

# Gastrointestinal

# Childhood Constipation

## Clinical Presentation and Alerts

*Child presents with history of constipation and / or soiling*

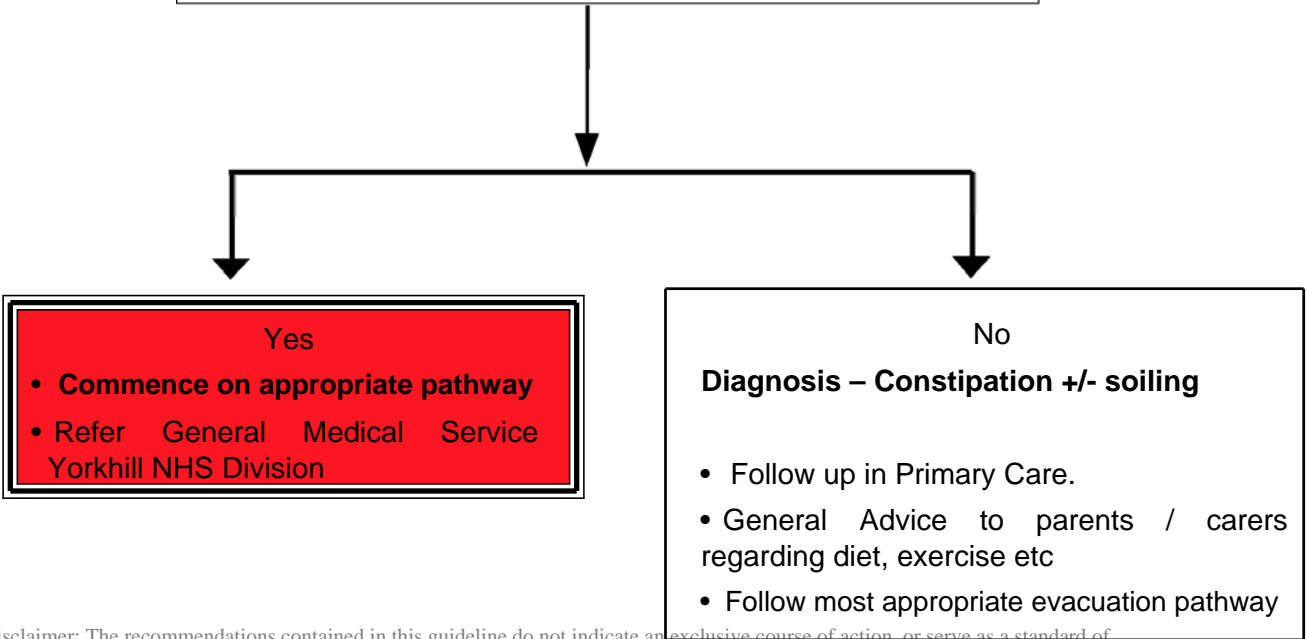
The following are examples of information that is useful to obtain

- History - bowel habit, onset, duration, precipitating factors, diet / fluids, abdo pain, stool withholding, urinary problem,
- Examination - Weight centiles, abdo palpation, inspection of anus and perineum (avoid digital examination)

**Alerts**

During the examination / history were any of the following ALERTS noted?

- Chronic Anal fissure
- Blood without obvious cause
- Weight loss
- Persistent abdominal mass
- Spinal abnormality
- Anal abnormality (fissure, tags, malpositioned)



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## General Advice

### *Toileting*

**Recommendations:**

- Child to sit on toilet two to three times per day after meals for no longer than 5 minutes
- Reward compliance and be positive when result obtained
- Parents to liaise with school regarding toilet facilities

**Avoid:**

- punishing for soiling, withholding
- denying access to toilet

### *Diet*

**Recommendations:**

- 6 – 8 cups of water based drink per day.
- high fibre cereals, e.g. weetabix, shreddies, bran flakes, porridge
- wholemeal bread, jacket potatoes, home made vegetable soup, baked beans
- 5 pieces of fruit or veg per day
- high fibre snacks, e.g. digestive biscuits, oatmeal biscuits, muesli bars, popcorn, dried fruit e.g. raisins

**Chronic constipation**

Difficulty passing stools for a few days →

General advice  
Diet  
Drinking plenty of fluids

If problems resolve →

No need for further action

If the problem is more persistent →

Child will require longer term treatment

Steps:

1. Thorough history and examination
2. Identify idiopathic constipation
3. Explain basic pathophysiology of constipation
4. Reinforce general advice, esp regarding adequate fluid intake
5. Medical treatment

Often children have become constipated over months and months. The treatment therefore takes a long time and parents need to be advised that their child will be on medication for months and months – there is no quick fix.

Stool pattern	<3 stools per week (does not apply to exclusively breast fed babies after 6 wks)
	Large stools which can block the toilet
	Rabbit dropping stools
	Bleeding when passes hard stool
	Straining
	Previous constipation
	Previous or current anal fissure
	Overflow soiling

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Symptoms associated with defecation	Distress on passing stool
	Poor appetite, improves after passing stool
	Intermittent abdominal pain
	Posturing – straight legs, on tiptoes, back arched
	Anal pain

Very rarely, there is an organic cause for constipation. There are certain “red flags” which should prompt urgent referral to secondary care.

- Early onset constipation – from birth or a few weeks of age
- Delayed passage of meconium >48 hours after birth
- Ribbon stools
- Child with constipation and lower limb weakness or motor delay
- Abdominal distension and vomiting
  
- Consider referral if child’s growth is sub-optimal as this may suggest an underlying cause for constipation eg coeliac disease

**Treatment**

**Lactulose** is a semi-synthetic disaccharide. It is sweet and sticky. Children need to be advised to brush their teeth after taking each dose of lactulose.

**Movicol** is from the macrogol family. Macrogols are inert polymers of ethylene glycol which sequester fluid in the bowel. Movicol Paediatric plain is colourless and tasteless. It can be added to juice. Each sachet dissolves in 62.5ml of water.

There is a growing trend towards prescribing Movicol and it does seem to work!

**Soiling**

The most common cause of soiling is severe constipation. Severe faecal impaction leads to dilatation of the rectum which in turn leads to a loss of sensation. The child does not feel the urge to defecate and soft stool slips out. This is overflow soiling. Typically the stool is very loose, very smelly and the child is not aware that he has soiled himself. Examine for any palpable faecal masses and inspect the anus, looking for stool there or on the child’s pants.

Faecally impacted children require disimpaction with high dose Movicol – see disimpaction regime below. Once the bowel has been cleared out, the children need long term laxatives to ensure that their stools remain soft.

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**Movicol Paediatric Plain** – from BNF for children

**For chronic constipation, prevention of faecal impaction**

Age 1-6 years            1 sachet daily – adjust dose to produce regular soft stools,  
Max 4 sachets per day

Age 6-12 years        2 sachets daily – adjust dose to produce regular soft stools,  
Max 4 sachets per day

If this is not working, the child may be impacted and will require higher doses of Movicol.

**For faecal impaction**

Age 1-5 years	Day 1	2 sachets
	Day 2	4 "
	Day 3	4 "
	Day 4	6 "
	Day 5	6 "
	Day 6	8 "
	Day 7	8 "

Age 5-12 years	Day 1	4 sachets
	Day 2	6 "
	Day 3	8 "
	Day 4	10 "
	Day 5	12 "
	Day 6	12 "
	Day 7	12 "

Treat until impaction resolves, or for maximum of 7 days.

Parents and child must be warned that this will produce copious watery stools with lumps. This means the medication is working and the child should continue with the Movicol. After a few days, all of the hard impacted stool will be out and the child should go on to a maintenance dose of Movicol to prevent the recurrence of faecal impaction.

**Follow up**

Children who require faecal disimpaction need close monitoring. They should be seen again in clinic within 2 or 3 days or at least be contacted by telephone. This helps with compliance and reassures parents that the loose watery stool is what is supposed to happen!

After this there should ideally be contact every 2 weeks for a month then monthly for the next three months. These contacts should be used to check on progress and to reinforce good dietary and toileting habits.

The child will need to stay on laxatives for many months. It is important not to stop the laxatives abruptly. Parents should be warned to reduce the dose gradually over weeks and then stop. If the constipation recurs, the child should be re-assessed and started on laxatives again if necessary.

Below is a copy of the Bristol Stool Chart which is often useful to use with parents when discussing stool character. Ideally, the child's stool should be type 4.



First published: Lewis SJ, Heaton KW (1997) Stool form scale as a useful guide to intestinal transit time. *Scandinavian Journal of Gastroenterology* 32: 920-4.

**Useful websites**

<http://www.nursingtimes.net/Journals/1/Files/2009/3/31/Stool%20Chart%2004.pdf>

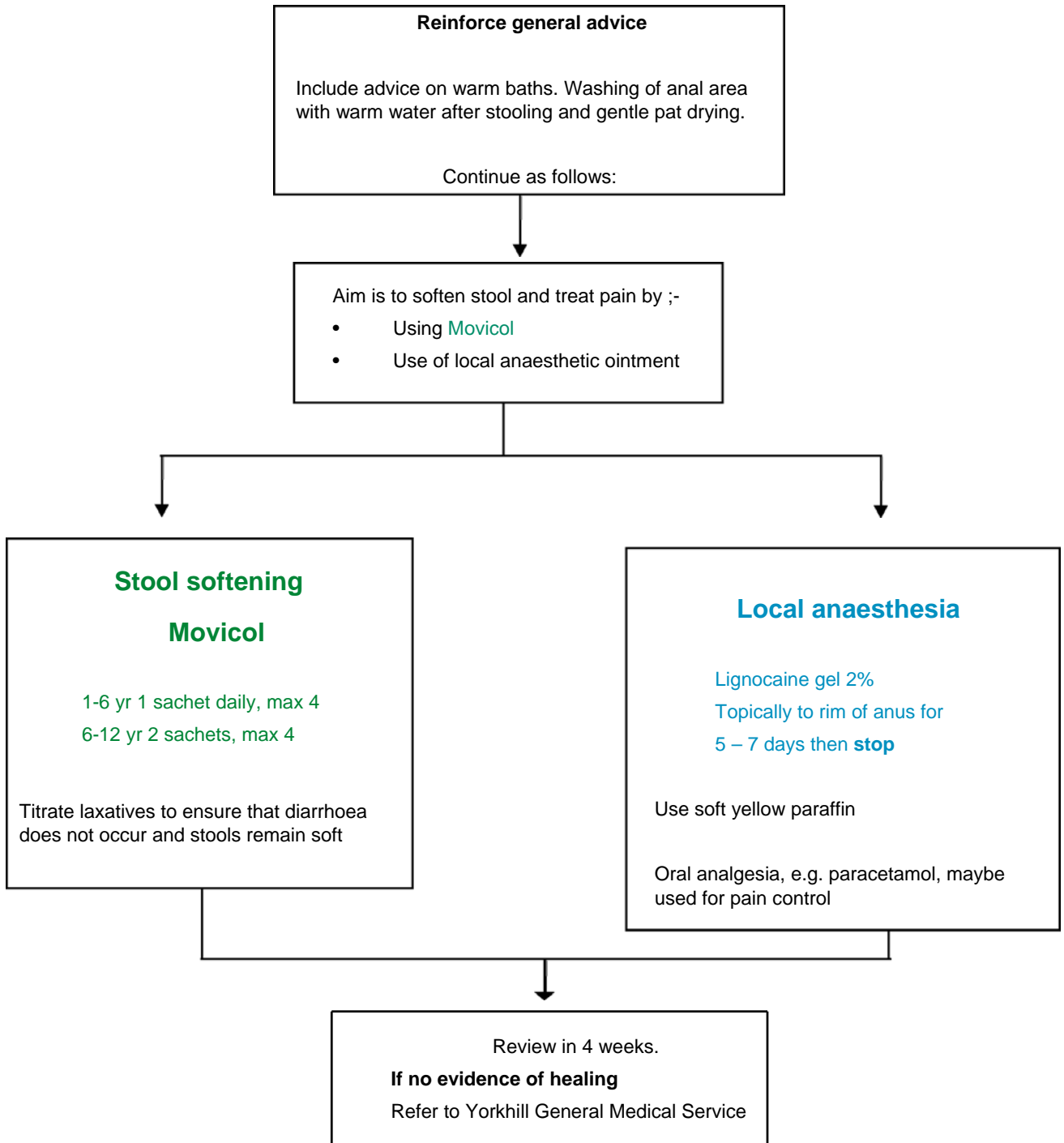
<http://www.patient.co.uk/health/Constipation-in-Children.htm>

<http://www.eric.org.uk/>

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# Chronic Anal Fissure

90% of children with blood in their stools have an anal fissure (Krauth 2000), with some studies suggesting that 80% of infants have had an anal fissure by the age of one year (Knowles 2002). Anal fissures will normally heal between 2 – 6 weeks. Those that last for longer than four weeks, or with pain of less duration but previous episodes, are normally considered chronic in nature (Nelson 2003).



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## Gastroenteritis

Acute gastroenteritis is characterised by the sudden onset of diarrhoea with vomiting and fever. For most children, it is a self-limited illness of a few days' duration. The main risk is of dehydration and electrolyte imbalance. This risk is higher in young children. Rotavirus is the most common cause of severe diarrhoea among children, especially in those aged 6 months-2 years. In Scotland, rotavirus activity is seen mainly in the spring (April).

### *Is it gastroenteritis?*

It is important to consider other diagnoses, particularly in the very young. Any child who is toxic, vomiting blood or bile or has severe abdominal pain or abdominal signs needs hospital referral. Be careful of those children with chronic illnesses, poor growth and the very young (<6 months).

### *Evaluation*

#### ◆ **History**

Assess the risk of dehydration

- In those < 6 months old, >50% reduction in normal fluid intake, and/or > 3 vomits and/or > 5 watery stools in 24 hours represent a significant risk
- Character of the stools – presence of blood or mucous
- Associated symptoms – fever, malaise
- Social factors – parental competence, number of affected family members

#### ◆ **Assessment of dehydration**

Dehydration is the main clinical complication of acute gastroenteritis. Major symptoms are thirst and oliguria, although the urine output can be difficult to assess in an infant with watery diarrhoea. Assess degree of dehydration on clinical signs and change in weight (if recent weight available).

## Women and Children's Services

- Mild (<4%) there are no clinical signs
- Moderate (4-6%) - dry mucous membranes and sunken eyes
- Severe (7-9%) - altered responsiveness, cool peripheries, decreased skin turgor, impaired peripheral circulation and acidotic breathing

The "eyeball test" (i.e. just looking at the child) is usually a good indicator of illness severity. If the history from the parents suggests a more severe problem than the assessment, believe the history. Signs of dehydration may lag behind the onset of symptoms. Physical signs are unreliable in the obese infant.

### *When should stool cultures be done?*

Routine stool cultures are unnecessary. Culture if the child has bloody stools or has recently returned from overseas travel. Consider if there is a community outbreak of infectious diarrhoea, if parents/carers work in the catering industry or if persistent loose stools (> 4 days).

### *If the child has diarrhoea but is otherwise well*

No special drinks or treatments are needed. Feeding children normally will not make things worse and they may get better faster. Extra drinks will replace the fluid they are losing. Water flavoured with a little diluting fruit squash (**not sugar-free**) is probably best.

- If breast-feeding, continue to feed on demand but give extra drinks of cooled boiled water between breast feeds.
- If bottle-fed, continue feeding as usual with **full-strength** formula.

Foods such as rice, potatoes, bread and cereals, lean meat, yoghurt, fruits and vegetables are best. Avoid sugary or fatty foods.

## *Selection for hospital referral*

In general, only children with clear objective evidence of significant dehydration (moderate – severe) justify referral to hospital. The others only justify referral if they are at high risk because of very young age, severe symptoms or for social reasons.

## *Treating mild dehydration in the community*

Most children with mild dehydration can be treated at home with Oral Rehydration Solutions (ORS) such as Rehydrat™ or Dioralyte™.

Traditional correction of dehydration over 24 hours (or more and prolonged starvation) has been abandoned. There is now a clear evidence-based approach of rapid rehydration over a 3-4 hour period giving 50 ml/kg ORS (see table below).

Age	Weight (kg)	4-hour ORS volume	Volume ORS every 5min (ml)
<b>6 months</b>	7.5	375	8
<b>12 months</b>	10	500	10
<b>18 months</b>	11.5	575	12
<b>2 years</b>	12.5	625	13
<b>3 years</b>	14.5	725	15

The trick is to give very small amounts very frequently. Give 5-10 ml sips (or with a medicine syringe) every few minutes. As the vomiting improves, parents can increase the amount of ORS given and give it less often. Some children do not like the taste of ORS drinks but children who are dehydrated rarely refuse ORS.

## *Feeding*

There is now also clear evidence that early reintroduction of a normal diet will decrease the duration and severity of diarrhoea. Breast-feeding should **not** be discontinued. Extra fluids or ORS should be given between feeds. Start feeding after the 4-hour rehydration phase. In the formula fed, there is no evidence that regrading feeds is of any value. Normal diet should be offered to toddlers and older children. They know when they are well enough to eat. Avoid fatty or sugary foods. Give a drink of ORS for every loose stool passed.

### *Lactose intolerance*

While transient lactose intolerance may occur after acute gastroenteritis, it is rarely clinically significant. Average recovery time for the brush border lactase enzymes is four weeks. In infants with persistent loose stools (>5 days), a period on a lactose-free formula may be helpful and is better than continued "clear fluids".

### *What is unhelpful?*

Flat Coke/lemonade and fruit juices have **no** place in the management of children with gastroenteritis. Coke and lemonade are high sugar fluids with very low sodium content. Fruit juices such as apple juice are high in natural fruit sugar (sorbitol). Both may cause osmotic diarrhoea.

### *Medications*

There is **no** indication for the use of anti-vomiting, anti-motility or anti-diarrhoeal agents in the treatment of childhood gastroenteritis. These therapies can worsen outcome because of side effects and do not prevent dehydration.

Antibiotics are rarely indicated, with the exception of proven cases of *Shigella* dysentery; *Salmonella* in infants <6 months

### *Outcome*

Parents should be given a written management plan (see linked parent advice sheet) including advice on when to seek further medical advice.

# Looking after your child with gastroenteritis

## What is gastroenteritis?

Gastroenteritis is an infection of the bowel (intestines) that causes diarrhoea and sometimes vomiting. It is common in infants and children. Diarrhoea and vomiting sometimes cause the loss of important fluids and minerals the body needs (dehydration).

## What causes gastroenteritis?

Gastroenteritis is more common in the winter and early spring. Viruses that get into the intestinal tract (bowels) usually cause infection. Sometimes bacteria cause it. They are picked up by putting dirty hands, toys or other objects into the mouth.

## What are the symptoms of gastroenteritis?

The most common **symptoms** are

- diarrhoea (frequent, loose, watery stools) usually lasting 2-7 days
- nausea and vomiting lasting 1-2 days
- abdominal/stomach pain
- a runny nose and fever

## What can I do if my infant or child has gastroenteritis?

Usually, diarrhoea and vomiting last only a short time. Therefore, most children can be looked after at home.

## If your child has diarrhoea but is otherwise well

No special drinks or treatments are needed. Feeding children normally will not make things worse and they may get better faster. Extra drinks will replace the fluid they are losing. Water flavoured with a little diluting fruit squash is probably best.

- **Avoid** giving natural fruit juices, fizzy drinks (even if “flat”), or sports drinks. They contain sugars that may make diarrhoea worse
- If you are breast-feeding, continue to feed on demand but give extra drinks of cooled boiled water between breast feeds.
- If your infant is bottle-fed, continue feeding as usual with full-strength formula.
- Foods such as rice, potatoes, bread and cereals, lean meat, yoghurt, fruits and vegetables are best. Avoid sugary or fatty foods.

## Are there any special treatments?

If diarrhoea continues or becomes worse, give your child **oral rehydration solutions (ORS)** such as Rehydrat™ or Dioralyte™. They are specially designed drinks to replace fluids and body salts lost in gastroenteritis. They are available from chemists or by prescription from your family doctor.

- Some children do not like the taste of ORS drinks. Children who are dehydrated rarely refuse ORS.
- Offer small amounts frequently – perhaps 5-10 ml sips every few minutes

## How long should I give my child ORS?

Generally after 4 hours, other fluids, including milk and food can be given.

## What if my child keeps vomiting?

Vomiting is a common early symptom of gastroenteritis. Most children with vomiting and diarrhoea can be treated at home with ORS. The trick is to give very small amounts very frequently. Give 5 ml using a medicine syringe every 2 - 3 minutes. If this is not tolerated because of vomiting contact your doctor.

As the vomiting improves, you can increase the amount of ORS that you give and give it less often.

## What treatments are not helpful?

Medicines to treat vomiting or diarrhoea, or antibiotics are usually not necessary or helpful.

## How can I treat nappy rash caused by diarrhoea?

- Generally avoid nappy wipes
- Cleanse the nappy area gently and *thoroughly* with soap and water; pat dry
- Apply zinc-based nappy cream such as Sudocrem thickly after cleansing bottom *gently* and *thoroughly*
- Wash hands well after each nappy change

## When should I call my doctor?

### Call your doctor if you are worried that your child is becoming dehydrated:

Sometimes vomiting, diarrhoea, fever and loss of appetite can make your child lose more fluid than he can or she can keep down. This may lead to dehydration. Signs or symptoms are:

- Dry mouth
- Sunken eyes
- Excessive thirst
- No urine in 8 to 12 hours or small amounts of dark urine
- Frequent napping, sleeping more and longer than usual
- No tears with crying

### Call your doctor if:

- Your baby is less than six months old
- Your child keeps vomiting, (especially if bright green or brown) and cannot keep fluids down
- Your child's motion contains blood
- You can't get fluids into the child and diarrhoea lasts longer than 24 hours
- You can get fluids into the child but diarrhoea lasts more than 7-10 days
- Your child continues to have many watery motions a day
- Your child has on going tummy pains

**Disclaimer:** This information should not be used as a substitute for the medical care and advice of your doctor. You should always contact your doctor if you are worried about your child's health. Your own doctor may recommend other treatments based on your child's individual circumstances.