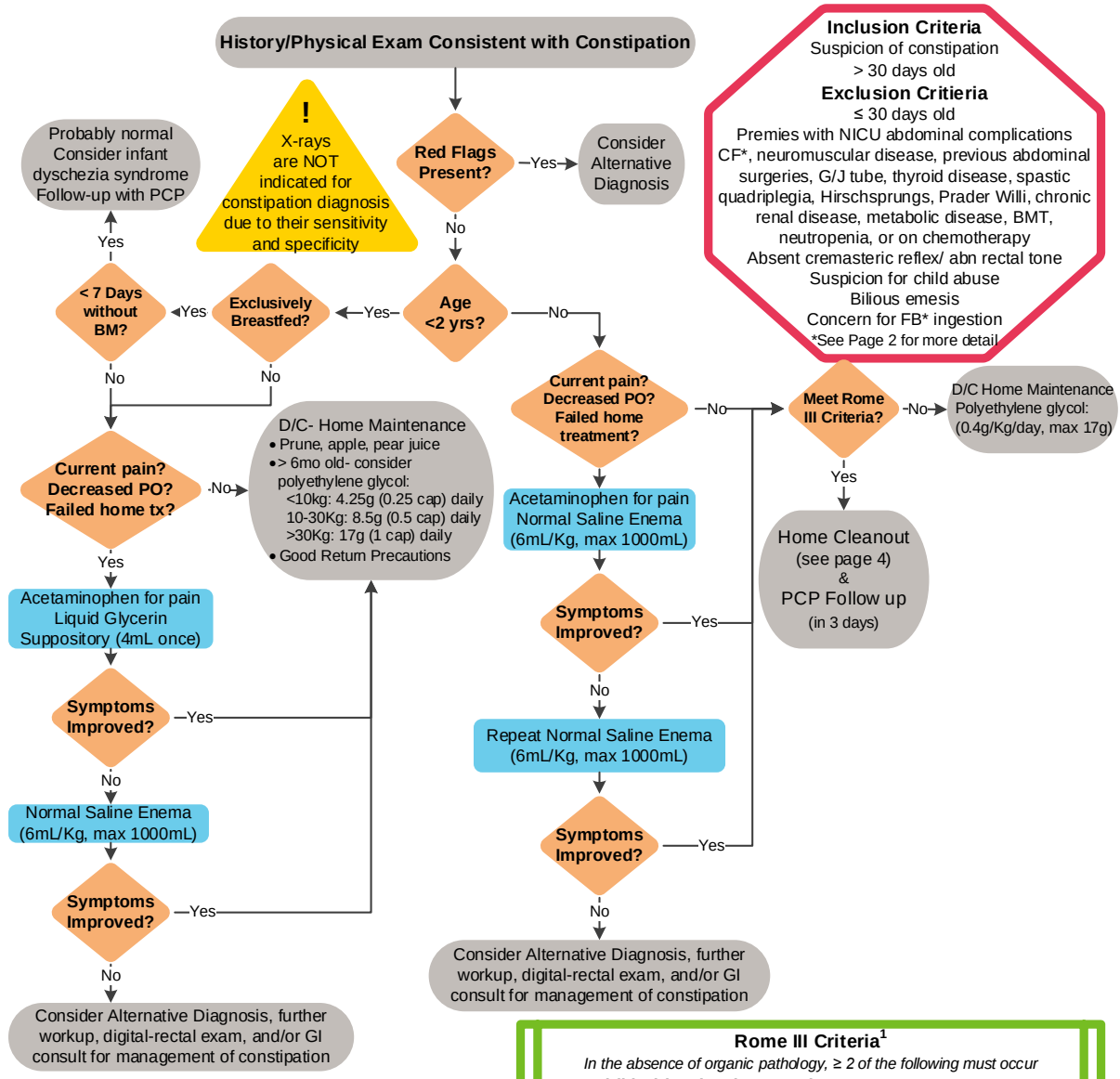
ED/UC Constipation

ALGORITHM



Red Flags

History

- Meconium not passed in 1st 48 hrs as newborn
- Hx/Family Hx of Hirschsprungs disease or Inflammatory Bowel Disease
- Fever
- Ribbon Stools
- Urinary Retention
- Vomiting

Physical Exam

- Abnormal neuro exam (including rectal exam)
- Sacral dimple or tuft of hair on spine
- Perianal fistula
- Blood in stools in absence of anal fissures
- Severe abdominal distention
- Signs of systemic disease (rash, mouth sores, joint pain, etc.)
- Explosive stool/air with rectal temp, digital exam, etc., may indicate Hirschsprungs

Rome III Criteria[1]

In the absence of organic pathology, ≥ 2 of the following must occur

For a child with a developmental age < 4yrs

- ≤ 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 large fecal mass in the rectum
- History of large-diameter stools that may obstruct the toilet

Accompanying symptoms may include irritability, decreased appetite, and/or early satiety, which may disappear immediately following the passage of a large stool

For a child with a developmental age ≥ 4 years with insufficient criteria for irritable bowel syndrome

- ≤ 2 defecations in the toilet per week
- 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 mass in the rectum
- History of large-diameter stools that may obstruct the toilet

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TARGET POPULATION

Inclusion Criteria

- Clinical suspicion of constipation
- > 30 days old

Exclusion Criteria

- ≤ 30 days old
- Premies with NICU abdominal complications
- Cystic Fibrosis (CF), neuromuscular disease, previous abdominal surgeries, G/J tube, thyroid disease, spastic quadriplegia, Hirschsprungs, Prader Willi, chronic renal disease, metabolic disease, bone marrow transplant, neutropenia, or on chemotherapy
- Absent cremasteric reflex/ abnormal rectal tone
- Suspicion for child abuse
- Bilious emesis
- Concern for foreign body ingestion

BACKGROUND | DEFINITIONS

Constipation is defined as infrequent, hard, and painful defecation and can be accompanied by fecal incontinence (S. Mugie, 2011). It can also be accompanied by acute or chronic abdominal pain, gas and bloating. It effects about 30% of children[4]. These patient often seek care in urgent care and emergency department which can result in significant healthcare cost.

Currently the Rome III Criteria is the most commonly used to diagnose Functional constipation[5] (see algorithm for details).

INITIAL EVALUATION

- History and physical exam should be sufficient to diagnose constipation.
- History should include history of and current stooling habits as well as dietary habits.
- Physical exam should include an external inspection and evaluation for other causes of pain and constipation. Consider a digital rectal exam (DRE) for patients with chronic constipation to evaluate rectal tone, presence of a mass, occult blood, or an anatomic abnormality (ie. anteriorly-placed anus).
- Abdominal radiographs **are not** part of the established diagnostic criteria for constipation. There has been no correlation between findings on an abdominal radiograph and diagnosis of constipation[6]. "Misdiagnosis is more common in children with abdominal pain and tenderness who receive an abdominal xray. Presence of stool on an xray does not rule out other diagnosis"[7]
- Bristol Stool Scale[8]

CLINICAL MANAGEMENT

- Acute management of the patient is based on age and symptoms.
- Patients presenting with pain should be treated with acetaminophen (Tylenol) for analgesia and glycerin suppository or saline enema.
- In patients who do not have improvement of pain and/or passage of stool in the ED/UC, other diagnosis should be considered. If leading diagnosis is still constipation, and further ED management is needed, GI should be contacted for recommendations on management.

LABORATORY STUDIES | IMAGING

- Abdominal radiographs are not recommended to evaluate or diagnose constipation.
- There is **no** evidence to support the use of radiograph and further there is no correlation between findings on radiographs and diagnosis or severity of constipation[9]. Radiographs should only be considered if concerned about other causes of abdominal pain (intussusception, bowel obstruction, foreign body).
- Radiographs have a risk of exposure to ionizing radiation. This exposure in the pediatric population can increase risk of certain cancers later in life[10]. The Image Gently campaign and the Joint Commission have launched campaigns to reduce unnecessary imaging[10].

THERAPEUTICS

- Acetaminophen for pain. Ibuprofen can be considered if there are not any concerns for other underlying abdominal etiology for pain or dehydration.
- Polyethylene glycol (PEG/Miralax) 0.4g/kg/day Max of 17g for management of constipation.
  - Ensure dilution in adequate amount of liquid (recommended 6-8oz liquid/cap of polyethylene glycol)
- Polyethylene glycol (PEG/Miralax) for home bowel cleanout (see "Home Cleanout" in Parent/Caregiver education below)
- Rectal Liquid Glycerin (Pedialax)- 4mL once for patients <2yrs old
- Normal Saline enema
- Fleets enema- there is no evidence that Fleets enemas are superior to normal saline enemas and can be more dangerous due to phosphorus content. (Note: should not be used for patients < 2 years old)

PARENT | CAREGIVER EDUCATION

- See Discharge Smartset
- All patient should be instructed to follow up with their PCP
- If polyethylene glycol (PEG/Miralax) is prescribed, parents should receive information on dosing and administration (should be given with increased fluids). Advise parents that not all insurances cover polyethylene glycol (PEG/Miralax) prescription, and product is available over the counter both brand and generic.

Home Cleanout:

Follow these steps until poop (stool) is clear. Do NOT follow the bowel cleanout steps for more than 3 days. The goal of a bowel cleanout is to get poop that looks like lemonade (poop looks clear, yellow, without any solid pieces). During the cleanout, your child will drink a solution of **Miralax/Polyethylene glycol (PEG)** that will help wash out the stool AND will also take a medicine called **sennosides (Ex-Lax or Senna)** to help the stool come out.

Diet

- Your child will be on a clear liquid diet during the home cleanout.
- A clear liquid diet means your child should only drink liquids that you can see through if put in a clear glass. Examples are water, Pedialyte, clear apple juice, clear popsicles, clear tea, and sports drinks.
- Once your child's stool (poop) is clear, they may return to a normal diet.

Mixing and Storing the Miralax/Polyethylene glycol (PEG)

- Mix the Miralax: mix the Miralax completely in water or other clear liquid (such as flavored water). There should be no powder visible when it is mixed. The powder is easier to mix with room temperature liquid.
- Store the Miralax: it is easiest to keep the liquid in a large container in the refrigerator. Keeping it cold will make it taste better.

Giving the Medicines

- Give the Miralax to your child throughout the day. Your child does not need to drink the whole amount at one time, it can be split into smaller portions. See amount to give below.
- Give the sennosides (Ex-Lax or Senna) twice a day. Sennosides come in chews, tablets, and liquids. If you are buying them over the counter, pick the product that your child would most easily take.

Dosing of medicines

- If your child is 2-4 years old:
  - **Miralax**/Polyethylene glycol 3350 (17g/cap)

    Put 4 capfuls of polyethylene glycol 3350 in 20 ounces of clear liquid and drink over a day
  - **Sennosides** (8.6mg)—other names for this medicine are Senna and Ex-lax

    Give 1 tablet of the sennoside by mouth two times per day
- If your child is 5-10 years old:
  - **Miralax**/Polyethylene glycol 3350 (17g/cap)

    Put 7 capfuls of polyethylene glycol 3350 in 32 ounces of clear liquid and drink over a day
  - **Sennosides** (8.6mg)—other names for this medicine are Senna and Ex-lax

    Give 1.5 tablets of the sennoside by mouth two times per day

- If your child is older than 10 years old:
  - **Miralax**/Polyethylene glycol 3350 (17g/cap)

    Put 14 capfuls of polyethylene glycol 3350 in 64 ounces of clear liquid and drink over a day
  - **Sennosides** (8.6mg)—other names for this medicine are Senna and Ex-lax

    Give 2 tablets of the sennoside by mouth two times per day

CAUTION, DOSAGE VARIES BY BRAND! Dosage is on the labeling, ask a pharmacist for help if needed

RESOURCES

- http://www.gikids.org- Great resource for all GI conditions, including constipation, see "The Poo in You" video (for encopresis) and fact sheets about constipation to hand out to parents

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ED/UC Pathways and Policies Committee - 6/21/17
Pharmacy & Therapeutics Committee – 8/3/17

MANUAL/DEPARTMENT	Clinical Pathways/Quality
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LAST DATE OF REVIEW OR REVISION	August 3, 2017
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REVIEW | REVISION SCHEDULE

Scheduled for full review on August 3, 2021.

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