NHS
Vale of York
Clinical Commissioning Group

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Teaching Hospitals
NHS Foundation Trust

Referral Support Service

Paediatrics

PA06 Constipation

Paediatric Normal Values (adapted from APLS)			
Age	Resp Rate	Heart Rate	Systolic BP
Neonate <4w	40-60	120-160	>60
Infant <1 y	30-40	110-160	70-90
Toddler 1-2 yrs	25-35	100-150	75-95
2-5 yrs	25-30	95-140	85-100

Definition

The inability to pass stools regularly OR empty the bowels completely.

Exclude Red Flag Symptoms

- Constipation in neonates (<28d)
- Delay in passing meconium (>48h in term infant)
- Abnormal appearance of anus (patency, anterior position, fistula, fissures, bruising)
- Ribbon like stools (with presence of blood or mucus)
- Abnormal neurological examination (lower limbs particularly)
- Deformity in the lower limbs (talipes, contractures)
- Abdominal distension with vomiting (urgent referral)
- Abnormal appearance of spine or sacral region (discoloured skin, hairy patch, sacral dimple, asymmetry of the gluteal muscles
- Previous necrotising enterocolitis in ex-preterm infants

High risk of chronicity

- ASD
- Cerebral palsy
- Down syndrome
- Impaired mobility
- Looked After Children

General Points

- The majority can be managed in primary care
- Can have a significant impact on health and wellbeing if not addressed and managed
- It is common and affects 5-30% of young children (most common in toddlers)
- It affects about 1% of adolescents
- Most are idiopathic
- 1 in 3 develop chronic symptoms
- Delays of >3d between stools may increase the likelihood of pain on passing hard stools leading to anal fissures, anal spasm and eventually a learned response to avoid defecation

Presenting Features

- Duration of symptoms and any 'trigger events'
- Stool pattern (<3 stools/wk may indicate constipation)
- Stool consistency (using Bristol stool chart) - passage of firm or hard stools
- Faecal soiling – the passage of liquid or formed stool into the child's underwear. This can be caused when stools have sat in the rectum for a long time.
- Straining or distress associated with opening bowels
- Poor appetite that resolves with opening of the bowels
- Abdominal pain that resolves with opening of the bowels
- Urinary symptoms (incontinence, UTI, retention)

Background History

- Passage of meconium within 48h of birth in a term baby
- Previous episodes of constipation or anal fissure
- Measures already tried
- Medications that may cause constipation (e.g. iron, opiates)
- Diet and fluid intake
- Previous abdominal surgery
- Personal or family history of bowel disorders or connective tissue disorders (e.g. Ehler-Danlos, hypermobility)

Examination

- Check growth
- Abdominal examination
- Check lumbosacral spine for swelling, tuft of hair suggesting spinal dysraphism
- Lower limb neurological examination including tone, power and reflexes
- Visual inspection of perineum
- DO NOT perform a digital rectal examination

Differential Diagnoses

Although laxatives can be used safely in even very young infants, have a low threshold for discussing these patients with paediatrics. Particular considerations include;

- Cystic fibrosis (can occur even if Newborn Heel-Spot is normal)
- Thyroid disorders (can occur even if Newborn Heel Spot is normal)
- Hirschsprungs disease
    - Delayed passage of meconium (>48h in term babies)
    - Constipation since first few weeks of life
    - Chronic abdominal distension plus vomiting
    - Family history of Hirschsprungs disease
    - Faltering growth
- Bowel malformation
- Incorrectly made formula feeds
- Cow's milk protein allergy (constipation or loose stools)
- Medication (alginate antacids, Carobel, 'hungry baby formula', iron)

Investigations
Consider investigations if there is no response to optimum therapy within 3 months

- Bloods to look for causation: coeliac disease, thyroid function tests
- Bloods to consider if diet is poor: FBC, ferritin, vitamin D

Management
Do not use dietary interventions alone as first-line treatment

Diet

- Dietary interventions should be used alongside laxatives, rather than as first line treatment alone
- Increase fluid intake
- High fibre foods

Behavioural

- Adapted to stage of development
- Include encouragement and reward systems
- Keep a bowel diary
- Scheduled toileting to establish a regular bowel habit – utilise the gastro-colic reflex by visiting toilet after meals
    - Encourage child to sit on the toilet for 5-10 minutes
        - 20-30mins after breakfast
        - After lunch/when home from school
        - 20-30mins after dinner
        - Before bed
- Make toilet sitting fun – blow bubbles, games that make them laugh
- Place child's feet on a step-stool, so their knees are above the hips, as this makes passing stool easier
- At least 60 mins of physical activity a day
- Massage the stomach in a clockwise direction

Medication

- Adjust dosages according to effect in order to establish a regular pattern of bowel movement in which stools are soft, well-formed and passed without discomfort
- Reassure about the safety of long-term laxative use
- The principle for medication in the treatment of constipation is a **high enough dose**, for a **long enough period**, which can be **gradually weaned down**.

First line laxative: oral macrogols, e.g. Laxido

Disimpaction Regime
Overflow soiling +/- palpable faecal mass are indications of impaction. If the child is impacted, a disimpaction regime should be commenced. If the child is not impacted, maintenance therapy should be commenced.

- The duration of treatment at the highest doses may vary and should be guided by response to treatment
- Disimpaction may initially increase symptoms of soiling and abdominal pain
- Disimpaction dose should be continued until there is a good response

PAEDIATRIC MACROGOLS						
Age: <1y*						
Sachets	1	2+				
Day	0.5-1	0.5-1				
Age: 1-4y						
Day	1	2	3	4	5	6+
Sachets	2	4	4	6	6	8
Age: 5-12y						
Day	1	2	3	4	5+	
Sachets	4	6	8	10	12	

ADULT MACROGOLS				
Age: 12-18y				
Day	1	2	3+	
Sachets	4	6	8	

* Unlicensed dose

Maintenance Therapy

- It is useful to give a dose range for treatment so they can adjust medication within these limits over time
- Children who are toilet training should remain on laxatives until toilet training is well established
- Medication should not be stopped abruptly: reduce dose gradually over months in response to stool consistency and frequency
- Informed consent should be obtained and documented whenever medications/doses are prescribed that are different from those recommended by the BNFC.

Paediatric Macrogol
<1y: 0.5-1 sachet/d*
1-6y: 1 sachet/d (max 4/d)
6-12y: 2 sachets/d (max 4/d)

* Unlicensed dose

Adult Macrogol
12-18y: 1-3 sachets/d in divided doses; maintenance 1-2 sachets/d

Follow-up

- Child undergoing disimpaction regime: follow up to assess response within 1 week
- Child on maintenance regime: review response to treatment within 6 weeks and the dose titrated to produce a regular, soft stool
- If impaction recurs at any point during treatment, a disimpaction regime should be recommenced
- Maintenance therapy should be continued for several weeks after regular bowel habit is established
- No response by 3 months despite compliance with treatment – reassess the patient for potential alternative diagnosis or complicating factors

Treatment Failure
The commonest reason for lack pf response is that they are not being administered correctly

- Check understanding of number of sachets/d
- Space out doses across the day (solution stores well in fridge for 24h)
- Mix with cordial
- Mix with larger volume of liquid if texture not tolerated
- DO NOT mix with milk

Second Line
If oral macrogols are not effective but are being taken reliably: add stimulant laxative

If oral macrogols are not tolerated: use a stimulant but a softener (e.g. lactulose) will also be required

Stimulant laxatives		
Sodium picosulfate 5mg/5ml	1m-4y	2.5-10mg/d*
	4-18y	2.5-20mg/d*
Bisocodyl 5mg tablets	4-18y	5-20mg/d*
Senna 7.5mg/5ml (not licensed <2y**)**	1m-4y	2.5-10ml/d
	4-18y	2.5-20ml/d
Senna 7.5mg tablets	2-4y	0.5-2 tablets/d
	4-6y	0.4-4 tablets/d
	6-18y	1-4 tablets/d
Osmotic laxatives (softener)		
Lactulose	1m-1y	2.5ml BD
	1-5y	2.5-10ml BD†
	5-18y	5-20ml BD*
Stimulant with softening properties		
Sodium Docusate		
<12y paediatric oral solution 12.5ml/5ml	6m-2y	12.5mg TDS
	2-12y	12.5-25mg TDS
>12y 100mg capsules	12-18y	Up to 500mg daily in divided doses

* Unlicensed dose
† Non-BNFC recommended dose

Referral Information

Indications for referral
- <1y who do not response to optimum therapy within 4 weeks – URGENT referral - consider Hirschsprungs
- Medical cause is suspected, e.g. dysmotility, suspected underlying primary bowel disorder, malabsorption
- Where optimum management has failed despite good compliance
- Complex cases, e.g. complex neurodisability, short gut
- Suspected Hirschsprungs disease
- Structural abnormality

Patient information leaflets/ PDAs

https://www.eric.org.uk/Pages/Category/bowel-problems

https://www.thepoonurses.uk/

References

- National Institute for Clinical Excellence [NICE] (2017) *Constipation in children and young people: diagnosis and management* [Viewed 20 Aug 2021] https://www.nice.org.uk/guidance/cg99
- National Institute for Clinical Excellent [NICE] (2014) *Constipation in children and young people: Quality Standard* [Viewed 20 Aug 2021]
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Responsible GP: Dr Rebecca Brown
Responsible Consultant: Dr Luke McLaughlin
Responsible Pharmacist: Faisal Majothi
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