ST. LOUIS Children's HOSPITAL
BJC HealthCare

WashU Medicine

Constipation: A Parent's Guide

BJC HealthCare

Constipation **is the abnormally delayed or infrequent passage of hard stools. Children and adults become constipated from time to time. Most often, for a short time. Occasionally, constipation continues for months or even years. Constipation can be uncomfortable and create worry. Fortunately, for most healthy children, it does not have long-term effects.**

20 Questions About Constipation

Answers to guide parents and professionals

This booklet is designed to help you deal with childhood constipation by answering questions and outlining management instructions for you to follow.

1. What are the normal patterns of bowel movements at different ages?
2. What makes up a bowel movement and how does it 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 their stool and what happens then?
7. How can proper toilet training help?
8. Why does stool build up in the colon?
9. Why do some children have accidents?
10. How do we deal with these issues?
11. What can we learn from physical exams?
12. What is our treatment program for constipation?
13. How is the colon cleaned?
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 or watery stools 3 to 8 times a day for the first several weeks of life. By 1 to 3 months of age, breast-fed babies have soft stools once a day or once every 7 to 10 days.
- Formula-fed infants often pass pasty stools 1 to 3 times per day.
- One-year-old babies eating table food have pasty or solid stools. Stools may be passed between 3 times a day to once every 2 days.
- Toddlers and older children normally pass stools, which vary in color and consistency, anywhere from 3 times a day to once every 3 days.

Infants often cry, fuss, turn red, and sweat when passing normal stools or even "gas." The fussiness may last 5 to 15 minutes and most likely represents a behavior pattern, not a disease. When examined in the office, these infants typically have a normal physical exam.

Stool Pattern Chart

Age	Range of stools per day	Average number of stools per day
Infant *Breast-fed* *Formula-fed*	3 to 8 1 to 3	4* 2
1 year	1 to 4	2
2–5 years	0 to 3	1
Above 5 years	0 to 3	1

** By 1–3 months of age, breast-fed babies have soft stools from once a day to once every 7 to 10 days.*

2. What Makes Up a Bowel Movement and How Does It 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 moves into the small intestine.
3. As this liquid flows along the small intestine, the food is digested and absorbed. It takes about 6 to 8 hours for food to move through the small intestine and 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 and leftover food dries into a more solid form.
6. The solidified stool then moves into the middle part of the large intestine for storage.
7. Once a day, the stool moves into the descending colon and rectosigmoid colon, often creating the initial urge to have a bowel movement.
8. Within 1 to 3 days, the stool moves slowly through the colon to the rectum, the last part of the colon.

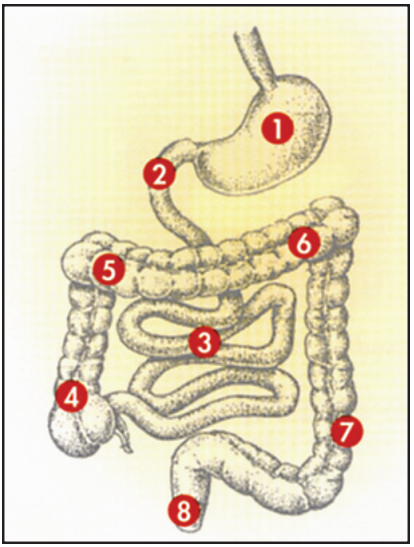

Figure 1
This diagram illustrates the described path.

Source: National Digestive Diseases Information Clearinghouse

A complicated sequence of events occurs during the normal passage of bowel movements. This 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 1 of the 2 "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.

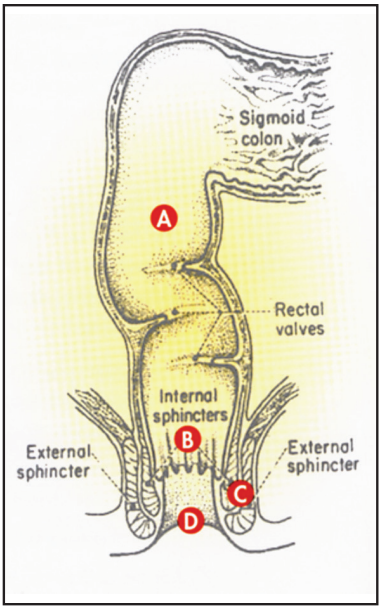

Figure 2

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

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 2 primary "symptoms."

1. More than 3 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:

- Stomachaches
- Decreased appetite and eating
- Abdominal fullness
- Small amounts of blood passed with or just after the stool
- Smears or leakage of stool into underwear (encopresis or soiling)
- Repeated urinary infections

Constipation is not associated with the following:

- Headaches
- Bad breath
- Learning problems
- "Back-up" of toxins into the bloodstream
- Rupture of the colon or intestine
- Colon cancer

4. When Is Constipation Most Likely To Occur?

Constipation occurs at some point 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 when there is a change in:

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

These changes can alter the pattern of bowel movements. 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. However, for some children, constipation lasts longer and creates more problems.

5. Why Does Constipation Persist in Some Children?

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

1. **Rare medical problems that affect stooling, including:**
   - Low intake of food or fluid
   - Medications *(see list on page 16)*
   - Abnormal position or size of anus
   - Spinal cord disorder
   - Absent nerve cells in the colon
   - Celiac disease
   - Muscle disease
   - Low thyroid function
2. **Holding stool back**
3. **Having a hard time with toilet training**
4. **A backup of stool in the colon**

6. Why Would a Child Hold Back Their 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 the stool will hurt again. When they do pass stools after holding back, the stools are large, hard, and painful. These experiences contribute to why they continue to hold their stools.

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

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 the stool out. However, the children are working hard to hold their stool in. Some toddlers may pass small amounts of stool or smears from the rectum even when trying to hold it back.

7. How Can Proper Toilet Training Help?

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

- Sit on the toilet using correct posture *(Figure 3)*. Support your child's feet with a step stool, so they are sitting in a squatting position.
  - Foot support helps the child relax the muscles needed to push the stool out of their body and push with their belly muscles.
- Avoid the urge to squeeze with the anal muscles

Figure 3: Correct Position

How does sitting in the right position help? When standing *(Figure 4a)*, the puborectalis muscle wraps around the rectum making it extremely difficult to pass stool. Sitting at a 90-degree angle *(Figure 4b)* provides some relief, but in the squatting position *(Figure 4c)*, the puborectalis muscle is completely relaxed.

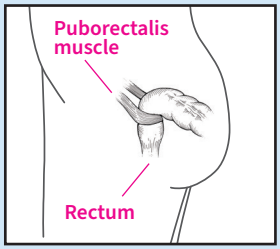

Figure 4a: Standing

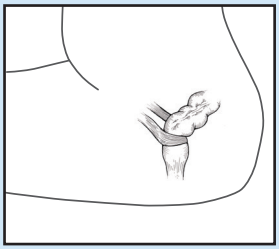

Figure 4b: Sitting

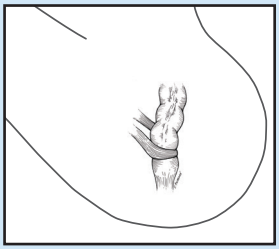

Figure 4c: Squatting

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

8. Why Does Stool Build Up in the Colon?

In some children, stools move slowly through their colon or large intestine. When they "stool-hold," or avoid passing a stool, it can start a chain reaction *(see Figure 5)*:

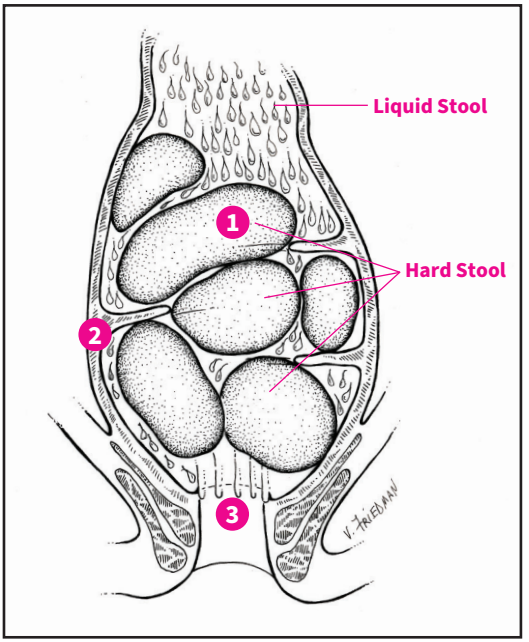

Figure 5

1. The rectum fills up with hard stool.
2. The muscle in the rectum stretches, making the muscle weaker.
3. The nerves that signal the rectum is full do not work properly. As a result, these children cannot tell when they have to pass the stool.

The rectum stays filled and stretched, producing a buildup of stool into the rest of the colon.

Some children who do not stool-hold still develop gradual backup of stool in the rectum and colon. This backup 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.

9. Why Do Some Children Have Accidents?

Some children with constipation pass the stool into their underwear. These soiling accidents can occur 1 or more times per day and sometimes represent the only passage of stool. Soiling represents an overflow of stool from the full rectum. The sphincter muscle relaxes, allowing the stool to leak from the full rectum.

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

Often, soiling accidents are 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 below *(see also Figure 5)*.

10. How Do We Deal With These Issues?

The most important tools in finding—and correcting—such medical issues is a thorough medical history of your child. This will help the doctor complete a thorough physical exam.

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

- Health
- Previous surgeries or hospitalizations
- Medications
- Family members' medical histories

Next, we will perform a detailed physical exam, sometimes including a digital rectal exam. After the 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 Exams?

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.
- If there is a large amount of stool sitting in the colon, that may require medication.
- How the child is growing and gaining weight, which provides information about their metabolism and the absorption of nutrients from their diet.

12. What Is Our Treatment Program for Constipation?

During your office visit, we will outline a treatment plan for your child's constipation. These steps include:

- Cleaning the colon with oral medication or suppositories.
- Lubricating the colon and softening the stool to help it slide along more easily.
- Encouraging your child to have 2 bowel movements a day.
- Using correct posture while sitting on the toilet. *(see Figure 3 on page 10).*

Tables 1 and 2 indicate general guidelines for the treatment of constipation and soiling. Specific treatment responses and schedules may vary considerably for each child.

Table 1. Medications Commonly Used to Treat Constipation

Medication	Average dose	Dose range	When it starts working
MiraLAX®	Maximum 17 g/8 oz liquid per dose	1 to 2 doses per day	4 to 6 hours
Lactulose	1 ml/kg/dose (twice per day)	1 to 3 mL/kg per 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	15 to 30 minutes
Glycerin	1 suppository	1 suppository	15 to 30 minutes

Table 2. Constipation Management in Infants (under 1 year old)

1	Feed standard formula without added cereal.
2	Offer 1/2 ounce of prune, pear, or apple juice diluted with 1/2 ounce water twice a day.
3	Fruit juice may be increased to 1 ounce twice a day.
4	Use glycerin (such as PediaLax ®) once a day for 3 days.
5	Take lactulose twice a day.

13. How Is the Colon Cleaned?

To clean out the colon area, a child must pass the stool. For a constipated child, suppositories or oral medication can help to make this happen. The exact instructions are on page 22 of this booklet. A second visit may be needed to be certain that the colon has emptied properly.

Table 3. Medications Commonly Used to Clean Out Colon

Medication	Age (year)	Dose
MiraLAX®	1 to 2	Liquid 4 oz, 1–3x per day
MiraLAX®	3+	Liquid 8 oz, 1–3x per day
Lactulose	< 1	1 tablespoon, 1–3x per day
Lactulose	1 to 2	2–3 tablespoons, 1–3x per day
Senna	2+	Once a day, 1–2x per day
Bisacodyl	2+	Once a day, 1–2x per day

Note: Higher doses are sometimes required.

14. How Are Stools Softened?

Soft stools contain more water. In order to make stool softer, we put more water in the child's system. All medications (lactulose, MiraLAX®, senna, and bisacodyl) do the same thing—pass through the intestinal tract to the colon and produce more water 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 relieve themselves. We have to remind them to try, and 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.

16. What Are The Expected Results Of This Treatment Program?

A successful treatment program will help your child to:

- Learn how to pass a normal bowel movement on the toilet.
- Stop the soiling accidents.
- Soften the stools considerably.
- Reduce pain when passing a stool.
- Become familiar with 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 or suppositories. If the first doses of medication do not produce soft stools every 3 days, the dosage may be increased.

Even after some success, stools 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 begins, 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:

- **From 3–6 months:** Provide lubricant medications and encourage your child to have regular bowel movements.
- **By 6 months of treatment:** Approximately 75% of children have made good progress. 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.

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 child who needs the fiber the most to eat it along with regular meals.

Adding fruit juice and fruit nectars to a child's diet can help resolve constipation issues because the sugars in each are not well-absorbed in the intestine and hold water in the stool, making it looser and softer. A diet high in dry, processed foods can contribute to the development of constipation. Limit milk to less than 24 ounces per day.

Table 4 shows you how to increase fiber intake in your family's daily diet.

Table 4. Recommended Daily Dietary Fiber Intake

Fiber Intake		Age 1 to 3 Years		Age 4 to 6 Years		Age 7 to 10 Years	
Food Group	Serving Size	Minimum Suggested Servings	Dietary Fiber Content	Minimum Suggested Servings	Dietary Fiber Content	Minimum Suggested Servings	Dietary Fiber Content
Fruit	1/2–1 small	2	2–4g	2	2–4g	2	2–4g
Vegetables	1/4 cup	2	2g	2.5	2.5g	4	4g
Grains	1 slice of bread/ 1 cup of dry cereal	2	4g	4	8g	4	8g
Totals			**8–10g**		**12.5–14.5g**		**14–16g**

Table 5. Fiber Food Table

Foods	Moderate Fiber	High Fiber
Bread	Whole-wheat bread, granola bread, wheat bran muffins, whole-grain waffles, popcorn	
Cereal	Bran cereals, shredded wheat, oatmeal, granola, oat bran	100% bran cereal
Vegetables	Beets, broccoli, Brussels sprouts, cabbage, carrots, corn, green beans, green peas, acorn and butternut squash, spinach, potato with skin, avocado	
Fruits	Apples with peel, dates, papayas, mangoes, nectarines, oranges, pears, kiwis, strawberries, applesauce, raspberries, blackberries, raisins	Cooked prunes, dried figs
Meat substitutes	Peanut butter, nuts	Baked beans, black-eyed peas, garbanzo beans, lima beans, pinto beans, kidney beans, chili with beans, trail mix

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, as outlined in *Table 6*.

If a child takes 1 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 6. Common Medications That May Lead to Constipation

Medication	Common Name	Reason Used
Imipramine	Tofranil	Bed wetting or depression
Methylphenidate	Ritalin	ADHD
Pain medications	Codeine, Tylenol #3 demerol, morphine, OxyContin®	Pain relief
Cough medicines	Various names. May contain codeine.	Cough relief
Dicyclomine hydrochloride	Bentyl®	Colic or abdominal pain
Anti-convulsants	Various names	Seizure control
Anti-cholinergics	Extendryl®	Nasal congestion
	Ditropan®	Bladder spasms

Management Instructions–Infant

(from younger than 1 year to 2 years old)

Cleansing Regimen

1. Start lactulose

- Give your child _____ mLs of lactulose by mouth twice each day for 3 days.

2. Suppository Regimen

- Give 1 glycerin suppository (liquid or solid) by rectum each day for 3 days.
- Expect stool to be passed in 5–10 minutes.

Maintenance Regimen

- Give your child _____ mLs of lactulose once or twice per day.
- Give the medication at about the same time each day to establish a regular pattern.
- Expect to have a soft stool at least 1 time per day.
- Continue medication until _____

Management Instructions–Child

(ages 2–3)

Cleansing Regimen

Start oral MiraLAX

- Mix a 1/2 capful (8.5 g) of MiraLAX powder in 4 ounces of water, juice, or milk.
- Have your child drink all of this mixture within 15 minutes, 2–3 times per day for _____ days.
- Expect passage of a large amount of stool during the next 24–48 hours.

If MiraLAX alone does not work, these may be added:

Suppository Regimen

- Give 1 liquid glycerin suppository by rectum once a day for _____ days.
- Expect stool to be passed in 10–20 minutes.

and/or **Senna**

- Give 1 square piece of chocolate Ex-Lax® orally, once a day for _____ days.
- Expect passage of stool during the next 12–24 hours.

and/or **Biscodyl**

- Give 1 tab of Dulcolax® once a day for _____ days.
- Expect passage of stool during the next 12–24 hours.

Maintenance Regimen

1. Give medication about the same time each day to establish a regular pattern.

2. Oral MiraLAX

- Mix 1 capful (17 g) of MiraLAX in 8 ounces of water, juice, or milk. Drink 4–8 ounces once or twice a day.
- Have your child drink all of this mixture within 15 minutes.

3. Oral lactulose

- Give your child _____ mLs of lactulose orally, 1–2 times per day.

Management Instructions–Child

(older than 3)

Cleansing Regimen

Start oral MiraLAX

- Mix 1 capful (17 g) of MiraLAX in 8 ounces of water, juice, or milk.
- Have your child drink this mixture within 15 minutes, _____ times per day for _____ days.
- Expect passage of a large amount of stool during the next 36–48 hours.

If MiraLAX alone does not work, these may be added:

Suppository Regimen

- Give 1/2 to 1 Dulcolax suppository by rectum each day for _____ days.
- Expect stool to be passed in 10–20 minutes.

and/or **Senna**

- Give 1–2 squares of chocolate Ex-Lax orally, once a day for _____ days.
- Expect passage of stool during the next 12–24 hours.

and/or **Biscodyl**

- Give 1–2 Dulcolax tabs (5 mg tab) orally, once a day for _____ days.
- Expect passage of stool during the next 12–24 hours.

Maintenance Regimen

1. Give medication about the same time each day to establish a regular pattern.

2. Oral MiraLAX

- Mix 1 capful (17 g) of MiraLAX in 8 ounces of water, or juice, _____ times per day.
- Have your child drink all of this mixture within 15 minutes.

3. Oral lactulose

- Give your child _____ mLs of lactulose orally, 1–2 times per day.

Toileting

- Have your child practice sitting on the toilet for 5–10 minutes twice each day.
- Try to have your child use the toilet 30 minutes after meals, since this is the best time to pass a bowel movement.
- Support your child's feet with a step stool to sit in the squatting position while sitting on the toilet. This foot support helps the child relax the muscles needed to push the stool out of their body. See Figure 3 on page 10 for proper posture.

Reduction Regimen *(2 years and older)*

When your child is able to pass normal bowel movements on a regular schedule, you can begin to reduce the medication.

- Give the full dose of medicine 5 days a week (Monday, Wednesday, Friday, Saturday, Sunday) for 1– 2 weeks then,
- Give the full dose of medicine 4 days a week (Monday, Wednesday, Friday, Sunday) for 1–2 weeks then,
- Give the full dose of medicine 3 days a week (Monday, Wednesday, Friday) for 1–2 weeks then,
- Give the full dose of medicine 2 days a week (Monday, Thursday) for 1–2 weeks then,
- Give the full dose of medicine on Monday for 1–2 weeks then discontinue.
- Go back to the previous dosage of medicine if your child produces stools less than 3 times a week.

Restart Regimen *(3 years and older)*

If your child does not have a bowel movement for 3 days, 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 the cycles of clean out and lubrication is sometimes necessary for long-lasting improvement. We can help guide you through these efforts.

- Give 1 capful (17 g) of MiraLAX in 8 ounces of liquid 2–3 times each day for 2–3 days. Then, continue MiraLAX daily for _____ days.

and/or

- Give 1/2 to 1 Dulcolax suppository _____ times per day for _____ days.

and/or

- Give 1–2 squares of chocolate Ex-Lax 1–2 times a day for 1–2 days.

and/or

- Give 1–2 Dulcolax tabs 1 time a day for 2 days.

Summary

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

For more information

If you have further questions or want to make an appointment, please call the WashU Medicine Division of Gastroenterology and Nutrition at 314-454-6173.

Notes

Notes

Notes

St. Louis Children's Hospital
One Children’s Place
St. Louis, MO 63110

314-454-KIDS (5437)
800-678-KIDS (5437)

StLouisChildrens.org

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WashU Medicine

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