This guideline, for use by primary care providers, explains the treatment and referral process for functional abdominal pain in pediatric patients (ages 5 to 21).

Introduction

Chronic abdominal pain is defined as persistent or recurrent episodes of pain lasting for more than 2 months. The pain may be caused by a specific organic disease or be due to a functional disorder. Functional gastrointestinal disorders are defined as chronic or recurrent gastrointestinal symptoms not explained by any identifiable structural or biochemical abnormalities (Table 1).

<table>
<thead>
<tr>
<th>Table 1. Abdominal Pain-Related Functional Gastrointestinal Disorders (See Rome III Conditions and Criteria Appendix)</th>
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<tbody>
<tr>
<td>Functional dyspepsia</td>
</tr>
<tr>
<td>Irritable bowel syndrome</td>
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<tr>
<td>Abdominal migraine</td>
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<tr>
<td>Functional abdominal pain</td>
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</tbody>
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Functional abdominal pain in children is much more common than pain due to an organic disease. Most children referred to pediatric gastroenterologists for abdominal pain do not have a serious inflammatory, anatomic, metabolic, or neoplastic process and could be managed by a community-based child health professional.

For the diagnosis of chronic functional abdominal pain, the following must be present at least once per week for 2 months:

1. Episodic or continuous abdominal pain
2. No evidence of inflammatory, anatomic, metabolic, or neoplastic process that explains symptoms

The approach to a child with chronic abdominal pain involves looking for red flag symptoms and signs on history and physical examination that suggest the pain is more likely due to an organic disease. If none are present, providers should be prepared to make a positive diagnosis of a functional disorder with minimal diagnostic work up and appropriate management.

History and Physical Exam

1. Take a complete history, including social and dietary history and look for red flag symptoms and signs on page 2
2. Conduct a thorough physical exam, including rectal exam with stool hemoccult OR perianal exam with hemoccult of stool brought in by patient/family
3. Review the child’s growth chart

History (continued on next page)

- Social history:
  - Emotional or physical abuse
  - Life stressors such as divorce, bullying, alcohol or drug abuse in home, relationship with family members, changes in school performance
  - Interference with school extracurricular activities
Lifestyle history:
- Find out if the child is eating regular "sit-down" meals with the family; if the child consumes adequate amounts of high-fiber foods and fluids; if the child avoids sources of excessive juice, soda, or sugar-free gum; if the child gets outside for regular physical activity one hour every day; and if the child has a regular bedtime and gets an appropriate amount of sleep each night.

Family history:
- Inflammatory bowel disease (IBD) (Crohn's Disease, Ulcerative Colitis), peptic ulcer disease (PUD) or celiac disease

History: Red Flags
- Weight loss
- Unexplained fevers
- Unexplained rashes
- Dysphagia/odynophagia
- Persistent vomiting
- Hematemesis
- Bilious emesis
- Chronic diarrhea (> 2 weeks)
- Hematochezia/melena
- Persistent right upper or right lower quadrant pain
- Pain radiating to the back
- Arthritis
- Recurrent oral ulcers
- Anal/perianal ulcers
- Nocturnal symptoms (waking with diarrhea and/or vomiting)
- Delayed puberty
- Deceleration of linear growth velocity

Physical Exam: Red Flags
- Decline in weight/height parameters
- Pallor or anemia
- Abdominal distension
- Organomegaly (hepatosplenomegaly)
- Abdominal mass
- Localized tenderness
- Perianal fissures or ulcers
- Positive hemoccult stool test

Laboratory and Radiologic Evaluation
Simple screening tests can be helpful in guiding the diagnostic process to more specific investigations.
- Hemoccult testing on the stools may indicate PUD, IBD, or constipation.
- Complete blood count (CBC) demonstrating anemia or eosinophilia may indicate PUD, IBD, or eosinophilic intestinal disease.
- An elevated erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP) suggests an inflammatory process and may indicate IBD.
- A comprehensive metabolic panel (CMP) can detect hypoproteinemia or elevated liver enzymes.
- Urinalysis, urine culture can detect renal disease.
- Stool tests for culture, ova & parasites, giardia antigen, Clostridium difficile toxin, and cryptosporidia antigen are indicated when there is chronic diarrhea.
- Celiac serology to include tTG and serum IgA only if considering referral to pediatric gastroenterology because of signs and symptoms of celiac disease.
- IBD panels and helicobacter pylori serum antibody tests are not recommended.

Radiologic studies are not necessary for most patients with chronic abdominal pain. There are some patients, however, who warrant more in-depth evaluation based on the presence of red flags or abnormal findings on initial screening tests. Additional investigations to consider in these cases include:
- Kidney, ureter, and bladder (KUB) x-ray if appropriate to evaluate for intestinal obstruction or fecal impaction.
- Ultrasound to evaluate right upper quadrant pain in males and females or pelvic pain in a female.

Contact a pediatric gastroenterologist for consultation if one or more red flags or concerning symptoms or signs within the history, physical, and laboratory/radiologic sections of the evaluation process are identified.

If there are no red flags or concerning signs and symptoms, then assume that the patient has a functional gastrointestinal disorder and consult the Rome Criteria appendix of this document.
Principles of Treatment for Functional Abdominal Pain

1. Acknowledge

   Acknowledge that the pain the child is experiencing is real and show empathy for their concerns.

2. Education

   Educate parents on the concept of functional abdominal pain, current understanding of the role of intestinal hypersensitivity and the brain-gut axis and how this can result in a heightened sense of awareness of the pain when the child is subject to life stressors. Educate parents on possible stressors that could be from home, school, or personal anxiety.

3. Identify

   Identify precipitating and associated factors from the History and Physical to guide towards treatment options. Precipitating factors include certain foods, emotions, and stress. Associating factors include changes in bowel movement, pain associated or relieved with defecation, or excessive gas production.

4. Minimize Pain

   a. Explain that initial management should be directed towards decreasing factors that aggravate intestinal hypersensitivity. This involves minimizing intestinal gas production that results from one or more of the following: excess sorbitol or fructose ingestion, lactose intolerance, or constipation.

   b. Emphasize the importance of adopting a healthy lifestyle including a high fiber/low fat diet (5-a-day servings of fruits and vegetables, fiber cereal for breakfast, 1% low fat or skim milk), plenty of water, adequate sleep, and regular exercise.

   c. There are no medications that have been proven to be of value for children and adolescents with functional abdominal pain. Avoid using non-steroidal anti-inflammatory drugs (NSAID's) and narcotics.

   d. Aggressively treat constipation (see CCNC’s Pediatric Constipation Treatment and Referral Guidelines)

5. Reassure

   Reassure the child and family that although the pain may be bothersome, the child is in no danger and functional pain is an otherwise benign condition.

   Emphasize to the child and family that it is unlikely the pain will disappear completely but that with these practical measures the pain will decrease significantly and allow the child to function normally. Emphasize the need for coping mechanisms and the value of referral to a behavioral health professional skilled in cognitive behavioral therapy (CBT). Be sure to enlist the support of school staff so that the child remains at school unless the child is having fever or persistent vomiting.

Many children with functional abdominal pain will respond to the simple measures outlined above. In others, the pain will continue and become severe enough to affect the child’s ability to go to school and function normally. For these cases, additional measures will be needed including possible referral to a pediatric gastroenterologist and/or to a behavioral health professional. Management of these more difficult cases often requires a team approach using a combination of dietary modification, pharmaceutical agents, family support, school support, and cognitive behavioral therapy.
Follow Up

In all cases, it is extremely important to maintain contact with the child and the family to monitor response to therapy and advise them on next steps. At every visit, reconsider the possibility of an underlying organic disease and review for the presence of red flags or concerning signs and symptoms. Continued absence of any red flags is reassuring that the most likely diagnosis is still a functional disorder. It is important to follow these patients periodically (once a month) until families are satisfied.

At the follow-up visit:

1. Check weight
2. Reassess for red flags
3. Determine whether treatment plan was successful
4. Review calendar of pain with parents
5. Provide counseling to families

If new red flags are present, consider laboratory/radiologic tests and possible referral to a pediatric gastroenterologist. If no red flags are present, seriously consider referral for Cognitive Behavioral Therapy.

Prognosis

Pain resolves in 30% to 70% of patients by 2 to 8 weeks after diagnosis. Factors associated with worse prognosis include “painful family,” male gender, age younger than six years at diagnosis, more than six months duration of pain before seeking treatment, and high levels of depression/anxiety symptoms.

Referral

Refer to pediatric gastroenterologist if:

- Presence of red flags
- Symptoms worsen and cause loss of functionality (e.g., interference with school attendance, sleep, pleasurable activities)

When referring a patient to pediatric gastroenterology, always send:

1. Growth charts
2. Any labs
3. Any x-rays (note: send actual copies of films, especially the KUB, not just the radiology reports)
4. List of therapies that have been tried
5. Brief summary of the treatment course, including medications (written or dictated by referring MD)
6. Reason for consult

Appendices

See additional information about the diagnosis and treatment of pediatric abdominal pain in these appendices:

- Algorithm for Functional Abdominal Pain
- Rome III Conditions and Criteria
- Tips for Providers

This guideline is a consensus statement from the GI Treatment and Referral Guidelines Panel (December 2012), a committee of NC pediatric gastroenterologists and primary care physicians, sponsored by Community Care of North Carolina as part of the Child Health Accountable Care Collaborative (supported by Funding Opportunity Number CMS-1C1-12-0001 from Centers for Medicare and Medicaid Services, Center for Medicare and Medicaid Innovation). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of HHS or any of its agencies.
TIPS FOR PROVIDERS

Decision-making Based Upon History

- If early morning pain, pain awakening patient at night, early satiety, nausea, sour breath, belching, consider peptic source of the pain.
- If cramping pain and/or bloating and/or intestinal gas related to meals, consider carbohydrate malabsorption (lactose, fructose, sorbitol).
- If respiratory symptoms such as chronic nocturnal cough, wheezing, laryngitis, consider gastroesophageal reflux.
- If fever, weight loss, poor weight gain or delay in puberty, no increase in height, joint complaints, rash, consider inflammatory or infectious process.
- If self-induced purging behavior with or without weight loss, consider an eating disorder.
- If the pain occurs with specific physical activity, consider muscle strain.
- If there is episodic swelling of the throat or skin (extremities, face, genitalia), consider hereditary angioedema.
- If infrequent stooling, incomplete evacuation, encopresis, diet low in fiber and high in starches, consider constipation.
- If presence of melena consider peptic, blood in stool with weight lost or diarrhea, consider inflammatory bowel disease.

Decision-making Based Upon Physical Exam

Patients and their families are often concerned that they may have a serious organic disease. Therefore, it is important to do a thorough complete physical exam in addition to a careful abdominal examination and keep in mind the following fundamentals:

- The further the pain from the umbilicus, the greater the likelihood of organic disease.
- If there is a mass in the left lower abdominal quadrant and hard stool in the rectal vault, or abdominal distension, consider constipation.
- If there is arthritis and/or rash, weight loss, failure to reach lineal growth benchmarks, consider inflammatory or infectious process.
- If there is muscle tenderness or pain with certain physical activities, consider muscle strain.
- If there is cervical motion tenderness, adnexal tenderness, or adnexal mass on pelvic examination, consider pelvic inflammatory disease, ovarian cyst/neoplasm, ectopic pregnancy.
- If blood in stool with weight loss or diarrhea, consider inflammatory bowel disease.

Counseling Families

Primary care providers can educate families about the interplay between the central nervous system, the enteric nervous system, and real life. This interplay may cause abnormal visceral perception and altered motility of the gastrointestinal tract, resulting in pain. Often there are psychosocial factors that impact the brain-gut axis.

Relaxation or biofeedback techniques can be helpful, and it may be beneficial to refer some patients to a behavioral health specialist skilled in behavioral cognitive therapy who can teach the patient how to implement muscle relaxation exercises with the goal being to help the patients learn to relax. Psychotropic medications may also be utilized by a behavioral therapist when appropriately indicated for specific symptomatology.

References

Algorithm for Functional Abdominal Pain

Patient Presents with Abdominal Pain

- History
- Physical Exam
- Review of Growth Chart

Red Flags* Present? Yes

Evaluate Further

No

Treat for Functional Gastrointestinal Disorder

1. Acknowledge: Pain is Real
2. Educate: Brain-Gut Axis, Life Stressors
3. Identify: Food, Emotions, Stress
4. Minimize Pain: Diet, Lifestyle
5. Reassure: Coping Strategy

Follow-up

- Laboratory Testing
- Radiologic Testing

Possible Subspecialist Referral

If abdominal pain does not improve, worsens or if red flags appear, consider referral to a Pediatric Gastroenterologist

If there is concern about anxiety and/or other mental health problem(s), consider referral to a behavioral health professional

*Red Flags

History
- Weight loss
- Unexplained fevers
- Unexplained rashes
- Dysphagia/odynophagia
- Persistent vomiting
- Hematemesis
- Bilious emesis
- Chronic diarrhea (> 2 weeks)
- Hematochezia/melena
- Persistent right upper or right lower quadrant pain
- Pain radiating to the back
- Arthritis
- Recurrent oral ulcers
- Anal/perianal ulcers
- Nocturnal symptoms (waking with diarrhea and/or vomiting)
- Delayed puberty
- Deceleration of linear growth velocity

Physical Exam
- Decline in weight/height parameters
- Pallor or anemia
- Abdominal distension
- Organomegaly (hepatosplenomegaly)
- Abdominal mass
- Localized tenderness
- Perianal fissures or ulcers
- Positive hemoccult stool test
Cyclic Vomiting Syndrome
Diagnostic criteria include the following:
- Episodes of vomiting (acute) and duration (less than one week)
- Return to usual state of health lasting weeks to months
- Absence of nausea and vomiting between episodes
- Strong family history of migraine headaches is a supportive criteria

Infant Colic
Diagnostic criteria must include all of the following in infants from birth to 4 months of age:
- Paroxysms of irritability, fussing or crying that starts and stops without obvious cause
- Episodes lasting 3 or more hours/day and occurring at least 3 days/week for at least 1 week
- No failure to thrive

Functional Diarrhea
Diagnostic criteria must include all of the following:
- Daily painless, recurrent passage loose (mushy) or watery stool occurring in at least 75% of stool
- Symptoms that last more than 2 months
- Passage of stools that occurs during waking hours
- There is no failure-to-thrive if caloric intake is adequate

Adolescent Rumination Syndrome
Diagnostic criteria* must include all of the following:
- Repeated painless regurgitation and rechewing or expulsion of food that
  o begin soon after ingestion of a meal
  o do not occur during sleep
  o do not respond to standard treatment for gastroesophageal reflux
- No retching
- No evidence of an inflammatory, anatomic, metabolic, or neoplastic process that explains the child’s symptoms
* Criteria fulfilled for the last 2 months with symptom onset at least 6 months prior to diagnosis

Aerophagia
Diagnostic criteria* must include at least two of the following:
- Air swallowing could or could not be objectively observed or measured
- Abdominal distention due to intraluminal air
- Repetitive belching at least several times a week and/or increased flatus
*Criteria fulfilled at least once per week for at least 2 months prior to diagnosis
Functional Dyspepsia
Diagnostic criteria* must include all of the following:
- Persistent or recurrent epigastric pain or discomfort or early satiation Not relieved by defecation or associated with the onset of a change in stool frequency or stool form (i.e., not irritable bowel syndrome)
- No evidence of an inflammatory, anatomic, metabolic or neoplastic process that explains the child’s symptoms
* Criteria fulfilled for the last 2 months with symptom onset at least 6 months prior to diagnosis

Irritable Bowel Syndrome
Diagnostic criteria* must include both of the following:
- Abdominal discomfort** or pain associated with two or more of the following at least 25% of the time:
  - Improvement with defecation
  - Onset associated with a change in frequency of stool
  - Onset associated with a change in form (appearance) of stool
- No evidence of an inflammatory, anatomic, metabolic, or neoplastic process that explains the child’s symptoms
* Criteria fulfilled at least once per week for at least 2 months prior to diagnosis
** “Discomfort” means an uncomfortable sensation not described as pain.

Abdominal Migraine
Diagnostic criteria* must include all of the following:
- Paroxysmal episodes of intense, acute periumbilical pain that lasts for hour or more
- Intervening periods of usual health lasting weeks to months
- The pain interferes with normal activities
- The pain is associated with 2 of the following:
  - Anorexia
  - Nausea
  - Vomiting
  - Headache
  - Photophobia
  - Pallor
- No evidence of an inflammatory, anatomic, metabolic, or neoplastic process considered that explains the child’s symptoms
* Criteria fulfilled two or more times in the preceding 12 months

Childhood Functional Abdominal Pain
Diagnostic criteria* must include all of the following:
- Episodic or continuous abdominal pain
- Insufficient criteria for other FGIDs
- No evidence of an inflammatory, anatomic, metabolic, or neoplastic process that explains the child’s symptoms
* Criteria fulfilled at least once per week for at least 2 months prior to diagnosis

Childhood Functional Abdominal Pain Syndrome
Diagnostic criteria* must include all of the following:
- Some loss of daily functioning
- Continuous or nearly continuous abdominal pain
- No or only occasional relationship of pain with physiological events (e.g., eating, defecation, or menses)
- The pain is not feigned (e.g., malingering)
- Insufficient symptoms to meet criteria for another functional gastrointestinal disorder that would explain the pain
* Criteria fulfilled at least once per week for at least 2 months prior to diagnosis
This guideline, for primary care providers, explains the treatment and referral process for constipation in pediatric patients (ages 0 to 21). Constipation is either infrequent stools OR painful stools OR difficulty passing stools. A fecal impaction is a solid, immobile bulk of human feces that can develop in the rectum as a result of chronic constipation.

**Constipation Algorithm**

1. **History and Physical Exam**
   - 1. Evaluate deep tendon reflexes
   - 2. Perform a rectal exam
   - 3. Look for lumbosacral anomaly

2. **Red Flags**
   - Fever
   - Vomiting
   - Poor feeding
   - Bloody diarrhea
   - Failure to thrive
   - Anal stenosis
   - Tight empty rectum
   - Perirectal abscess

3. **Disimpaction Protocol†**
   - 1. Start colonic lavage with polyethylene glycol 3350 (PEG – Miralax/Glycolax)
     - Administer 8 oz every 15 minutes until finished as follows:
       - <5 years old or mild symptoms: 8 capfuls in 64 ounces of liquid
       - ≥5 years old or severe symptoms: 16 capfuls in 64 ounces of liquid
   - 2. For school-aged children, start on Friday night
   - 3. If results are unsatisfactory, repeat the process the next day. Parents should call the physician if still unsatisfactory.

4. **Maintenance and behavioral education**

5. **Disimpaction effective?**
   - Yes: Repeat Disimpaction Protocol, obtain CBC and CMP,* and contact pediatric gastroenterologist for phone consultation
   - No: If patient doing well, continue maintenance for at least 6 months

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*CMP, comprehensive metabolic panel; CBC, complete blood count

†Adapted from the UNC Hospitals disimpaction protocol. Alternative protocols containing combinations of Miralax, magnesium citrate, senna, and/or bisacodyl can also be effective and can be used in consultation with a pediatric gastroenterologist.
5 Referral Instructions

Provide the pediatric gastroenterologist with the following information:

A. History
   - Delay in passage of meconium (for infants only)
   - Stool consistency
   - History of withholding
   - Family stressors
   - Change in environment
   - What treatment has been provided (include medications)

B. Exam findings (rectal exam, neurological exam, and appearance of lumbosacral spine)

C. Laboratory tests
   - TSH and T4 free (if indicated by growth delay)
   - Lead (if in house built before 1978, exposed to lead paint, or lead screening questionnaire is positive)
   - Complete blood count (CBC) or hemoglobin
   - Comprehensive metabolic panel (CMP)
   - Kidneys, ureters, bladder (KUB) and celiac panel are not required for referral to subspecialist

D. Growth Charts

What to Tell to Families

1. Give parents written home management instructions.
2. Tell parents that the child is to sit on toilet 2 to 3 times daily, 5 to 10 minutes each, for “protected time to have a BM.” Ensure that smaller children have step stool so feet touch solid base.
3. Emphasize that parents should use positive reinforcement, not punishment.
4. Explain encopresis to the parent and child.
5. Explain that the role of milk is controversial, and a trial of stopping milk may be considered.
6. Explain the importance of the child having 5 servings of fruits and vegetables a day and plenty of fluids.
7. Set definitive follow-up appointment within several weeks to assess progress and provide encouragement and guidance. Encourage follow-up phone calls to remain on track.
This guideline, for use by primary care providers, explains the treatment and referral process for gastroesophageal reflux and gastroesophageal reflux disease in pediatric patients (ages 0 to 21).

GER, GERD, or “Happy Spitting”?  
Appropriate distinction between gastroesophageal reflux and true gastroesophageal reflux disease is vital to initiating proper treatment.

**Gastroesophageal reflux (GER)** is the passage of gastric contents into the esophagus with or without regurgitation and vomiting. Most episodes of reflux in healthy individuals last less than 3 minutes, occur in the postprandial period, and cause few or no symptoms.

Sometimes infants (0 to 12 months) spit up but do not have symptomatic reflux. About 50% of healthy 3- to 4-month-old infants spit up at least once a day. This is known as “happy spitting.” Most infants with asymptomatic GER (“Happy Spitters,” Tier 1 on following page) grow normally and the condition often peaks at 4 months and resolves by 12 to 18 months of age. Current clinical guidelines say that the frequency of GER in breastfed and formula fed infants is about the same, although the duration of reflux episodes may be shorter in breastfed infants.

Symptomatic GER can result in some feeding difficulty or refusal, irritability, and back arching (See Tier 2 on following page).

In contrast, **gastroesophageal reflux disease (GERD)** is present when the reflux of gastric contents causes troublesome symptoms and/or complications (e.g., retarded weight gain, pneumonia, vomiting blood, or other related problems) (Tier 3).

**Red Flags**

<table>
<thead>
<tr>
<th>Red Flag</th>
<th>What to Do</th>
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<tbody>
<tr>
<td>Weight loss / failure to thrive</td>
<td>Admit to observe on conservative feeding regimen and to obtain CBC, electrolytes, urinalysis/urine culture, upper GI series, cranial ultrasound</td>
</tr>
<tr>
<td>Refusal to feed</td>
<td>Admit to observe on conservative feeding regimen and to obtain laboratory and imaging studies as indicated</td>
</tr>
<tr>
<td>GI bleeding</td>
<td>Consult Pediatric Gastroenterologist</td>
</tr>
<tr>
<td>Green or bilious vomitus</td>
<td>Obtain upper GI series and consult Pediatric Surgery</td>
</tr>
<tr>
<td>Forceful vomiting (projectile)</td>
<td>Upper GI series or, for infants only, pyloric ultrasound and consult Pediatric Surgery or Gastroenterology</td>
</tr>
<tr>
<td>Sudden onset of reflux after 4 months of life</td>
<td>Treat as Tier 3 patients according to protocol on next page and obtain upper GI series</td>
</tr>
</tbody>
</table>

*Primary care providers are encouraged to consult a pediatric gastroenterologist urgently when patient presents with red flags (at least consult gastroenterologist by phone).

**Parental Education and Reassurance**

Current evidence emphasizes the necessity and value of parental education in the management of GER. Anxious parents in particular may need guidance and reassurance, and parental education can reduce demands for unnecessary treatment of “happy spitters.” Our caregiver education resources include the Parent Take-Home Guide of the North American Society of Pediatric Gastroenterology, Hepatology and Nutrition, upon whose guideline this document is based.
**Abbreviations:** H2RA, histamine-2 receptor antagonists; PPI, proton-pump inhibitor

**Tier 1: Happy Spitter**

- Spitting up without irritability, feeding and gaining weight well

**Symptoms**

- Feeding difficulty, irritability, "symptomatic reflux" (back arching, spitting, feeding refusal)

**Diagnosis**

1. Take detailed history
2. Conduct a physical exam
3. Take a detailed history

**Treatment**

- Ages 0 to 12 months:
  - Adjust feeding volume of formula
  - Complete workup including urinalysis, CBC, electrolytes, and, for suspected infection, CBC, electrolytes, and for suspected infection

**Symptoms**

- Reflux with weight loss, retained weight gain, aspiration pneumonitis

**Diagnosis**

1. Spitting, lethargy, feeding refusal (AGFR)
2. Take a detailed history

**Treatment**

- Ages 0 to 12 months:
  - Continue effective regurgitation infant formula
  - Lansoprazole (Prevacid)†: 0.1 to 0.2 mg/kg/day divided twice daily (max 30 mg/day)

**Symptoms**

- Reflux with weight loss, weight gain, vomiting blood, or extreme irritability

**Diagnosis**

1. Take detailed history
2. Conduct a physical exam
3. Complete workup including urinalysis, CBC, electrolytes, and, for suspected infection

**Treatment**

- Ages 0 to 12 months:
  - Lansoprazole (Prevacid)†: 0.1 to 0.2 mg/kg/day divided twice daily (max 30 mg/day)

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**References:**

1. Be aware of significant side effects of PPIs in infants.
2. H2RAs:
   - Ranitidine (Zantac): 5 to 10 mg/kg/day divided twice daily (max 300 mg/day)
   - Famotidine (Pepcid): 0.5 mg/kg/day divided twice daily (max 80 mg/day)

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**Abbreviations:** H2RA, histamine-2 receptor antagonists; PPI, proton-pump inhibitor

**Tier 2: GER (Reflux)**

**Symptoms**

- Feeding difficulty, irritability, "symptomatic reflux" (back arching, spitting, feeding refusal)

**Diagnosis**

1. Take detailed history
2. Conduct a physical exam
3. Complete workup including urinalysis, CBC, electrolytes, and, for suspected infection

**Treatment**

- Ages 0 to 12 months:
  - Lansoprazole (Prevacid)†: 0.1 to 0.2 mg/kg/day divided twice daily (max 30 mg/day)

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**Abbreviations:** H2RA, histamine-2 receptor antagonists; PPI, proton-pump inhibitor

**Tier 3: GERD (Disease)**

**Symptoms**

- Reflux with weight loss, weight gain, vomiting blood, or extreme irritability

**Diagnosis**

1. Take detailed history
2. Conduct a physical exam
3. Complete workup including urinalysis, CBC, electrolytes, and, for suspected infection

**Treatment**

- Ages 0 to 12 months:
  - Lansoprazole (Prevacid)†: 0.1 to 0.2 mg/kg/day divided twice daily (max 30 mg/day)
SPIT HAPPENS (0-24 month olds)
Reflux and Your Baby

Gastroesophageal Reflux (GER) occurs during or after a meal when stomach contents go back into the tube that connects the mouth to the stomach. GER occurs often in normal infants. Most infants with GER are happy and healthy even though they spit up or vomit. Spitting up tends to peak at 4 months and most infants stop spitting up by 12 months of age.

If your baby is spitting up without discomfort and is making appropriate weight gains, then he or she is probably a normal spitter.

Things that you can do at home to help reduce spitting up:

☐ Avoid overfeeding
  1. Don’t feed the baby again after he or she spits up - wait until the next feeding.
  2. Consult your doctor to see if the baby is taking appropriately sized bottles or nursing the appropriate amount of time.

☐ For formula fed infants, feedings can be thickened (1 Tbs of rice cereal per 1 ounce of formula)
  1. Pinch the top of the nipple between the thumb and index finger.
  2. Make a small slit in the top of the nipple with the corner of a sterile razor blade. The blade allows for accurate cutting, and prevents shredding of the nipple.
  3. Start with a small slit, and enlarge as needed until the formula is flowing easily.

☐ In formula fed infants, try a hypoallergenic formula for 2 weeks
☐ Keep infant upright for at least 30 minutes after meals
☐ Avoid car seat positioning in the home
☐ Avoid tight diapers and elastic waistbands
☐ Avoid exposure to tobacco smoke

Most infants with GER will be helped with the treatment mentioned above. If symptoms are severe or persistent then your primary care provider may consider treatment with a medication or referral to a pediatric gastroenterologist.

Worrisome Symptoms of Reflux Disease in Infants (0-24 months old)

(Symptoms experienced by your infant)

1. Vomiting associated with
   • Blood
   • Green or yellow fluid
   • Poor weight gain

2. Inconsolable or severe crying and irritability

3. Persistent food refusal
   • Poor growth or failure to thrive
   • Difficulty eating

4. Breathing problems
   • Difficulty breathing
   • Repeat bouts of pneumonia
   • Breathing stops
   • Turning blue
   • Chronic cough
   • Wheezing

If you have concerns, speak to your healthcare provider.

IMPORTANT REMINDER: This information from the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) and the Children’s Digestive Health and Nutrition Foundation (CDHNF) is intended only to provide general information and not as a definitive basis for diagnosis or treatment in any particular case. It is very important that you consult your doctor about your child’s specific condition.

Please turn over to the back for the take-home guides for older children and teens with GERD
WHAT’S UP WITH MY KID’S STOMACH? (2-12 year olds)

Gastroesophageal Reflux (GER) occurs during or after a meal when stomach contents go back into the tube that connects the mouth to the stomach.

Most children are able to decrease their reflux with lifestyle and diet changes:

☐ Have your child eat smaller meals more often
☐ Avoid eating 2 to 3 hours before bedtime
☐ Elevate the head of the bed 30 degrees
☐ Avoid carbonated drinks, chocolate, caffeine, and foods that are high in fat (french fries and pizza) or contain a lot of acid (citrus, pickles, tomato products) or spicy foods
☐ Avoid large meals prior to exercise
☐ Help your child lose weight if he or she is overweight
☐ Avoid exposure to tobacco smoke

Most children with GER will be helped with the treatment mentioned above. If symptoms are severe or persistent then your primary care provider may consider treatment with a medication or referral to a pediatric gastroenterologist.

Worrisome Symptoms of Reflux Disease in Children (2-12 year olds)

(Symptoms experienced by your child)

1. Repeated vomiting associated with
   • Blood
   • Green or yellow fluid
   • Weight loss or poor weight gain
2. Frequent sensation of food or liquid coming up into the back of the throat or mouth
3. Frequent discomfort in the stomach or chest
4. Swallowing problems
   • Discomfort with the act of swallowing
   • Pain with swallowing
   • Sensation that food gets stuck on the way down
5. Breathing problems
   • Wheezing
   • Chronic cough or recurrent pneumonia
   • Hoarseness
   • Asthma

If you have concerns, speak to your healthcare provider.

SICK AND TIRED OF BEING SICK (13+ years)

Gastroesophageal Reflux (GER) occurs during or after a meal when stomach contents go back into the tube that connects the mouth to the stomach.

Most teenagers are able to decrease their reflux with lifestyle and diet changes:

☐ Have your teenager eat smaller meals more often
☐ Avoid eating 2 to 3 hours before bedtime
☐ Elevate the head of the bed 30 degrees
☐ Avoid carbonated drinks, chocolate, caffeine, and foods that are high in fat (french fries and pizza) or contain a lot of acid (citrus, pickles, tomato products) or spicy foods
☐ Avoid large meals prior to exercise
☐ Help your teen lose weight if he or she is overweight
☐ Avoid cigarette smoking
☐ Avoid drinking alcohol

Most teens with GER will be helped with the treatment mentioned above. If symptoms are severe or persistent then your primary care provider may consider treatment with a medication or referral to a pediatric gastroenterologist.

Worrisome Symptoms of Reflux Disease in Teenagers (13+ year old)

(Symptoms experienced by your teen)

1. Repeated vomiting associated with
   • Blood
   • Green or yellow fluid
   • Weight loss or poor weight gain
2. Frequent sensation of food or liquid coming up into the back of the throat or mouth
3. Frequent discomfort in the stomach or chest
   • Heartburn
4. Swallowing problems
   • Discomfort with the act of swallowing
   • Pain with swallowing
   • Sensation that food gets stuck on the way down
5. Breathing problems
   • Wheezing
   • Chronic cough or recurrent pneumonia
   • Hoarseness
   • Asthma

If you have concerns, speak to your healthcare provider.
GUÍA CASERA PARA PADRES
GERD
(Enfermedad por reflujo gastroesofágico)

LOS BEBÉS REGURGITAN
(0 - 24 meses de edad)

El reflujo y su bebé

El reflujo gastroesofágico (GER abreviación en inglés) ocurre durante o después de una comida, cuando el contenido del estómago se re-gresa al tubo que conecta la boca con el estómago. El GER ocurre seguido en lactantes normales. La mayoría de lactantes con GER es-tán felices y saludables aunque regurgiten o vomiten. La regurgitación tiende a alcanzar el máximo a los 4 meses y la mayoría de lactantes deja de regurgitar a los 12 meses de edad.

Si su bebé está regurgitando sin molestias y tiene una adecuada ga-nancia de peso, entonces es probablemente un regurgitador normal.

Cosas que Ud. puede hacer en casa para ayudar a reducir la regur-gitación:

☐ Evite la sobrealimentación
1. No alimente al bebé de nuevo después de que regurgite - espere hasta el próximo alimento.
2. Consulte con su doctor para ver si el bebé está tomando biberones con la cantidad apropiada o está lactando durante la cantidad apropiada de tiempo.

☐ Para los lactantes alimentados con fórmula, se puede espesar el alimento (1 cucharada de cereal de arroz por onza de fórmula)
1. Pellizque la punta del chupón entre los dedos índice y pulgar.
2. Haga una pequeña abertura en la punta del chupón con la esquina de una hoja de afeitar estéril. La hoja permite un corte exacto y previene que el chupón se haga tiras.
3. Empiece con una abertura pequeña y agrándela a medida que lo necesite hasta que la fórmula esté fluyendo fácilmente.

☐ Para los lactantes alimentados con fórmula, pruebe una fórmula hipoalergénica durante 2 semanas
☐ Mantenga al lactante erguido durante por lo menos 30 minutos después de las comidas
☐ En casa, evite poner al niño en la posición de asiento de auto-móvil
☐ Evite pañales y cinturones elásticos apretados
☐ Evite la exposición al humo del tabaco

La mayoría de lactantes con GER se beneficiará con el tratamiento arriba indicado. Si los síntomas son severos o persistentes, entonces su proveedor primario de salud puede considerar el tratamiento con medicación o referirlo a un gastroenterólogo pediátrico.

Síntomas preocupantes de enfermedad por reflujo en lactantes (0 - 24 meses de edad)

(Síntomas experimentados por su bebé)

1. Vómito asociado con
   • Sangre
   • Líquido verde o amarillo
   • Escasa ganancia de peso

2. Llanto inconsolable o severo e irritabilidad

3. Negativa persistente a comer
   • Escaso crecimiento o retardo en el crecimiento
   • Dificultades para comer

4. Problemas respiratorios
   • Dificultad para respirar
   • Episodios repetidos de neumonía
   • Paro respiratorio
   • El niño se pone azul
   • Tos crónica
   • Sibilancias

Si tiene inquietudes, hable con su proveedor de salud.

RECORDATORIO IMPORTANTE:
Esta información, de la Fundación para la Salud Digestiva y Nutrición de los Niños (abreviada CDHNF en inglés) y de la Sociedad Americana de Gastroenterología, Hepatología y Nutrición Pediátricas (abreviada NASPGHAN en inglés) se ofrece sólo como una guía general y no como una base definitiva para diagnóstico o tratamiento en ningún caso en particular. Es muy importante que Ud. consulte a su doctor sobre su condición específica.

Por favor, dé vuelta a la hoja para leer la guía casera para niños mayores y adolescentes con GERD
¿QUÉ PASA CON EL ESTÓMAGO DE MI NIÑO? (2-12 años de edad)

El reflujo y su niño

El reflujo gastroesofágico (GER abreviación en inglés) ocurre durante o después de una comida, cuando el contenido del estómago se regresa al tubo que conecta la boca con el estómago.

La mayoría de niños puede disminuir su reflujo con cambios en su estilo de vida y dieta:

- Haga que su niño coma más seguido comidas más pequeñas
- Evite comer 2 a 3 horas antes de acostarse
- Eleve la cabecera de la cama 30 grados
- Evite bebidas carbonatadas, chocolate, cafeína, y alimentos ricos en grasa (papas fritas y pizza) o que contengan mucho ácido (cítricos, encurtidos, productos del tomate) o comidas picantes.
- Evite las comidas abundantes antes del ejercicio
- Ayude a su niño a perder peso si tiene sobrepeso
- Evite la exposición al humo del tabaco

La mayoría de niños con GER se beneficiará con el tratamiento arriba indicado. Si los síntomas son severos o persistentes, entonces su proveedor primario de salud puede considerar el tratamiento con medicación o referirlo a un gastroenterólogo pediátrico.

Síntomas preocupantes de enfermedad por reflujo en niños (2-12 años de edad)

(Síntomas experimentados por su niño.)

1. Episodios repetidos de vómito con
   - Sangre
   - Líquido verde o amarillo
   - Escasa ganancia o pérdida de peso
2. Sensación frecuente de comida o líquido que sube a la parte inferior de la garganta o posterior de la boca
3. Molestia frecuente en el estómago o pecho
4. Problemas al tragar
   - Molestia durante el acto de tragar
   - Dolor al tragar
   - Sensación de que la comida se atasca cuando baja
5. Problemas respiratorios
   - Sibilancias
   - Tos crónica o neumonía recurrente
   - Ronquera
   - Asma

Si tiene inquietudes, hable con su proveedor de salud.

HARTO DE ESTAR ENFERMO (13 años y más)

El reflujo y su adolescente

El Reflujo Gastroesofágico (GER abreviación en inglés) ocurre durante o después de una comida, cuando el contenido del estómago se regresa al tubo que conecta la boca con el estómago.

La mayoría de adolescentes puede disminuir su reflujo con cambios en su estilo de vida y dieta:

- Haga que su adolescente coma más seguido comidas más pequeñas
- Evite comer 2 a 3 horas antes de acostarse
- Eleve la cabecera de la cama 30 grados
- Evita bebidas carbonatadas, chocolate, cafeína y comidas ricas en grasa (papas fritas y pizza) o que contengan mucho ácido (cítricos, encurtidos, productos del tomate) o comidas picantes.
- Evite las comidas abundantes antes de hacer ejercicio
- Ayude a su adolescente a perder peso si tiene sobrepeso
- Evite fumar cigarrillos
- Evite beber alcohol

La mayoría de adolescentes con GER se beneficiará con el tratamiento arriba indicado. Si los síntomas son severos o persistentes, entonces su proveedor primario de salud puede considerar el tratamiento con medicación o referirlo a un gastroenterólogo pediátrico.

Síntomas preocupantes de enfermedad por reflujo en adolescentes (13 años y más)

(Síntomas experimentados por su adolescente.)

1. Episodios repetidos de vómito con
   - Sangre
   - Líquido verde o amarillo
   - Escasa ganancia o pérdida de peso
2. Sensación frecuente de que comida o líquido sube a la parte inferior de la garganta o posterior de la boca
3. Frecuente incomodidad en el estómago o pecho
   - Acedía
4. Problemas al tragar
   - Molestia con el acto de tragar
   - Dolor al tragar
   - Sensación de que la comida se atasca al bajar
5. Problemas respiratorios
   - Sibilancias
   - Tos crónica o neumonía recurrente
   - Ronquera
   - Asma

Si tiene inquietudes, hable con su proveedor de salud.
What is functional abdominal pain, and why does it happen?

Most otherwise-healthy children who repeatedly complain of stomachaches for two months or more have functional abdominal pain. The term “functional” refers to the fact that there is no blockage, inflammation or infection causing the discomfort. Nevertheless, the pain is very real, and is due to extra sensitivity of the digestive organs, sometimes combined with changes in gastrointestinal movement patterns. Your child’s intestine has a complicated system of nerves and muscles that helps move food forward and carry out digestion. In some children, the nerves become very sensitive, and pain is experienced even during normal intestinal functions. The pain can cause your child to cry, make his/her face pale or red, and cause him/her to break into a sweat. This digestive tract sensitivity can be triggered by a variety of things, such as a viral or bacterial infection, stress, or an episode of constipation. Other family members may have a history of similar problems. Because of the pain, children often stop their usual school and play activities. Fortunately, despite the recurrent episodes of pain, normal growth and general good health continue.

How common is functional abdominal pain?

Functional pain is very common. About 10 – 15% of school aged children will report episodes of recurrent pain. Another 15% experience pain, but do not go to the doctor for it.

How is functional abdominal pain diagnosed?

A detailed history of how the pain started, how it progressed, its location, and other associated factors can often suggest a diagnosis of functional pain. In functional pain, growth is good and the physical exam is normal. Basic blood, urine and stool tests are often performed to screen for other conditions that can cause recurrent pain. X-rays, other imaging studies, extensive lab tests and endoscopy are only recommended for children whose history, exam or basic lab results don’t fit with the diagnosis of functional pain. Your doctor will also follow your child to see if any changes take place which would suggest a different problem.
How is functional abdominal pain treated?

You, your doctor and your child can partner to put you and your child, rather than the pain, back in charge of your child’s life. Identifying and managing your child’s pain triggers, such as constipation, stress or lactose intolerance often helps reduce the pain. Also, with your help your child can learn to avoid focusing on the pain. There are a variety of specific actions for handling pain episodes, such as breathing techniques, that can be taught to your child. As a parent wanting to know if your child is having pain, a good approach is to observe your child’s behavior rather than asking if he/she is in pain. It is important to prevent the pain from becoming a reason for missing school, changing your child’s social activities or becoming the center of everyone’s attention at home. Even when the pain persists, it is reassuring to learn that this is a known condition, and that it is not dangerous. Being positive about getting better will send the right signals to your child. Medications may be helpful for some children with functional abdominal pain. These and other specific approaches suitable for your child can be discussed with your physician.

For more information or to locate a pediatric gastroenterologist in your area please visit our website at: www.naspghan.org

IMPORTANT REMINDER: This information from the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) is intended only to provide general information and not as a definitive basis for diagnosis or treatment in any particular case. It is very important that you consult your doctor about your specific condition.

LINKS:
http://www.acg.gi.org/patients/gihealth/functionalab.asp
http://pediatrics.aappublications.org/cgi/content/full/115/3/812
¿Qué es el dolor abdominal funcional y por qué ocurre?

La mayoría de niños, por otra parte sanos, que repetidamente se quejan de dolor de estómago durante dos meses o más, tienen dolor abdominal funcional. El término “funcional” se refiere al hecho que no hay ningún obstáculo, inflamación o infección que cause la molestia. No obstante, el dolor es muy real, y es debido a una sensibilidad extra de los órganos digestivos, a veces combinada con cambios en los patrones de movimientos gastrointestinales. El intestino de su niño tiene un sistema complicado de nervios y músculos que ayuda a mover los alimentos hacia delante y lleva a cabo la digestión. En algunos niños, los nervios se tornan muy sensibles y el dolor es experimentado incluso durante las funciones intestinales normales. El dolor puede hacer que su niño llene, se le ponga la cara pálida o roja y presente sudoración. Esta sensibilidad del tracto digestivo puede activarse por una variedad de cosas, tales como una infección viral o bacteriana, estrés o un episodio de estreñimiento. Otros parientes pueden tener una historia de problemas similares. Debido al dolor, a menudo los niños detienen sus actividades usuales en la escuela y en la casa. Afortunadamente, a pesar de los episodios recurrentes de dolor, continúan el crecimiento normal y un buen estado general de salud.

¿Cuán común es el dolor abdominal funcional?

El dolor funcional es muy común. Aproximadamente 10 - 15% de niños en edad escolar reportarán episodios de dolor recurrente. Otro 15% experimenta dolor, pero no va al doctor por él.

¿Cómo se diagnostica el dolor abdominal funcional?

Una historia detallada de cómo empezó el dolor, cómo progresó, su ubicación y otros factores asociados pueden a menudo sugerir un diagnóstico de dolor funcional. En el dolor funcional, el crecimiento es bueno y el examen físico es normal. Frecuentemente se realizan exámenes básicos de sangre, orina y heces para descartar otras condiciones que puedan causar dolor recurrente. Se recomiendan radiografías, otros estudios por imagen, exámenes exhaustivos de laboratorio y endoscopia sólo en niños cuya historia, examen o resultados de laboratorio básico no encajan con el diagnóstico de dolor funcional. Su doctor también seguirá a su niño para ver si ocurre algún cambio.

(continuó próxima página)
¿Cómo se trata el dolor abdominal funcional?

Ud., su doctor y su niño pueden asociarse para ponerles a Ud., y a su niño, antes que al dolor, de vuelta a cargo de la vida de su niño. Identificando y manejando los desencadenantes del dolor de su niño, tales como estreñimiento, estrés o intolerancia a la lactosa a menudo ayuda a reducir el dolor. También, con su ayuda, su niño puede aprender a evitar concentrarse en el dolor. Hay una variedad de acciones específicas para manejar los episodios de dolor, tales como técnicas respiratorias que su niño puede aprender. Como padre que quiere saber si su niño está teniendo dolor, un buen enfoque es observar la conducta del niño en lugar de preguntarle si está con dolor. Es importante impedir que el dolor se vuelva una razón para faltar a la escuela, cambiar las actividades sociales del niño o tornarse el centro de atención de todos en casa. Incluso cuando el dolor persiste, es tranquilizante saber que es una condición conocida, y que no es peligroso. Siendo positivo sobre mejorar enviará señales correctas a su niño. Las medicaciones pueden ser útiles para algunos niños con dolor abdominal funcional. Éstos y otros enfoques específicos adecuados para su niño pueden discutirse con su médico.

Para más información o para localizar a un gastroenterólogo pediátrico en su área por favor visite nuestro sitio web: www.gastrokids.org

RECORDATORIO IMPORTANTE: Esta información, de la Sociedad Norteamericana de Gastroenterología, Hepatología y Nutrición Pediátricas, (NASPGHAN), está pensada sólo para proporcionar información general y no como base definitiva para diagnóstico o tratamiento en ningún caso en particular. Es muy importante que Ud. consulte con su doctor sobre su condición específica.

ENLACES:

http://www.acg.gi.org/patients/gihealth/functionalab.asp
http://pediatrics.aappublications.org/cgi/content/full/115/3/812
**Kids and Constipation:**

**A Guide for Parents and Families**

**What is constipation?**

Your child may be constipated if he or she has fewer bowel movements (BMs) than usual or has hard stool (poop) for two or more weeks.

When your child is constipated for a few days, the stool may fill up the intestine and cause it to stretch. The over-stretched bowel does not work as well. The stool may become large and hard to pass. Your child may try to hold their stool because of the pain.

**Why do children get constipated?**

Children get constipated for many reasons, including

- A change in their daily routines
- Not wanting to use a strange bathroom
- Not wanting to stop playing to go to the bathroom
- Little fiber in the diet
- Little exercise
- Potty training
- Stress
- Illness

**What are the symptoms?**

- Hard, dry stools that are difficult to pass
- Painful BMs or a stomach ache
- Stain in the underwear (accidents happen because the large amount of stool in the intestine starts to overflow)
- Little appetite or not wanting to eat
Is my baby constipated?

Some babies have several BMs in one day. Other babies have BMs less often. In general, it is normal if your baby has at least one soft stool every other day. Your baby will develop a regular BM routine during potty training (27 to 36 months of age).

Parents sometimes worry if their baby strains or cries during a BM. This is normal. Babies sometimes have to strain because their bodies and nervous systems are still developing. Their large intestines fill up with stool, and then they hold their breath and strain to push.

If your baby is old enough, try adding fruits or juices. Your doctor may give your baby medicine.

Call your doctor right away if your baby is sick with

- vomiting,
- bloody diarrhea,
- fever,
- weight loss, and/or
- does not want to feed.

What is the treatment for my child?

The treatment is diet, exercise, and/or medicine.

**Diet:**

- Have your child eat more fruits, vegetables, and grains every day.
- Have your child drink lots of water every day. Juices can help, too. Try prune, pear, or apple juice.

**Exercise:**

- Have your child exercise every day for at least 1 hour, if possible.

**Medicine:**

- Your doctor may give your child a stool softener or a laxative.
- Your child may need a “clean out” if there is too much stool in the colon. Your doctor will tell you how to do this if it is needed.
How do I know if the treatment worked?

- Your child should have 1 or 2 soft stools at least every other day.
- Your child should not have to think or worry about going to the bathroom. It should be a routine.
- Be patient. It may take 6 to 12 months for your child to get back to a regular BM routine.

What can I do to help my child?

You should not be stressed out by this. Many very good parents have children with constipation! This is a long-term problem with a long-term solution. You can help in these ways:

- Have your child sit on the toilet for 5 to 10 minutes after every meal and before the evening bath.
- Make sure your child’s knees are above the waist on the toilet. If your child’s feet do not touch the floor, give them a step stool to put their feet on.
- Don’t hurry your child. You may want to give your child a favorite book to read while sitting on the toilet.
- Praise your child for trying!
- Don’t punish your child if they have an accident. Remember accidents happen because of the large amount of stool in the intestine. Your child is not being bad.
- Use a chart to track daily BMs, how much water they drank, and the medicines taken. You can use the chart on the next page. Put a sticker on the chart for every BM. Bring the chart with you to your child’s doctor appointments.

Why do children stain their underwear?

When children have been constipated for a long time, sometimes the stool will leak into their underwear. This is because the rectum (end of the intestine) has been stretched out for a long time, and the child cannot control the leakage.

This is called encopresis. It will get better slowly after months of proper treatment of constipation.
Do not blame or punish your child if this happens. They cannot help it.

If your child has problems with this, talk to the teachers and other staff at your child’s school. Tell them that it is important for your child to have privacy when having BMs at school and that your child needs to keep clean clothes at school in case of accidents.

Your child should keep taking Miralax until they go at least one month without having any stains on their underwear.

What can I tell my child about the underwear stains?

Here are things that you can tell your child:

- Don’t feel bad about the stains. The stool has been inside you for so long that it has stretched out your intestine. Now it is hard for you to control the BM, and some of the stool leaks out into the underwear.
- The stains will stop if you take the medicine, eat, and drink the right foods and liquids, get plenty of exercise, and take time to try to have BMs after meals.
- You should take the medicine until you go at least one month without having an underwear stain.

You can also tell your child that you will talk with their teacher about letting them go to the bathroom at school. Say that you will make sure the teacher has clean clothes if your child needs them at school.

Warning Signs

Contact the doctor if your child has
- Fever of 100.4° F rectal
- Blood in stool
- Vomiting
- Weight loss
- Does not want to feed
<table>
<thead>
<tr>
<th>Day</th>
<th>How many BMs?</th>
<th>How many cups of water or juice?</th>
<th>How many fruits and vegetables?</th>
<th>How much exercise?</th>
<th>What medicine and how much?</th>
<th>Smiley face for BM (or attempt) GOOD JOB!</th>
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Constipation Clean Out:  
A Guide for Parents and Families

Your child is constipated and needs help to clean out the large amount of stool (poop) in the intestine. This guide tells you what medicine to give your child.

**What do I need to know before starting the clean out?**

- It will take about 4 to 6 hours for your child to take the medicine.
- After taking the medicine, your child should have a large stool within 24 hours.
- Plan to have your child stay close to a bathroom until the stool has passed.
- After the intestine is cleaned out, your child will need to take a daily medicine.

Remember: Constipation can last a long time. It may take 6 to 12 months for your child to get back to regular bowel movements (BMs). Be patient. Things will get better slowly over time.

If you have questions, call your doctor at this number: (____) _____ - _____________

**When should my child start the clean out?**

- Start the home clean out on a Friday afternoon or some other time when your child will be home (and not at school).
- Start between 2:00 and 4:00 in the afternoon.
- Your child should have almost clear liquid stools by the end of the next day.
- If the medicine does not work or you don’t know if it worked, call your child’s doctor or nurse.

Adapted from the NC Children’s Hospital Home Cleanout Protocol and approved by a collaboration of pediatric gastroenterologists from the Departments of Pediatrics at Carolinas Health Care, Duke University, East Carolina University, University of North Carolina, and Wake Forest University and primary care physicians from across North Carolina (November 2012)
What medicine does my child need to take?

Your child needs to take Miralax, a powder that you mix in a clear liquid.

Follow these steps:

1. Stir the Miralax powder into water, juice, or Gatorade. Your child’s Miralax dose is:
   - [ ] 8 capfuls of Miralax powder in 32 to 64 ounces of liquid
   - Or
   - [ ] 16 capfuls of Miralax powder in 64 ounces of liquid

2. Give your child 4 to 8 ounces to drink every 30 minutes. It will take 4 to 6 hours for your child to finish the medicine.

3. After the medicine is gone, have your child drink more water or juice. This will help with the cleanout.

   If the medicine gives your child an upset stomach, slow down or stop.

Does my child need to keep taking medicine?

After the clean out, your child will take a daily (maintenance) medicine for at least 6 months.

Your child’s Miralax dose is:
   - [ ] 1 capful of powder in 8 ounces of liquid every day
   - [ ] 2 capfuls of powder in 8 ounces of liquid every day

Your child’s _________ dose is: _______________

You should take your child to the doctor for follow-up appointments as directed.
What if my child gets constipated again?

Some children need to have the clean out more than one time for the problem to go away. Contact your doctor to ask if you should repeat the clean out. It is OK to do it again, but you should wait at least a week before repeating clean out.

Will my child have any problems with the medicine?

Your child may have stomach pain or cramping during the clean out. This might mean your child has to go to the bathroom.

Have your child sit on the toilet. Explain that the pain will go away when the stool is gone. You may want to read to your child while you wait. A warm bath may also help.

What should my child eat and drink?

Have your child drink lots of water and juice. Fruits and vegetables are good foods to eat. Try to avoid greasy and fatty foods.
Please check the box(s) that are true about your child:

**PAIN:**
- more than 2 months
- began suddenly
- began gradually
- constant
- off-and-on
- with swallowing
- in the upper right part of the stomach
- in the lower right part of the stomach
- around belly button
- in upper left part of stomach
- in lower left part of stomach
- all over the stomach
- in the back
- moves to the shoulder
- moves to the legs
- moves to the chest
- better after a bowel movement
- better after eating
- worse after eating
- wakes patient up

**SYMPTOMS:**
- weight loss
- vomiting
- blood in vomit
- green vomit
- diarrhea for over 2 weeks
- constipation
- blood in stool
- fever
- rash
- sores in the mouth
- joint pain/swelling
- loss of appetite
- nausea
- sores around the anus
- delay in going into puberty
- poor growth
- milk products cause trouble
- tired all the time
- hurts to pass urine
- after eating or drinking milk products
- keeps patient from having a good time

**STRESS:**
- recent separation or divorce of parents
- bullying in or out of school
- alcohol or drug abuse
- tension and/or violence in the family
- school work causes lots of anxiety