Constipation with Fecal Impaction

Inpatient

Nationwide Children's — When your child needs a hospital, everything matters.

Center for Clinical Excellence

Verify that patient meets Diagnostic Criteria and is appropriate for this pathway

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Digital Rectal Exam (DRE), or AXR, as indicated

↓

Epic & Clinical Support Tools

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Assess need for **GI consult** and **manual disimpaction**

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Disimpaction Phase

- Place NG
- Place IV and start maintenance D5LR
- Clear liquid diet
- Chem7 Q48H
- **Osmotic laxative** (NuLYTELY™) via NG at "start rate"
- Enemas Q3H:
  - **Mineral oil enema** Q6H (Fleet™)

  alternating with
  - **Normal saline enema** Q6H

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Small, medium or large stool output within 48 hrs?

No → Consider **GI consult** to evaluate for **manual disimpaction** if indicated.

Yes ↓

Cleanout Phase

- Discontinue enemas
- Add daily stimulant laxative (liquid sennosides (Senokot™) via NG)
- Continue maintenance IVF and chem7 Q48H

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- Advance osmotic laxative (NuLYTELY™) rate:
  - <20 kg – advance by 5 mL/kg/hr Q2H to goal
  - ≥20 kg – advance by 100 mL/hr Q2H to goal
- Monitor for signs of intolerance[3]

Signs of Cleanout Intolerance

- Respiratory distress
- Vital sign instability
- Toxic appearance
- Nausea, vomiting
- Severe abdominal pain/distension

↓

Signs of intolerance?

Yes → **Any** of the following:
- Respiratory distress
- Vital sign instability
- Toxic appearance

Yes ↓

Off Pathway
Consider STAT CXR to assess NG placement
STOP NuLYTELY™ and other enteral meds

No ↑

For Nausea/Vomiting, Severe Abdominal Pain or Distention

- Pause osmotic laxative for 30 minutes and restart at ½ previous rate for 1 hour before resuming titration
- Add ondansetron IV
- Consider abdominal x-ray
- Consider transition of stimulant laxative from enteral to rectal route

No ↓

Discharge when meeting criteria:

- Patient meeting "Cleanout goals"
- Provide **Constipation Maintenance Medication** prescriptions and **patient/parent education**
- Follow up with managing provider in 2-4 weeks

Cleanout goals

- 2 sequential "clear stools" (tea colored watery output without flecks/flakes of stool)

Consider AXR to evaluate for successful cleanout if:
- Persistent nearly clear stools
- Return admission
- Parent/child disagreement regarding completion
- Helpful for follow up provider

Medication	<20 kg	>20 kg
Mineral oil enema	67mL	133mL
Normal saline enema	5mL/kg (max 1 L)	
NuLYTELY™ – start rate	10 mL/hr	20 mL/hr
NuLYTELY™ – goal rate	20 mL/kg/hr	400 mL/hr
Liquid sennosides (Senokot™)	8.8 mg (5mL)	17.6 mg (10mL)

Do **NOT** use Fleets phospho-soda-containing enemas or ORAL mineral oil

Pre-Pathway Validation

What is the difference between constipation and fecal impaction?

Diagnostic Criteria for Fecal Impaction:

- 1 or more of the following:
  - A hard mass in the lower abdomen
  - A dilated rectum filled with a large amount of stool on digital rectal examination (DRE)
  - Excessive stool in the distal colon on abdominal radiography

Typical Presentation:

- Starts with **functional constipation**. Per Rome IV criteria, patients must have 2 or more of the following at least once per week for a minimum of 1 month with insufficient criteria for irritable bowel syndrome:
  - Two or fewer defecations in the toilet per week in a child of a developmental age of at least 4 years
  - At least 1 episode of fecal incontinence per week
  - History of retentive posturing or excessive volitional stool retention
  - History of painful or hard bowel movements
  - Presence of a large fecal ball in the rectum
  - History of large diameter stools that can obstruct the toilet
  - After an appropriate evaluation, the symptoms cannot be fully explained by another medical condition
  - **Constipation Severity Assessment**

- Progresses to fecal impaction, feeding intolerance, vomiting, abdominal pain and dehydration.

- **Consider Other Alternate Diagnoses when:**
  - Diagnostic criteria are not met or patient has symptoms or physical exam findings not typically seen with constipation/ fecal impaction including, but not limited to, neurologic deficits, respiratory findings, growth failure (also see Red Flags)

- **Consider a diagnostic timeout ("What else could this be?") or using a diagnostic checklist.**

Pathway Inclusion Criteria

- Age ≥12 months
- Patient meets criteria for constipation with fecal impaction or fecal impaction suspected on prior abdominal Xray

Pathway Exclusion Criteria

- Presence of Red Flags
- Hirschsprung's Disease, Cystic Fibrosis, IBD, Neurogenic bowel, Spinal dysraphism, anorectal malformation
- GI motility disorder
- Neutropenia or Oncology patients
- Patient in ICU

Diagnostic Timeout
Red Flags
Unexplained:

- Constipation onset at <1 mo of age or meconium passage at >48 hr
- Failure to thrive
- Ribbon-like stools or bloody stools without anal fissure
- Concern for IBD
- Abnormal thyroid studies
- Abnormal GU anatomy
- Neurologic findings
- Extreme fear during anal inspection

Diagnostic Timeout

Differential Diagnosis and Comorbid conditions

Hospital Admission Criteria

- Severe constipation or
- Failed ED discharge pathway or
- Manual disimpaction indicated or
- Failed robust home cleanout in last 2 weeks
- Conditions for safe follow-up and home management are not met

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Differential Diagnoses

Differential diagnosis of functional constipation

- Gastrointestinal
  - Celiac Disease
  - Milk Protein Allergy
  - Hirschsprung's Disease
  - Colonic Inertia
  - Anal Achalasia
  - Anatomic Malformations (Imperforate Anus, Anal Stenosis)
  - Pseudoobstruction
- Endocrine
  - Hypothyroidism,
  - Multiple Endocrine Neoplasia 2B
  - Diabetes Mellitus
  - Hypercalcemia, Hypokalemia
  - Vitamin D Intoxication
- Pulmonology
  - Cystic Fibrosis
- Neurologic
  - Spinal Cord Anomalies or Trauma
  - Tethered Cord
- Musculoskeletal
  - Abnormal abdominal musculature (e.g. prune belly syndrome, gastroschisis, Down Syndrome)
- Oncologic
  - Pelvic mass
- Other
  - Drugs
    - Opiates, anticholinergics
    - Antidepressants
    - Chemotherapy
    - Heavy metal ingestion (lead)
  - Botulism

Differential diagnosis of fecal impaction

- Constipation
- Inflammatory Bowel Disease
- Celiac Disease
- Overactive bladder/urinary incontinence
- Pelvic floor dysfunction/dyssynergia
- Intestinal Obstruction
- Appendicitis
- Gastroenteritis
- Ovarian Neoplasm
- Ruptured Ovarian Cyst
- Pelvic Mass
- Rectal bezoar or foreign body
- Colon neoplasm
- Pregnancy

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Diagnostic Exam & Testing

- **Digital rectal examination (DRE)**
  - Is recommended to diagnose fecal impaction.
  - Can be helpful to establish the diagnosis of functional constipation when one Rome criterion is met but diagnostic uncertainty remains.

- **Abdominal radiography** is NOT recommended to diagnose functional constipation; ***may*** be used to diagnosis fecal impaction in a patient whose physical exam is unreliable or not possible.

- **Laboratory testing** is NOT recommended in the routine evaluation of functional constipation or fecal impaction.

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Constipation Severity Assessment

	Mild	Moderate	Severe
Signs	• Stool* frequency 1-3 days • Stool in rectal vault • Hard stools	• Stool* frequency 4-7 days • Stool in rectal vault • Hard stools • Left lower quadrant stool mass • Periodic soiling • Feeding intolerance • Loss of appetite	• Stool in rectal vault • Hard stools • Vomiting • Encopresis • Stool* frequency ≥7 days • Distended or firm abdomen
Symptoms	• Abdominal discomfort	• Abdominal pain	• Abdominal pain
Testing Results		• Recent abdominal radiograph with impaction	• Recent abdominal radiograph with impaction
Response to Therapy	• Stool output with first or second enema	• Stool output with second or third enema	•

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Manual Disimpaction

Criteria to discuss sedated manual disimpaction with GI consult

- Demonstration of hard stool in the rectal vault *plus one or more of the following*:
  - Inability or strong unwillingness for patient to receive enemas
  - Risk of rectal enemas outweighs risk of sedated procedure
  - Failure of output/progress in admitted patient after 2 days of adherence to this pathway

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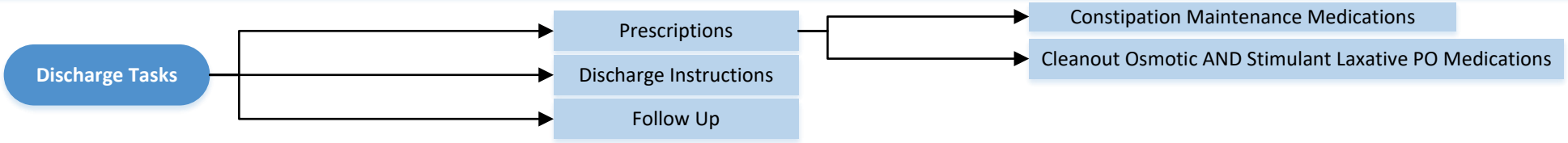
Discharge Planning



ED/UC/IP

Prescriptions: Clean Out Medications[1]

Given once daily through cleanout completion

1-2 years: 2 capfuls (35 g) PEG powder (Miralax™) in 12 oz clear liquid
3-4 years: 4 capfuls (68 g) PEG powder (Miralax™) in 20 oz clear liquid AND 5 mL (8.8 mg) sennosides (Senokot™)
5-7 years: 7 capfuls (119 g) PEG powder (Miralax™) in 32 oz clear liquid AND 1 square/chewable (15 mg) sennosides (Ex-Lax™);
OR 8.5mL of 8.8mg per 5 mL solution (Senokot™) for patients receiving tube feeds (ie instead of square/chewable).
≥8 years: 14 capfuls (238 g) PEG powder (Miralax™) in 64 oz clear liquid AND 2 squares/chewables (30 mg) sennosides (Ex-Lax™);
OR 17 mL of 8.8 mg per 5 mL solution (Senokot™) for patients receiving tube feeds.

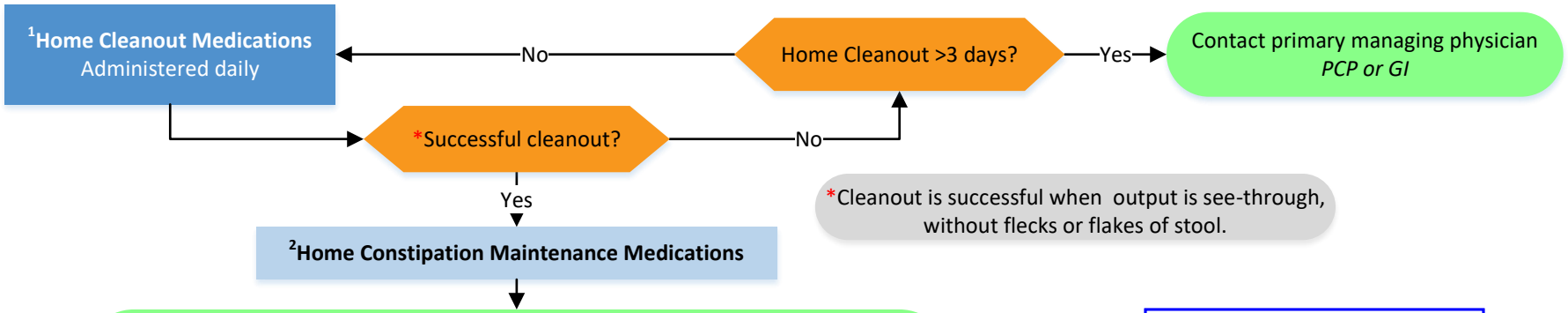
Prescriptions: Constipation Maintenance Medications[2]

If effective maintenance regimen previously prescribed, resume home maintenance therapy until follow up with primary managing physician.
PEG powder (Miralax™) given each morning and sennosides given each evening.

Treatment naïve patients

1-2 years: 1/2 capful (8.5 g) PEG powder (Miralax™) in 4 oz clear liquid
3-4 years: 1 capful (17 g) PEG powder (Miralax™) in 8 oz clear liquid AND 5 mL (8.8 mg) sennosides (Senokot™)
5-7 years: 1 capful (17 g) PEG powder (Miralax™) in 8 oz clear liquid AND 1 square/chewable (15 mg) sennosides (Ex-Lax™) ;
OR 8.5mL of 8.8mg per 5 mL solution sennosides (Senokot™) for patients receiving tube feeds (ie instead of square/chewable)
≥8 years: 1 capful (17 g) PEG powder (Miralax™) in 8 oz clear liquid AND 2 squares/chewables (30 mg) sennosides (Ex-Lax™);
OR 17 mL of 8.8 mg per 5 mL solution sennosides (Senokot™) for patients receiving tube feeds.

Patient`s Home



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Patient & Caregiver Education

- Caregivers and patient to watch **“The Poo in You”** by Children’s Hospital Colorado on YouTube
- Provide Krames patient education documents:
  - When Your Child Has Constipation
  - When Your Child Has Encopresis
- RN reviews constipation home medication management guidance with caregivers and patient.
- Inpatient roadmap for patients and families.

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References

References

1. Tabbers MM, DiLorenzo C, Berger MY, 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):258-274. doi:10.1097/MPG.0000000000000266

2. Hyams JS, Di Lorenzo C, Saps M, Shulman RJ, Staiano A, van Tilburg M. Functional Disorders: Children and Adolescents. *Gastroenterology*. Published online February 15, 2016. doi:10.1053/j.gastro.2016.02.015

3. Ori Y, Rozen-Zvi B, Chagnac A, et al. Fatalities and severe metabolic disorders associated with the use of sodium phosphate enemas: a single center's experience. *Arch Intern Med*. 2012;172(3):263-265. doi:10.1001/archinternmed.2011.694

Potential Areas for Research

- Parent and patient preference regarding treatment options
- Educational tools such as Constipation Action Plan
- Point of care ultrasonography to examine rectal diameter as diagnostic tool for fecal impaction

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References & Metrics

Goal:

- To promote safe and efficient treatment for fecal impaction associated with functional constipation and prevention of recurrence.

Quality Measures

Process Measures

- Order set use
- NG placed within 4 hours of admission
- Initiation of low rate polyethylene glycol-electrolyte solution (NuLYLELY™) within 6 hours of admission

Outcome Measure

- Inpatient LOS

Balancing Measures

- 30 day return to ED/UC rate
- 7 and 30 day readmission rate

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Team & Process

Pathway Development Team

Leader(s):

Gastroenterology:

Ethan Mezoff, MD

Colleen Flahive, MD

Members:

Emergency Medicine:

Berkeley Bennett, MD, MS

Jessica Wilson, MD

Gastroenterology:

Carlo Di Lorenzo, MD

Jennifer Lee, MD

Hospital Pediatrics:

Gerd McGwire, MD, PhD

Kathryn Westphal, MD

Vignesh Doraiswamy, MD

Lauren Finnegan, NP

Kathy Pollack, RN

Endocrinology:

Nicki Kline, RN

Pharmacy:

Ashley Prusakov, PharmD

Quality Improvement Services:

Kevin Dolan, MHA

Eric Sullivan

Clinical Pathways Program:

Medical Director – Emergency Medicine:

Berkeley Bennett, MD, MS

Medical Director – Hospital Pediatrics:

Gerd McGwire, MD, PhD

Medical Director – Clinical Informatics & Emergency Medicine:

Laura Rust, MD, MPH

Business & Development Manager:

Rekha Voruganti, MBOE, LSSBB

Program Coordinators:

Tahje Brown, MBA

Tara Dinh, BS

Clinical Pathway Approved

Medical Director – Associate Chief Quality Officer, Center for Clinical Excellence:

Ryan Bode, MD, MBOE

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Clinical Pathway Development

This clinical pathway was developed using the process described in the NCH Clinical Pathway Development Manual Version 6, 2022. Clinical Pathways at Nationwide Children's Hospital (NCH) are standards which provide general guidance to clinicians. Patient choice, clinician judgment, and other relevant factors in diagnosing and treating patients remain central to the selection of diagnostic tests and therapy. The ordering provider assumes all risks associates with care decisions. NCH assumes no responsibility for any adverse consequences, errors, or omissions that may arise from the use or reliance on these guidelines. NCH's clinical pathways are reviewed periodically for consistency with new evidence; however, new developments may not be represented, and NCH makes no guarantees, representations, or warranties with respect to the information provided in this clinical pathway.

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For more information about our pathways and program please contact:
ClinicalPathways@NationwideChildrens.org

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