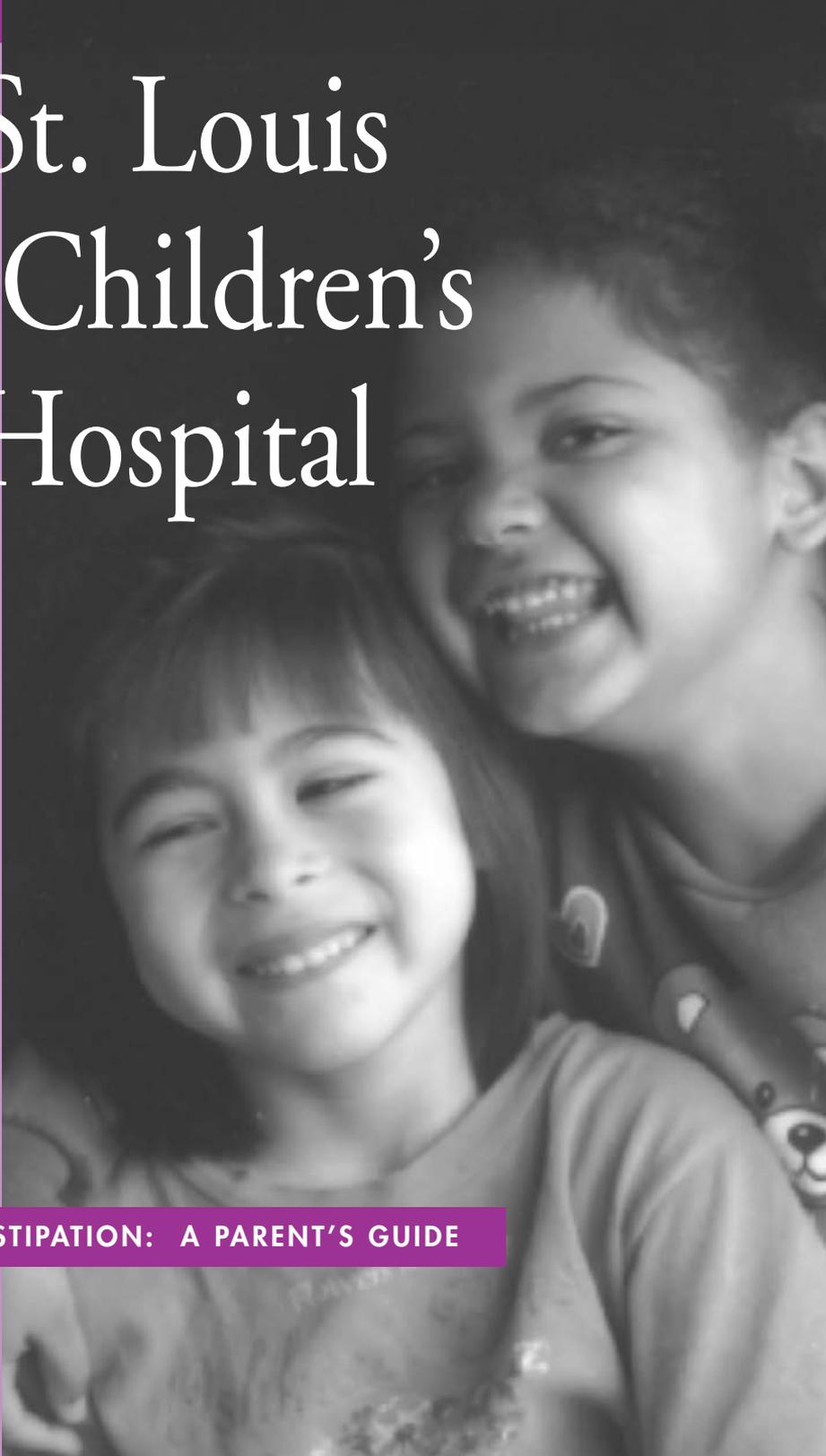


Division of Pediatric Gastroenterology and Nutrition
Department of Pediatrics
Washington University School of Medicine
St. Louis Children's Hospital
One Children's Place
St. Louis, Missouri 63110
314-454-6173

Visit us at www.stlouischildrens.org
or
www.peds.wustl.edu/div/gi/



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CONSTIPATION: A PARENT'S GUIDE



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20

Twenty Questions About Constipation: Answers to Guide Parents and Professionals

Constipation is the abnormally delayed or infrequent passage of hard stools. Most children, and many adults too, become constipated from time to time. Often, the duration is short; occasionally it persists for months, even years. Fortunately, most healthy children do not have any long term, serious effects from constipation.



This booklet is designed to help you deal with childhood constipation by answering several questions and outlining management instructions for you. Questions answered are:

- 1.** What are the normal patterns of bowel movements at different ages?
- 2.** What makes up bowel movements and how do they travel?
- 3.** What is constipation?
- 4.** When is constipation most likely to occur?
- 5.** Why does constipation persist in some children?
- 6.** Why would a child hold back stool and what happens then?
- 7.** How can proper toilet training help?
- 8.** Why would stool back up in the colon?
- 9.** Why do some children develop soiling accidents?
- 10.** How do we deal with these issues?
- 11.** What can we learn from physical exam results?
- 12.** What is our treatment program for constipation?
- 13.** How is the colon cleaned out?
- 14.** How are stools softened?
- 15.** Why is trying to have bowel movements twice a day so important?
- 16.** What are the expected results of this treatment program?
- 17.** What do we do if the cleansing regimen is not successful?
- 18.** What is the long-term program for children prone to constipation?
- 19.** Does a special diet help resolve constipation?
- 20.** Do certain medicines cause constipation?

1. What are the normal patterns of bowel movements at different ages?

The form and frequency – or pattern – of stools varies depending on the age of the child and the type of feedings received. For instance:

- Breast-fed infants usually have loose to watery stools three to eight times a day for the first several weeks of life. By one to three months of age, breast-fed babies have soft stools from once a day to once every seven to 10 days.
- Formula-fed infants often pass pasty stools one to three times per day.
- One-year-old babies eating table food have pasty to formed stools from three stools per day to one stool every three days.
- Toddlers and older children normally pass stool, which varies in color and consistency, anywhere from three times a day to once every three days.

Stool Pattern Chart

Age	Range of stools per day	Average number of stools per day
Infant	3 to 8	4
One year	1 to 4	2
2 to 5 years	0 to 3	1
Above 5 years	0 to 3	1

Infants often cry, fuss, turn red, and sweat when passing normal stools or even “gas.” The fussiness may last five to 15 minutes and most likely represents a behavior pattern, not a disease – if findings from a physical exam are considered normal.

2. What makes up bowel movements and how do they travel?

Bowel movements consist of bacteria, mucus, and undigested food and take the following path.

1. After eating, food usually stays in the stomach for a few hours.
2. After mixing in the stomach, the liquefied food dribbles into the small intestine.
3. As this liquid flows along the small intestine, the food is digested and absorbed. It takes about six to eight hours for food to move through the whole small intestine into the large intestine or colon.
4. The loose watery mixture leaving the small intestine is compacted and dehydrated in the cecum and ascending colon.
5. In the colon, the unabsorbed, leftover food material is dried into a more solid form.
6. The solidified stool then moves into the transverse colon for storage.

7. Once a day or so, the stool then moves into the descending colon and rectosigmoid colon, often creating the initial urge to have a bowel movement.
8. Within one to three days, the stool moves slowly through the colon to the rectum, the last part of the colon.

This diagram illustrates the path.

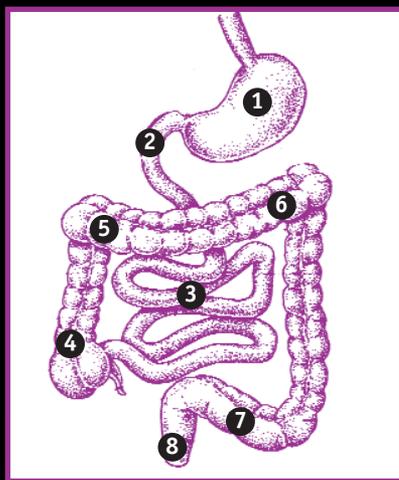


Figure 1 (Source: National Digestive Diseases Information Clearinghouse)

What makes up bowel movements and how do they travel, continued.

A complicated sequence of events occurs during the normal passage of bowel movements. This sequence of events requires the coordination of events inside and outside the body, as illustrated in Figure 2.

- A.** When stool moves into the rectum, the rectum stretches, creating the urge to have a bowel movement.
- B.** Nerve signals travel from the rectum all the way to the brain to signal the need to have a bowel movement. The filling of the rectum automatically relaxes one of the two “holding” muscles of the anus, the internal sphincter. This is the time that children feel the need to go.
- C.** Infants or children then “bear down” to increase pressure inside the belly. With this increase in pressure and with a squeeze of the rectum, they must relax the second “holding” muscle called the external sphincter to allow stool to pass through the anus.
- D.** At the same time, the anus enlarges to allow large stools to pass.

It takes time and practice for children to understand how their bodies function. They may be frightened to have bowel movements until they understand.

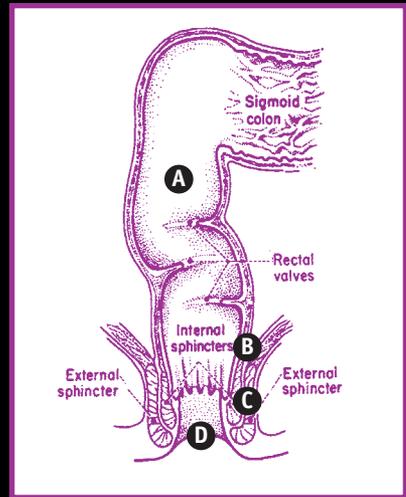


Figure 2

3.

3. What is constipation?

Constipation is the delayed or infrequent passage of hard stools. Constipation means different things to different people. However, it is usually defined by two primary "symptoms:"

1. More than three days pass between bowel movements;
2. Hard and large stools are passed with pain.

Often, both symptoms occur together. Constipation usually occurs because of slow movement of stool through the colon. The stomach and the small intestine work normally.

Parents and doctors can expect to see associated problems when children are constipated. These problems include:

1. Stomach aches
2. Decreased appetite and eating
3. Abdominal fullness
4. Small amounts of blood passed with or just after the stool
5. Smears or leakage of stool into underwear (encopresis or soiling)
6. Repeated urinary infections

Constipation is not associated with the following health and learning problems:

1. Headaches
2. Bad breath
3. Learning problems
4. "Back-up" of toxins into the bloodstream
5. Rupture of the colon or intestine
6. Colon cancer

4.

4. When is constipation most likely to occur?

Constipation occurs at some time in almost every child's life. We evaluate and treat approximately 400 new patients with such problems over the course of any given year. Constipation is common during times of change in:

Routine

- ④ Eating or drinking habits
- ④ Living arrangements, including being away from home for a few days

These changes can alter the pattern of bowel movements. This constipation generally resolves itself in a few days or weeks if the changes are considered minor.

Months or years later, the same problems may recur with no long-lasting effects. For some children, constipation lasts longer and creates more problems.

5

5. Why does constipation persist in some children?

Constipation may last months or even years in some children for a few reasons.

1. Although rare, the child may have a medical problem that affects stooling, including:
 - ⊗ Low intake of food or fluid
 - ⊗ Medications (see list on page 11)
 - ⊗ Abnormal position or size of anus
 - ⊗ Spinal cord disorder
 - ⊗ Absent nerve cells in the colon
 - ⊗ Celiac disease
 - ⊗ Muscle disease
 - ⊗ Low thyroid function
2. The child may hold stool back.
3. The child may have had a hard time with toilet training.
4. The child may have back-up of stool in the colon.

6

6. Why would a child hold back stool and what happens then?

When bowel movements have been painful in the past, children often try to “hold back” or delay bowel movements. They are afraid that passing stool will hurt again. When they do pass stools after holding back, the stools are large, hard, and painful. These experiences reinforce their determination to hold their stools. This cycle often is repeated many, many times.

Even after the constipation improves, children’s fears and anxiety about possible pain lead them to cry when they feel the urge to pass stools.



Why would a child hold back stool and what happens then, continued.

When toddlers resist the urge to “go,” they often will:

- ☉ Turn red
- ☉ Stiffen their bodies
- ☉ Sweat
- ☉ Cry
- ☉ Stand in a corner
- ☉ Lay on the floor
- ☉ Hold onto a table or chair

Often, parents think that their children are trying to push stool out. However, the children are working hard to hold stool in. Some toddlers, however, may pass small amounts of stool or smears from the rectum despite their best efforts to hold it back.

7.

How can proper toilet training help?

Teaching toilet training to a child can take a long time because the child must learn a certain series of events to pass stool, including how to:

- ☉ Push with the belly muscles
- ☉ Relax the anal muscles
- ☉ Avoid the urge to squeeze with the anal muscles

Toilet training is a skill to be learned. Some children learn quickly; others learn more slowly. Sometimes the learning process is interrupted by illness, changes in the family, or lack of interest by the child. Eventually, all children without medical problems will learn proper toileting behavior.

8.

Why would stool back up in the colon?

In some children, stool moves slowly through the colon or large intestine. Some children are born this way and are like other family members. Some children start with stool-holding and go on to develop longer-lasting problems with slow movements. When they hold back stools, these children start a “chain reaction.”

- ☉ The rectum fills up with hard stool.
- ☉ The muscle in the rectum stretches, making the muscle weaker.
- ☉ The nerves that signal that the rectum is full do not work properly.

Why would stool back up in the colon, continued.

- 🌀 As a result, these children cannot tell when they have to pass stool.
- 🌀 Then, the rectum stays filled and stretched, producing back-up of stool into the rest of the colon.

Some children who do not stool-hold still develop gradual back-up of stool in the rectum and colon. This back-up stretches the rectum and weakens the muscle that pushes from the rectum. Then, the rectum does not empty out with a bowel movement and stool builds up.

Children cannot control this process when the rectum is overfilled. They do not know when such accidents are going to occur.

Often, soiling (encopresis) is upsetting and frustrating for children and their families. Children may be embarrassed, teased by other children, and disappointed in themselves. Their parents may be angry and frustrated, and often use punishments to try to change this "bad behavior." Soiling can be avoided and will improve with the treatment program outlined next.

9.

Why do some children develop soiling accidents?

Some children with constipation pass stool into their underwear. These soiling accidents can occur one or more times per day and sometimes represent the only passage of stool. Soiling represents overflow of stool from the full rectum. The sphincter or holding muscles relax on their own, allowing stool to leak from the full rectum.

10.

How do we deal with these issues?

The most important tools in finding — and correcting — such medical issues are a thorough medical history and a complete physical exam.

During this process, we will ask you many questions about your child's:

1. Health
2. Previous surgeries or hospitalizations
3. Medications
4. Family members' medical histories

How do we deal with these issues, continued.

Then, we will perform a detailed physical exam, often including digital rectal exam. After this discussion and exam, we will review our findings with you. If we suspect that a problem exists, we may order x-rays or blood tests to gain further insight.

11. What can we learn from physical exam results?

We can see:

- If something is causing pain with stools, such as a break in the anal skin (fissure), redness around the anus, or an irritated hemorrhoid

- Whether the muscles and nerves controlling stools are working properly

- If stool is present in the rectum and may require treatment with enemas or suppositories

12. What is our treatment program for constipation?

During your office visit, we will outline the first three steps of treatment. These steps include:

1. Cleaning the colon with oral medication, suppositories, or enemas
2. Lubricating the colon and softening the stool to help stool slide along more easily
3. Having your child try to have bowel movements twice a day

Medication may be needed to treat constipation.

See Table 1, Medications Commonly Used to Treat Constipation, located on the following page.



Table 1. Medications Commonly Used to Treat Constipation

This table indicates general guidelines for the treatment of constipation and soiling. Specific treatment responses and schedules may vary considerably between each child.

Medication	Average Dose	Dose Range	Onset of Action
Miralax	1 capful/8 oz liquid	1 to 2 doses per day	8 to 24 hours
Mineral Oil	1 ml/kg/day	1 to 3 ml/kg/day	6 to 8 hours
Milk of Magnesia	1 ml/kg/day	0.5 to 1 ml/kg/day	0.5 to 3 hours
Lactulose	1 ml/kg/day	1 to 2 ml/kg/day	24 to 48 hours
Senna	Varies by age	2.5 to 7.5 ml per day	6 to 12 hours
Bisacodyl	1 suppository	0.5 to 1 suppository	0.25 to 0.5 hour
Fleet's Enema	Younger than 8 yrs. is Pediatric = 2.25oz; 8 yrs. + is adult = 4.5oz	Same as average doses	0.25 to 0.5 hour

Table 2. Age-Based Estimated Doses of Medication

Medication	Age (Year)	Dose
Miralax 1 capful/8 oz liquid	2 4 8 10+	4 ounces per day 8 ounces per day 8-12 ounces per day 8-16 ounces per day
Mineral Oil	2 to 5 6 to 12	1-2 tablespoons/day 2-4 tablespoons/day
Milk of Magnesia	2 to 5 6 to 12 12+	1 tablespoon/day 1-2 tablespoons/day 2-4 tablespoons/day
Lactulose	2 to 5 6 to 12	1 tablespoon/day 2-3 tablespoons/day

13.

How is the colon cleaned out?

To clean out the colon, a child must pass stool. For a constipated child, we can use enemas, suppositories, or oral medication. The exact cleaning regimen instructions are on the last page of this booklet. A second visit may be needed to reexamine the child to be more certain that the colon has emptied properly.

14.

How are stools softened?

Soft stool contains more water. Thus, to make stool softer, we increase the amount of water. All medications (mineral oil, Milk of Magnesia, Lactulose, Miralax, Senna/Senekot, and Bisacodyl) do this same thing: they pass through the intestinal tract to the colon and drag water along to mix with the stool.

15.

Why is trying to have bowel movements twice a day so important?

A constipated child with a full rectum cannot feel the urge to stool. Thus, we have to remind them to try. The best time to try is after meals. An internal reflex often signals the colon to empty when the stomach is full. To help them push harder when trying to have a bowel movement, rest the child's feet on a small step stool or the floor.

16.

What are the expected results of this treatment program?

When successful, the treatment program will:

1. Stop the soiling accidents
2. Accustom the child to having bowel movements between three times a day to once every three days
3. Soften the stools considerably
4. Reduce pain when passing stool
5. Familiarize the child to normal bodily functions

17.

What do we do if the cleansing regimen is not successful?

If the initial cleansing regimen is not successful, we most likely will prescribe more oral medication, enemas or suppositories. If the first doses of medication do not produce soft stools more regularly, the dosage may be increased.

Even after some success, stool may build up in the rectum again, and soiling accidents may recur. More than likely, no new problem is present. However, the treatment program may need to be started again.

18.

What is the long-term program for children prone to constipation?

By the time our treatment program is started, many children have had constipation for months or even years.

As a result, it sometimes takes weeks or months for the treatment program to improve constipation.

The normal treatment cycle is:

- 🌀 **For three - six months:**
Take the lubricant medications and make regular efforts to have bowel movements
- 🌀 **By six months of treatment:**
Approximately 75% of children have made good progress by now. Stools are more regular and soiling accidents have been resolved or improved.
- 🌀 **Several months later:**
If constipation or soiling recurs, the same treatment program may need to be started again.
- 🌀 **After medication stops:**
If the child's bowel movements slow down after medication is stopped, the original medicine can be restarted. This may prevent a build-up of stool and reduce the need for enemas.

19.

Does a special diet help resolve constipation?

Many experts suggest young children with constipation change their diets to include higher fiber foods or fiber supplements. To get the best results, consider including high fiber foods in your entire family's diet. This will encourage the children who need the fiber the most to eat it along with their regular meals.

Adding fruit, fruit juices, and fruit nectars to children's diets can help resolve their constipation issues because the sugars in each are not well-absorbed in the intestine and basically hold water in the stool, making it looser and



softer. While some foods help eliminate constipation, no particular foods cause constipation. The following table shows you how to increase fiber intake in your family's daily diet.

Table 3. Recommended Daily Dietary Fiber Intake

		Age 1 to 3 Years		Age 4 to 6 Years		Age 7 to 10 Years	
Food Group	Serving Size	Minimum Recommended Servings	Dietary Fiber Content	Minimum Recommended Servings	Dietary Fiber Content	Minimum Recommended Servings	Dietary Fiber Intake
Fruit	1/2-1 small	2	2-4g	2	2-4g	2	2-4g
Vegetable	1/4 cup	2	2g	2.5	2.5g	4	4g
Grains	1 slice bread 1 c. dry cereal	2	4g	4	8g	4	8g
Totals			8-10g		12.5-14.5g		14-16g

20.

20. Do certain medicines cause constipation?

Some medications can slow down muscle activity in the large intestine or colon, leading to less frequent and harder stools.

If a child takes one or more of these medications, constipation may be more difficult to treat. Often, the problem being treated with the medicine is more severe and disabling than the constipation. Do not stop or change these medications unless you talk with the prescribing doctor or health professional. Changes can be made in the constipation treatment regimen to overcome the effects of the listed medications.

Table 4. Common Medications that May Lead to Constipation

Medication	Common Name	Usual Indication
Imipramine	Tofranil	Bedwetting or depression
Methylphenidate	Ritalin	ADHD
Narcotics	Codeine, Tylenol #3, Demerol, Morphine, Oxy-Contin	Pain relief
Cough medicines	Various names. May contain codeine.	Cough relief, often "C" in name
Dicyclomine hydrochloride	Bentyl	Colic or abdominal pain
Anti-convulsants	Various names	Seizure control
Anti-cholinergics	Extendryl	Nasal congestion
Vincristine	Vincristine	Chemotherapy

Twenty Questions Summary

- ④ Constipation and soiling are rarely caused by serious disease.
- ④ Treatment of constipation begins by obtaining a careful medical history and completing a physical examination.
- ④ Cleansing of the colon usually minimizes or eliminates soiling accidents and helps the colon to work better.
- ④ Lubrication medication may be needed for several months to promote regular passage of stool.
- ④ Children with constipation must try to pass stools at least twice a day.
- ④ Even though the treatment program works well at the start, the same problems may recur.
- ④ Children may need to restart the program.

Management Instructions

1. Cleansing Regimen

A. Oral Miralax

1. Dissolve one capful of Miralax powder in eight ounces of water or juice.
2. Have your child drink all/half this mixture ____ times per day for three days.
3. Expect passage of a large amount of stool over the next 12 to 48 hours.

B. Enema Regimen

1. To begin the clean out, give your child one Pediatric/Adult Fleet's enema each night for ____ nights. Follow the directions on the box.
2. Your child will hold the enema for about five to 10 minutes.
3. Expect to see brown water or chunks of stool passed.
4. If no stool or fluid passes within 20 minutes, stimulate the anus with your fingertip or a glycerin suppository to get your child to pass stool.
5. If no stool or fluid passes, then call us or your doctor and prepare to go to the closest emergency room.

C. Suppository Regimen

1. Give 1/2 to 1 Dulcolax suppository by rectum each day for ____ days.
2. Expect stool to pass in five to 10 minutes.

2. Maintenance Regimen

- a. Give Miralax one capful in eight ounces of water or juice by mouth once/twice per day.
- b. Give your child ____ tablespoons of mineral oil/Milk of Magnesia/Lactulose once/twice per day.
- c. Try and give the medication at about the same time each day to establish a regular pattern.
- d. Remind your child to try and use the toilet twice each day.
- e. The best time to try to pass stools is after meals.
- f. When your child is sitting on the toilet, his or her feet should reach the floor or rest on a step stool. This foot support helps the child push.
- g. Help the child push with his or her belly muscles by placing your hand on the belly and having them push their belly against your hand.

3. Restart Regimen

If your child does not have a bowel movement for three days, then follow the instructions below. A return of soiling accidents almost always means that the rectum or lowest part of the colon is full of stool and overflowing. Repeating cycles of clean out and lubrication is sometimes necessary for long-lasting improvement. We can help guide you through these efforts.

- a. Repeat Miralax twice each day for ____ days. Then, continue Miralax daily for ____ days.
- b. Give one Fleet's enema or one Dulcolax suppository to produce a bowel movement.
- c. Increase the Lactulose/mineral oil by one tablespoon per day. For example, if your child started on two tablespoons of Lactulose each day, then increase to three tablespoons each day.

For More Information

If you have further questions or want to make an appointment, please call the St. Louis Children's Hospital Division of Gastroenterology and Nutrition at 314-454-6173 or 888-503-2237.



Notice: The information contained in this brochure is not intended nor implied to be a substitute for professional medical advice. It is provided for educational purposes only. St. Louis Children's Hospital assumes no responsibility for how this information is used.

Always seek the advice of your physician or a qualified health-care provider before starting any new treatment or discontinuing an existing treatment. Talk with your health-care provider about any questions you may have regarding a medical condition. Nothing contained in the service is intended to be for medical diagnosis or treatment.