

## Fast facts

Prevalence or interesting stats/facts about this condition that may be helpful when explaining this to patients/families and provide increased perspective to physician extenders who may not be as familiar with these issues as one who was residency trained.

- One of the 10 most common problems in a pediatric practice, 3-10% of visits
- 25% of GI referrals
- 95% is functional constipation
- 50% of patients continue to have problems after 5 years of treatment

## Background

Constipation is difficulty passing stool timely and effectively. In 17-40% of children, constipation starts in the first year of life. In most children (95%), no underlying medical disease responsible for these symptoms can be found. Healthcare use in children with constipation is three times higher than in those without. Untreated constipation can lead to fecal impaction, encopresis and even contribute to enuresis and dysfunctional voiding. These can severely affect quality of life and lead to missed school days. Symptoms such as abdominal pain, bloating, reflux and decreased appetite can also occur as a consequence. Delays in treatment are negatively related to recovery.

## Assessment

1. History:
  - a. Diagnostic criteria (Rome IV): one month duration, at least 2 criteria
    - <2 defecations/week
    - History of excess stool retention
    - Painful or hard stools
    - Large diameter stools
    - Large amount of stool in rectum

Additional criteria in toilet trained children

- Encopresis
- Large caliber stool (can block the toilet)

Use Bristol stool scale to improve history taking and common language between physician and patient.

- b. Behavior suggestive of holding behavior:
    - Crossing legs
    - Hiding in corner to stool
    - Straightening legs
2. Physical exam:
    - a. Abdominal exam – palpable stool?
    - b. Rectal digital exam? - not needed routinely, mostly helpful when there is a suspicion for fecal impaction
  3. Imaging: abdominal x-ray: not needed routinely, not much value when suspicion for functional constipation is high:
    - a. No available objective scoring system, radiologist dependent
    - b. One in two patients in ERs labeled with constipation though not supported by history – missing alternate diagnoses

## Red flags

- History of delayed meconium passage (>48 hours after birth)
- Poor growth and weight gain
- Severe abdominal distention with vomiting
- Persistent abdominal pain despite history suggesting there is no significant constipation
- Abnormal findings of lumbosacral region such as dimple, tuft of hair, gluteal cleft deviation)
- Perianal abnormalities: fistula, recurrent pilonidal cyst
- Constipation that is refractory to medical management

# Management/treatment

1. Mild constipation: with short duration (only few weeks or months): Start with osmotic laxatives daily (pulls water to the stool). Daily dosing ensures that stool formed from eating in past 24 hours stays soft. Skipping days might allow stools to form/become harder, and osmotic laxative might not be able to make it soft at that point. Doses should be titrated to ensure soft stools.
  - a. Milk of magnesia (usually works better for infants)
  - b. Lactulose (usually work better for infants and toddlers)
  - c. Polyethylene glycol (works well for toddlers and older children)
  
2. Moderate/severe constipation with fecal impaction (hard stool mass in lower abdomen/rectum palpated on exam, rectal digital exam or radiograph):
  - a. Disimpaction is needed with oral, rectal medications, or a combination.
    - Oral medications (may use a combination):
      - High dose polyethylene glycol cleanse: 4 g/ kg mixed with about 2-3 oz of clear liquid for every 4 g. ideally, patient should drink this volume in 4-6 hours. This dose can be repeated the following day if needed
      - Bisacodyl: increases contractions in the colon to facilitate evacuation of stools. Takes about 6-12 hours to work
      - Senna: increases contractions in the colon, usually takes few hours to 8 hours to work
      - Magnesium citrate (avoid in patients with kidney disease)
    - Rectal:
      - Glycerin suppositories
      - Mineral oil enema
      - Fleets enemas: avoid these, they can cause significant electrolyte shifts especially in children with withholding behavior if enema is retained
  - b. Maintenance therapy (goal is to follow strict daily schedule, take medications around same time every day to ensure passage of stools is predictable):
    - Osmotic laxative to act as stool softener – daily
    - Stimulant laxative to improve motility to promote effective evacuation of stools daily or every other day
      1. Senna
      2. Bisacodyl

- Scheduled sitting time on toilet (no more than 5 minutes, with no phones or iPads):
  1. After meals (take advantage of gastrocolic reflex with meal consumption resulting in increased colonic contractions)
  2. After physical exercise

Patients need frequent follow up, every few weeks, until a good bowel regimen has been established with medications. Medications usually need a lot of adjustment at first. Treatment needs to continue usually for months before weaning should be attempted. Weaning medications should be gradual, perhaps start with decreasing use of the stimulant laxatives.

## When to refer

1. Failed disimpaction
2. Intractable constipation - unable to control constipation and/or encopresis after several attempts at establishing a bowel regimen
3. Red flags

## References

- Tabbers, M et al. Evaluation and Treatment of Functional Constipation in Infants and Children: Evidence-Based Recommendations From ESPGHAN and NASPGHAN. JPGN 2014;58: 258–274
- Yang C, Punati J. Practice Patterns of Pediatricians and Trainees for the Management of Functional Constipation Compared With 2006 NASPGHAN Guidelines. JPGN 2015;60: 308–311
- Van Ginkel, R et al. Childhood constipation: longitudinal follow-up beyond puberty. Gastroenterology, 2003 Aug;125(2):357-63.