BOTTOM LINE RECOMMENDATIONS:

Constipation

The diagnosis of functional constipation (FC) requires a history of straining or pain with defecation, hard or large stools that may obstruct the toilet, infrequent bowel movements (BMs), retentive behaviors, and/or encopresis. Often, the chief complaint is colicky abdominal pain, which can mimic more sinister diagnoses which are often missed such as appendicitis, intussusception and bowel obstruction.[1]

» A closely related disorder with similar symptoms is irritable bowel syndrome subtype with predominant constipation (IBS-C).
» The prevalence of FC in infants and toddlers is ~20%.[2] IBS is also common, found in up to 15% of children.[3]

DIAGNOSIS

The Rome IV Criteria are validated clinical criteria used to diagnose functional gastrointestinal disorders such as FC and IBS-C. The Bristol Stool Chart may help young patients in determining consistency of stool.[4]

ROME IV CRITERIA FOR FUNCTIONAL CONSTIPATION

Infants and Toddlers

» Must include one month of at least 2 of the following in infants/toddlers up to 4 years of age:
1. Two or fewer defecations per week
2. History of excessive stool retention
3. History of painful or hard BMs
4. History of large-diameter stools
5. Presence of a large fecal mass in the rectum

» In toilet-trained children, the following additional criteria may be used:
6. At least one episode per week of fecal incontinence
7. History of large-diameter stools that may obstruct the toilet

Children and Adolescents[5]

» Must include 2 or more of the following, occurring at least once per week for a minimum of one month with insufficient criteria for a diagnosis of irritable bowel syndrome:
1. Two or fewer defecations in the toilet per week in a child of developmental age of at least 4 years
2. At least one episode of fecal incontinence per week
3. History of retentive posturing or excessive, purposeful stool retention
4. History of painful or hard BMs
5. Presence of a large fecal mass in the rectum
6. History of large diameter stools that can obstruct the toilet

RED FLAGS

ON HISTORY

» Passage of meconium after 48 hours of age, early and severe constipation (less than 1 month of age), stunted growth, developmental delay, anorexia, ribbon stools, hematochezia, melena, bilious vomiting, and/or motor weakness.

ON PHYSICAL EXAM

» Sacral anomalies, gluteal cleft deviation or abnormal position of anus, perianal fistula, absent anal or cremasteric reflex, anal scars, extreme fear during anal inspection, severe abdominal distention, decreased lower extremity strength/tone/reflexes, fever, and/or abnormal thyroid gland.

INVESTIGATIONS

» Routine investigations are **not** recommended unless indicated by abnormalities on physical examination.[6]
» Routine testing for celiac and/or hypothyroidism is **not** indicated.[6]
» Abdominal radiographs **should not be performed.** Their use is associated with misdiagnosis and carries a risk of radiation exposure.[7]

FUNCTIONAL CONSTIPATION AND URINARY TRACT INFECTIONS

» There is an association of urinary tract infections (UTIs) and voiding dysfunction in children with constipation[8].
» Consider testing for UTI in children with constipation and fever without a source, even if symptoms of UTI are absent[8].

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MANAGEMENT PLAN

ACUTE CONSTIPATION WITH FECAL IMPACTION

Fecal disimpaction: Polyethylene glycol (PEG 3350) and enemas are equally effective.[9] PEG 3350 is better tolerated and used by most providers as first line given its effectiveness and the potential trauma associated with repeated enemas. Consider admission to hospital for PEG 3350 with electrolyte bowel washout for patients with severe constipation (i.e.no response to high dose PEG 3350 +/- stimulant laxative (e.g. Pico-Salax R) and failed disimpaction with enema in the ED).

Goal: Completely empty the colon over 3-5 days with 1-3 soft BMs daily.

Drug	Disimpaction Dose	Duration	Notes
PEG 3350	1-1.5 g/kg/day, MAX 100 g/day, PO	3-6 days	
Pico-Salax® *	Mix sachet as per package directions, then give: 1-5 years, ¼ sachet/dose; 6-12 years, ½ sachet/dose; Greater than 12 years, 1 sachet/dose; PO given AM and PM X 2 doses	2 doses	Used as adjunct to osmotic laxative (e.g. PEG 3350) if no BM in 1-2 days
Saline Enema	6 mL/kg/dose, MAX 500 mL/dose, PR	Repeat x1 prn in 12h	
Fleet®** Enema	2-4 years, 33 mL PR; (1/2 of a pediatric Fleet enema) 5-11 years, 65 mL PR; (1 pediatric Fleet enema) Greater than 11 years, 130 mL PR; (1 adult Fleet enema)	Repeat x1 prn in 24h	Avoid in less than 1 year of age & in calcium homeostasis disorders, chronic kidney disease, history of bowel obstruction

*Pico-Salax®: sodium picosulfate, magnesium oxide, citric acid ** Fleet®: sodium phosphate

CHRONIC CONSTIPATION WITHOUT FECAL IMPACTION (OR AFTER DISIMPACTION)

Maintenance: Osmotic laxatives are preferred because they have fewer side effects. PEG 3350 is the most effective option available. Stimulant laxatives, including sodium picosulfate, can be added to therapy, but are not for chronic use.[6]

Goal: 1-3 soft BMs per day.

Drug	Maintenance Dose	Duration	Notes
PEG 3350	0.2-1 g/kg/day PO. Usual max dose: 17 g/day. Higher doses (e.g. 17 g BID-TID) may be required for short periods if goals not met. Do not exceed maximum disimpaction dose above.	No evidence for specific treatment duration. Some experts suggest minimum of 2 months. Many children require 6-12 months. There are no specific guidelines for acute constipation (symptom duration less than 1 mos).	Titrate to 1-3 Bristol Type 4 BMs daily.

IRRITABLE BOWEL SYNDROME - SUBTYPE WITH PREDOMINANT CONSTIPATION (IBS-C)

- Suspect if symptoms are primarily abdominal pain associated with a change in BM frequency or consistency.
- BMs often improve with laxatives, though abdominal pain may not improve (i.e. 1-3 soft stools per day but abdominal pain persists).
- Diagnosis of IBS-C is made after a failed trial of therapy targeting constipation symptoms.

Other treatment considerations: There is not enough evidence to support extra fluid intake, increased physical activity, pre- or probiotics, behavioural therapy, or biofeedback. The evidence does **not** support fibre supplements, or adding regular enemas to maintenance PEG 3350 use.[7]

NASPGHAN/ESPGHAN Algorithms for evaluation and treatment of FC in infants and children

WHEN TO REFER TO PEDIATRICIAN OR PEDIATRIC GASTROENTEROLOGIST

- Less than 6 months in age requiring rectal stimulation.
- Any concerning red flags for non-functional causes on history or physical examination.

The purpose of this document is to provide healthcare professionals with key facts and recommendations for the diagnosis and treatment of functional constipation in children. This summary was produced by the constipation content advisors for the TREKK network, Drs. Mohamed Eltorki and Paige Landy of McMaster University, at the request of the TREKK Network; it uses the best available knowledge at the time of publication. However, health care professionals should continue to use their own judgment and take into consideration context, resources and other relevant factors. The TREKK Network is not liable for any damages, claims, liabilities, costs or obligations arising from the use of this document including loss or damages arising from any claims made by a third party. The TREKK Network also assumes no responsibility or liability for changes made to this document without its consent. This summary is based on:

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