Constipation Management: Practical Tools for Your Practice

Speaker: Ian Leibowitz, MD, CNMC GI Chief Medical Officer

Panel Participants: Cathy Fox, MD and Soleak Sim, MD

Pediatric Health Network

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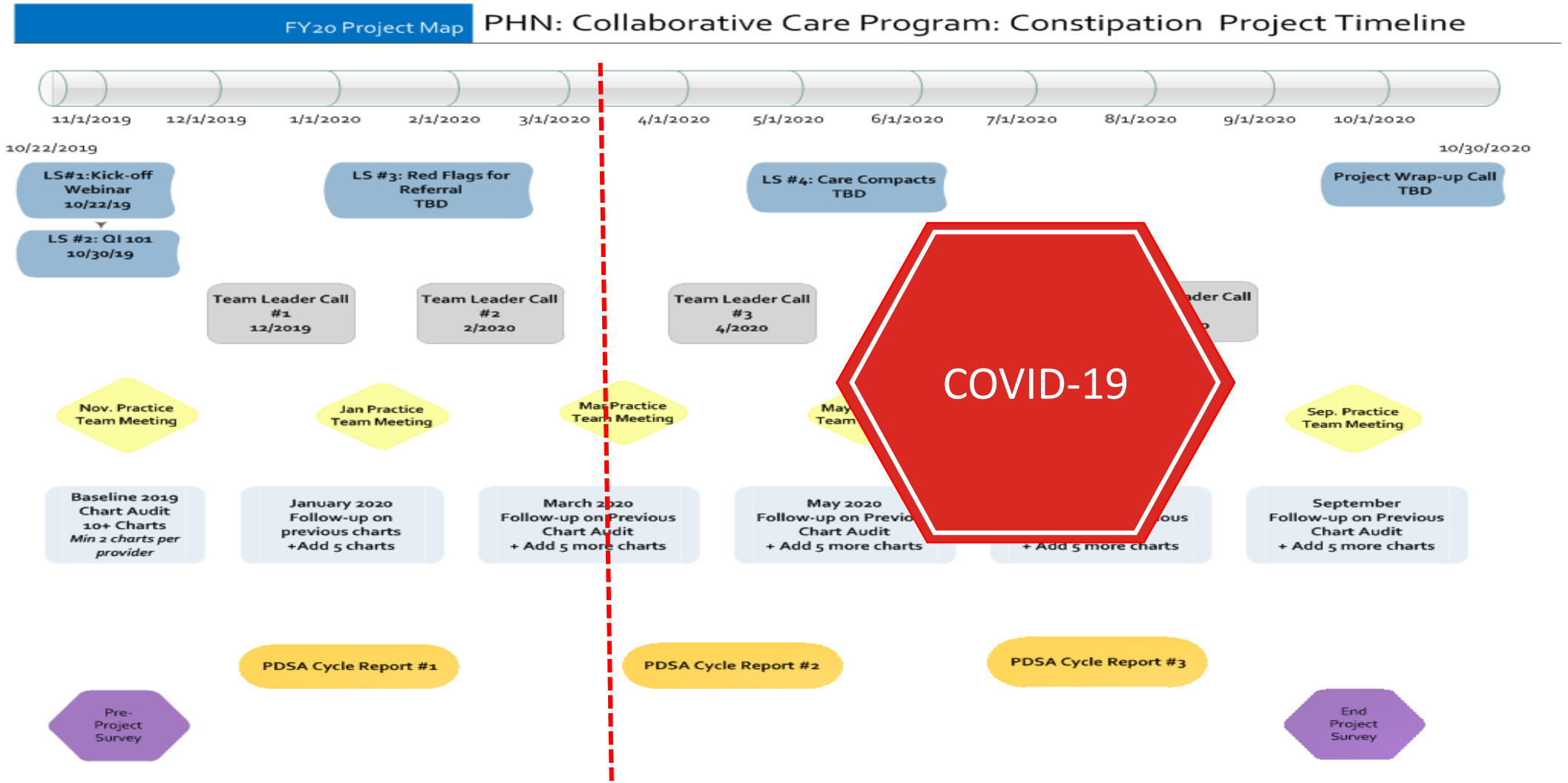
Learning Objectives

1. Learn about best practices in constipation management in primary care
2. Learn how to incorporate a Constipation Action Plan into your EMR
3. Review red flags for referral
4. Review lessons learned from our PHN Learning Collaborative

Project Timeline



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Why Constipation?

We see this a lot! From July 2018 – June 2019

- **1,742 visits** resulting in dx of constipation at CN ER
- **2,824 patients** referred to CN Gastroenterology for constipation by primary pediatricians

CN Gastroenterology FY20 Data

Total Visit Count

Dx	Dx code	Primary	2ndary	Totals	Approx # per month
Constipation	K59.0-K59.09	2053	990	3043	254
Encopresis	F98.1	4	9	13	1

Unique Patient Count

Dx	Dx code	Primary	2ndary	Totals	Approx # per month
Constipation	K59.0-K59.09	1406	806	2212	184
Encopresis	F98.1	7	4	11	1

Opportunity for Cost Savings

- The MEPS database included a total of 21 778 children age 0 to 18 years, representing 158 million children nationally.
- An estimated 1.7 million US children (1.1%) reported constipation in the 2-year period.
- Children with constipation used more health services than children without constipation
- They incurred significantly higher costs: $3430/year vs $1099/year ->additional cost of $3.9 billion/year.

J Pediatr. 2009 Feb;154(2):258-62. doi: 10.1016/j.jpeds.2008.07.060. Epub 2008 Sep 25.

Health utilization and cost impact of childhood constipation in the United States.

Liem O[1], Harman J, Benninga M, Kelleher K, Mousa H, Di Lorenzo C.

Of Note

- Failure of therapy-over 50% at one year
- Extremely important for the pediatrician to ask about toileting habits around the time of toilet training- high risk time for children to develop stool withholding leading to constipation and encopresis!
- Three key milestones when children may be at increased risk of developing functional constipation and encopresis
  - **The dietary switch to solid food**
  - **Toilet training**
  - **The start of school**

Common Complications

- Pain- anal or abdominal
- Rectal fissure
- Encopresis
- Enuresis
- Urinary tract infection
- Rectal prolapse
- Social exclusion/depression/anxiety

Rome IV Criteria for Functional Constipation*

Constipation Dx:

Pt. experiences 1 month of at least 2 of the following:

- 2 or fewer defecations per week
- History of excessive stool retention
- History of painful or hard bowel movements
- History of large diameter stools
- Presence of a large fecal mass in the rectum

Additional Criteria for Toilet Trained Kids:

- At least 1 episode/ week of fecal incontinence after learning toileting skills
- Hx of large diameter stools that can obstruct the toilet

** Without objective evidence of an organic disease responsible for the symptoms*

Encopresis: Constipation Associated Fecal Incontinence

- One painful stool may be enough to make children do everything possible to avoid passing stool.
- Stool accumulates, becomes harder and more painful to pass
- Rectum may enlarge, causes loss of sensation and decreased urge to defecate
- With chronic rectal distention, the internal anal sphincter relaxes and allows semi-solid stool to leak onto the perianal skin and clothing

- Caution- many parents may think this stool leakage is diarrhea or that stool in the underwear is just a result of poor wiping!

- The social stigma associated with encopresis can be huge. Children maybe teased at school, in public, and at home

Back to Functional Constipation

Questions for All Providers to Ask

- Time of first bowel movement after delivery
- Age of onset
- Introduction of solids / weaning from breast feeding
- Stool frequency
- Consistency and size (Bristol Stool Chart)
- Pain or presence of blood
- Retentive posturing
- Soiling frequency
- Social and emotional factors

Physical Exam

- Full physical examination with special attention to the neurological exam
  - Abdominal distension is only seen with significant stool accumulation
  - Perianal exam: anterior displacement of anus, soiling, skin irritation, fissures, hemorrhoids, signs of sexual abuse
  - Lumbosacral area (hair tuft or dimple)
  - Neuromotor function in lower extremities
  - Rectal exam- including rectal tone, presence of stool in the rectal vault, child's response to the exam
    - **Can be deferred when appropriate for psychosocial reasons, but as a standard it should be done**

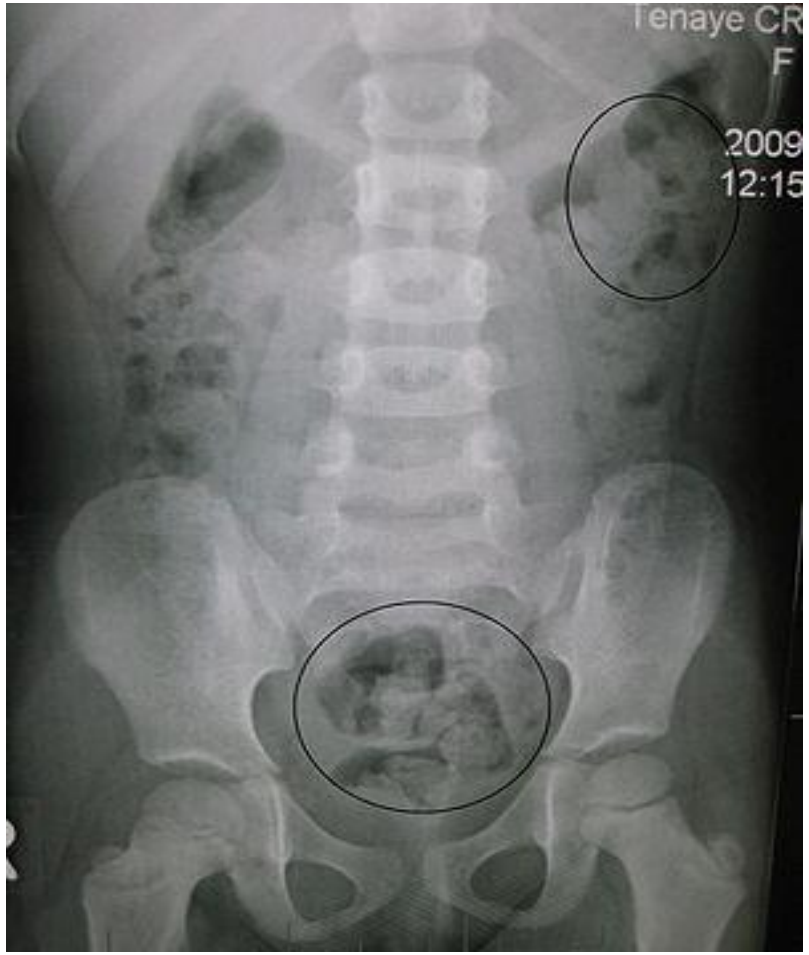
Myths

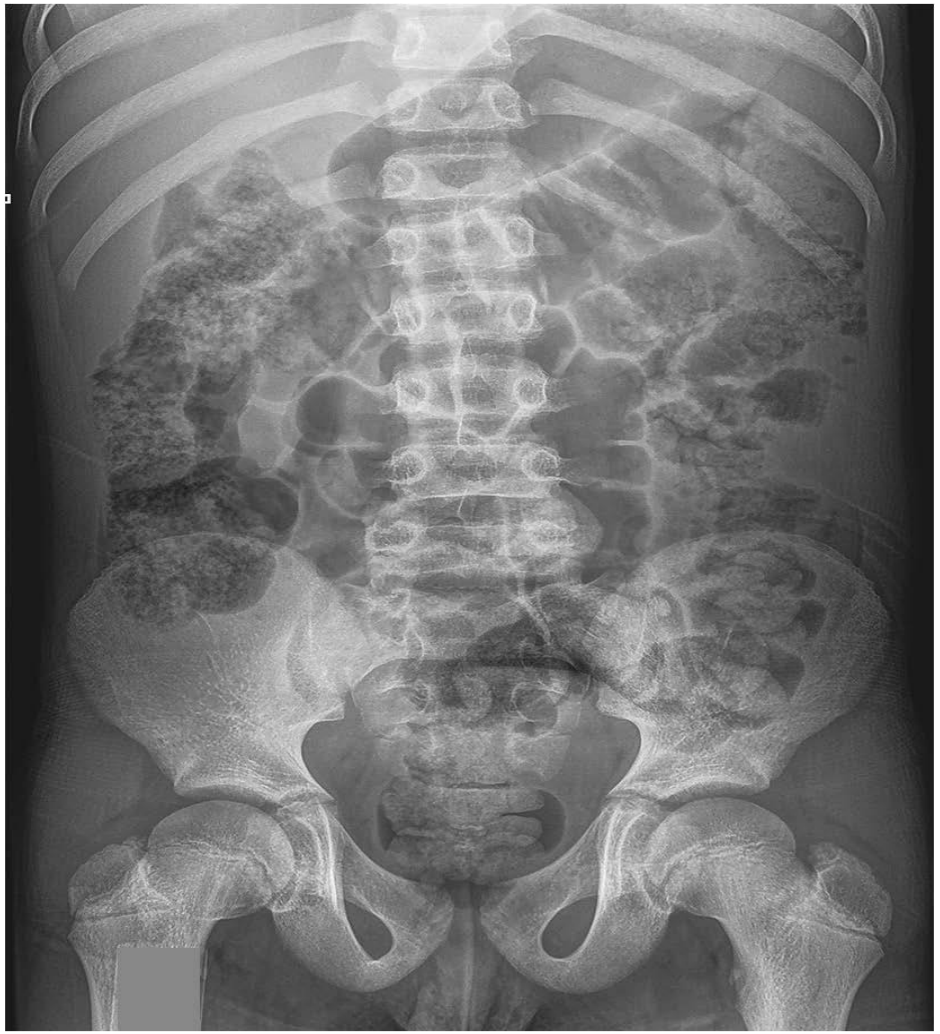
- Fluids: Frequently recommended to parents: But, according to guidelines and studies, evidence does not support the use of EXTRA fluid
- Fiber: Almost always the first step but:5 studies including RCT's conclude: No significant benefit was demonstrated in terms of a reduction in laxative use or increased stool frequency associated with additional fiber intake!!!!!
- Probiotics:Both pre and pro biotics have been studied without evidence to support their use.
- Xrays: Need their own slide

X-Rays:

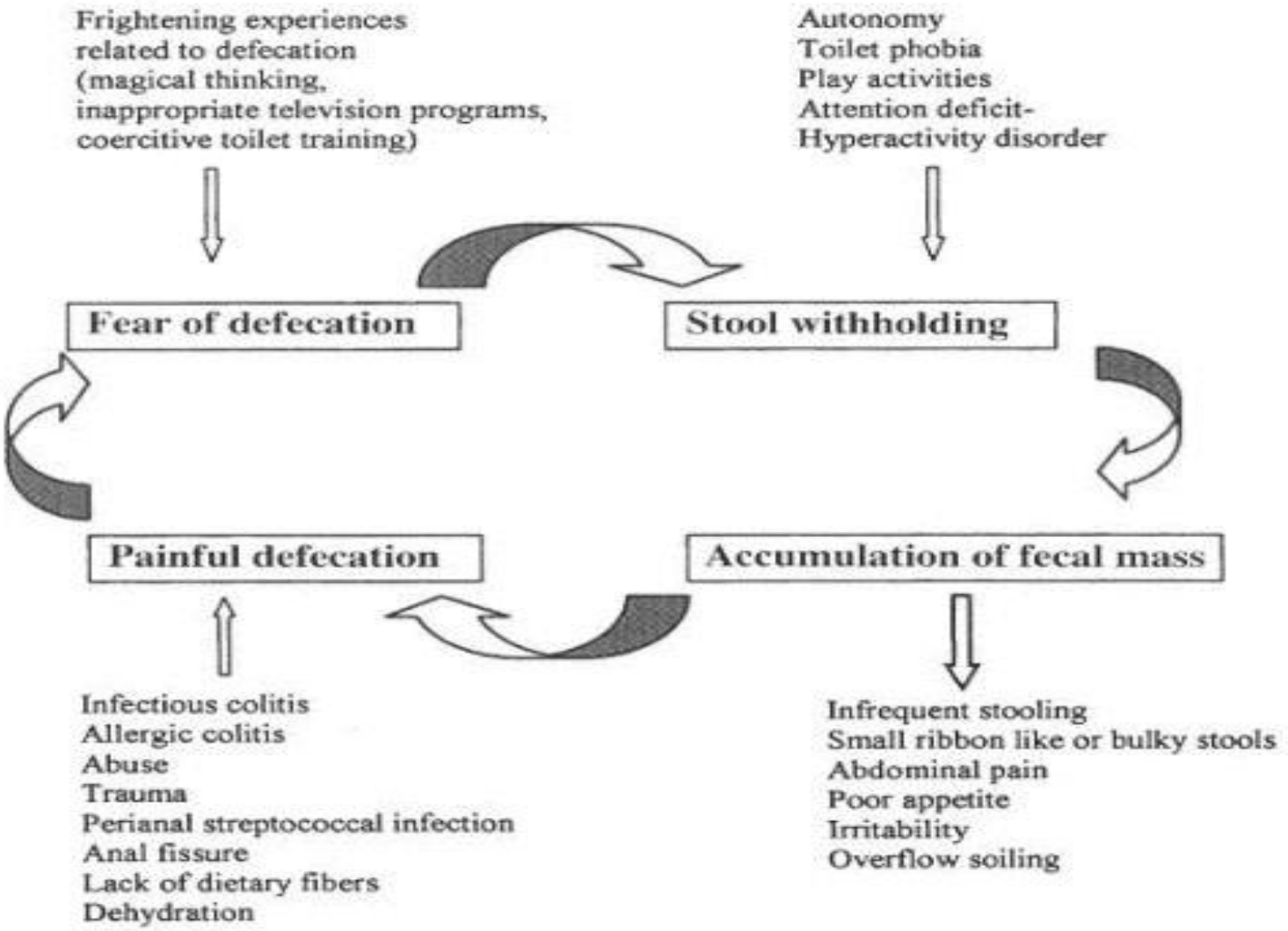
- Guidelines conclude: evidence does not support using abdominal radiography to diagnose constipation
- X-rays may be useful to evaluate fecal impaction when an exam is unreliable or not possible (for example: for obese or autistic patients)

Xrays:





The Constipation Cycle



Treatment- The Premise

GET IT EMPTY

Patient fearful of painful stooling

→ less painful stools

→ less fear

Patient has decreased sensation from stool ba

→ decreased stool

→ increased sensation

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Prognosis

- In patients referred to GI, 50% will be off laxatives in 6-12 months
- Duration of symptoms greater than 3 months before presentation has a negative impact on outcome
- 80% of patients treated early were recovered without laxatives at 6 months
- 50% of children have at least one relapse in 5 years


CONSTIPATION
next time, eat your vegetables!

Constipation Algorithm

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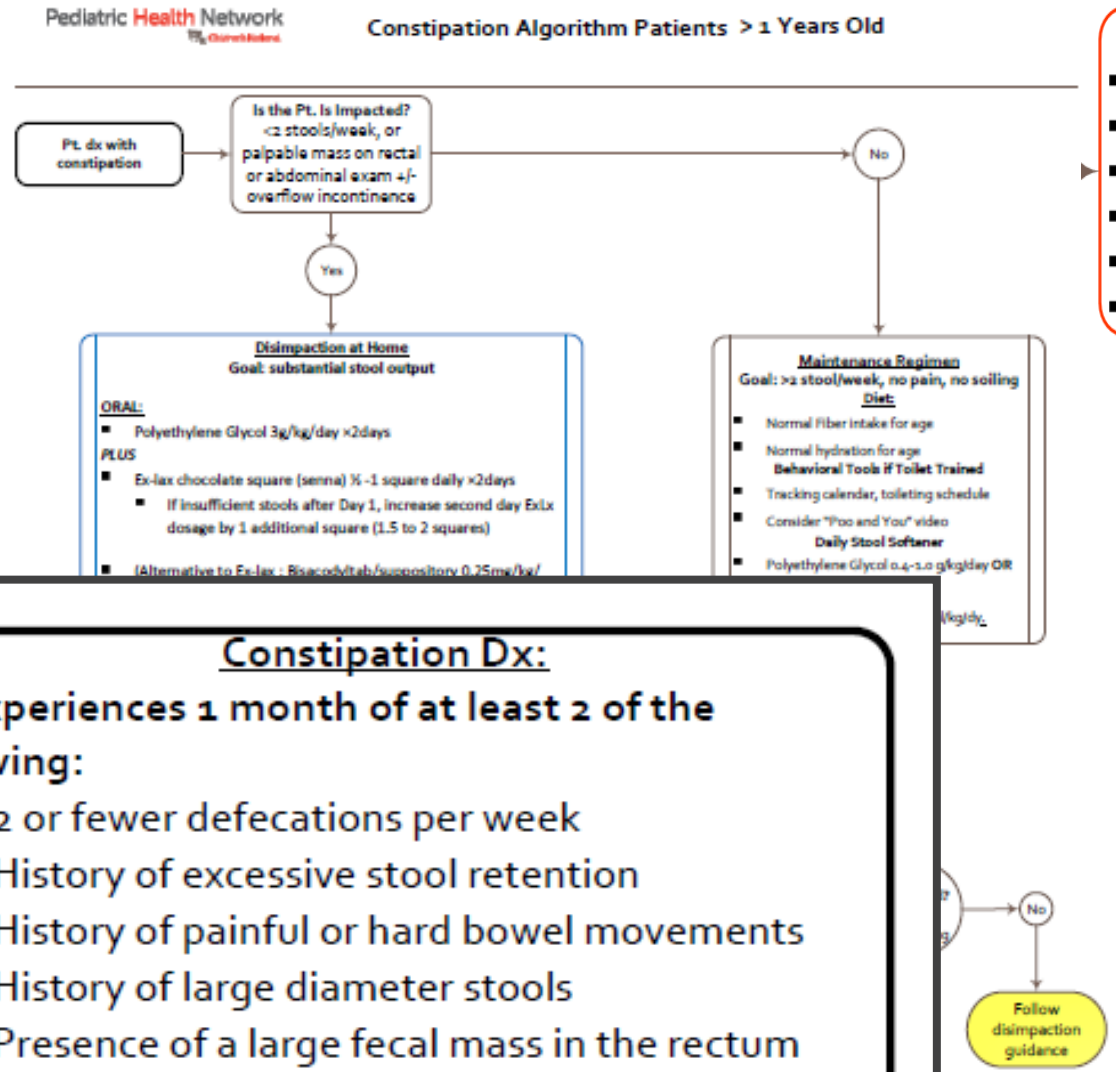


Red flags for Potential Referral:

- Poor weight gain
- Bloody Stool
- Lumbosacral tufts or dimples
- Abnormal muscular exam
- History of delayed passage of meconium
- Vomiting

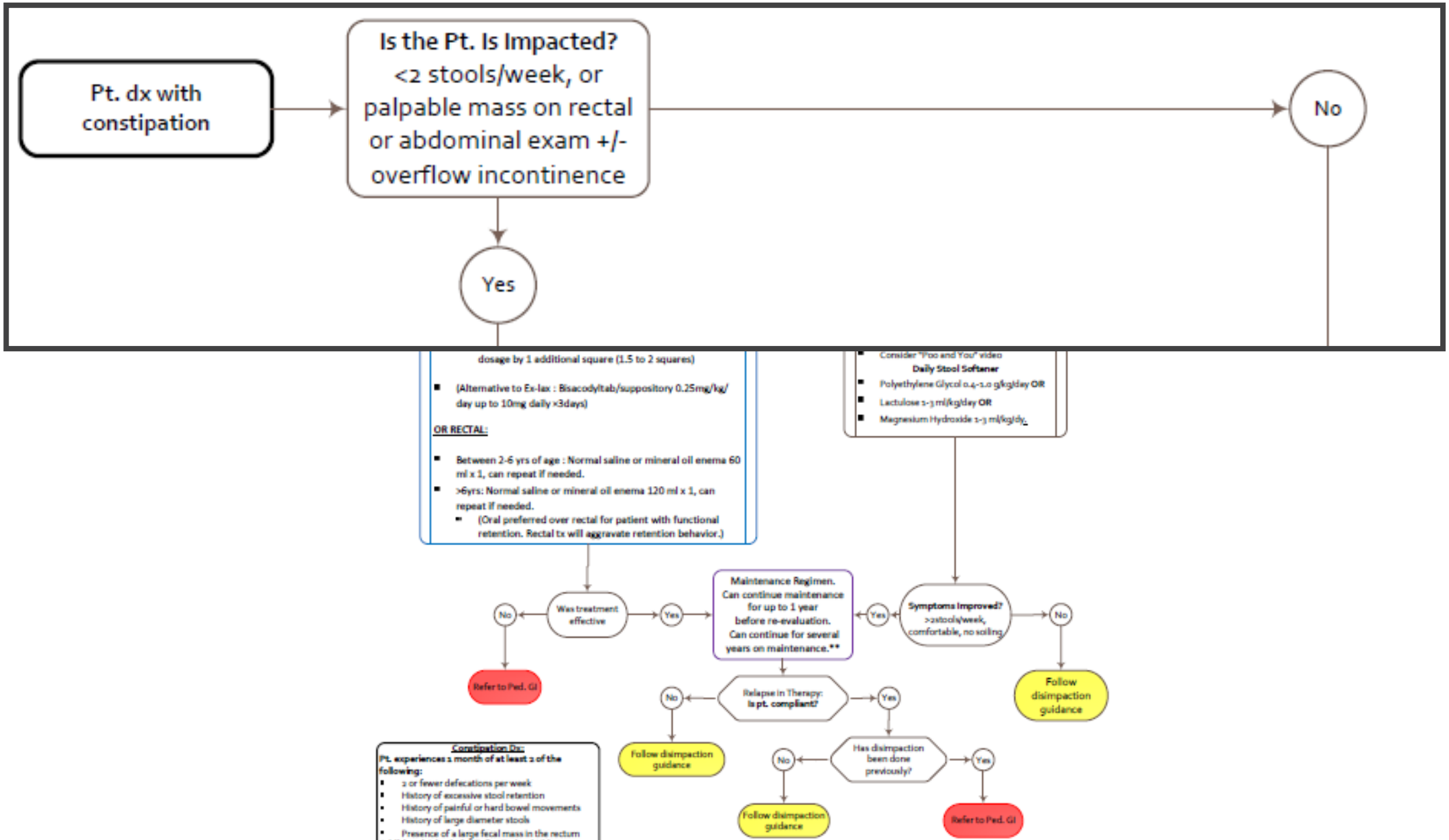
Constipation Dx:

Pt. experiences 1 month of at least 2 of the following:

- 2 or fewer defecations per week
- History of excessive stool retention
- History of painful or hard bowel movements
- History of large diameter stools
- Presence of a large fecal mass in the rectum

Additional Criteria for Toilet Trained Kids:

- At least 1 episode/ week of fecal incontinence after learning toileting skills
- Hx of large diameter stools that can obstruct the toilet


Pt. dx with constipation
Is the Pt. Is Impacted? <2 stools/week, or palpable mass on rectal or abdominal exam +/- overflow incontinence
No
Yes
dosage by 1 additional square (1.5 to 2 squares)
(Alternative to Ex-lax : Bisacodyltab/suppository 0.25mg/kg/ day up to 10mg daily x3days)
OR RECTAL:
Between 2-6 yrs of age : Normal saline or mineral oil enema 60 ml x 1, can repeat if needed.
>6yrs: Normal saline or mineral oil enema 120 ml x 1, can repeat if needed.
(Oral preferred over rectal for patient with functional retention. Rectal tx will aggravate retention behavior.)
Consider "Poo and You" video
Daily Stool Softener
Polyethylene Glycol 0.4-1.0 g/kg/day OR
Lactulose 1-3 ml/kg/day OR
Magnesium Hydroxide 1-3 ml/kg/dy
Was treatment effective
No
Yes
Refer to Ped. GI
Maintenance Regimen. Can continue maintenance for up to 1 year before re-evaluation. Can continue for several years on maintenance.**
Symptoms Improved? >2stools/week, comfortable, no soiling
Yes
No
Follow disimpaction guidance
Relapse in Therapy: Is pt. compliant?
No
Yes
Follow disimpaction guidance
Has disimpaction been done previously?
No
Yes
Follow disimpaction guidance
Refer to Ped. GI
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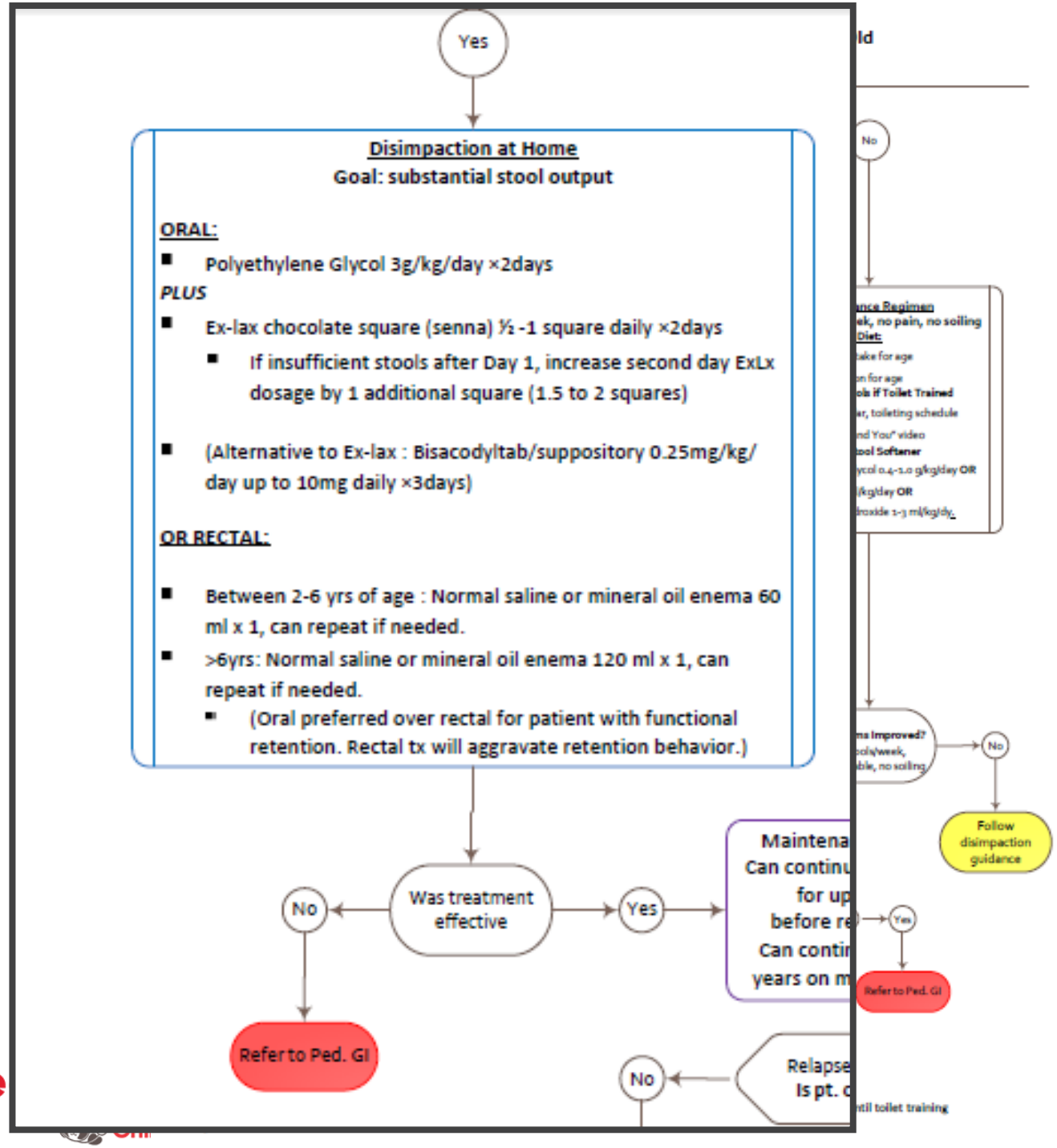
Additional Criteria for Toilet Trained Kids:
At least 1 episode/ week of fecal incontinence after learning toileting skills
Hx of large diameter stools that can obstruct the toilet
**Avoid weaning during toilet training or stressful transitions. If functional withholding behavior, consider maintenance up until toilet training completed.


Yes
Disimpaction at Home
Goal: substantial stool output
ORAL:
Polyethylene Glycol 3g/kg/day ×2days
PLUS
Ex-lax chocolate square (senna) ½ -1 square daily ×2days
If insufficient stools after Day 1, increase second day ExLx dosage by 1 additional square (1.5 to 2 squares)
(Alternative to Ex-lax : Bisacodyltab/suppository 0.25mg/kg/ day up to 10mg daily ×3days)
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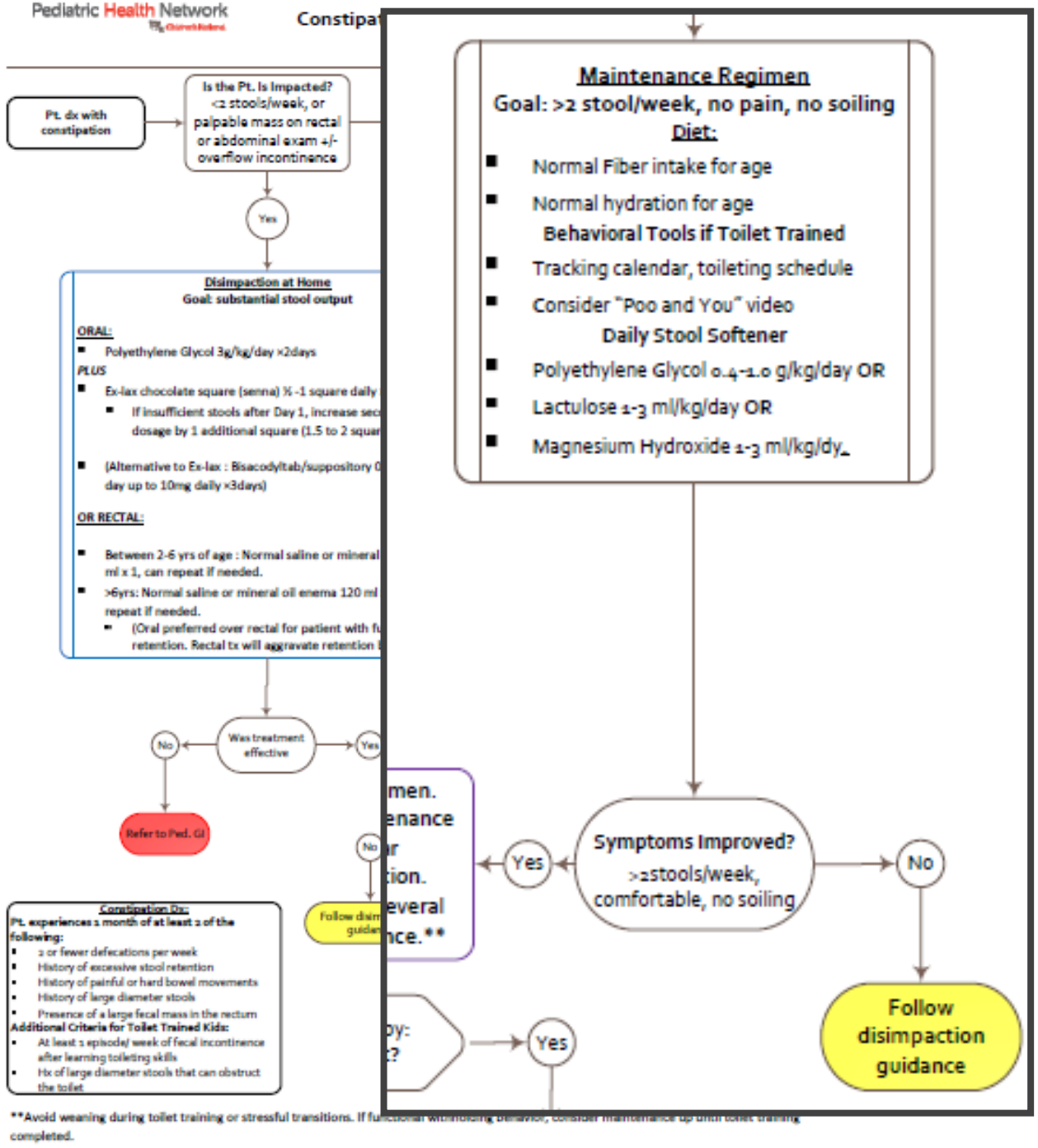
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Hx of large diameter stools that can obstruct the toilet
Maintenance Regimen
Goal: >2 stool/week, no pain, no soiling
Diet:
Normal Fiber intake for age
Normal hydration for age
Behavioral Tools if Toilet Trained
Tracking calendar, toileting schedule
Consider "Poo and You" video
Daily Stool Softener
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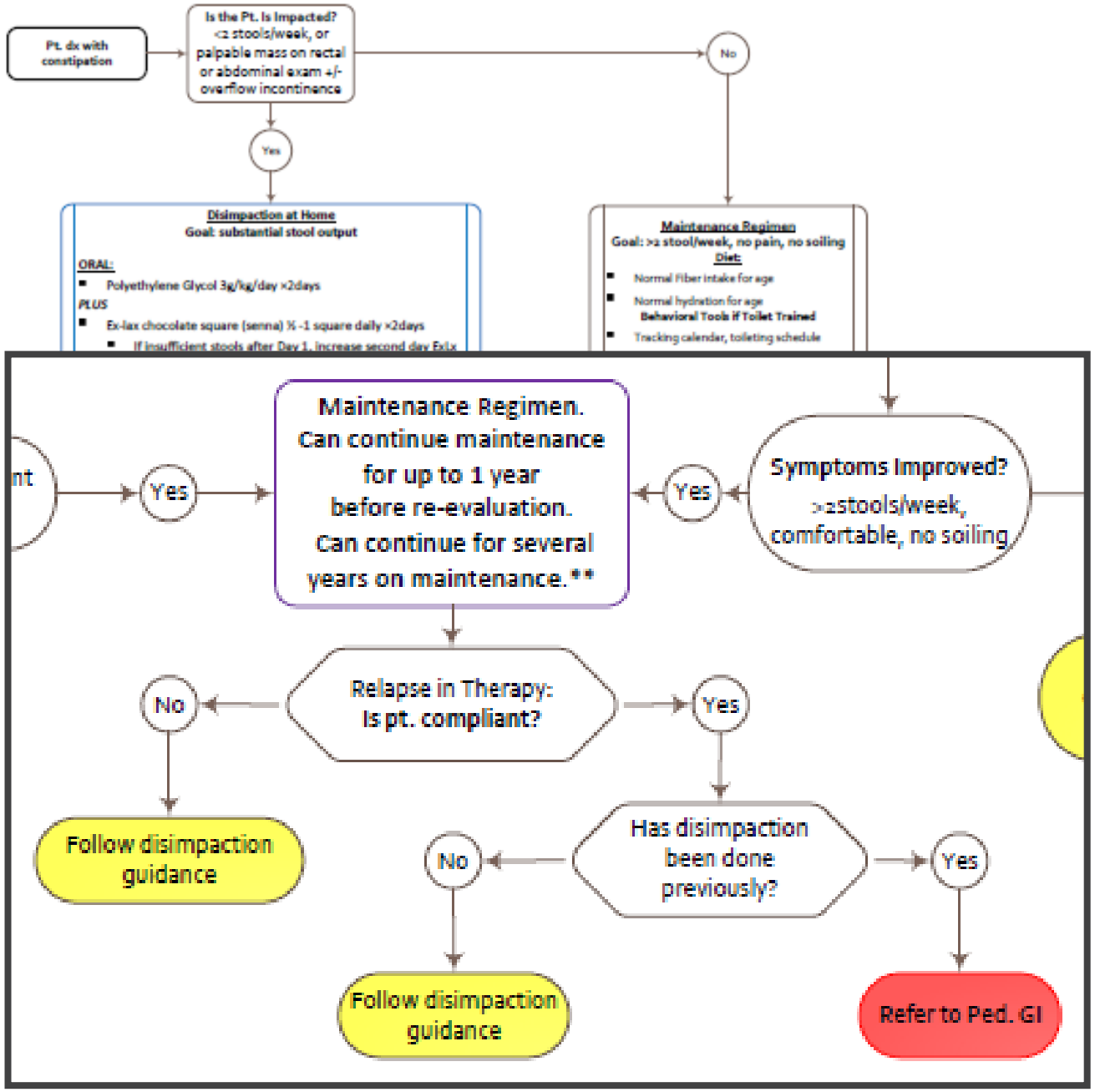
Constipation Algorithm Patients > 1 Years Old



Recommended Follow-Up

- After cleanout: A telemedicine, telephone or in person follow-up visit within 10 days of a prescribed cleanout
- Follow-up for all patients in at least one month

Constipation Algorithm

Children < 1 Yr.

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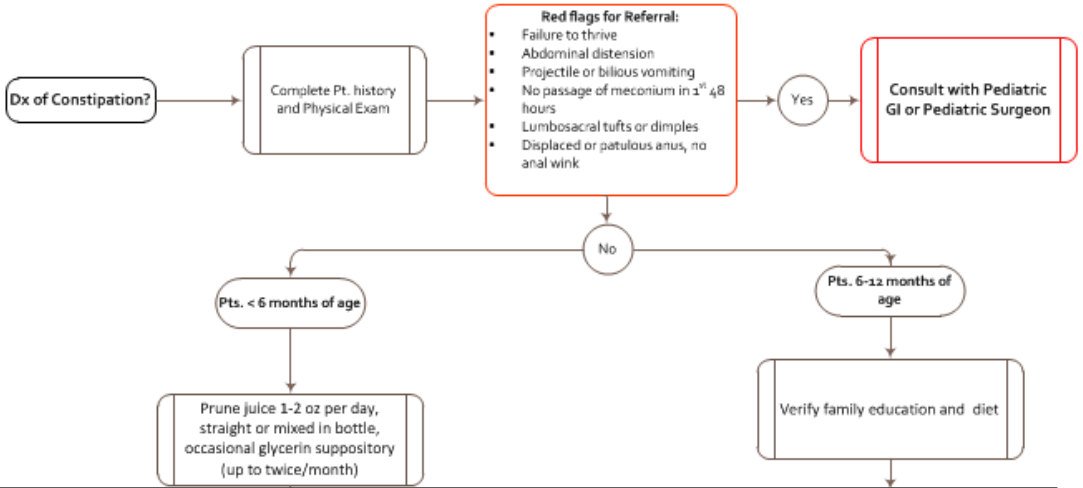
Constipation Algorithm Patients < 1 Years Old



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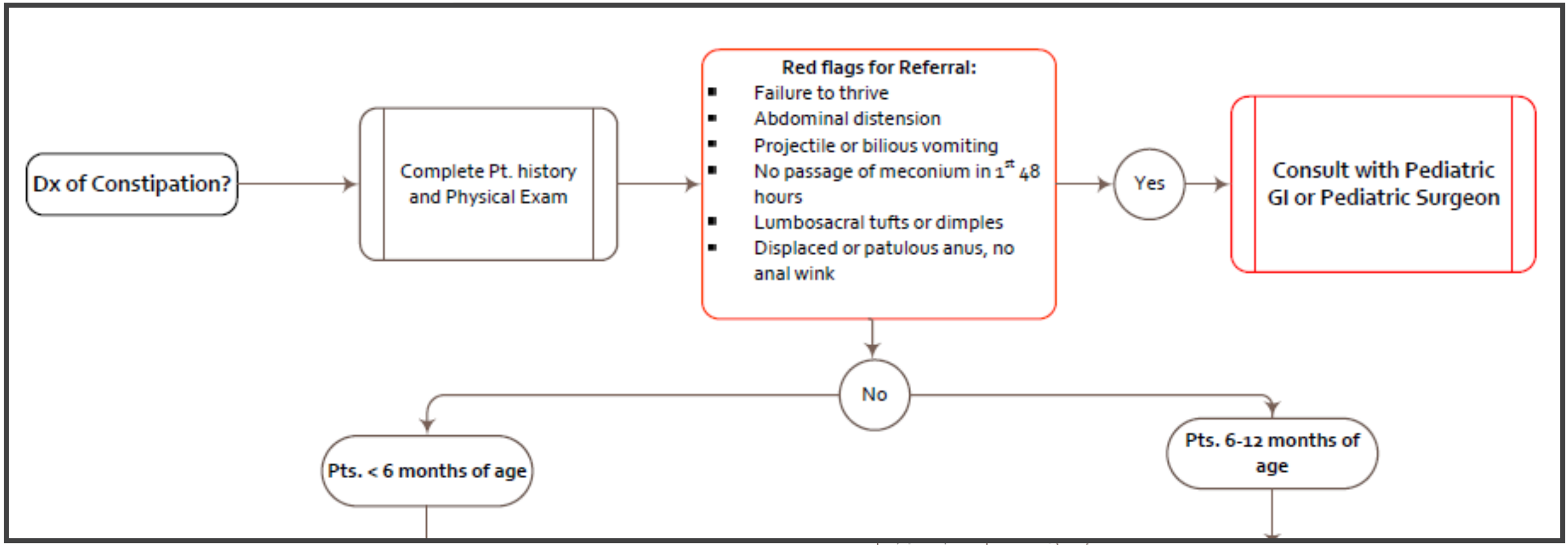
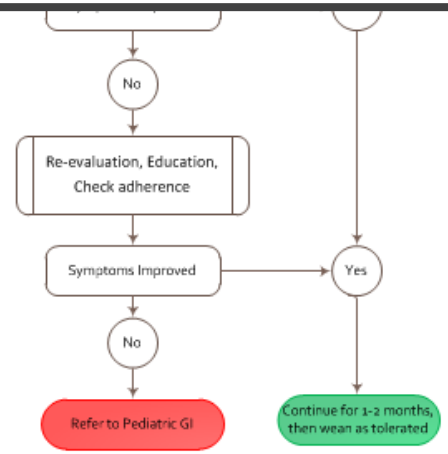
Constipation Algorithm Patients < 1 Years Old





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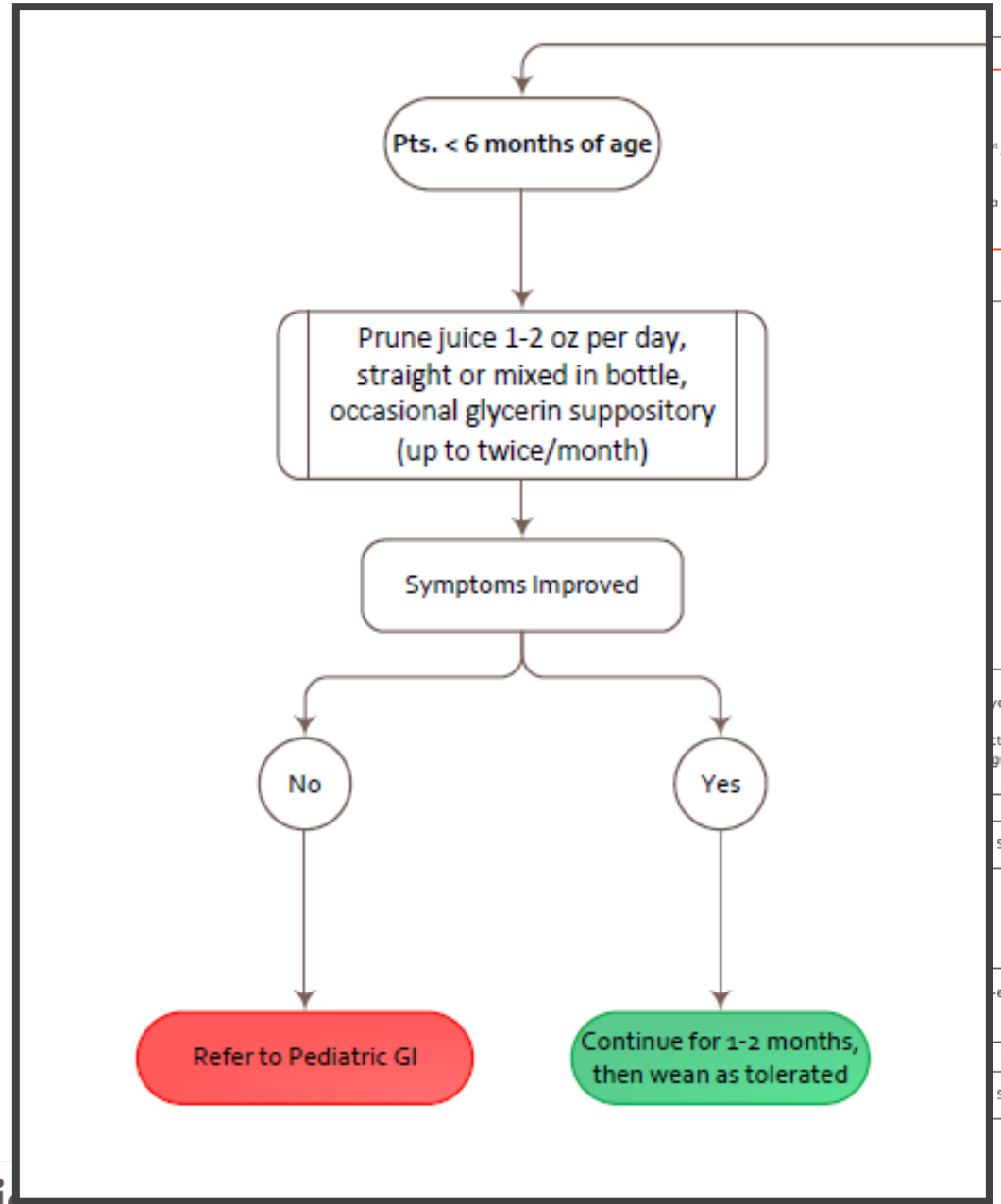
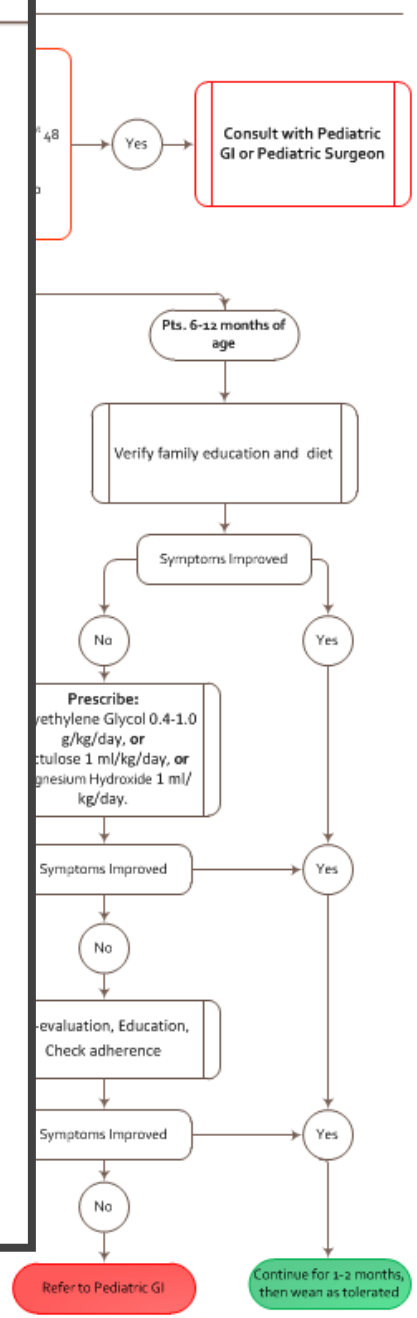
Constipation Algorithm Patients < 1 Years Old





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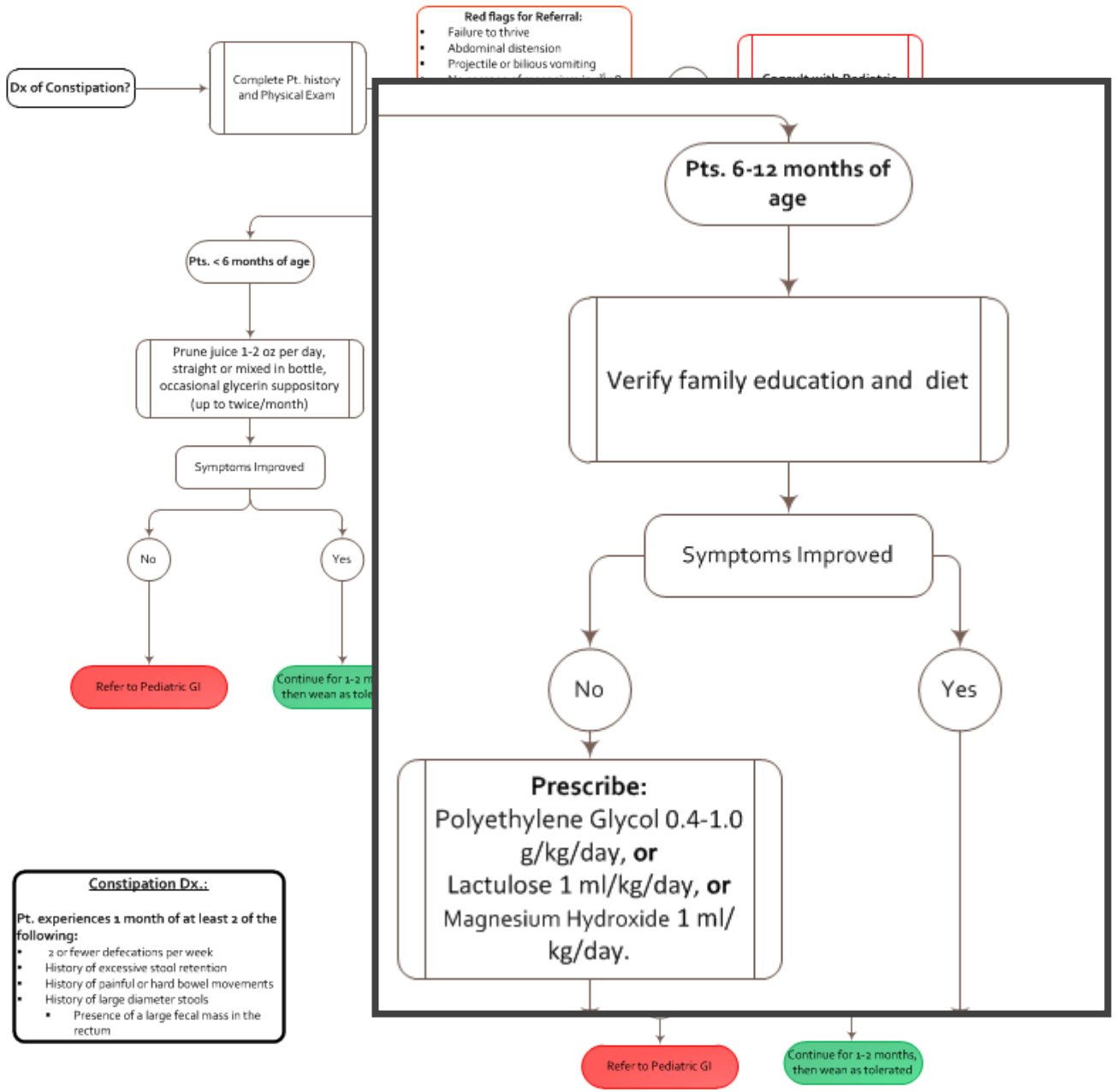

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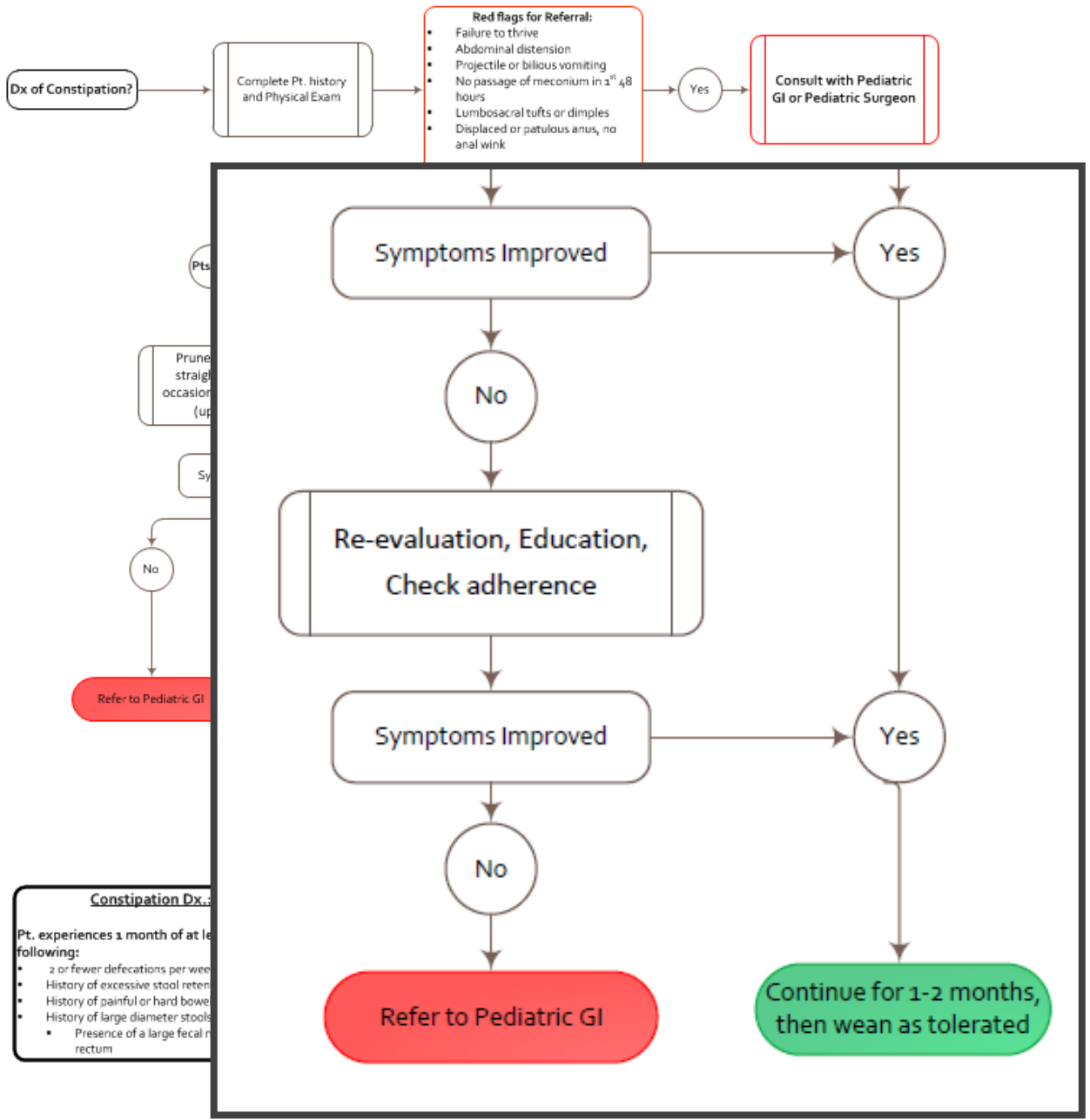

Constipation Action Plan

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Constipation: Cleanout Action Plan

The first step to treating your child's constipation is a good cleanout with a stool softener and a stimulant laxative.

Then, in the "maintenance phase", your child will take a daily dose of stool softener for at least several months to a year. Treating constipation can take a long time, but we'll follow along with you to be sure your child gets back to a normal stool pattern of passing soft stools comfortably every day or every other day.

Part One: Cleanout Phase

Do the clean out when there is access to a bathroom for 24-48 hours. The goal is to have several bowel movements that are loose or watery. Your child will take two medicines.

Start on Friday if your child is in school. Give the first dose on Friday afternoon and the second dose on Saturday morning if needed.

- **Cleanout medicine 1: Stool softener – polyethylene glycol (Miralax, Glycolax or PEG)**
  Polyethylene glycol brings water into the bowels. Mix the polyethylene glycol with the amount of clear liquid recommended. You may use clear liquid such as juice, water or tea. Have your child drink lots of liquids when they are on these medications to prevent dehydration.
- **Cleanout medicine 2: Stimulant laxatives – Senna or bisacodyl**
  See the charts on the next page for your child's medicines and doses. Give as directed.

Plan to repeat this cleanout in one week.

Part Two: Maintenance Phase to keep bowels regular

Long-term daily stool softener given for at least 6 to 12 months

As soon as your child completes the first cleanout, give polyethylene glycol once daily as indicated in the maintenance dosing chart below. It needs to be taken daily for at least 6 to 12 months and often longer. Mix the medicine with liquid, such as juice, tea or water. It's very important to mix the medicine with the full amount of liquid suggested. You can increase or decrease the dose as needed to achieve mashed potato consistency stools.

Toileting Routine and Diet Recommendations

To help make stooling comfortable and regular, we recommend you help your child with this routine:

- Toileting habits: If possible, sit on the toilet 2-3 times a day after meals for at least 5 minutes without lots of distractions – avoid games, books and electronics as much as possible.
- Toileting position: Knees should be hip level and feet flat against the ground or on a footstool to relax buttocks.
- Diet: Your child does not need excess fiber or water, but should drink enough water or liquids so that the urine is clear and eat a healthy diet with 5 servings a day of fruits/vegetables plus 2 servings of fiber (whole grains, bran, barley).

To help your child understand all of this, Watch "The Poo in You" video on You Tube with your child. It's great!

Follow Up Visit Recommendations

Please schedule a follow up within _____ days.

- ☐ Telephone Call
- ☐ Telemedicine Visit
- ☐ Office Visit

This Can Be Challenging!

Please don't hesitate to call our office if you have any questions or concerns.

First Part: 2 day Cleanout Phase – Use stool softener and a stimulant laxative

Cleanout Medicine 1: Stool softener – polyethylene glycol (Miralax, Glycolax or PEG)

Stool Softener

Medicine Name	How Often	Child's Weight (kg)	Child's Weight (lbs)	Miralax Dose	Mix with Clear Liquid
Polyethylene glycol (Miralax, Glycolax or PEG) 1 Capful = 17 grams. Use the cap that comes on the medicine bottle. Dosing: 3 grams/kilogram/day Each capful should be mixed with 4 ounces of liquid	4 ounces every 15 minutes or 8 ounces every 30 minutes until complete	10 to 19.9 kg	22 to 43 lbs	☐ 2 – 3 capfuls	8 – 12 ounces
		20 to 29.9 kg	44 to 65 lbs	☐ 4 – 5 capful	16 – 20 ounces
		30 to 39.9 kg	66 to 87 lbs	☐ 5 - 7 capfuls	20 – 28 ounces
		40 to 49.9 kg	88 to 109 lbs	☐ 7 - 9 capfuls	28 – 36 ounces
		50 to 69.9 kg	110 to 154 lbs	☐ 9 - 12 capfuls	36 - 48 ounces
		70 kg and over	Over 154 lbs	☐ 3 g/kg/day	4 ounces for 17 grams

Pediatrician Panel

Cathy Fox, MD and Soleak Sim, MD

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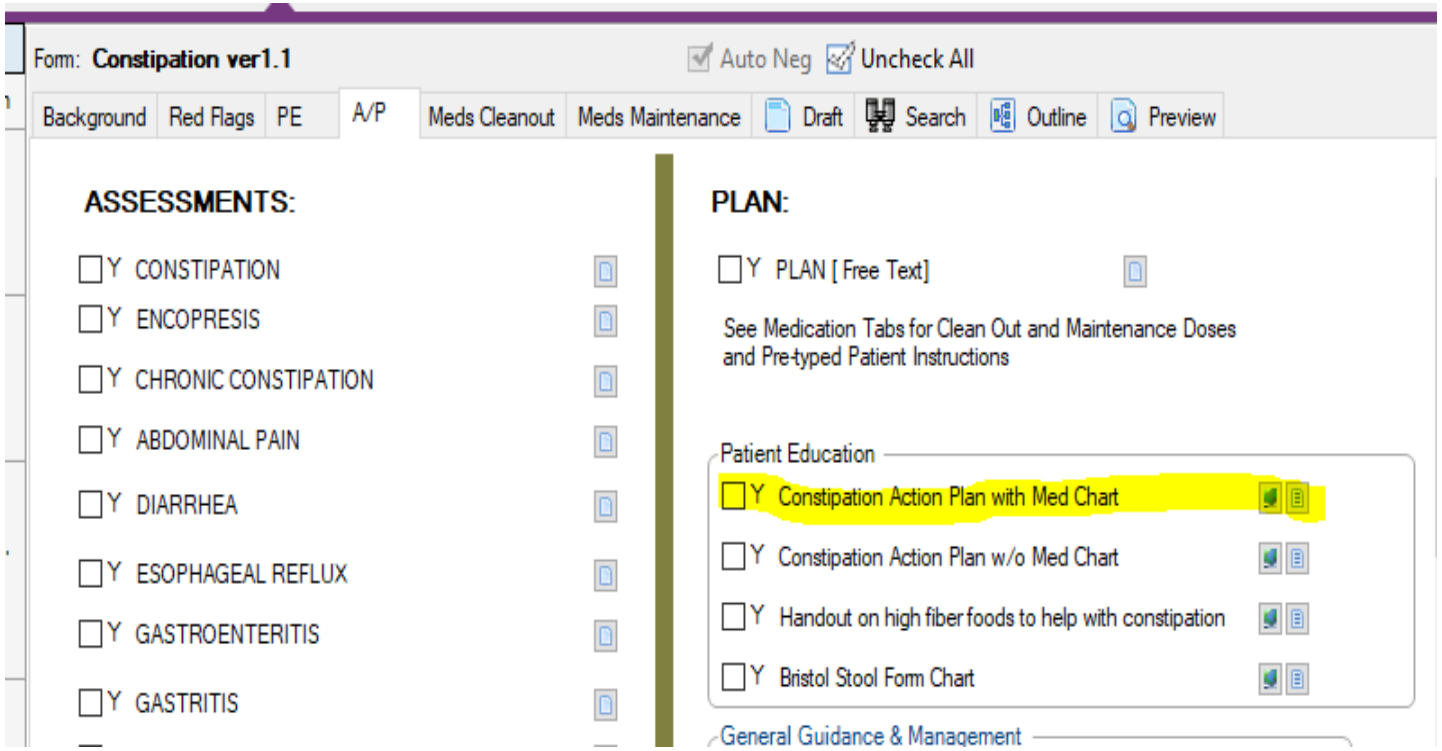
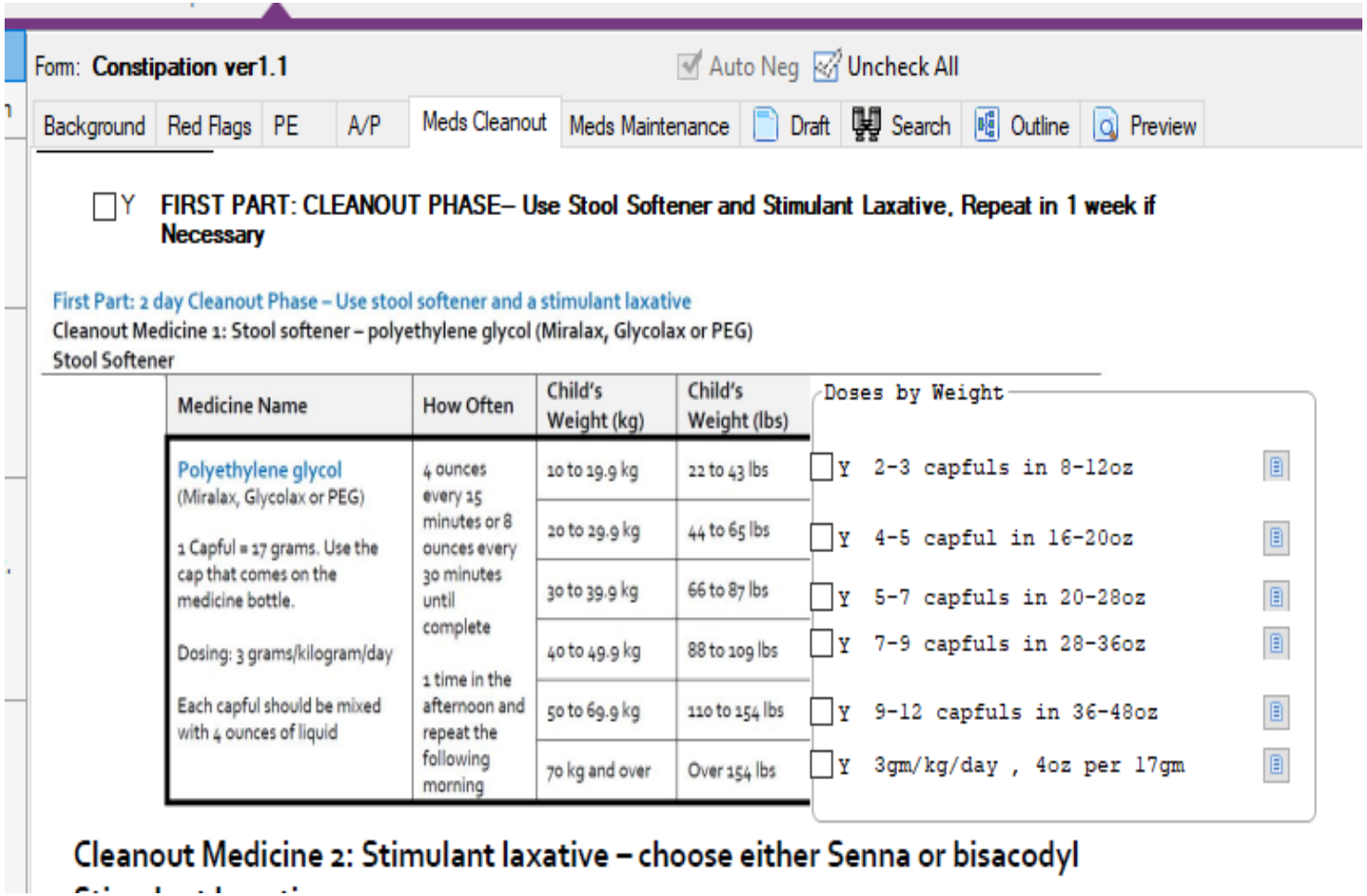
Constipation Action Plan is embedded into EMR



- Links to Action Plan as PDF that can be printed and discussed with family during visit
- Or sent via portal if on telemed or phone call

Constipation Action Plan is embedded into EMR



Form: **Constipation ver1.1** Auto Neg Uncheck All

Background | Red Flags | PE | A/P | Meds Cleanout | Meds Maintenance | Draft | Search | Outline | Preview

☐ Y **FIRST PART: CLEANOUT PHASE– Use Stool Softener and Stimulant Laxative, Repeat in 1 week if Necessary**

First Part: 2 day Cleanout Phase – Use stool softener and a stimulant laxative

Cleanout Medicine 1: Stool softener – polyethylene glycol (Miralax, Glycolax or PEG)

Stool Softener

Medicine Name	How Often	Child's Weight (kg)	Child's Weight (lbs)	Doses by Weight
Polyethylene glycol (Miralax, Glycolax or PEG) 1 Capful = 17 grams. Use the cap that comes on the medicine bottle. Dosing: 3 grams/kilogram/day Each capful should be mixed with 4 ounces of liquid	4 ounces every 15 minutes or 8 ounces every 30 minutes until complete 1 time in the afternoon and repeat the following morning	10 to 19.9 kg	22 to 43 lbs	☐ Y 2-3 capfuls in 8-12oz
		20 to 29.9 kg	44 to 65 lbs	☐ Y 4-5 capful in 16-20oz
		30 to 39.9 kg	66 to 87 lbs	☐ Y 5-7 capfuls in 20-28oz
		40 to 49.9 kg	88 to 109 lbs	☐ Y 7-9 capfuls in 28-36oz
		50 to 69.9 kg	110 to 154 lbs	☐ Y 9-12 capfuls in 36-48oz
		70 kg and over	Over 154 lbs	☐ Y 3gm/kg/day , 4oz per 17gm

Cleanout Medicine 2: Stimulant laxative – choose either Senna or bisacodyl

- Includes checkboxes for documentation of cleanout and maintenance doses
- Shows up in note for quick documentation of details of plan

Constipation Action Plan as part of visit note and care plan

PHYSICAL EXAM 15 MIN 11/05/20

Provider: *SIM, SOLEAK M.D.* Status: ***Archived***

Document | Outline

• Discussed concerns about exercise: promote physical activity

PLAN

- **Constipation, unspecified**

Care Plan

Goal: - daily soft stools without soiling, dry overnight

Other Health Concerns:

Encopresis

Instructions:

- constipation plan from Pediatric Health Network provided and reviewed - start medications for cleanout and continue through maintenance phase - also reviewed possible encopresis given stool in underwear - encouraged to watch the Poo in You video with Wolfie - hope that improved stooling during the day will also decrease nighttime wetting (reviewed relationship between the two) - send updates via portal

• Patient education about an action plan - Constipation Action Plan with Med Chart given and reviewed
• Polyethylene glycol 3350 (MIRALAX), Use 4-5 capful in 16-20oz of liquid. Give 1 time in afternoon and repeat the following morning as part of cleanout
• Polyethylene glycol 3350 (MIRALAX), Use 1-1 1/2 Capful, mix in 4-8 oz of liquid ONCE DAILY as part of maintenance

OTHER

Return in 1 year for well child evaluation

Capital Area Pediatrics Constipation Action Plan

***Embedded in our Electronic Medical Record**

HPI template

- Helpful in educating/reminding self of pertinent questions
- Red flags

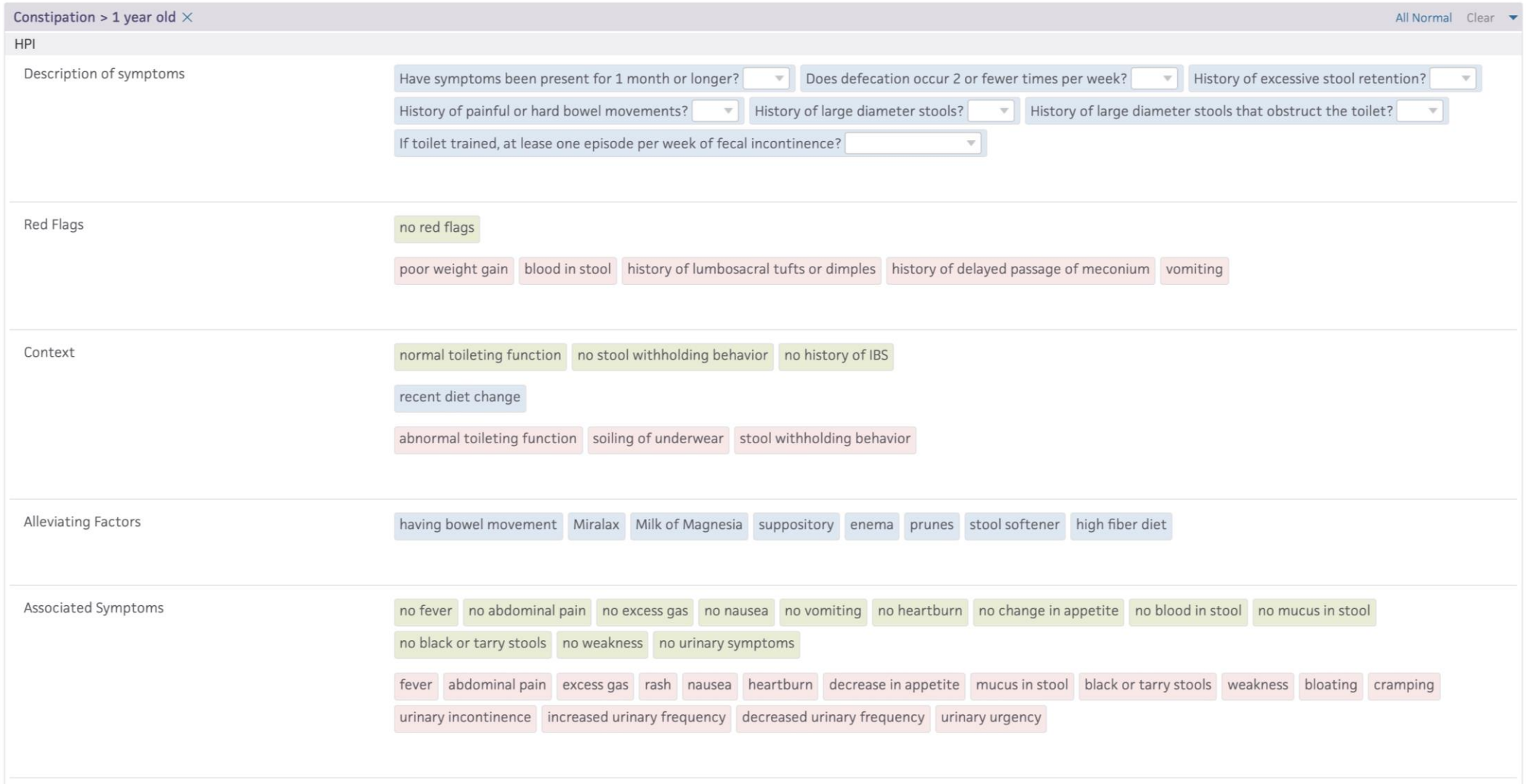
A/P with constipation diagnosis

- typical plan
- Medications

CAP CAP

- Letter
- Sent to patient via portal or printed at time of visit

HPI Template



Assessment and Plan

constipation

K59.00 Constipation, unspecified

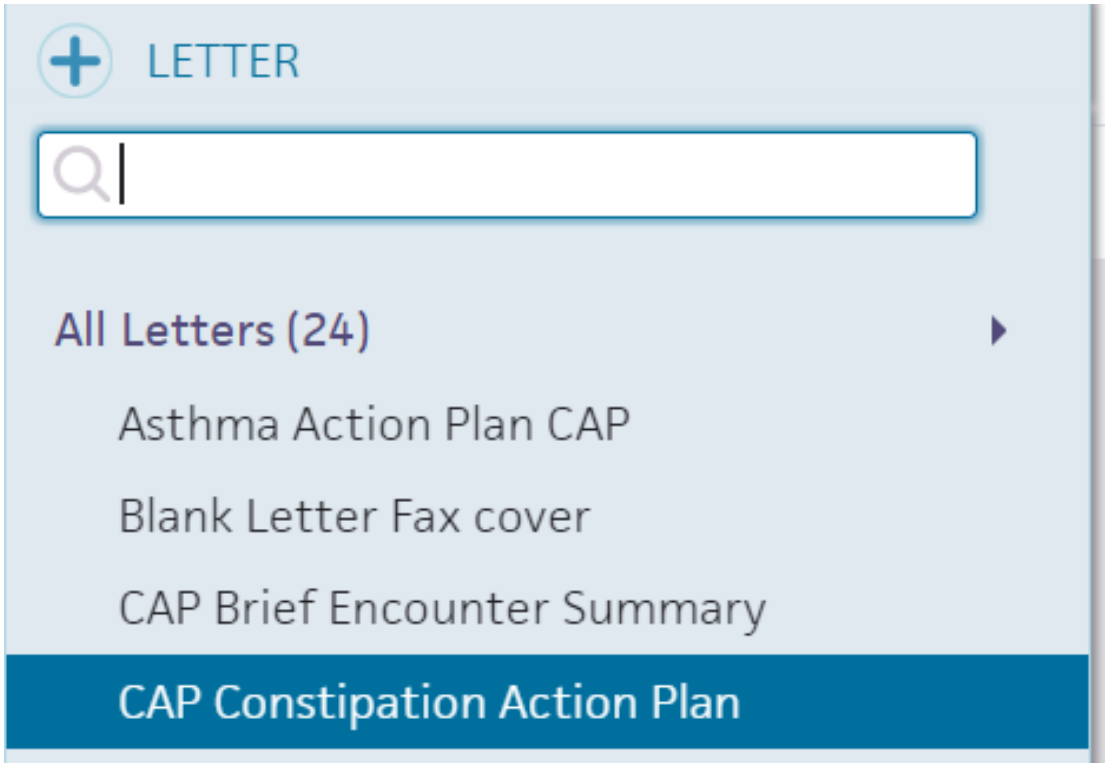
Meets diagnostic criteria for constipation: 1 month of at least 2 of the following criteria
2 or fewer stools per week / history of excessive stool retention / painful or hard BM / large diameter stools / fecal mass
No red flags, no fecal impaction
GOAL: > 2 stools / week, no pain, no soiling
Diet: Normal fiber and hydration for age
Follow-up in 2 weeks.

polyethylene glycoL 3350 17 gram/dose oral powder

Take (0.4 - 1 gm/kg/day) daily in 6-8 oz of water | 1 510 gm jar(s) | no refills | CVS/Pharmacy #1389

⚠ **1** allergy **1** moderate

Constipation Action Plan



Impact on Constipation Management

1. Improved documentation of plan

- Check boxes for medication doses and follow up instructions
- 2-page plan, detailed and clear explanations for family
- Lots of information in short period of time
- Helpful when issue comes up in PE or "by the way"

2. Improved "buy in" from patients and families

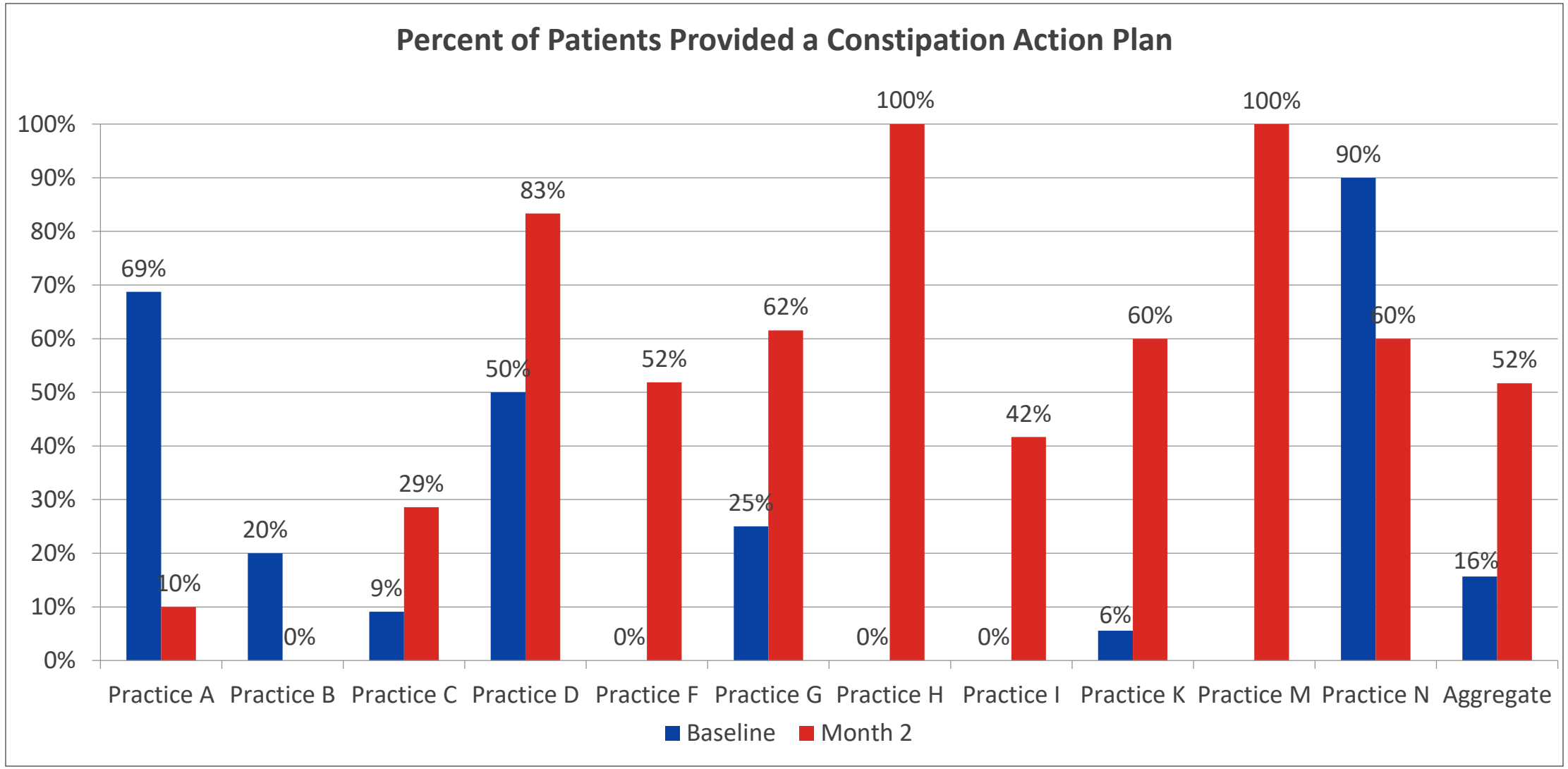
- More receptive to higher doses of Miralax
- Improved compliance
- Improved follow up and continuity
- Telemedicine very helpful

3. Emphasis on treatment and not diet

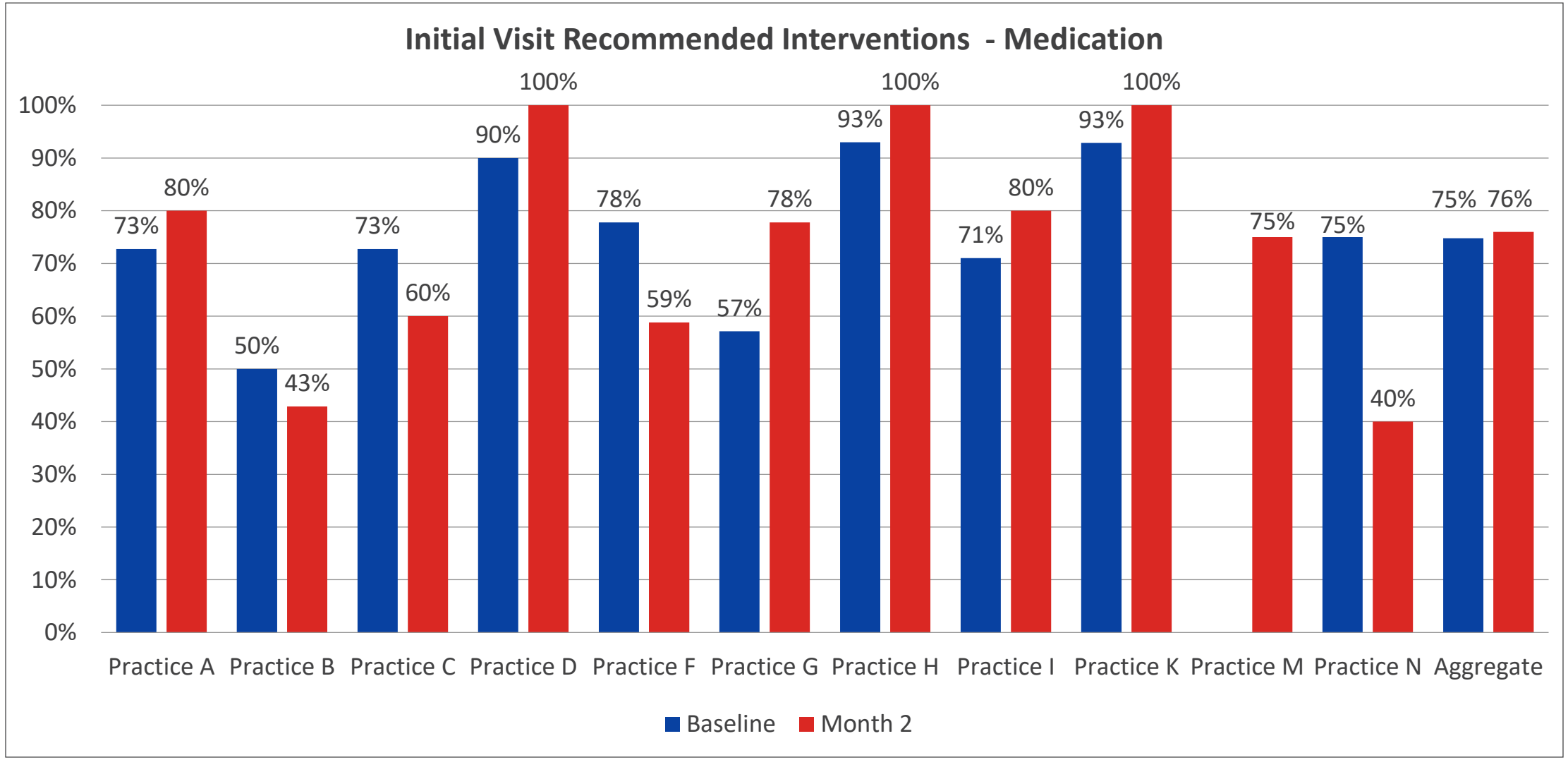
- Improved understanding on my part
- More success with picky eaters- fewer battles and less wasted time/energy
- Less belly pain, less constipation

Project Data & Next Steps

Utilization of Constipation Action Plan



Recommended Intervention: Medication



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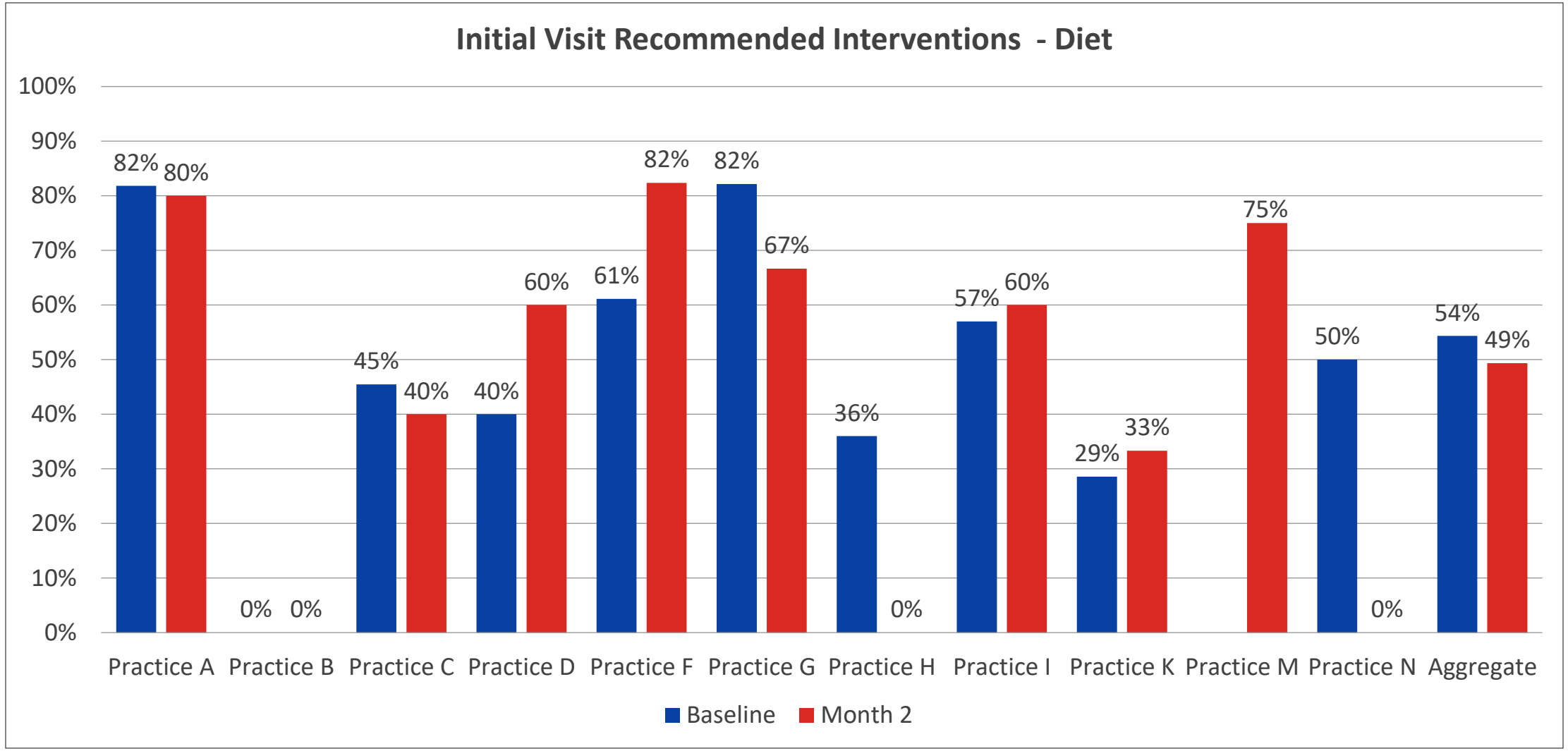
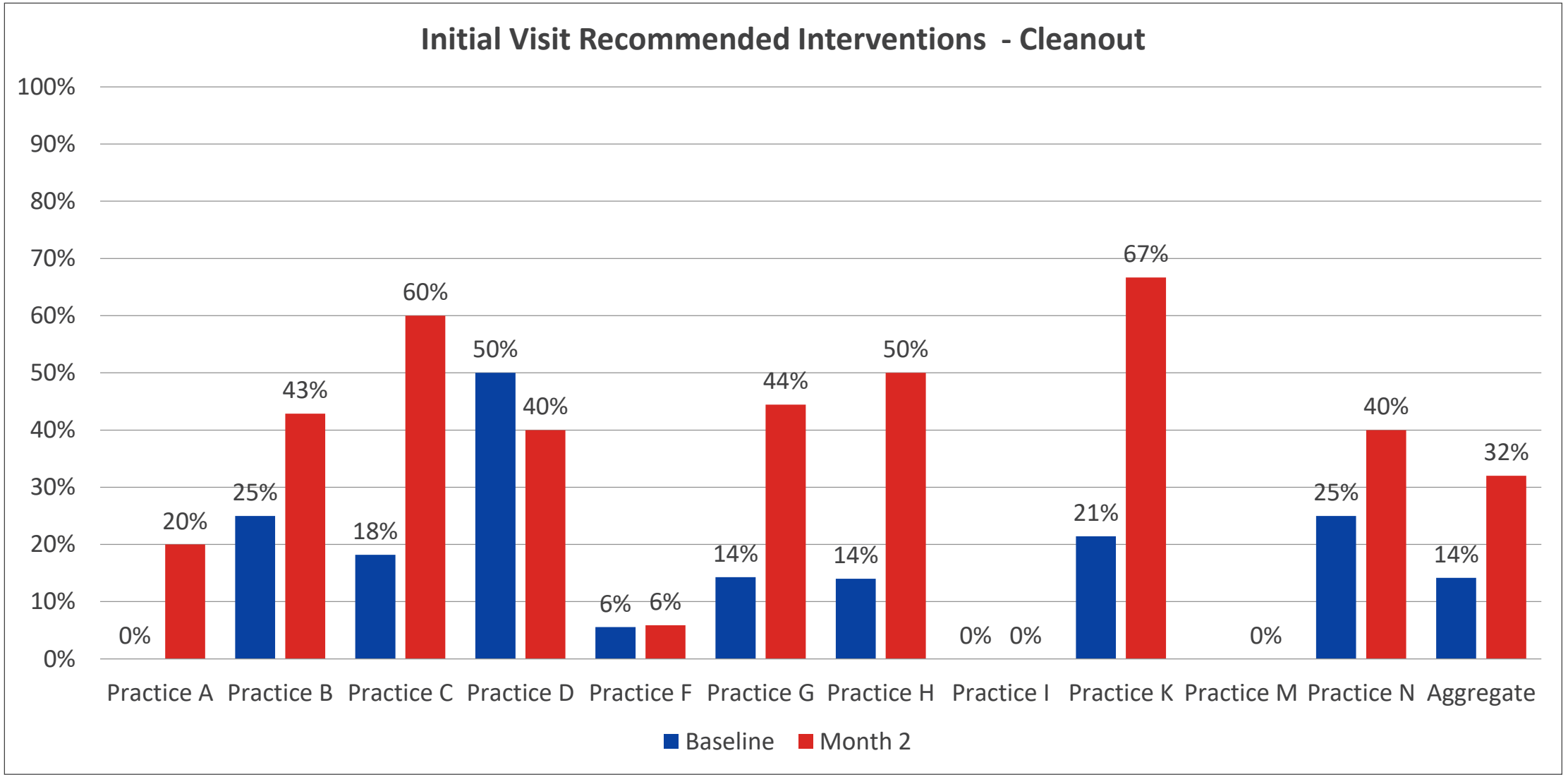
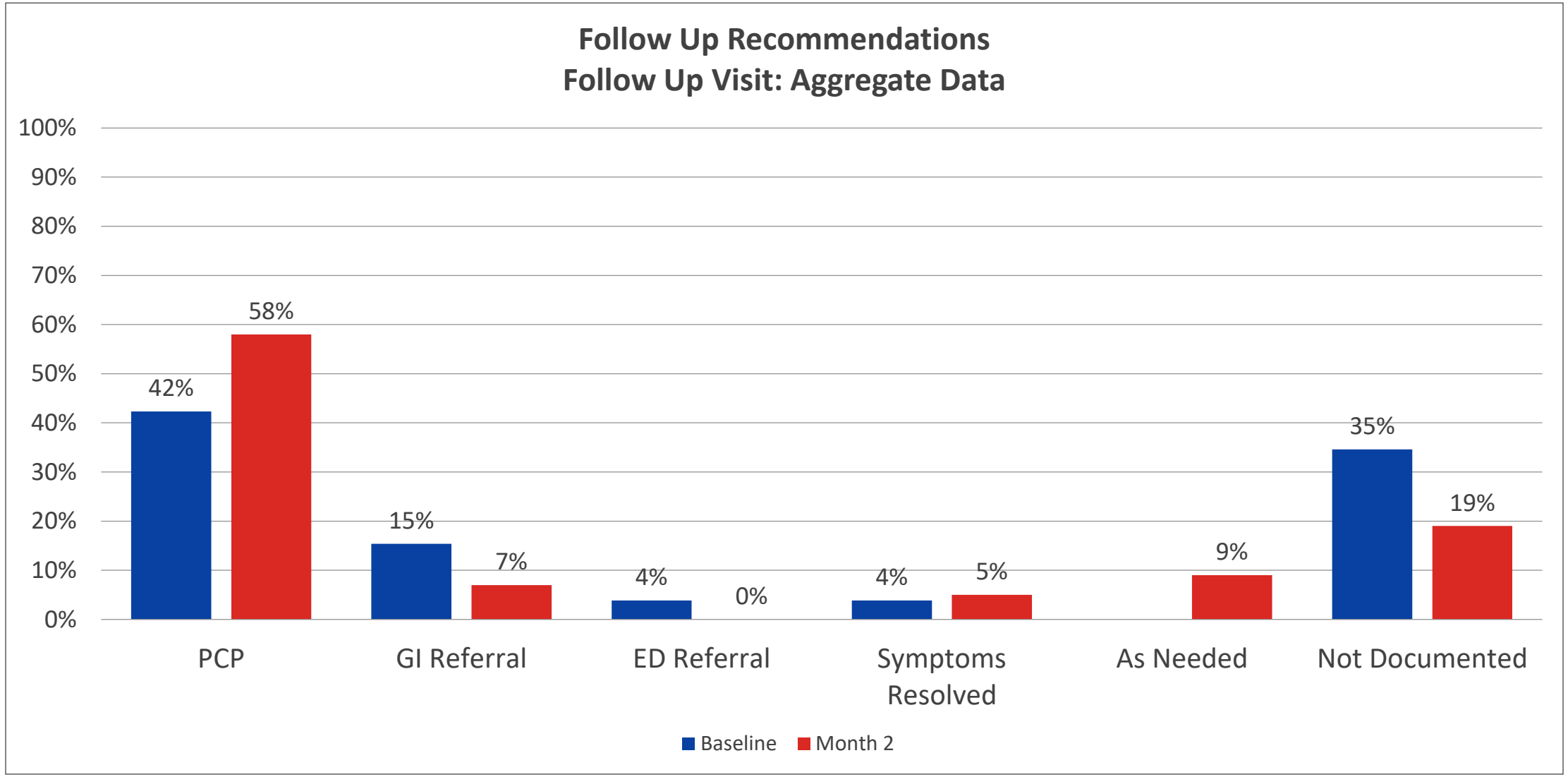
Recommended Intervention: Diet



Initial Visit: Recommended Interventions



Follow Up Recommendations: Aggregate Data



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Next Steps

- Resources will be posted on pediatrichealthnetwork.org and be available for all pediatricians to utilize
- If practices have an interest in utilizing these tools as a practice quality improvement project, please reach out to us
- PHN has connected with CNH ER to incorporate these tools into their discharge instructions. If you would like these tools shared with your local ER or urgent care center, please reach out to us

phn@childrensnational.org

Multidisciplinary Functional Pain Program

- **Goal**: Provide complex patients with evaluation and treatment for their abdominal pain
- **Resources:** Gastroenterology(motility), nutrition, psychology, pain management
- **Future:** Breath testing for SIBO, methane, lactose, exercise
- **Candidates:** IBS, Functional dyspepsia, intractable nausea, chronic abdominal pain

Thank you!

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