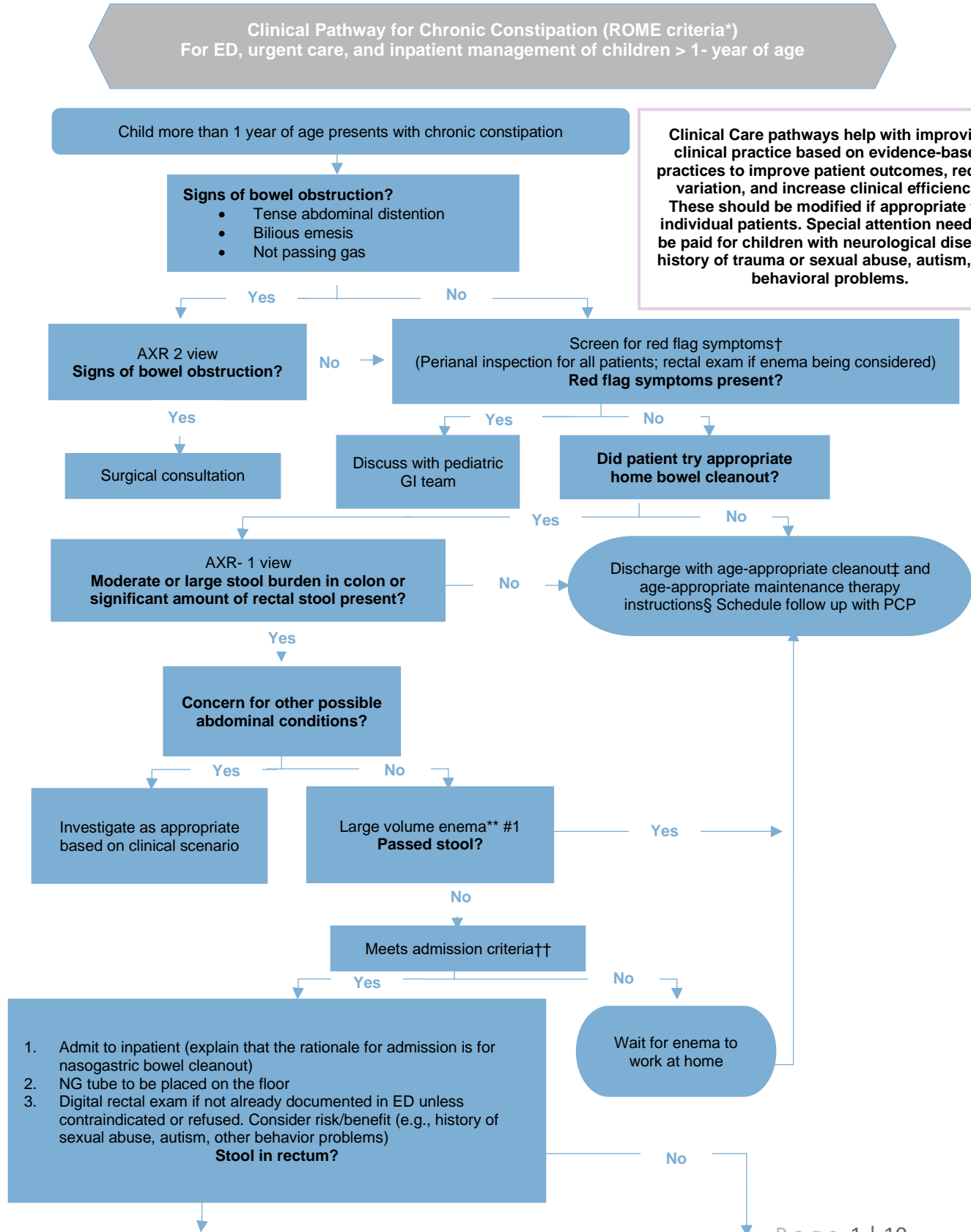
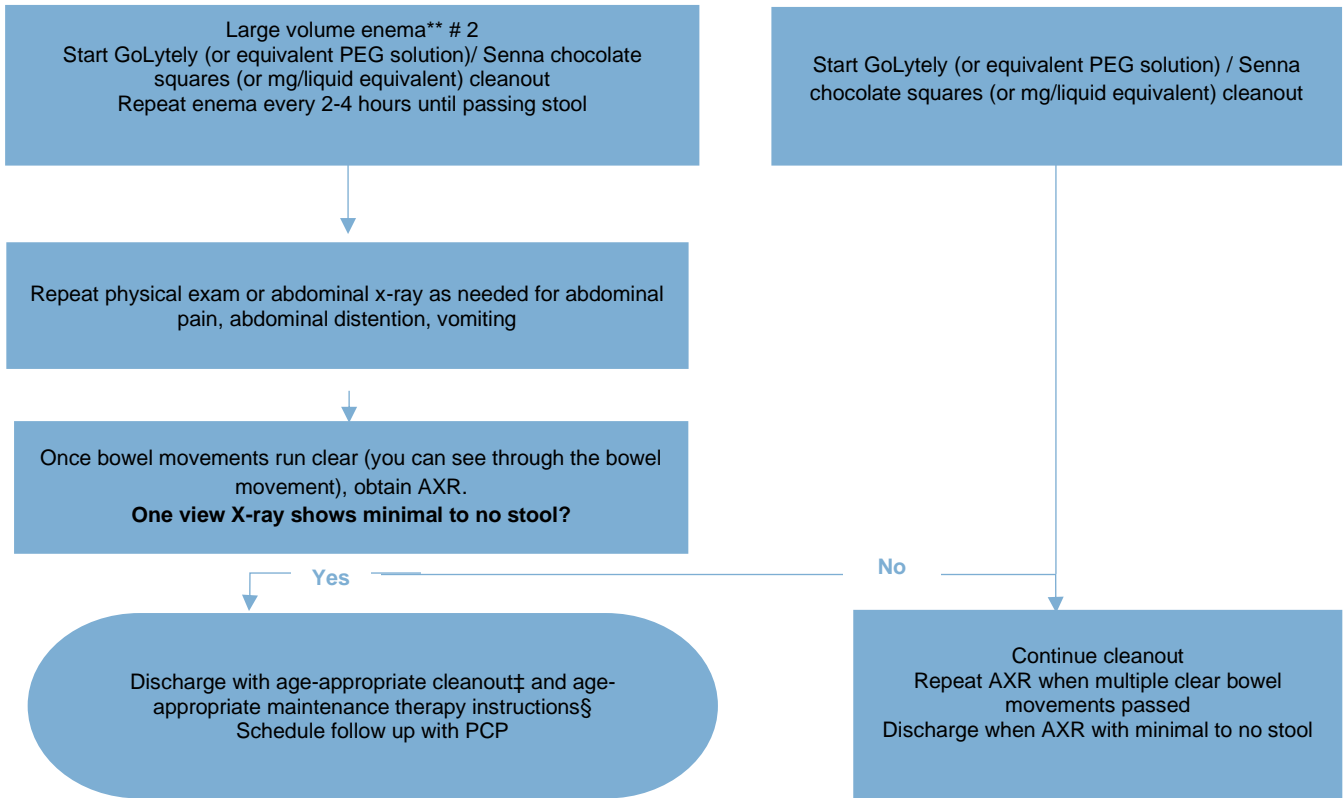


Pathway/Decision Tree Algorithm





***Rome criteria**

Must include 2 or more of the following occurring at least once per week for a minimum of 1 month with insufficient criteria for a diagnosis of irritable bowel syndrome:

1. 2 or fewer defecations in the toilet per week in a child of a developmental age of at least 4 years
2. At least 1 episode of fecal incontinence per week
3. History of retentive posturing or excessive volitional stool retention
4. History of painful or hard bowel movements
5. Presence of a large fecal mass in the rectum
6. History of large diameter stools that can obstruct the toilet

After appropriate evaluation, the symptoms cannot be fully explained by another medical condition

†Red flags

History:

- Constipation starting extremely early in life (< 1 month of age)
- Delayed passage of meconium (> 48 hours)
- Family history of Hirschsprung disease

Stool characteristics:

- Visible blood in the stools in the absence of anal fissures
- Ribbon stools

Systemic symptoms:

- Poor growth/failure to thrive
- Fever
- Bilious vomiting

Physical exam:

- Severe abdominal distension
- Perianal fistula
- Abnormal position of anus
- Absent anal wink or cremasteric reflex
- Decreased lower extremity strength/tone/reflex
- Tuft of hair on spine or sacral dimple
- Gluteal cleft deviation
- Extreme fear during anal inspection
- Anal scars
- Abnormal thyroid gland

‡Age appropriate home bowel cleanout

Attempted home bowel cleanout at a minimum volume of DCH constipation outpatient algorithm for 2 out the past 3 days

time of day	age 1-2 years (15 to 22 pounds)	age 2-4 years (22 to 44 pounds)	age 5-10 years (45 to 88 pounds)	older than 10 years (over 88 pounds)
Morning	Take 1/2 chocolate senna laxative square (7.5mg)	Take 1 chocolate senna laxative square (15mg)	Take 1 + 1/2 chocolate senna laxative squares (22.5mg)	Take 2 chocolate senna laxative squares (30mg)
Throughout the day	Mix 2.5 capfuls (42.5gm) of PEG3350 powder in 16 ounces of fluid Drink it all over 4-8 hours	Mix 4 capfuls (68gm) of PEG3350 powder in 20 ounces of fluid Drink it all over 4-8 hours	Mix 7 capfuls (119gm) of PEG3350 powder in 32 ounces of fluid Drink it all over 4-8 hours	Mix 14 capfuls (238gm) of PEG3350 powder in 64 ounces of fluid Drink it all over 4-8 hours
Evening	Take 1/2 more chocolate senna laxative square (7.5mg)	Take 1 more chocolate senna laxative square (15mg)	Take 1 + 1/2 more chocolate senna laxative squares (22.5mg)	Take 2 more chocolate senna laxative squares (30mg)

§Age appropriate maintenance therapy

Polyethylene glycol 3350 (also known as PEG 3350 or MiraLAX®):

Increase or decrease by 1/2 capful (8.5gm) until stool is mashed potato or oatmeal consistency:

- Ranges of doses: 1 - 5 years ½ - 1½ capfuls (8.5gm - 25.5gm)
 5 - 10 years 1 - 2 capfuls (17gm – 34gm)
 10 years and older 1 - 3 capfuls (17gm – 51gm)

Instead of PEG 3350, other home laxative can be continued daily if using prior to ED presentation

****Large volume enema:** 20 ml/kg normal saline with 5% glycerin added

††Admission criteria to include failed outpatient cleanout along with one or more of the following:

- Caregiver fatigue expecting to affect compliance
- Severe abdominal pain
- Vomiting
- Inability to tolerate home regime
- Patient anxiety
- Patient discomfort with home therapy

Admit to the hospitalist team (if following up with GI clinic actively, contact GI on-call to determine placement)

THIS PATHWAY IS APPLICABLE IN THE FOLLOWING AREAS

- ICU
- Inpatient
- Outpatient Specialty Care
- Outpatient Primary Care
- Emergency Department
- Urgent Care
- Perioperative Services
- Other _____

INCLUSION AND EXCLUSION CRITERIA

Inclusion criteria:

Patients presenting to the Emergency Department or Urgent Care over 1-year of age with:

1. Chronic constipation (K59.00) or functional constipation (K59.04) as defined by Rome IV criteria:
 - a. Must include 2 or more of the following occurring at least once per week for a minimum of 1 month with insufficient criteria for a diagnosis of irritable bowel syndrome:
 - i. 2 or fewer defecations in the toilet per week in a child of a developmental age of at least 4 years
 - ii. At least 1 episode of fecal incontinence per week
 - iii. History of retentive posturing or excessive volitional stool retention
 - iv. History of painful or hard bowel movements
 - v. Presence of a large fecal mass in the rectum
 - vi. History of large diameter stools that can obstruct the toilet
 - b. AND, after appropriate evaluation, the symptoms cannot be fully explained by another medical condition.

2. Other diagnoses for which this pathway may apply
 - a. Fecal incontinence (R15)
 - b. Constipation unspecified (K59.00)
 - c. Encopresis (R15.9)
 - d. Abdominal Pain (R10.xx) AND constipation that after appropriate evaluation no other reasonable diagnosis is found, and other acute diagnoses are unlikely.
 - e. Vomiting (R11.xx) AND constipation that after appropriate evaluation no other reasonable diagnosis is found, and other acute diagnoses are unlikely.

Exclusion criteria:

- a. Signs of bowel obstruction
 - i. Tense abdominal distention or
 - ii. Bilious emesis or
 - iii. Not passing gas
- b. Red Flag Symptoms, which may indicate an alternative cause of the constipation symptoms.
 1. History
 - a. Constipation starting extremely early in life (< 1 month of age)
 - b. Delayed passage of meconium (> 48 hours)
 - c. Family history of Hirschsprung disease
 2. Stool Characteristics
 - a. Visible blood in the stools in the absence of anal fissures
 - b. Ribbon stools
 3. Systemic Symptoms
 - a. Poor growth/failure to thrive
 - b. Fever
 - c. Bilious vomiting
 4. Physical Exam
 - a. Severe abdominal distension
 - b. Perianal fistula
 - c. Abnormal position of anus
 - d. Absent anal wink or cremasteric reflex
 - e. Decreased lower extremity strength/tone/reflex
 - f. Tuft of hair on spine or sacral dimple
 - g. Gluteal cleft deviation
 - h. Extreme fear during anal inspection
 - i. Anal scars
 - j. Abnormal thyroid gland

- c. Any signs or symptoms of serious illness not consistent with a constipation diagnosis

DIAGNOSTIC AND TESTING

EMERGENCY DEPARTMENT OR URGENT CARE:

Recommended:

1. No routine diagnostic testing indicated if History and Physical are consistent with the diagnosis.
2. Abdominal X-ray, one-view; if the patient has failed initial attempts at home therapy, or if the diagnosis needs to be confirmed.
3. Consider Urinalysis and Urine culture: if there are associated signs or symptoms of dysuria, urgency, frequency, incontinence of urine or other symptoms of urinary tract infection.
4. If patient is being admitted, set expectations for nasogastric tube placement when they reach the floor (explain that the rationale for admission is for nasogastric bowel cleanout).

Not recommended:

1. Routine bloodwork including complete blood count, electrolytes, liver function testing, lipase, inflammatory markers. Any patient who has signs and symptoms for which these tests are indicated should not be routinely treated with this pathway.
2. Abdominal CT scan. Any patient whose signs and symptoms indicate that a CT scan is appropriate should not be routinely treated with this pathway.

Considerations:

In general, the diagnosis of functional constipation or chronic constipation can be established after thorough history and physical. Outpatient therapy may be initiated after the diagnosis is established. If there is diagnostic uncertainty, possibly because of a non-verbal child, vague history, or caregiver doubt, an abdominal radiograph can be considered to confirm the diagnosis.

If the patient has been treated with appropriate outpatient therapy without improvement of symptoms, or there is other concern that the therapy has not been effective, then abdominal

radiograph should be performed to determine the effectiveness of previous therapy and determine if a large volume enema should be offered.

Constipation may be associated with urinary symptoms, including dysuria, frequency, urgency, incontinence of urine. Fecal soiling and incontinence of stool may increase the risk of urinary tract infections, especially in females. For these reasons, consider urinalysis and urine culture for associated urinary symptoms.

5. Digital Rectal Exam: Consider if enema needed. Maybe also be needed in young children if there is concern for Hirschsprung's.
6. No routine diagnostic testing indicated if History and Physical are

INPATIENT:

Recommended:

1. Digital Rectal Exam: Needed if not done in the ED to determine if there is a significant rectal stool mass and if the patient may benefit from repeated enema therapy while receiving GoLyteLy/Senna therapy enterally. Consider the risks and benefits of this exam, including patient assent or refusal, history of sexual abuse, autism, or other behavioral concerns.
2. Abdominal X-ray
 - a. to confirm appropriate nasogastric tube position prior to initiating GoLyteLy therapy.
 - b. as needed for abdominal pain, abdominal distension, vomiting.
 - c. to confirm minimal or no stool remaining after bowel movements have begun to run clear.
3. Consider serum electrolytes for patients needing prolonged bowel cleanout for more than 24-48 hours

Not Recommended:

1. Routine bloodwork including complete blood count, electrolytes, liver function testing, lipase, inflammatory markers. Any patient who has signs and symptoms for which these tests are

indicated should not be routinely treated with this pathway.

2. Abdominal CT scan. Any patient whose signs and symptoms indicate that a CT scan is appropriate should not be routinely treated with this pathway.

Considerations:

In general, the diagnosis of functional constipation or chronic constipation can be established after thorough history and physical. Outpatient therapy may be initiated after the diagnosis is established. If there is diagnostic uncertainty, possibly because of a non-verbal child, vague history, or caregiver doubt, an abdominal radiograph can be considered to confirm the diagnosis.

If the patient has been treated with appropriate outpatient therapy without improvement of symptoms, or there is other concern that the therapy has not been effective, then abdominal radiograph should be performed to determine the effectiveness of previous therapy and determine if a large volume enema should be offered.

Constipation may be associated with urinary symptoms, including dysuria, frequency, urgency, incontinence of urine. Fecal soiling and incontinence of stool may increase the risk of urinary tract infections, especially in females. For these reasons, consider urinalysis and urine culture for associated urinary symptoms.

ADMISSION CRITERIA

Criteria: to include failed outpatient cleanout along with one or more of the following:

1. Caregiver fatigue (R53.83) expecting to affect compliance
2. Severe abdominal pain (R10.9)
3. Vomiting (R11.xx)
4. Inability to tolerate home regime (Z78.9 = failure of outpatient treatment) (Z91.xx = noncompliance)
5. Patient anxiety
6. Patient discomfort with home therapy

RECOMMENDED TREATMENTS

TREATMENT (INPATIENT)

Initial therapy after diagnosis is outpatient treatment with polyethylene glycol with Senna. See chart for dosing.

Provide large volume enemas in ER.

Patient Setting/Age	First-Line Therapy	Second-Line Therapy	Duration of Tx/Comments
1 year and above	See pathway algorithm	See pathway algorithm	See pathway algorithm

ADDITIONAL TREATMENT INFORMATION

The pathway is continued on the inpatient floor once the patient is admitted to any inpatient unit under the hospitalists or GI service. The patient who are unstable and admitted to the PICU service are excluded from the pathway. Patients irrespective of their inpatient or observation admission status will be included in this pathway.

Once the patient is transferred to the inpatient unit, NG tube will be placed, and the placement will be confirmed through an abdominal x-ray (AXR). A digital rectal exam will be done by the floor team (residents/attending) if not already done in the ED. If the exam or AXR done on the floor shows stool in the rectum then a large volume enema (#2 for the patient) will be given. The patient, then will be started on GoLytely (or equivalent PEG solution) and Senna cleanout. While undergoing the cleanout the patient will be monitored through serial abdominal exams and abdominal x-ray as needed for abdominal pain, distention, and vomiting.

Once the patient's bowel movements are clear (see-through), an AXR will be obtained. If the AXR

shows minimal to no stool, then the bowel cleanout is complete, and the patient will be discharged home with age- appropriate maintenance therapy instructions, action plan and scheduled follow up with PCP. This triggers the end of the pathway.

INPATIENT DISCHARGE CRITERIA

- Once bowel movements run clear (you can see through the bowel movement), obtain AXR one view X-ray shows minimal to no stool?
- If yes, discharge with age-appropriate maintenance therapy instructions below and action plan.
- Schedule follow-up with PCP.
- Age-appropriate maintenance therapy:
 - Polyethylene glycol 3350 (also known as PEG 3350 or MiraLAX®):
 - Increase or decrease by ½ capful until stool is mashed potato or oatmeal consistency.
 - Range of doses:
 - 1-5 years ½ - 1 ½ caps
 - 5-10 years 1-2 caps
 - 10 years and older 1-3 caps

Instead of PEG 3350, other home laxative can be continued daily if using prior to ED presentation.

CLINICAL SUPPORT TOOLS

Process Support Tools

- Order sets for ED and inpatient

Provider Support Tools

- Order sets
- [Enteral tube placement](#)

Nursing Support Tools

- [Enteral nasogastric/orogastric tube insertion and care of](#)
- [ENfit connections, care and maintenance of](#)
- [Enteral feeding tube declogging system - clog zapper](#)
- [Enema rectal/colonic irrigation](#)
- Bowel clean out plan of care

METRIC (S)

Process measure

- Percentage of admissions that are appropriately classified for inpatient status.
- ER AXR rate on first presentation to ER per episode.
- Measure pathway utilization in the ED by provider.

Outcome measure

- Inpatient Admission rate

PATHWAY GOAL AND RATIONALE

1. Clinically integrated network (CIN), Dayton Children's Health Partners, has created an outpatient constipation co-management program. This clinical pathway extends the standardization of constipation management into the emergency and inpatient settings.
2. Improve and standardize care of children with constipation presenting to urgent care, emergency department and inpatient service.
3. Decrease admission rate (percentage of children with constipation who present to urgent care and emergency department that are admitted).
4. Decrease abdominal X rays that are done in the ER for children with constipation who meet clinical criteria for functional constipation.
5. Provide consistent and safe care to children with constipation.

DATA COLLECTION PLAN

- Clarity Report
- Manual Chart Review
- Power BI

IMPLEMENTATION PLAN

- Pilot currently being done in the ER
- Implementation to start as soon as approval obtained from the Pathway committee
- Disseminate information
- Education with ER team
- Education with hospitalist team

- Education with GI team
- Education with urgent care

ASSESSMENT AND MONITORING

Monthly monitoring for the first year, then decrease monitoring frequency to quarterly or semi-annually as appropriate

RESEARCH OPPORTUNITIES

Reporting on constipation encounters based on seasonality

Reducing advanced healthcare utilization (ED, inpatient and GI visits)

PATIENT AND CAREGIVER EDUCATION

- EP3698 GoLytely bowel cleanout
- KH-EP3528 constipation
- KH-EP7619 soiling (encopresis)
- EP5348 choose your poo
- EP8548 bowel cleanout 1-2 years old
- EP8549 bowel cleanout 2-4 years old
- EP8550 bowel cleanout 5-10 years old
- EP8551 bowel cleanout 10 years or older
- EP8656 disimpaction protocol
- EP8552 maintenance therapy
- EP9541 clear liquid diet
- EP9932 constipation action plan
- EP12238 healthy habits SMART handout
- EP12237 MiraLAX

GOVERNANCE AND OVERSIGHT

- Report to constipation pathway team
- Clinical Decision Support Council
- Emergency department leadership
- GI division leadership
- Hospitalist division leadership

AUTHORS

Lead: Krishna Mutyala, MD - GI

Team Composition:

Michael Bates, MD - GI
 Roshani Agarwal, MD - Hospitalist
 Cheryl Kuck, MD - Hospitalist
 Jeremy Larson, MD - ER
 Bonnie Albertini, NP - ER
 Lisa Ziemnik, MD - Urgent Care
 Julia Heilers, PharmD – Pharmacy
 Vince Baldasare, CI
 Angela Eberhart, DNP – CIN

GUIDELINE APPROVED

Approved by the Clinical Pathway Committee: 2021
 Revision date: January 2026

REFERENCES

1. Deneau M, Mutyala R, Sandweiss D, Harnsberger J, Varier R, Pohl JF, et al. Reducing hospital admissions of healthy children with functional constipation: a quality initiative. *BMJ Open Qual.* 2017;6(2): e000116.
2. Kane E, Mittal M, Wagenma K, Fiorino K, Jacobstein C, Verma R, Morgan X, Peck S, McIntyre C, Crawford J, Shah A, Utidjian L, Lavelle J. Inpatient Clinical Pathway for Evaluation/Treatment of Children with Constipation. Children’s Hospital of Philadelphia. April, 2020. <https://www.chop.edu/clinical-pathway/constipation-functional-inpatient-clinical-pathway>
3. Sommers T, Corban C, Sengupta N, Jones M, Cheng V, Bollom A, et al. Emergency department burden of constipation in the United States from 2006 to 2011. *Am J Gastroenterol.* 2015;110(4):572-9.
4. Tabbers MM, DiLorenzo C, Berger MY, Faure C, Langendam MW, Nurko S, et al. Evaluation and treatment of functional constipation in infants and children: evidence-based

recommendations from ESPGHAN and NASPGHAN. *J Pediatr Gastroenterol Nutr.* 2014;58(2):258-74.

5. van den Berg MM, Benninga MA, Di Lorenzo C. Epidemiology of childhood constipation: a systematic review. *Am J Gastroenterol.* 2006;101(10):2401-9.