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Education key in tackling childhood constipation

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How should constipation be diagnosed?

CONSTIPATION IS THE MOST COMMON CHILDHOOD GASTROENTEROLOGICAL problem, affecting 5–30% of children. Up to a third of these children will develop chronic constipation.[1,2]

The signs and symptoms of constipation in children are seldom clear and there is frequently a delay in seeking help in either a primary or secondary care setting. Patients and their parents often express concern that healthcare professionals do not take the problem seriously and the advice given is sometimes contradictory. Chronic constipation and soiling can have a massive impact on all aspects of a child's life, and that of their family, causing social, educational and psychological problems.

What are the red flags?

How should children be managed?

The underlying cause of childhood constipation is unclear. The initial problem may be an acute episode of constipation that results in painful defecation. This may lead to the development of an anal fissure and the child may become scared of the process of defecation. Often they will hold on to the faeces, which become harder and when they are passed

Table 1

Diagnosing constipation [4]

	Findings in a child ≤ 1 year	Findings in a child > 1 year
Stool pattern	< 3 complete stools/week, type 3 or 4 on the Bristol Stool Form Scale (BSFS) Large hard stools Type 1 stools	< 3 complete stools/week, BSFS type 3 or 4 Overflow soiling Large infrequent stools Type 1 stools
Symptoms associated with defecation	Distress on passing stools Bleeding associated with hard stools Straining	Poor appetite that improves with passage of stools Abdominal pain that comes and goes with passage of stools Retentive posturing: straight-legged, tiptoed, back arching posture Anal pain
History	Previous episodes of constipation Previous or current anal fissure	Previous episodes of constipation Anal fissure Painful bowel movements associated with hard stools

Adapted from NICE CG 99. The diagnosis and management of idiopathic childhood constipation in primary and secondary care

cause pain and so the vicious cycle is repeated.[3]

NICE recently published guidance on constipation in children and young people with the aim of improving management of this condition.[4]

DIAGNOSIS

The key to the effective management of childhood constipation is establishing the diagnosis of idiopathic constipation by taking a thorough history. This also serves to demystify some of the symptoms the parents may find inexplicable. The recent NICE guideline suggests that two or more relevant items in the history point to a diagnosis of constipation, see table 1, above.[4]

The next stage in the process is to diagnose idiopathic constipation by excluding underlying causes. An important step here is to identify red flags which would suggest that the constipation is not idiopathic (see table 2, p24).

If there are any red flag symptoms the child should be referred to an appropriate paediatric specialist.

Physical examination also helps provide a positive diagnosis of idiopathic constipation, see table 3, p24.

Other symptoms associated with chronic constipation include:

- Nausea and vomiting
- Urinary incontinence or bed wetting – up to 29% of children with daytime urinary incontinence may have chronic constipation and 34% of children with chronic constipation older than five years may have problems with bedwetting [5]
- Chronic constipation is often a risk factor for recurrent urinary tract infections in children [6]
- Urinary retention and vulvovaginitis have also been reported in children with chronic constipation

Digital rectal examination

Digital rectal examination (DRE) is recommended by many guidelines as a routine part of the examination of a child with idiopathic constipation. The NICE guidelines recommend only carrying out a DRE in a child under a year old who has not responded to optimum treatment after four weeks.

In a child older than a year, only perform a DRE if there are red flags in the history that would suggest a diagnosis of Hirschsprung's disease and you are competent to interpret the signs of the examination.

Further Investigations

Once a positive diagnosis of idiopathic constipation has been made by history and examination, further investigations such as abdominal x-ray, endoscopy, manometry, rectal biopsy, transit studies and abdominal ultrasound are not necessary.

Testing for coeliac disease and hypothyroidism should only be carried out if there are indications from the clinical history or it has been requested by specialist services.

MANAGEMENT

Good communicaton is pivotal in the management of the child with chronic constipation. It is important to explain to the patient and parents that the symptoms have a medical explanation and that the child has not been soiling or having 'accidents' because of bad behaviour.

Often the parents have been made to feel that their child's problem is due to some failing on their part.

It is vital that the healthcare professional is positive about the outcome for the child. You may need to warn the parents that the soiling and abdominal discomfort may initially worsen with a disimpaction »

Table 2

Diagnosing idiopathic constipation [4]

	Findings that indicate idiopathic constipation	Red flags that may indicate an underlying condition
Timing of onset and precipitating factors	From first few weeks of life Obvious precipitating factors include: fissure, change of diet, infections, change of school, nursery, major family changes, timing of potty or toilet training	From birth or first few weeks of life
Passage of meconium	Within 48 hours in a term baby	Failure to pass meconium within 48 hours of birth
Stools		Ribbon-like stools
Growth and wellbeing	Generally well, fit and healthy	Faltering growth
Symptoms in legs/ locomotor development	No neurological problems in legs Normal locomotor development	Undiagnosed weakness in legs, locomotor delay
Abdomen		Abdominal distension and vomiting
Diet and fluid intake	Changes in infant formula, weaning, insufficient fluid intake History of poor diet and/or insufficient fluid intake	

Adapted from NICE CG 99. The diagnosis and management of idiopathic childhood constipation in primary and secondary care

Table 3

Core elements of physical examination to diagnose idiopathic constipation [4]

	Findings that indicate idiopathic constipation	Red flags that may indicate an underlying condition
Perianal area: appearance, position, patency etc	Normal appearance	Abnormal appearance/ position/patency of anus: fistulae, bruising, multiple fissures or patulous anus, anteriorly placed anus, absent anal wink
Abdominal examination	Soft abdomen. Flat or distended	Gross abdominal distension
Spine/lumbosacral region/ gluteal examination	Normal appearance	Abnormal: asymmetry or flattening of gluteal muscles, evidence of sacral agenesis, discoloured skin, naevi or sinus, hairy patch or central pit
Lower limb neuromuscular examination including tone and strength	Normal gait. Normal tone and strength in lower limbs	Lower limb deformity e.g. talipes Abnormal neuromuscular signs not explained by existing condition e.g. cerebral palsy
Lower limb neuromuscular examination: reflexes	Reflexes of normal amplitude	Abnormal reflexes

Adapted from NICE CG 99. The diagnosis and management of idiopathic childhood constipation in primary and secondary care

regimen. It is imperative to realise that often these children have either suffered without seeking help for this problem or they have been fobbed off by other healthcare professionals in the past.

In our clinic, it is not uncommon to see families who have been suffering for several years before seeking help.

Disimpaction

Once the child has been diagnosed with idiopathic constipation, it is important to assess him or her for faecal impaction as this will determine the next therapeutic step.

Faecal impaction can be diagnosed by history taking and examination. Overflow soiling and a faecal mass palpable abdominally are suggestive of faecal impaction.

The maintenance regimen for faecal impaction is polyethylene glycol (PEG) 3350 plus electrolytes as first-line treatment in an escalating regimen. This may be mixed with water or a cold drink (see table 4, p25).

If disimpaction has not occurred after two weeks and the child has been taking the medication, a stimulant laxative may be added.

'You may need to warn the parents that soiling and abdominal discomfort may initially worsen with a disimpaction regimen'

There is usually no need to give rectal medication. Parents find it difficult to administer and hence concordance is often very poor.

MAINTENANCE

Once the child has been disimpacted, the next stage is to start maintenance therapy. Children on maintenance therapy need to be reassessed on a regular basis to ensure that they do not become reimpacted. Ideally the child should be reassessed by the same person or team so that the information given is consistent.

The suggested medication for maintenance is PEG 3350 plus electrolytes. The dose will need to be adjusted according to symptoms and response. A rough guide is that for children who have been disimpacted, the dose should be half the disimpaction dose. If this doesn't work add in a stimulant laxative. It is important to check concordance with the therapeutic regimen.

The length of treatment depends on the individual case. A child will take time to realise that defecation is not a painful process and it can also take time for the bowel and rectal function

Table 4

Medications for the management of constipation [4]

Laxatives	Recommended doses
Macrogols	**Disimpaction:**
Polyethylene glycol (PEG) 3350 and electrolytes Paediatric formula contains 6.562 g of macrogol 3350 (unflavoured) Each sachet of Movicol Paediatric Plain can be mixed with 62.5 ml of fluid	**Age <1 year** ½ - 1 sachet day (non-BNFC recommended dose) **1 – 5 years** Day 1: 2 sachets Days 2 - 3: 4 sachets for 2 days Days 4 - 5 : 6 sachets for 2 days Days 6+: 8 sachets daily (non-BNFC) **5 – 12 years** 4 sachets on day 1 then increased in steps of 2 sachets/day to maximum 12 sachets/day (non-BNFC)
	Ongoing maintenance
	Age < 1 year ½ - 1 sachet/day (non-BNFC) **1 – 6 years** 1 sachet/day adjust dose to produce soft stools maximum 4 sachets/day (non-BNFC for children under 2) **6 – 12 years** 2 sachets daily adjust to produce regular soft stools (maximum 4 sachets/day)
Adult formula can be used for those > 12 1 sachet contains 13.125 g of macrogol 3350	**Disimpaction:** **Age 12-18 years** 4 sachets on day 1 increased to maximum of 8 sachets daily (non-BNFC) **Ongoing maintenance:** **12-18 years** 1 - 3 sachets/day adjust according to response
Osmotic laxatives	
Lactulose	**Age 1 month to 1 year:** 2.5 ml bd, adjusted according to response **1–5 years:** 2.5–10 ml bd, adjusted according to response (non-BNFC) **5–18 years:** 5–20 ml bd, adjusted according to response (non-BNFC)
Stimulant laxatives	
Sodium picosulfate	(Non-BNFC) **Age 1 month to 4 years:** 2.5–10 mg od **4–18 years:** 2.5–20 mg od
Bisacodyl	(Non-BNFC) By mouth **Age 4–18 years:** 5–20 mg od By rectum (suppository) **2–18 years:** 5–10 mg od
Senna	Senna syrup (7.5 mg/5 ml) **Age 1 month to 4 years:** 2.5–10 ml od **4–18 years:** 2.5–20 ml od
	Senna (non-proprietary) (1 tablet = 7.5 mg) **Age 2–4 years:** ½–2 tablets od **4–6 years:** ½–4 tablets od **6–18 years:** 1–4 tablets od
Docusate sodium	**Age 6 months–2 years:** 12.5 mg td (use paediatric oral solution) **2–12 years:** 12.5–25 mg td (use paediatric oral solution) **12–18 years:** up to 500 mg daily in divided doses

One of the big issues in the pharmacological management of idiopathic constipation in children is that the BNFC recommended dose of medication is often far less than the dose that one needs to use in practice to be effective. Hence one is often forced to prescribe off licence to treat these children effectively.

Adapted from NICE CG 99. The diagnosis and management of idiopathic childhood constipation in primary and secondary care

to revert to a more normal state. The most common reason for treatment failure is stopping the medication too soon. A small number of children do seem to be on a low dose of medication for a number of years.

We tend to give all children the paediatric version as you can give small dose increments. This is especially useful if you are trying to wean a child slowly.

DIET AND LIFESTYLE

Diet and lifestyle have been suggested as a cause of idiopathic constipation in childhood. However, there is very little evidence that this is the case and dietary interventions alone should not be used as a first-line treatment for idiopathic constipation.

The best advice is to recommend a balanced diet with adequate fluid intake. Often parents will report that once a child is no longer impacted, appetite vastly improves.

It is important to encourage the child to develop a regular bowel habit.

There is little evidence that children with idiopathic constipation require routine referral to psychological services or CAMHS.

EDUCATION AND SUPPORT

Providing education and support is probably the core of effective management of children with idiopathic constipation. This can be done face to face or through, information leaflets. It is important to explain the following:

- Chronic constipation is common
- There is rarely an underlying disorder
- Treatment is effective and must be continued
- No blame should be attributed to child or parent

This support can be useful in other domains of the child's life including school or nursery. Often the healthcare professional needs to work with the family and the school to ensure that a child with constipation and soiling is supported in school.

Children and their families should be able to obtain support from their GP, school nurse, practice nurse, health visitor or specialist continence nurse.

Ideally chronic constipation in children should be managed in primary care and not referred routinely to specialist services.

There is evidence to suggest that specialist clinics run by appropriately trained nursing staff are an effective model of service provision. »

key points

SELECTED BY
Dr Peter Saul
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Constipation is the most common childhood gastroenterological problem, affecting 5-30% of children. Up to a third of these children will develop chronic constipation. The signs and symptoms of constipation in children are seldom clear and there is frequently a delay in seeking help in either a primary or secondary care setting.

The underlying cause of childhood constipation is unclear. The initial problem may be an acute episode of constipation that results in painful defecation. This may lead to the development of an anal fissure and the child may become scared of the process of defecation. Often they will hold on to the faeces which become harder and when they are passed cause pain and so the vicious cycle is repeated. The key to the effective management of childhood constipation is establishing the diagnosis of idiopathic constipation by taking a thorough history.

Up to 29% of children with daytime urinary incontinence may have chronic constipation and 34% of children with chronic constipation older than five years may have problems with bedwetting. Chronic constipation is often a risk factor for recurrent UTIs in children. Urinary retention and vulvovaginitis have also been described in children with chronic constipation.

The NICE guidelines recommend only carrying out a DRE in a child under a year old who has not responded to optimum treatment after four weeks. In a child older than a year, only perform a DRE if there are red flags in the history that would suggest a diagnosis of Hirschsprung's disease and you are competent to interpret the signs of the examination. Once a positive diagnosis of idiopathic constipation has been made by history and examination, further investigations are not necessary.

It is important to explain to the patient and parents that the symptoms have a medical explanation and that the child has not been soiling or having 'accidents' because of bad behaviour. Once the child has been diagnosed with idiopathic constipation, it is important to assess him or her for faecal impaction as this will determine the next therapeutic step. Faecal impaction can be diagnosed by history taking and examination. Overflow soiling and a faecal mass palpable abdominally are suggestive of faecal impaction. The maintenance regimen for faecal impaction is PEG 3350 plus electrolytes as first-line treatment. If disimpaction has not occurred after two weeks and the child has been taking the medication, a stimulant laxative may be added.

Once the child has been disimpacted, the next stage is to start maintenance therapy. The length of treatment depends on the individual case. It can take time for the bowel and rectal function to revert to a more normal state. The most common reason for treatment failure is stopping the medication too soon.

We would suggest that there needs to be an appropriately trained doctor to see the children initially to exclude any red flag diagnoses.

However, with the extended role of nursing staff there is no reason why they could not examine children with appropriate training. The most important thing is that care is provided by an individual or team who is interested in the problem. [7,8]

CONCLUSION

Chronic constipation is a very common childhood complaint. It has not always been managed well in primary or secondary care. Effective medications are available for this condition and when this is coupled with appropriate explanation and support the outcomes are often good and can have a major positive impact on the child's quality of life and that of the family.

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Useful information

The NICE guideline on constipation in children (CG99) can be downloaded from the website
www.nice.org.uk

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