CONSTIPATION IN TODDLERS

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LEARNING POINTS

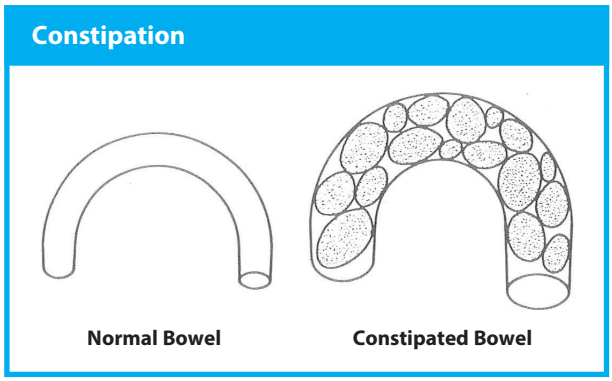
1. **Constipation is increasingly common in childhood, often causing misery and discomfort to toddlers and families**
2. **Healthcare professionals should take the condition seriously and show empathy towards the child and family**
3. **Causes of constipation include pain on defaecation, fever and underhydration, poor or inadequate food, fibre and fluid intake, psychological problems and coercive toilet training**
4. **Treatment of constipation involves a laxative and a combination of dietary and behavioural interventions**
5. **Diet and fluid management are important and can be a challenge. Parents need both practical and emotional support**
6. **Behavioural intervention should include advice on toilet training**
7. **Laxatives should be given in sufficient doses to be effective. Regular review of progress is vital**
8. **If the bowel is loaded with faeces disimpaction of the bowel with laxatives is the essential first-line management**
9. **Constipation can be prevented by attention to healthy eating, adequate fluid intake, exercise and sensible toilet training**

WHAT IS CONSTIPATION?

Constipation is a collection of symptoms and signs, not a disease. It may be defined as 'abnormally delayed or infrequent passage of dry, hardened faeces often accompanied by straining and/or pain'[1]. However the stools may not always be hard, particularly if constipation is associated with soiling[2].

Normally the rectum (lower large bowel) is empty. When a stool passes into the rectum the child experiences a sensation of fullness. If the child does not pass the stool, it accumulates and the rectum adapts to being stretched and the normal feeling of urgency to defaecate does not occur. If this happens frequently or for a long time the bowel may become loaded with faeces which may result in the retention of hard stools. Soft or liquid stools may then leak from the bowel at inopportune times. This is called soiling.

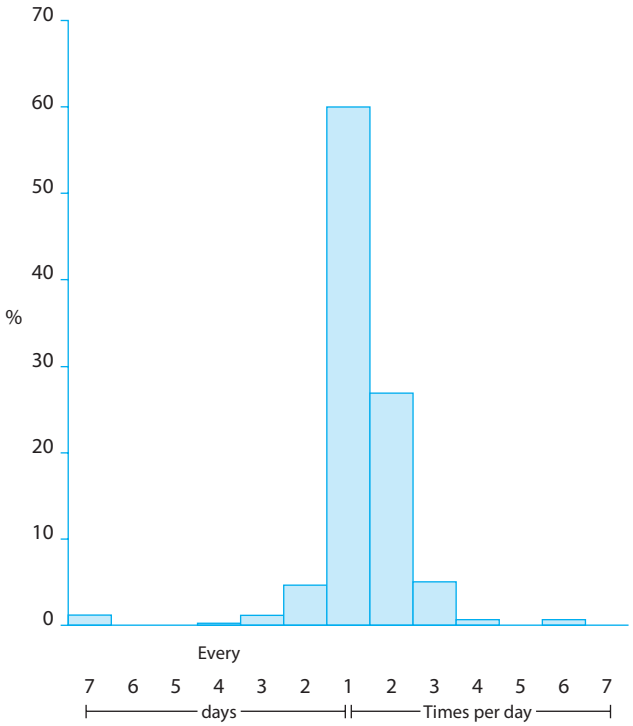
Stool withholding for long periods can distend the rectum and reduce the sensation of the urge to go to the toilet. Soiling may prompt parents to seek help and the child may have had undiagnosed constipation for many months[3].



In constipation the large bowel (rectum and sometimes colon) becomes distended and full of large hard stools.

WHAT IS NORMAL BOWEL HABIT?

- Normal stool frequency in infants and children in industrialised countries ranges from an average of four per day in the first week of life to two per day at one year of age[4,5,6].
- The average adult frequency of once a day (range of three per day to three per week) is usually attained by four years of age[4,5].
- Breast fed infants tend to pass stools which are softer and generally more frequent than formula-fed infants[6].



Frequency of bowel actions in cohort of 350 children aged between 1 and 4 years[4].

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PREVALENCE OF CONSTIPATION IN THE UK

Constipation is one of the commonest medical conditions in wealthy, developed and industrialised nations. Although the precise prevalence is not known, it is currently estimated to be between 5 to 30 per cent of the general population[7]. Constipation accounts for 25 per cent of visits to the doctor and can often require prolonged support from a multidisciplinary team[8]. In about 25 per cent of cases, constipation starts when the child is a baby. Constipation is often first seen between the ages of two and four years when toddlers are potty training[9].

There is a perception that constipation is a trivial complaint in childhood, rarely life-threatening and has little impact on health care provision. The reality is somewhat different. Many children require medical and nutritional treatment for this condition, it causes great misery and discomfort and may precipitate or aggravate other medical problems, particularly urinary tract infections and urinary continence. The management of constipation in adults and children incurs a high cost for the NHS, not only economically (£43 million is spent annually on prescribed laxatives[10]) but also in medical and nursing expertise.

CAUSES AND RISK FACTORS FOR CONSTIPATION

The exact cause of constipation is not fully understood but it is generally viewed as due to a combination of factors. Pain from an anal fissure, fever and dehydration, poor dietary and fluid intake, psychological problems, coercive toilet training (e.g. when the child is forced to sit on the potty/toilet for a long period) and family history can all play a part. Constipation is usually referred to as 'idiopathic' when it cannot be explained by an anatomical, physiological, radiological or histological abnormality.

The commonest cause of pain on defaecation is the passage of large hard stools which can sometimes result in an anal fissure. An anal fissure is a tear of the lining of the anal canal, which most commonly occurs during the passage of firm or hard stools[11,12]. Anal fissures are common in infants and toddlers aged six to 24 months. The fissure causes pain on defaecation, which may result in the child withholding stools in an effort to avoid further pain[11,13,14]. If it is not diagnosed and treated promptly, an anal fissure can set in motion a cycle of negativity towards stooling, constipation caused by withholding, and increasing pain with subsequent defaecation[12]. Pyrexia, dehydration and immobility, as a result of an infection, may cause stools to become dry and hard. Weaning difficulties, inadequate dietary fibre or fluid intake, excessive milk intake and 'faddy' eating can also precipitate constipation in toddlers.

Causes of and Risk Factors for Constipation in Toddlers[15]

Nutritional/ Dietary intake, Social	• Poor diet, overfeeding in infancy, insufficient dietary fibre or fluid excessive milk intake, faddy eating • Potty training difficulties, problems with nursery/ school toilets, changes in lifestyle and routine • Lack of exercise
Psychological/ Emotional	• Perceptions and beliefs about 'normal' bowel pattern • Poor bowel habit – ignoring the urge to go, withholding stools • Eating disorders • Emotional abuse in general could impact on behaviour
Physical	• Anal fissure • Mild pyrexia, dehydration, immobility • Bad position for defaecation • Weight – both underweight and overweight • Children who have been sexually abused may present with pain on defaecation or rectal bleeding

Toilet Training

The acquisition of toileting skills is an important milestone in child development. Mis-timed or inappropriate toilet training strategies can contribute to constipation in some children over two years of age[16,17,18,19].

Parents and carers should provide their child with the right environment, motivation and encouragement for successful toilet training. The correct position for defaecation is important; knees should be higher than hips, spine should be straight, abdomen should be pushed out and elbows should be placed on knees[20]. The toilet should be comfortable, clean, warm, private and inviting. The use of a child toilet seat and foot-stool, so that the toddler can sit with feet supported, may be appropriate.

Successful toilet training requires children to be eating a healthy, balanced diet, with adequate fluid intake, and to be able to recognise and respond to the physical cues. They must learn to differentiate between appropriate and inappropriate places to defaecate, learn how to undress for the toilet, be able to push to initiate evacuation and know how to clean themselves afterwards.

SYMPTOMS & SIGNS OF CONSTIPATION

The physical signs and symptoms of childhood idiopathic constipation include:

- irregular bowel motions
- foul smelling wind and stools, excessive flatus
- irregular stool texture, passing occasional enormous stools and/or frequent small pellets
- withholding or straining to stop passage of stools
- soiling or overflow of stool
- abdominal pain/distension/discomfort
- poor appetite
- lack of energy, unhappy/angry/irritable children and general malaise
- streaking of stool or toilet paper with blood (sign of anal fissure)

Psychosocial problems that may contribute to or be an effect of constipation include:

- social isolation
- poor self-esteem
- bullying
- difficulties in family relationships[21]

DIAGNOSIS

In most cases, constipation is not caused by a specific disease. The diagnosis is generally made by medical history and physical examination. Investigations are rarely required. Abdominal X-ray can sometimes be useful to demonstrate the extent of the problem to parents, but is not carried out routinely. Constipation that occurs from or very soon after birth, which is associated with other symptoms or signs, or does not respond to the management outlined below, should prompt referral to a paediatrician.

PREVENTION OF CONSTIPATION IN TODDLERS

The bowel works properly (like the rest of the body) if it has a good combination of foods passing through it. Stools are composed of:

- the residue of components of food that are not digested and absorbed in the small intestine
- the normal bacteria of the colon
- water and normal intestinal secretions
- cells sloughed off from the intestine lining, which constantly renews itself.

A large part of the food 'residue' is made of plant-derived materials – fruit, vegetables and cereals – known as dietary fibre or non-digestible carbohydrates (sometimes called non-digestible polysaccharide).

Dietary fibre includes 'prebiotics', which are carbohydrates that are not digested in the small intestine and enhance the growth of 'healthy' bacteria in the colon. They may help to prevent constipation by creating a healthy environment in the large bowel.

A mixed, balanced diet from the time of weaning should be encouraged and will protect against the development of constipation in toddlers. Fruits, vegetables, cereal based foods, meat, fish and pulses should be introduced during weaning and for the over ones a balanced diet will include a combination of foods from all five food groups. see Factsheet 1.2 There are no evidence-based recommendations for the ideal fibre content of a toddler's diet, but SACN recommend 15g/day is for children 2-5years[22]. see Factsheet 1.1i

Because a high percentage of the stool weight is water, underhydration can lead to hard stools. Soft stools that are easy to pass require adequate fluid intake to keep them moist. Toddlers should have 6-8 drinks each day – each drink being about 3-4 oz (100- 120mls). However they may need more fluid in hot weather and after a lot of physical activity. All drinks count: e.g. water, milk and if used, well diluted juices. However excessive whole milk intake is a risk factor for constipation because it limits the consumption of adequate quantities of other foods thereby limiting dietary fibre intake. Milk drinks should be limited to a maximum of 3 per day – for toddlers each drink should be no more than 120mls or 4oz. Large bottles of milk should have been phased out soon after their first birthday.

TREATMENT OF CONSTIPATION

The management of idiopathic constipation requires a laxative and a combination of nutritional and behavioural, and occasionally surgical interventions[23].

Faecal disimpaction of the bowel with laxatives is essential first-line management if the bowel is loaded with faeces. Faecal impaction is usually, although not always, signalled by the presence of overflow soiling. Examination of the abdomen (and sometimes rectum by a doctor) should be undertaken to determine the extent of the problem.

Laxatives

The initial aim of medical treatment is to empty the bowel (disimpaction). Macrogols (e.g. Movicol Paediatric Plain) are now generally recommended as first line treatment for disimpaction[24]. Although stimulant laxatives can also be used to disimpact the bowel, such as senna, sodium picosulfate and bisacodyl, they should be used only after the stools have been softened with either docusate sodium or lactulose.

Following disimpaction, maintenance laxative therapy should be continued for at least six months until a regular bowel habit is established. This is usually achieved by giving a smaller dose of whatever was used successfully for disimpaction, such as Movicol Paediatric Plain or a combination of stimulant laxatives such as senna, sodium picosulphate and docusate sodium and softeners including lactulose.

The drugs used and the doses required need to be titrated to a dose that is effective for the individual child. In some cases this may mean using high doses under medical supervision. Regular follow up and support is essential.

Oral medication is the first treatment of choice. Rectal preparations, enemas and suppositories should rarely be necessary because they are invasive and distressing for the child.

Food, Fibre and Fluid

Some toddlers are faddy eaters see Factsheet 2.1, 2.2, 2.3 and this can become a source of frustration and tension for parents who have been advised to ensure the fibre content of their child's diet is adequate. Children may be reluctant to eat sufficient fruit, vegetables and cereal based foods, and/or their parents may find it easier to give them sweet and high fat convenience foods and snacks. These usually contain negligible dietary fibre.

Encouraging healthy eating with a balanced diet see Factsheet 1.1, 1.2 and promoting positive parenting for families requires time, patience and family support. This support can be provided through nurse specialists in nurse-led clinics, child and family mental health services, health visitors and community children's nursing services.

Diet - Parents should aim to:

- Offer six to eight drinks per day – one with each meal and one in between meals or with a snack
- Include a fruit and a vegetable with the midday and evening meals
- Include a starchy or cereal based food with each meal - make it wholegrain sometimes
- Offer regular meals and only planned snacks – one snack halfway between meals
- Make sure there is always time in the mornings for breakfast - include some fruit or a wholegrain bread or cereal

Families tend to eat together less than in the past. The experience of families eating together plays a role in teaching children to eat 'by example'. Toddlers watch others eating food that may be unfamiliar to them and will eventually copy what they see. see Factsheet 2.2 Constipation can suppress appetite and it is necessary to use laxatives concurrently with diet change[23].

Behavioural Interventions

Behavioural interventions can be used alone or more commonly in combination with medical management. They involve psychological approaches to encourage positive changes in behaviour that should be child-friendly and age-appropriate. These interventions include toilet training programmes to encourage regular bowel habit, and colouring and sticker charts that reward healthy eating and an adequate fluid intake.

It is vital that time is given to explain constipation to the child and family so that they understand the reasons for a particular management approach. Wherever possible, children should be encouraged to take as much responsibility for their treatment as they are able. Interventions are more likely to succeed if the child is engaged and involved with the programme. Rewards can be used, but they must be discussed with individual children, as some do not like them. It is important to negotiate the right reward and the reward to effort ratio. Children will not work towards a reward if they feel that it is not worth it. Emphasis should always be placed on positive results rather than negative. Parents, other family members, friends and school or nursery teachers can contribute by providing ongoing support and motivation. However, it is essential to recognise the toddler's need for privacy when defecating.

Pitfalls in the treatment of constipation[15]

- Using stimulant laxatives before disimpacting, softening and evacuating stool
- Stopping or changing laxatives too soon or not prescribing sufficient dosage
- Not appreciating the role fear plays in toddlers' perception of constipation
- Being as disappointed and frustrated as the family and resorting to inconsistent management
- Insufficient support for families especially with complex treatment regimes
- Working in isolation without sharing and accepting expertise from other professionals[25]
- Missing other causes of constipation

Need for Empathy

Healthcare professionals need to be empathetic regarding the diagnosis of idiopathic constipation. They should explain the diagnosis and treatment options in appropriate, simple language, offer and provide ongoing support to reinforce knowledge. The management plan should be reviewed and evaluated within agreed timescales and the key healthcare professional should liaise with other appropriate colleagues for help as required.

The child and family need to feel that they can ask questions and negotiate the support that they require. They need to participate in the management plan and maintain regular contact with their healthcare professional to ensure that any problems can be discussed and addressed as soon as they arise.

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Further Reading

NICE 2017 Clinical Guideline 99 Constipation in Children and Young People: Diagnosis and management.

Additional copies of this Factsheet can be downloaded from www.infantandtoddlerforum.org

CONSTIPATION IN TODDLERS GUIDANCE & TIPS FOR PARENTS

- If you think your child is constipated, do not be afraid to seek help – sooner is better than later.

- Constipation can show itself in different ways, the toddler:
  - having no bowel movement for three or more days
  - passing lots of small hard stools
  - holding on to stools:
    - appearing to be pushing with signs such as face becoming red, when in fact holding on to stools
    - using avoidance techniques such as dancing about or hiding
    - soiling – loose stools that leak into pants, pyjamas and bedclothes. This happens when the bowel is full.

- Make sure your toddler is drinking enough fluid - six to eight drinks a day. Always give a drink with each meal and at least one in between meals or with a snack. Your toddler may need more fluid in hot weather and if he or she is taking a laxative.

- Water is the best drink between meals. You can give water or diluted fruit juices with meals. Limit milk to three small drinks per day – about 120mls or 4oz.

- Try to eat together as a family. Give your toddler small regular meals and snacks. Serve a variety of foods and concentrate on quality rather than quantity. Persevere with fruits, vegetables and cereals.

- Encourage your toddler to be physically active, to play outside, swim, walk, and join in team games.

- A consistent routine will help your toddler develop regular toilet habits. For example, sitting on the potty or toilet for a few minutes after meals. Hand washing afterwards can be fun!

- Listen and watch for signs that your toddler is ready to begin potty/toilet training. Take your time, don't rush it.
  - Give praise and positive encouragement. Minimise fuss over 'accidents'
  - Make sure your toddler can sit on the toilet, supported (using a child seat or foot stool for example) so that he or she feels safe.

- If these measures do not work your healthcare professional may suggest seeking medical advice.

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