast-fed children) does not have constipation.

Chronic retention of stools in the rectum may result in faecal incontinence due to 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.

The majority of children with constipation have no underlying anatomical of physiological abnormality. Functional faecal retention is the diagnosis given to children with constipation and no underlying abnormality.

Causes of constipation in children	
Underlying abnormality (5%)	**No underlying abnormality (95%)**
• Hirschsprung disease • coeliac disease • hypothyroidism • hyperparathyroidism / hypercalcaemia • cow's milk protein allergy • occult spinal dysraphism	Withholding behaviour results in functional faecal retention which further increases stool firmness and size. This exacerbates a 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 underlying pathology (to enable appropriate referral). Once organic causes have been excluded, questioning may identify withholding behaviours and possible triggers for withholding.

Red flags to suggest underlying pathology

- delayed passage of meconium (more than 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 including vomiting, urinary, systemic or extra-intestinal symptoms

In the absence of red flags, questioning should attempt to elicit potential withholding behaviours and possible triggering event for withholding.

Examination

A thorough examination is recommended to identify any red flags suggestive of underlying pathology. 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 on senior emergency/paediatric advice and only once as it can increase psychological distress in children.

Seek senior emergency/paediatric advice if red flag/s are identified on assessment

Functional Faecal Retention

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

- a history of stools that are less frequent and hard for more than a two-week period
- no red flags to suggest underlying pathology
- a soft non-tender abdomen with or without palpable masses particularly in lower left quadrant

Children with functional faecal retention have normal stooling prior to developing 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".

Identifying withholding

In some children 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 stool.

Common withholding postures (especially in toddlers)	Common withholding behaviours
• 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	• hiding when passing stools • running away • wanting the security of a nappy when passing stools • wanting reassurance when passing stools • a stated fear of passing a stool

Possible trigger events for withholding

- 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 – a 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 suspected underlying pathology on specialist advice.

Management

Refer to Appendix 1 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 behaviour modification training is complete. Any attempts at toilet training should be ceased until stools are soft and regular.

Laxative treatment

Faecal impaction refers to a large faecal mass in either the rectum or abdomen that is unlikely to be passed on demand. If present, laxatives are required to empty the rectum of impacted stool. Once disimpacted, a maintenance dose of laxatives is required to prevent a stool mass forming and getting firmer until the fear of stooling has gone and a reliable bowel habit has been established.

Polyethylene glycol (PEG 3350) is the preferred laxative. It has been shown to be the safest, most effective and most palatable laxative when compared to traditional laxatives such as lactulose and milk of magnesia. Osmolax is the 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.

Laxatives should only be prescribed for neonates on paediatric advice.

Medication for the treatment of constipation in children

Medication	Flavour	Amount	PEG 3350 Content	Electrolytes
Movicol- Full	Flavourless, lemon-lime, chocolate	1 sachet	13.125 g	Yes
Movicol- Half/ Junior	Half- Lemon-lime Junior- Flavourless	1 sachet	6.563 g	Yes
Osmolax	Flavourless	Small scoop Large scoop	8 g 17 g	No

Polyethylene glycol (PEG 3350) dosing for the treatment of constipation in children	
Initial disimpaction dose (Oral)	1.5 g/kg/day for three days Review after three days to determine if treatment has been successful. Overflow incontinence can result from faecal impaction and indicates the need to increase (not decrease) the dose.
Maintenance dose (Oral)	Adjust dose according to symptoms and response. As a guide start with half the disimpaction dose (on average 0.75 g/kg/day). Customise the dose by increasing or decreasing the total dose by around 25% every two to three days until stools are soft.

Stools should be kept soft and unformed on the maintenance dose until regular, painless 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 sufficiently recovered. Stools will become firmer as the laxative is withdrawn. However, if the stools become difficult, painful or less frequent than every one to two days, medication should be reinstated at a therapeutic dose, to reduce the incidence of further large hard painful stools. The duration of laxative treatment is usually at least three months and often much longer. Reassure parents that their child will not become dependent on the medication.

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 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. Successful treatment requires a culture change 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 three 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.
- Encourage the child 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.

Escalation and advice outside of ED

Clinicians can contact the services below if escalation of care outside of senior clinicians within the ED is needed, as per local practices. Transfer is recommended if the child requires a higher level of care.

May include children with:
• red flags suggestive of underlying pathology • constipation persists after six months of treatment

Reason for contact	Who to contact
Advice (including management, disposition or follow-up)	Follow local practice. Options: • onsite/local paediatric service • Queensland Children's Hospital experts via Children's Advice and Transport Coordination Hub (CATCH) on 13 CATCH (13 22 82) (24-hour service) • local and regional paediatric videoconference support via Telehealth Emergency Management Support Unit TEMSU (access via QH intranet) on 1800 11 44 14 (24-hour service)
Referral	First point of call is usually the onsite/local paediatric service. The Paediatric Gastroenterology service, Queensland Children's Hospital will accept a referral for any child with suspected inflammatory bowel disease and older school-aged-children with severe faecal incontinence. Referrals for all other children will not be accepted prior to assessment by a General Paediatrician.

Inter-hospital transfers

Do I need a critical transfer?	• discuss with onsite/local paediatric service • view Queensland Paediatric Transport Triage Tool
Request a non-critical inter-hospital transfer	• contact onsite/local paediatric service • contact RSQ on 1300 799 127 for aeromedical transfers • contact Children's Advice and Transport Coordination Hub (CATCH) on 13 CATCH (13 22 82) for transfers to Queensland Children's Hospital

Non-critical transfer forms	• QH Inter-hospital transfer request form (access via QH intranet)
	• aeromedical stepdown (access via QH intranet)
	• commercial aeromedical transfers:
	  ○ Qantas
	  ○ Virgin
	  ○ Jetstar

Disposition

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

Children with no suspected underlying pathology should be reviewed by their GP in three to five days if given impaction dose, otherwise in seven to ten days.

Referral to local Paediatric service is recommended for children who appear to have treatment failure after six months of adequate treatment. Instruct the family to continue with laxatives during this time.

Persistent or medication-resistant constipation can occur as a result of cow's milk protein intolerance. Consider a one-month trial of strict dairy free diet in children over 12 months of age while awaiting a specialist appointment. This diet requires calcium supplementation and two protein containing meals daily and should be supervised by a dietician or GP to ensure nutritional safety. A bowel diary of before, during and after the diet is recommended to objectively document the response.

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 (access via QH intranet)

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

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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. We recommend hospitals follow their usual practice for endorsement locally including presenting it to their local Medicines Advisory Committee (or equivalent) prior to use.

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

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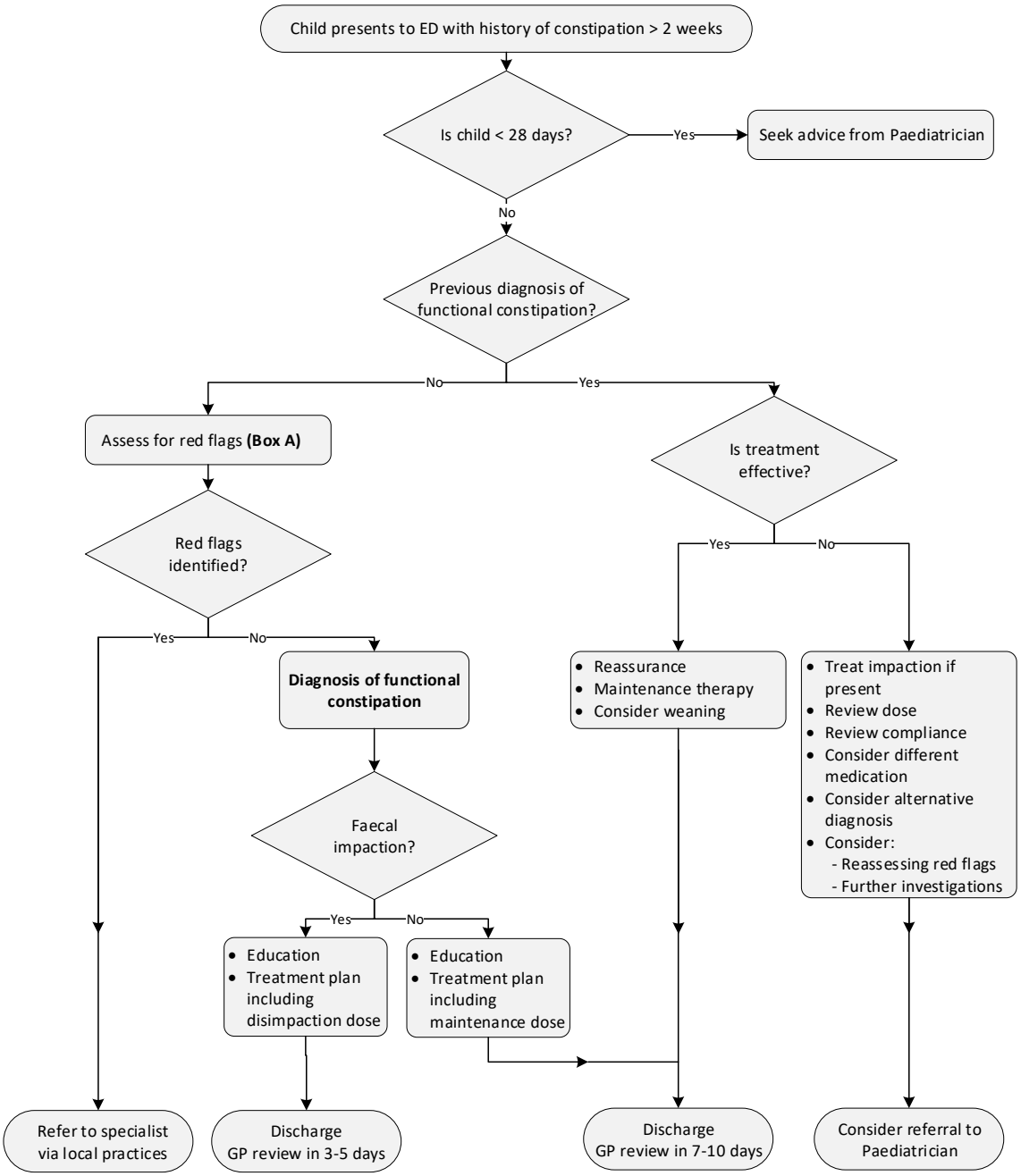

Box A: Red flags to suggest underlying pathology

- 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 problems (frequent UTI/retention)
- Abnormal lower limb neurology
- Deviated gluteal cleft
- Patulous anus

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Constipation – Emergency management in children – Medications

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