

# South Australian Paediatric Clinical Practice Guidelines

# Constipation in Children

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## Note

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

## *Explanation of the aboriginal artwork:*

The aboriginal artwork used symbolises the connection to country and the circle shape shows the strong relationships amongst families and the aboriginal culture. The horse shoe shape design shown in front of the generic statement symbolises a woman and those enclosing a smaller horse shoe shape depicts a pregnant woman. The smaller horse shoe shape in this instance represents the unborn child. The artwork shown before the specific statements within the document symbolises a footprint and demonstrates the need to move forward together in unison.



## ***Cultural safety enhances clinical safety.***

***To secure the best health outcomes, clinicians must provide a culturally safe health care experience for Aboriginal children, young people and their families. Aboriginal children are born into strong kinship structures where roles and responsibilities are integral and woven into the social fabric of Aboriginal societies.***

***Australian Aboriginal culture is the oldest living culture in the world, yet Aboriginal people currently experience the poorest health outcomes when compared to non-Aboriginal Australians.***

***It remains a national disgrace that Australia has one of the highest youth suicide rates in the world. The over representation of Aboriginal children and young people in out of home care and juvenile detention and justice system is intolerable.***

***The cumulative effects of forced removal of Aboriginal children, poverty, exposure to violence, historical and transgenerational trauma, the ongoing effects of past and present systemic racism, culturally unsafe and discriminatory health services are all major contributors to the disparities in Aboriginal health outcomes.***

***Clinicians can secure positive long term health and wellbeing outcomes by making well informed clinical decisions based on cultural considerations.***

The term 'Aboriginal' is used to refer to people who identify as Aboriginal, Torres Strait Islanders, or both Aboriginal and Torres Strait Islander. This is done because the people indigenous to South Australia are Aboriginal and we respect that many Aboriginal people prefer the term 'Aboriginal'. We also acknowledge and respect that many Aboriginal South Australians prefer to be known by their specific language group(s).

**INFORMAL COPY WHEN PRINTED**

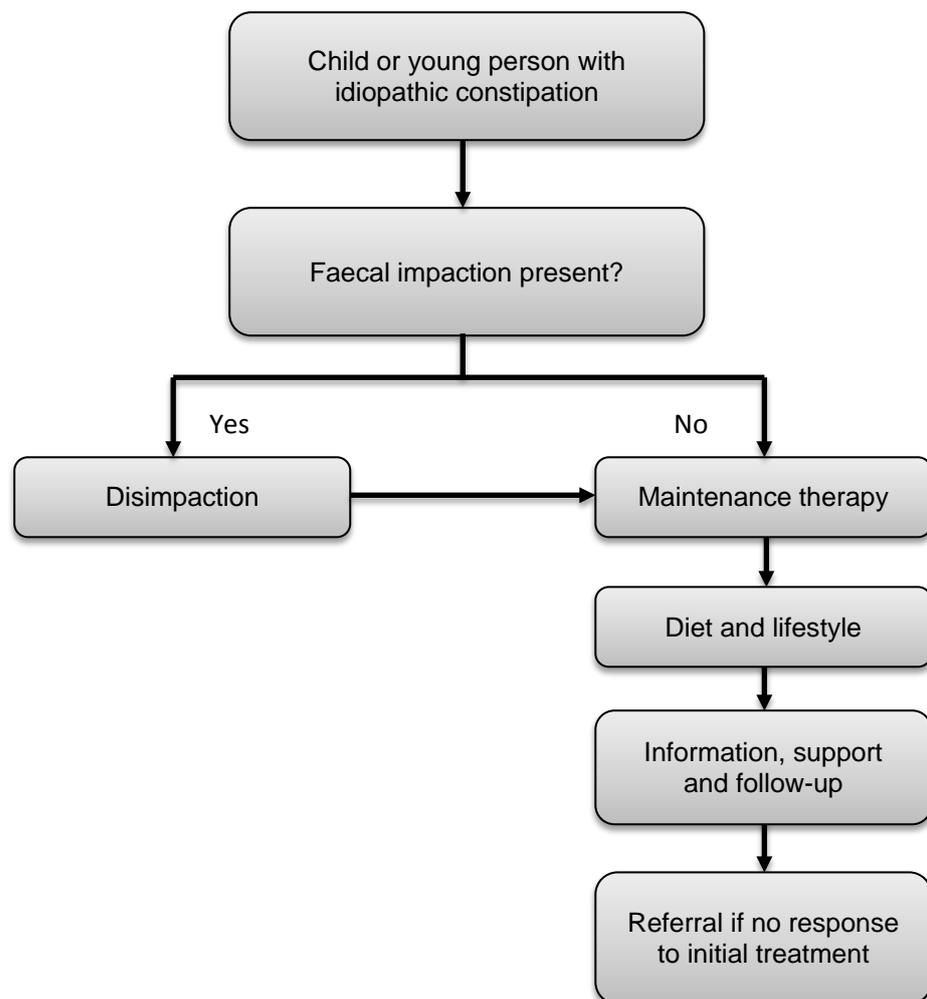
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## Purpose and Scope

This Constipation in Children Clinical Guideline is primarily aimed at medical staff working in any of primary care, local, regional, general or tertiary hospitals, however may be utilised or guide the care provided by other clinicians such as nurses. The information is current at the time of publication and provides a minimum standard for the assessment (including investigations) and management of constipation in children; it does not replace or remove clinical judgement or the professional care and duty necessary for each specific case.

## Management summary flowchart for Constipation in Children



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## Important points

- > Constipation and encopresis (soiling) in children are common conditions that are often poorly treated and under recognised.
- > Children and parents need to understand the chronic nature of the condition and thus the need for long term effective treatments.
- > The most common causes of treatment failure are insufficient dosages of stool softening agents and premature cessation of treatment so regular contact with the child and family is necessary until complete control of symptoms is achieved.
- > Medication dosages need to be adjusted according to child's response to achieve best and quickest resolution of the problem.
- > Stool lubricants may reduce control of stool passage and increase soiling.
- > Initiate maintenance treatment immediately after disimpaction treatment.
- > Consider referral to paediatrician or paediatric gastroenterologist if child continues to soil or is unresponsive to treatment despite best efforts.



## Abbreviations

mL	millilitre(s)
kg	kilogram(s)
g	gram(s)
MRI	Magnetic Resonance Imaging

## Definitions

Constipation	Described as “the subjective complaint of passage of abnormally delayed or infrequent passage of dry, hardened faeces, often accompanied by straining and/or pain”
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## Introduction

Constipation is a paediatric problem commonly encountered by many health professionals in primary, secondary and tertiary care

Prevalence varies between 5 -30% of children with it being a chronic problem in 30% of those affected. Factors influencing the incidence of constipation include –

- > Pain with defaecation
- > Toilet training
- > Diet and fluid intake
- > Dehydration
- > Sedentary lifestyle
- > Psychological issues
- > Associated medical issues such as autism/Down’s syndrome/impaired mobility/coeliac disease/hypothyroidism.

Idiopathic constipation is the most common type and means there is no underlying anatomic or pathological cause.

## Diagnosis

### Rome III Criteria for Functional Constipation

Infants up to 4 years should have at least two symptoms for 1 month prior to diagnosis and those over 4 years at least two of the following symptoms present for the previous 2 months<sup>(a,b)</sup>:

- > Two or fewer defaecations per week
- > At least 1 episode of faecal incontinence per week
- > Retentive posturing or stool retention.
- > Painful or hard bowel movements
- > Presence of a large faecal mass in the rectum
- > Large diameter stools that may obstruct the toilet

<sup>a</sup> Without objective evidence of a pathological condition.

<sup>b</sup> Without fulfilling irritable bowel syndrome criteria.



There are several important questions to ask in history to ensure the constipation is not secondary to another disease –

- > Delay in passage of meconium (93% newborns pass stool before 24 hours and 98% by 48 hours)
- > Age at onset (significant constipation unusual before 4 months of age unless anatomical problem/ systemic cause or cow's milk protein intolerance)
- > Current stage of toilet training for stool and urine
- > Toileting history- stool frequency, consistency, pain, soiling, presence of blood
- > Stool withholding behaviour
- > Urinary symptoms (13% of those with constipation have urinary symptoms)
- > Abdominal pain
- > Diet- history of exacerbation with particular foods such as cow's milk or evidence of a poor diet low in fruit and fibre.
- > General health and developmental milestones
- > Family history
- > Social history
- > Past history of gastrointestinal disease e.g. necrotising enterocolitis

Children less than 4 years usually present with constipation whereas over 4 years often present with soiling.

It is helpful to ascertain the size and type of stool being passed. (Normal stool size is approximately equal to diameter of child's thumb).

The Bristol Stool Chart ([Figure 1](#)) is a visual help to describe stool physical features.

## Assessment

### Physical Examination Findings

- > General Health - plot growth on percentile charts/ look for evidence of faltering growth/ anaemia/ systemic illness.
- > Abdominal examination – evidence of palpable faecal masses.
- > Perianal region rectal examination evidence of peri-anal infection (Streptococcus Group A cellulitis), ectopic anal position (anterior displacement), anal fissure.
- > Possible indications of digital rectal examination:
  1. Suspected Hirschsprung's: Empty rectum with subsequent gush of stool suggestive of Hirschsprung's disease.
  2. Impaction: Large impacted stool in rectum may indicate need for disimpaction.

Note: rarely indicated and specialist advice should be sought.

- > Neurological examination – looking at lower limbs/ gait/ inspection of spine especially lumbo-sacral region/ palpation of bladder



**Table 1 – Possible Organic Causes of Constipation**

Structural Colorectal	Spinal Cord	Systemic	Neuropathic lesions of Intestine	Drugs	Other
Anal Stenosis	Spina bifida	Diabetes insipidus	Hirschsprung's Disease	Opioid analgesia	Coeliac Disease
Post Necrotizing Enterocolitis / Inflammatory Bowel Disease NEC/IBD stricture	Sacral agenesis	Diabetes Mellitus	Intestinal Neuronal Dysplasia	Iron	Cystic Fibrosis
	Spinal cord Tumour	Hypocalcaemia Hypercalcaemia		Antacids	Cow's milk Protein Allergy
		Hypothyroidism		Cholestyramine	Chronic intestinal pseudo-obstruction
		Neurofibromatosis			
		Cerebral Palsy			

## Management

Four [4] key aspects as per North American Society for Paediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) recommendations include: education; dis-impaction; maintenance therapy and behavioural modification.

### Non-Pharmacological Treatment

- > Education – teach parent and child the physiology of normal defaecation so they can understand their condition and remove guilt and mistaken beliefs about their problem.
- > Diet – Encourage increase in dietary fibre –children over 2 years should eat at least 5 grams fibre per day. Encourage normal fluid intake. Consider encouraging fluids like apple juice which has a stool softening effect due to fructose content.
- > Lifestyle- Encourage good amount of daily activity. Encourage regular routine including leaving adequate time after breakfast (at least 1 hour) to allow attempt at defaecation.
- > Toileting behaviour – Encourage child to sit on the toilet for a few minutes, 10-15 minutes after each main meal and after school. Make sure child is comfortable on toilet. Consider insert inside seat and stool under feet to allow child to bear down more easily. Decrease stress of toileting by considering reading a book to child or allow use of gaming when on toilet.
- > Psychological Assessment – may have been bullying/ toilet phobia/ depression/ abuse all as factors in persistence of constipation which require addressing.
- > Behaviour modification programs such as reward charts for progress in dealing with issues such as for sitting on toilet/ being organised enough to have time for morning defaecation/ taking medication/ passing bowel motion in toilet/ correct wiping. Praising successful progress is the best method to improve things.
- > Ensure Kindergarten and school staff are aware of the problem so they can help in its' solution with regular toileting encouragement after meals. They also can minimise psychological distress to child if they are aware and can sensitively handle soiling episodes.

## Pharmacological Treatment

### Disimpaction

If impacted then it is necessary to disimpact first. This can usually be managed at home with a regime of increasing doses of Movicol™ or OsmoLax™.

The number of sachets or scoops to be taken daily for disimpaction is listed below. They can be mixed in liquid and kept in the fridge to be taken across the day.

Movicol™ - using **full strength** / adult Movicol™ sachets

Age	Day 1	2	3	4	5	6	7
1-6 years	1	2	2	3	3	4	4
6-12 years	2	3	4	5	6	6	6
12+	8	8	8	-	-	-	-

Note: Double the dose if using Movicol™ Junior sachets (i.e. 1 Movicol™ sachet = 2 Movicol™ Junior or Half sachets).

OsmoLax™ using **small scoops** (8.5g)

Age	Day 1	2	3	4	5	6	7
1-6 years	2	3	3	4	5	6	6
6-12 years	3	4	6	8	9	9	9

Continue until desired result achieved.

It is important for weekly medical review and immediately instituting maintenance therapy.

If this doesn't work then **consideration of hospitalisation** and treatment with naso-gastric Macrogol 3350 (e.g. ColonLYTELY®) at a dose of 60–100mL/kg/24 hours could be considered (Do not exceed more than 3 litres per day). Give the volume over 24 hours for as many days as required to be effective.

In general this should be given via a naso-gastric tube in children <10 years of age and can be trialled by voluntary supervised oral intake for children >10 years of age.

If it requires more than 3 days consider an additional strategy such as enemas and or manual disimpaction under General Anaesthesia

Rectal treatments should be avoided unless all oral medications have failed and the child and family give consent. If rectal treatments are to be used, consideration for Midazolam sedation should be given.

### Maintenance Treatment

Begin maintenance treatment immediately after disimpaction achieved.

In infants under 12 months it is safer to initially use osmotic laxatives such as Lactulose in a dose of 2mL/kg/day. Titrate dose to whatever enables passage of soft daily stool. Consider Coloxyl drops also.

If this is not successful then consider Movicol® or Clearlax®/ Osmolax® in dose of 0.3 – 0.8g/kg/day. (Osmolax- double ended scoop: 8.5g or 17g per scoop, Clearlax: 1 sachet = 17g, Movicol: 1 sachet = 13.25g). Titrate dose to whatever enables passage of soft daily stool.

Alternatively a stool lubricant such as paraffin emulsion (PARACHOC®) 50% if over 12 months in dose of 1mL/kg of paraffin oil per day (=2mL/kg of paraffin emulsion 50% per day). Titrate dose to whatever enables passage of soft daily stool. (Paraffin should be used cautiously in children with high risk of pulmonary aspiration)

Infrequent maintenance use of stimulant laxatives such as Senna and Bisacodyl in children is not recommended due to the frequent induction of abdominal pain.

The following goals must be met by the therapy and they should include:

1. Regular daily or more than **daily bowel movements** (ideally at least one in the morning before school)
2. **No soiling**
3. **Elimination of stool withholding behaviour**

Once the goals of maintenance therapy have been achieved it will need to be continued for at least 3-6 months for long term symptom resolution and there will need to be ongoing medical review and re-assessment over this period.

Constipation and encopresis are chronic conditions which can take months to years to fully control.

## Investigations

**No** investigations are routinely indicated.

In some selected patients the following tests may be helpful:

- > Plain supine abdominal X ray – provide visual evidence of constipation to family
- > Electrolytes and glucose – rule out hypo-/ hypercalcaemia; diabetes
- > Coeliac antibody screen
- > Thyroid function tests
- > Complete blood picture and iron studies – poor diet and excessive milk intake may cause or exacerbate constipation and iron deficiency; treatment with iron can cause constipation
- > Rectal biopsy – exclude Hirschsprung's disease
- > X ray or MRI of spine – if concerned about spinal cord pathology.



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## Information for parents

- > Parenting and Child Health. Women's and Children's Health Network available at [www.cyh.com/SubDefault.aspx?p=98](http://www.cyh.com/SubDefault.aspx?p=98).



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11/05/20	V4.1	Chair, SA Child & Adolescent Health Community of Practice	Amendment to parent resources
15/08/19	V4	SA Health Safety & Quality Strategic Governance Committee	Amendment to medication regime
23/07/18	V3	SA Health Safety & Quality Strategic Governance Committee	Formally reviewed in line with scheduled timeline for review.
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04/09/13	V1	Portfolio Executive	Original Portfolio Executive approved version.



## Appendices

### APPENDIX 1 – Medications used in Constipation and acceptable rectal treatments

Drug	Age	Dosage	Mechanism of Action	Side effects
Lactulose (e.g. Duphalac®, Actilax®)	1–12 months 1–5 years 5–18 years	The following are initial doses; adjust according to response. 2.5 mL twice daily 2.5–10 mL twice daily 5–20 mL twice daily. Up to 1.5 mL/kg twice daily may be needed (usual maximum is 60 mL daily)	Osmotic laxative – non absorbable sugar	Fermentation by-products cause gas production with bloating, nausea, cramps, flatulence
Docusate Sodium (e.g. Coloxyl®)	Less than 3 years 3–6 years 6–12 years	Use Coloxyl Drops® 50 mg once daily. 50–150 mg once daily or in divided doses	Anionic surfactant reducing surface tension allowing water to enter stool. Stimulates cAMP increasing colonic contractility  Softens stool by assisting mixture of water into faeces. May also increase intestinal fluid secretion	Rarely may cause abdominal cramps, diarrhoea, nausea, rash
Poloxamer 10% (Coloxyl Drops®)	<6 months 6–18 months 18 months – 3 years	0.3 mL 3 times daily 0.5 mL 3 times daily 0.8 mL 3 times daily	Softens stool by assisting mixture of water into faeces. May also increase intestinal fluid secretion.	Abdominal discomfort, diarrhoea (with excessive dose)



# Constipation in Children

Drug	Age	Dosage	Mechanism of Action	Side effects
Senna (Sennoside) 7.5mg tablets	2–6 years, 6–12 years, 12–18 years	3.75–7.5 mg at bedtime. 7.5–15 mg at bedtime. 7.5–30 mg at bedtime.	Anthraquinone laxative that increases fluid and electrolyte levels in ileum and colon after bacterial metabolism  Act by direct stimulation of nerve endings in colonic mucosa to increase intestinal motility. May also cause accumulation of water and electrolytes in the colonic lumen	Causes melanosis coli which is benign and reversible
Paraffin Oil (e.g. Parachoc® -50% paraffin oil)	12 months+	Up to 2mL/kg/day	Stool lubricant	Concerns about malabsorption of fat- soluble vitamins so give away from meal times. Also risk of lipid pneumonia if aspirated so give away from bed time and consider alternatives in those with impaired swallowing.
Macrogol 3350 (e.g. Movicol®– contains electrolytes), Movicol®, Osmolax®, Clearlax®)	12 months+	0.5 g/kg/day maintenance 1 -1.5 g/kg/day disimpaction Movicol® 1 sachet = 13.25g Osmolax® Scoops: 8.5g or 17g Clearlax® 1 sachet = 17g	Osmotic laxative as stool wetting agent	Diarrhoea, nausea, abdominal cramps.



## APPENDIX 2 – The Bristol Stool Form Scale

THE BRISTOL STOOL FORM SCALE (for children)		
choose your		<b>POO!</b>
type <b>1</b>		looks like: <b>rabbit droppings</b> Separate hard lumps, like nuts (hard to pass)
type <b>2</b>		looks like: <b>bunch of grapes</b> Sausage-shaped but lumpy
type <b>3</b>		looks like: <b>corn on cob</b> Like a sausage but with cracks on its surface
type <b>4</b>		looks like: <b>sausage</b> Like a sausage or snake, smooth and soft
type <b>5</b>		looks like: <b>chicken nuggets</b> Soft blobs with clear-cut edges (passed easily)
type <b>6</b>		looks like: <b>porridge</b> Fluffy pieces with ragged edges, a mushy stool
type <b>7</b>		looks like: <b>gravy</b> Watery, no solid pieces ENTIRELY LIQUID