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PAEDIATRIC GASTROENTEROLOGY AND NUTRITION DEPARTMENT

MANAGEMENT GUIDELINES FOR PAEDIATRIC GASTROENTEROLOGY- Functional Constipation- A Quick Reference Guide

AS A PREFACE TO THIS GUIDE, THE READER IS ADVISED THAT A MUCH FULLER GUIDE ("TOUGH GOING") ON THE SUBJECT IS AVAILABLE THROUGH www.ljf.scot.nhs.uk . GO TO THE PAEDIATRIC GASTROENTEROLOGY DRUG SECTION, SUBSECTION ON CONSTIPATION (also containing advice about which medications to use) AND USING THE LINK TO THE PDF FILE OR THIS DIRECT LINK CAN BE USED http://www.nhslothian.scot.nhs.uk/quicklinks/RHSC_CONSTIPATION2.PDF

This quick reference guide provides an overview of the diagnosis and treatment of functional consitpation in infants and children. It is broken down into the following sections:

- Key points
- What is it?
- Why is it important?
- Diagnosis?
- Investigations
- Management

Key Points (See text for more information):

- Functional Constipation is very common and will get worse unless treated quickly and aggressively. A vicious cycle of pain, retention and worsening impaction may ensue if not treated properly and the problem may escalate.
- A careful history and examination are essential and usually all that is required.
- In most cases of constipation NO investigations are required unless you suspect a non functional cause (in which case the child should be discussed with RHSC staff for further assessment).
- The management of functional constipation has 6 main components:
  1. Education (demystification)
  2. Fluids and diet
  3. Regular toilet habit (behavioural) and exercise (re-training)
  4. Disimpaction (if in doubt, disimpact !)
  5. Maintenance laxatives
  6. Regular follow up and support

WHAT IS IT?

- **Idiopathic constipation** is defined as having a stool which is difficult or painful to pass and is often associated with soiling and impaction (see later). The most common cause of constipation is functional and can be defined as either having pellet-like stools or firm stools two or less times per week in the absence of structural, endocrine or metabolic disease.
- **Soiling (overflow)** is caused by soft liquid stool leaking around the hard impacted stool. The faeces are often loose and foul smelling. It is an involuntary action over which the child has no control.
- **Faecal impaction** occurs when there has been unsatisfactory bowel movement for several days or weeks and a large compacted mass of faeces builds up in the rectum and/or colon which cannot be passed by the child. Symptoms include failing to pass a stool for several days followed by a large often painful or distressing bowel motion. Between bowel movements soiling often occurs. Rectal bleeding may be associated and is due to trauma from the stool causing internal or external fissuring.

WHY IS IT IMPORTANT?

- **It is very common and will get worse unless treated quickly and aggressively**. A vicious cycle of pain, retention and worsening impaction may ensue if not treated properly and the problem may escalate.
- Children with constipation can become **psychologically** as well as physically distressed and careful management is essential. Even very young children quickly learn that **retention** delays passage and eases any discomfort from stool buildup and the rectum and sphincters get very lax and 'unresponsive'. The longer the duration of symptoms- the more difficult treatment becomes.
- Normally, the rectum is empty. When a stool passes into the rectum a sensation of fullness is experienced and we feel 'the call to stool'. If the stool is not passed and is held too long the rectum adjusts to being stretched and the normal sensations and feelings of urgency to defaecate do not occur. The distended rectum causes dilation of the anus resulting in liquid stool leaking around the solid mass (Soiling). If this condition persists the bowel becomes enlarged, weak and flabby, so called Megarectum/Megacolon.

DIAGNOSIS

- A **careful history and examination** are essential and usually all that is required.
- **Remember to ask** about fluid intake and milk intake (excessive milk intake reduces the appetite for solid food and can be constipating), diet, exercise, toilet hygiene (avoidance of school toilets in particular), psychosocial situations (it can be seen in child abuse), past medical history and family history.
- **Examination** should include a full GI examination and neurological exam of the lower limbs (tone, evidence of muscle weakness or spasticity). (See following table). Digital PR examination is seldom necessary when the history points to functional constipation and is certainly not routine in all cases (it is useful, however, to inspect the anus for fissures and to ensure there is an anus, anatomically normal in a tactful and respectful manner). Cases of anal stenosis have been missed in young babies because this area hasn't been examined.

- **Hirschsprung's disease is very uncommon and usually presents within the first two weeks of life with a sick baby with obstructive symptoms and/or vomiting which may be bilious (red flag in any baby). Discriminating questions are: was meconium passage delayed beyond 48 hours or did constipation occur in the first 4 weeks of life. Some babies do have early onset constipation or may have sluggish bowels (infrequent stools in breast fed baby) but are usually in no distress when passing stool.**

Physical findings suggesting a potential organic cause from functional Constipation

• Failure to thrive
• Abdominal distension
• Lack of lumbosacral curve
• Sacral dimple covered by tuft of hair
• Midline pigmentary abnormalities of the lower spine
• Sacral agenesis
• Flat buttocks
• Anteriorly placed anus (or absent anus)
• Patulous anus
• Tight, empty rectum in presence of palpable abdominal faecal mass
• Gush of liquid stool and air from rectum on withdrawal of finger
• Blood in stool (beware hard faeces)
• Absent anal wink
• Decreased lower extremity tone and/or strength
• Absence or delay in relaxation phase of lower extremity tendon reflexes

INVESTIGATIONS

In most cases of constipation NO investigations are required unless you suspect a non functional cause (in which case the child should be discussed with RHSC staff for further assessment). Occasionally we perform bloods and transit marker studies in those who don't respond or who have a 'red flag' on history or exam. Bloods would include FBC and film, U and E, creatinine, calcium, magnesium, phosphate, coeliac screen, IgA level, TSH and fT4.

MANAGEMENT

The management of functional constipation has 6 main components:

1- Education (demystification)
2- Fluids and diet
3- Regular toilet habit (behavioural) and exercise (re-training)
4- Disimpaction (if in doubt, disimpact !)
5- Maintenance laxatives
6- Regular follow up and support

1- Education-

- The importance of education to the parents and child cannot be underestimated. Parents often hope for a quick fix and so it is important to be realistic about how long the problem can take to resolve. Clayden calls this 'Demystification' – it is a plumbing problem, not rocket science !

2- Fluids and diet -

- Children should be encouraged to have at least 6-8 cups of water, dilute cordial or fruit juice per day. (1 with each meal, one in between each meal and one in the evening).
- **Fibre** is essential for a healthy bowel. We advise:
- Give at least 2 servings of fruit per day (leave the peel on)
- Give at least 3 servings of vegetables per day
- Give cereals high in fibre such as bran cereals, shredded wheat, oatmeal, whole grain cereals
- Use whole wholemeal breads instead of white bread

3- Regular Toilet Habits and exercise-

- Get children to sit on the **toilet regularly** (even if they do not feel the urge to go)- e.g. at least 5 minutes before breakfast and dinner.
- Encourage the child to not resist the urge to go for a poo when it comes.
- Positive reinforcement and praise for regular toileting (and compliance with medication), try to move the focus away from having clean pants as this can encourage retention of stools, use age appropriate reward systems and star charts (bribery does work).
- **Exercise**- regular exercise helps bowel motility and is good for general health

4- Disimpaction

- If a child is impacted (from history and or examination) it essential to disimpact them for treatment to be successful.
- In children, the **oral route is preferable** to rectal (see below). If, however, oral drugs fail, rectal bisacodyl (5mg suppository if under 10 years) or sodium citrate enema (Micralax Micro-enema®/Microlette Micro-enema®; insert half enema nozzle length if under 3 years) can be tried to get things going.
- **IF IN DOUBT, DISIMPACT !**

For faecal disimpaction (also see LJF* for detailed notes)

First choices:	**sodium picosulfate** *or* **bisacodyl**
Second choice:	**Movicol® Paediatric Plain**
Third choice	**Citramag**

- **Sodium picosulfate** *liquid 5mg/5mL*

- Under 2 years, 2.5mg twice daily for 2-3 days.
- 2-5 years, 5mg twice daily for 2-3 days.
- 5-10 years, 10mg twice daily for 2-3 days.
- Above 10 years, 10-15mg twice daily for 2-3 days.

- **Bisacodyl** *tablets e/c 5mg (swallow whole) (*Avoid indigestion remedies within 1 hour of taking bisacodyl)

- 2-5 years, 5mg twice daily for 2-3 days.
- 5-10 years, 10mg twice daily for 2-3 days.
- Above 10 years, 10-15mg twice daily for 2-3 days.

- **Movicol® Paediatric Plain** *oral powder.*
    - 2-4 years (taken in divided doses over 12 hours each day until impaction resolves or for max. 7 days), 2 sachets on first day, then 4 sachets daily for 2 days, then 6 sachets daily for 2 days, then 8 sachets daily for 2 days.
    - 5-11 years (taken in divided doses over 12 hours each day until impaction resolves or for max. 7 days), 4 sachets on first day then increased in steps of 2 sachets daily to 12 sachets daily.

- **Citramag (see LJF)**

5- Maintenance

After an episode of acute constipation, maintenance therapy is usually required for several months or longer (maybe very long-term) until regular bowel habit is established. The aim of maintenance therapy is to help the muscles and nerves of the rectum to recover sensitivity and strength by promoting regular toileting and preventing further stool impaction

For maintenance (also see LJF* for detailed notes)

First choices:	**Lactulose < age 1, (Over 1 year consider liquid paraffin)**
Second choice:	**Movicol® Paediatric Plain (increasingly first choice in over 1 year olds)**
Third choice	**Consider combination of First or Second choice medication and stimulant until regular stooling established**

- **Lactulose**

Initial dose (then adjust to response, max 90mL/day if above 1 year)

- Under 1 year, 2.5mL twice daily.
- 1-5 years, 5mL twice daily.
- 5-10 years, 10mL twice daily.
- Above 10 years, 15mL twice daily.

- Movicol® Paediatric Plain *oral.*
- 2-6 years, 1 sachet daily.
- 7-11 years, 2 sachets daily; adjust according to response, max. 4 sachets daily.

- **Senna** *tablets 7.5mg; syrup 7.5mg/5mL*
    - 1 month-2 years, 0.5mL/kg once daily, usually in the morning.
    - 2-6 years, 2.5-5mL once daily, usually in the morning.
    - Above 6 years, 5-10mL or 1-2 tablets daily, usually in the morning.

- **Sodium picosulfate** *liquid 5mg/5mL*
    - Under 2 years, 2.5mg once daily usually in the morning.
    - 2-5 years, 5mg once daily usually in the morning.
    - 5-10 years, 10mg once daily usually in the morning.
    - Above 10 years, 10-15mg once daily, usually in the morning.

6- Regular follow up and support-

- Review the child regularly (may require telephone support from Health visitor or practice nurse) to assess response and adjust medication as required. Aim to wean off medication when the child has been regularly passing soft formed stools for at least 6 months, and then wean slowly.
- Remember, they may recur soon or several months after coming off medications-restart the therapy and if in doubt disimpact.

Finally, this guideline is intended to be helpful and guide more expeditious therapy (and confidence in using these medications) both in Hospital and the Community.
Any feedback is welcome (positive and negative) to help us improve them and the service.

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