Functional Constipation ED

Exclusion Criteria

- **Patients in the Bowel Management Program**
- Children who have other underlying medical conditions including, but not limited to:
  - Congenital heart disease
  - Cystic fibrosis
  - Hirschsprung's disease
  - Short bowel syndrome
  - Spina bifida
  - History of spinal or abdominal tumors
  - Known dysmotility syndromes
  - Children currently undergoing chemotherapy or radiation
  - Children with history of abdominal surgery
  - Anorectal malformations

Inclusion Criteria

- All Children ≥ 1 year old

Constipation:
Delayed or difficult defecation for >2 weeks (1)

- Review Vitals, History and Physical exam
- Assess Red Flags, Risk for Underlying Disease (2)

≥ 1 Red Flags present – concern for underlying disease

- Acute surgical abdomen
- Hirschsprung disease
- Neurologic disease
- May consider DRE if concern for anatomical process or ambivalence about fecal mass in a child with incontinence

Evaluate off pathway for other sources of constipation

NO Red Flags Present

- Low concern for underlying process
- Functional constipation is likely

[Abdominal XRs are not helpful]

Is there fecal impaction? (3)

No

- Patient/Family Education
- Discharge Medications
- Discharge (4)

Yes

Fecal Impaction and significant pain, vomiting or family desire for enema

Treatment Per Rectum (5)

Effective After 1 Hour

Not Effective After 1 Hour

- Admit
- Consider further testing
- Inpatient Constipation Pathway

DIAGNOSTIC CRITERIA FOR CONSTIPATION

At least 2 criteria present (symptoms present for at least 2 weeks)

- < 2 defecations per week
- At least 1 episode of incontinence per week after the acquisition of toileting skills
- History of excessive stool retention
- History of painful or hard bowel movements
- Presence of a large fecal mass in the rectum
- History of large-diameter stools that may obstruct the toilet

1

FECAL IMPACTION

- History of no stool passage > several days
- History of encopresis
- Stool in rectum on digital rectal exam or in the descending colon/rectum on imaging
- Palpable abdominal stool mass on physical exam
- Disimpaction is necessary before initiation of maintenance therapy

3

DISCHARGE CRITERIA

Improved symptoms, tolerating PO and/or + BM

4

TREATMENT PER RECTUM

Age	Treatment	Medication	Dose
<1 - 2 year(s)	1st and 2nd Line	Glycerin pediatric suppository	½ - 1 suppository if no stool in the previous 24 hrs.
>2 yrs	1st and 2nd Line Treatment	Fleet enema (Sodium Phosphate)***	**2 - 4 yrs:** ½ pediatric enema (33 mL) **5 - 11 yrs:** 1 pediatric enema (66 mL) **≥ 12 yrs:** 1 adult enema (133 mL)
		Saline Mineral Oil Glycerin (SMOG) enema	10 ml/kg/dose (Max 300 mL/day)

- Consider mineral oil enema before Fleets to soften stool
- *** Do not repeat Sodium phosphates (Fleet's) enema without bowel movement in between doses;
- Increased risk of toxicity and death exists in those patients that received more than 1 dose without a bowel movement in between doses.
- ***Do not use sodium phosphate (Fleet) enema in patients with severe renal impairment.
- 1st and 2nd Line Rectal Treatment Inpatient (depending on if admit from ED or not).

5

RED FLAGS:

1. Delayed passage of meconium (first meconium passed after 48 hours of life)
2. Symptom onset < 1 month
3. Persistent abdominal distention, vomiting
4. Bloody diarrhea
5. Bilious emesis
6. Family history Hirschsprung's disease
7. Failure to thrive
8. Tight rectum gripping finger; explosive stool and air from rectum upon withdrawal examining finger
9. Midline dimple, tuft of hair over lower back
10. Lower limb weakness, motor delay
11. Signs of systemic illness: fever, mouth sores, joint pain, rash
12. Weight loss

1-8 Concern for Hirschprung, 7 Malabsorption

2

Last Updated: October 1, 2023

Functional Constipation Inpatient

Exclusion Criteria

- **Patients in the Bowel Management Program**
- Children who have other underlying medical conditions including, but not limited to:
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  - Hirschsprung's disease
  - Short bowel syndrome
  - Spina bifida
  - History of spinal or abdominal tumors
  - Known dysmotility syndromes
  - Children currently undergoing chemotherapy or radiation
  - Children with history of abdominal surgery
  - Anorectal malformations

Inclusion Criteria

- All Children ≥ 1 year old

Child admitted with features supportive of Functional Constipation 1

- Assess Red Flags, Risk for Underlying Disease 2

≥ 1 Red Flags present – concern for underlying disease

- Acute surgical abdomen
- Hirschsprung disease
- Neurologic disease
- Other systemic conditions
- May consider DRE if concern for anatomical process or ambivalence about fecal mass in a child with incontinence

Evaluate off pathway for other sources of constipation

NO Red Flags Present

- Low concern for underlying process
- Functional constipation is likely

[Abdominal XRs are not helpful]

Is there fecal impaction? 3

Yes

No

Admit from ED

Initial **Treatment per Rectum** based on age 5

(Skip to 2nd Line Treatment if Admit from ED)

Treatment Effective

Some stool passed OR Abdominal discomfort improved

PO/NG Treatment and consider stimulant

Clear Output

Discharge 4

Treatment Not Effective at 1 Hour

2nd Line **Treatment per Rectum** 5

Reassess constipation diagnosis and etiology

DIAGNOSTIC CRITERIA FOR CONSTIPATION

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- History of encopresis
- Stool in rectum on digital rectal exam or in the descending colon/rectum on imaging
- Palpable abdominal stool mass on physical exam
- Disimpaction is necessary before initiation of maintenance therapy

3

DISCHARGE CRITERIA

- Effluent is clear for at least 3 separate BM, patient is tolerating ORT, and symptoms have improved

4

TREATMENT PER RECTUM

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<1 - 2 year(s)	1st and 2nd Line	Glycerin pediatric suppository	½ - 1 suppository if no stool in the previous 24 hrs.
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11. Signs of systemic illness: fever, mouth sores, joint pain, rash
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1-8 Concern for Hirschprung, 7 Malabsorption

2

Last Updated: October 1, 2023

PO/NG Treatment (If cleanout is indicated)

PO/Rectal Stimulant Dosing: For all patients > 20 kg give a stimulant laxative, Bisacodyl or Senna, 4 hours prior to initiation of PO/NG cleanout.

Patient Age	Senna Liquid (8.8 mg sennosides per 5 mL)	Senna Tablet (8.6 mg sennosides per tablet)	Maximum daily dose (Recommended to Divide BID)		Bisacodyl (5 mg tablet)	Bisacodyl (10 mg suppository)
			(Liquid)	(Tablet)		
≥ 2 years to < 6 years	2.5 mL (4.4 mg sennosides)	½ tablet (4.3 mg sennosides)	7.5 mL	2 tablets	1 tablet* (5 mg)	½ suppository* (5 mg)
≥ 6 years to < 12 years	5 mL (8.8 mg sennosides)	1 tablet (8.6 mg sennosides)	15 mL	4 tablets	1-2 tablets (5-10 mg)	½ to 1 suppository (5-10 mg)
≥ 12 years and adolescents	10 mL (17.6 mg sennosides)	2 tablets (17.2 mg sennosides)	30 mL	8 tablets	1-3 tablets (5-15 mg)	1 suppository (10 mg)

- Senna is FDA approved in ages greater than/equal to 2 years and adults. Do not exceed maximum recommended daily dose per age group.
- Senna oral syrup will be ordered in *milliliters* (mL) based on the guidelines above (not to exceed the max daily dose).
  - Senna oral syrup may be mixed with juice or milk to mask taste.
- Senna oral tablets will be ordered *in number of tablets* based on guidelines above (not to exceed max daily dose).
- The oral syrup or tablet will be chosen based on the patient's ability, age, and/or preference.
- Certain disease states may warrant higher doses of senna. In these instances, the APP may elect to keep patients off protocol if the daily dose exceeds the maximum recommended daily dose.
- If the APP wishes to maximize the dose or frequency of senna, they must specify "DNS" (do not substitute) or "DAW" (dispense as written) in the order.

- Bisacodyl oral and suppository - limited data available in ages <6 years
- Once daily dosing

Oral (PO) Cleanout Options

	Dose	Rate	Comment
Miralax	4 g/kg over 6-10 hours	<50 kg: Max 12 packets of Miralax >50 kg: Max 14 packets of Miralax MUST drink at least 1 cup (4-8 oz) every hour to avoid NG tube placement.	Weight (kg) * 4 = Total grams Total gram ÷ 17 = Packets of Miralax Packets of Miralax * 8 oz = Total Fluid Mix 17 g = 1 cap; 8.5 g = ½ cap -Mix packets in sports drink or clear fluid. -Be sure to give stimulant medication before starting clean out. -Can use GoLytely if preferred, but noted to be less palatable in most cases. -Continue until rectal effluent is clear. -Do NOT give more than once.

Nasogastric (NG) Cleanout Options
Convert to NG if patient does not tolerate PO

	Dose	Rate	Comment
GoLytely	10-20 kg: up to 100 mL/kg/dose, total dose to be determined on an individual basis > 20 kg: 125 mL/kg/dose or up to 4 liters	25-40 mL/kg/hr (administer over 4-10 hours) START at 100 ml/hr and advance by 100 ml/hr q1h as tolerated until GOAL with MAX 450 ml/hr	-ONLY for children >6 months -Continue until rectal effluent clear -May repeat multiple times -Be sure to give stimulant medication before starting clean out. If repeated: -Check BMP, assess for dehydration, electrolyte abnormalities -Supplement with IVF as needed -Can use Miralax if preferred, but NG Golytely is more effective.

If cleanout is NOT indicated:
Discharge/Maintenance Treatment (No or Treated Fecal Impaction)

- ALL patients should be on 1st line medications
- Miralax® (Polyethylene glycol) is preferred, may substitute with Lactulose if family prefers or patient did not do well with Miralax
- 2nd line medications are prescribed IN ADDITION to 1st line medications, prescribe if:
    - Patient already on a 1st line medication, but symptoms persisting

Choice of 2nd line medications are made by the provider and family together, consider the following:

- **Senna:** Available as liquid or pills, may cause cramping
- **Milk of Magnesia:** May increase cramping
- **Bisacodyl:** Only available as pills, but smaller in size than Senna, may cause cramping

Discharge/Maintenance Medications 1st and 2nd Line

	Duration	**Medications/Dose**
1st Line PO Medications	Prescribe one for 1 month Should continue for at least 2 months	**PEG 3350** (Miralax) **10-20 kg**: 0.5 cap (8.5 g) once a day **> 20 kg:** 1 cap (17 g) once a day titrate to effect
		Lactulose **>10 kg**: 1-2 g/kg/day Once/twice daily Max: 60 g/day, 90 ml/day

2nd Line PO Medications	Prescribe for 2 weeks Should NOT be continued unless instructed to at follow-up	**Senna (refer to dosing chart)** **2 - 6 yrs:** 2.5 - 5 mg daily (1 tablet; 2.5 mL) 4.4.mg or 2.5 mL, ½ tab Max: 7.5 mL, 2 tabs **6 - 12 yrs:** 7.5 - 10 mg daily (2 tablets; 5 mL) 8.8 mg or 5 mL, 1 tab Max: 15 mL, 4 tabs **> 12 yrs:** 15 - 20 mg daily (3 tablets; 10 mL) 17.6 mg or 10 mL, 2 tabs Max: 30 mL, 8 tabs
		Milk of Magnesia (magnesium hydroxide) **2 - 5 yrs:** 0.4 – 1.2 g/day, once or divided **6 - 11 yrs:** 1.2 – 2.4 g/day, once or divided **12 - 18 yrs:** 2.4 – 4.8 g/day, once or divided
		Bisacodyl (refer to dosing chart) **2 - 6 yrs:** 5 mg tablet or suppository daily **6 - 12 yrs:** 5 - 10 mg tablet or suppository daily daily **> 12 yrs:** 5 - 15 mg tablet or 10 mg suppository daily
		Fiber MIN: Child's age + 5 = grams of fiber needed per day MAX:Child's age + 10 = grams of fiber needed per day Max: 30 g/day

Addendum 1:

Table 1: Alarm Symptoms in Children/Red Flags

Alarm signs and symptoms in constipation
Delayed passage of meconium (first meconium passed after 48 hours of life)
Constipation onset < 1 month
Persistent/severe abdominal distention, vomiting
Bloody diarrhea/blood in the stool in the absence of anal fissures
Bilious emesis
Ribbon stools
Family history Hirschsprung's disease
Failure to thrive
Tight rectum gripping finger; explosive stool and air from rectum upon withdrawal examining finger
Midline dimple, tuft of hair over lower back
Lower limb weakness, motor delay
Signs of systemic illness: fever, mouth sores, joint pain, rash
Weight loss
Fever
Abnormal thyroid gland
Decreased lower extremity strength/tone/reflex
Sacral dimple
Anal Scars
Extreme fear during anal inspection
Abnormal position of anus or gluteal cleft deviation
Anal fissures or haematoma
Abnormal thyroid gland - Eczema

Functional Constipation Bowel Management Program

INPATIENT PROVIDER RESOURCES

- *When/How to Consult Bowel Management for Existing Patients*
  - Inpatient: The Pediatric Surgery team should be consulted if there is concern for obstruction or questions related to the bowel management of patients that are *followed by the outpatient Bowel Management Program.*
- *When/How to Consult Bowel Management for New Patients*
  - Outpatient referral should be initiated if the patient meets any of the below criteria. A referral is accessed in Compass depart: Dr. Ankur Rana or Dr. Dani Gonzalez Austin Pediatric Surgery 1301 Barbara Jordan. Blvd Ste. 400, 78723.
- *Who to Consult for Patients who DO NOT Meet Criteria for Bowel Management Program*
  - If the patient does not meet the criteria for Bowel Management consultation then consultation with inpatient or outpatient Gastroenterology is recommended.

DEFINITION

The Bowel Management Team provides an intensive, individualized outpatient program to treat fecal incontinence. There are a variety of conditions that benefit from a bowel management program including those with anorectal malformations, colonic motility issues, Hirschsprung's disease, spine anomaly, and severe functional constipation refractory to medical management.

CRITERIA FOR OUTPATIENT REFERRAL TO THE BOWEL MANAGEMENT PROGRAM

1. 2 or more emergency department visits requiring enemas in the ED, and/or admission for po/NG Golytely cleanout.
2. Prolonged constipation with failure of medical management with Gastroenterology involvement
3. Inpatient admission requiring surgical disimpaction.
4. Patients with anorectal malformations, Hirschsprung's disease, spine anomalies, colonic motility issues, and prolonged, severe functional constipation who are not otherwise managed by a pediatric surgeon or gastroenterologist.

EVALUATION AND MANAGEMENT OF THE BOWEL MANAGEMENT PATIENT WITH FUNCTIONAL CONSTIPATION

Patients with functional constipation, who are followed by the outpatient Bowel management team, should have abdominal pain workups for alternate differentials based on the discretion of the ED physician. The workup requires abdominal X-rays to evaluate stool burden and fecal impaction. If fecal impaction is confirmed by X-ray, then the patient has failed outpatient management and will require admission to PCRS with po/NG Golytely clean out and enemas as per inpatient guidelines until the effluent is clear. These patients will also need an abdominal x-ray to confirm emptying of the colon prior to discharge. They should be advised to email or call the bowel management team for outpatient follow-up.

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Approved by the Pediatric Evidence-Based Outcomes Center Team

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