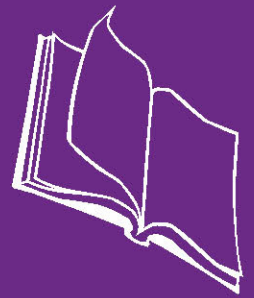


**The  
Emily  
Center**



# **Bowel Control in Children with Spinal Cord Injuries and Spina Bifida**

**#371**

# Contents

3	What is bowel control?
3	How do you do it?
3	Why is it important?
4	How the bowels work
6	Neurogenic Bowel
7	How to Create a Bowel Program
8	Diet: Fluids and Fiber
8	Foods High in Fiber
12	Activity
12	Medicine
13	What to do every day
15	The Bowel Program — Empty the Bowel
16	Rewards
17	Keep Records
18	Spinal Cord Injury (SCI)
19	Lower Spinal Cord Problems or Spina Bifida
20	Problems
21	Now that you've read this

# **Bowel Control**

## **in Children with Spinal Cord Injuries and Spina Bifida**

### **What is bowel control?**

Some people cannot control their bowels because they cannot feel when it is time to go to the bathroom. They cannot feel when they leak stool or soil themselves. **Bowel control** means having a stool around the same time each day. The goal is to let out stool at a planned time, and not to leak or soil.

### **How do you do it?**

You can get bowel control through a **bowel management program**. This program is different for each person, and may include:

- diet
- activity
- medicine
- things to do every day

### **Why is it important?**

Controlling your bowels helps to avoid:

- stool soiling
- loose stool (**diarrhea**)
- dry, hard stool (**constipation**)
- infections of the bladder and kidney

Children who can control their bowels feel better about going to school and being with friends.

# How the bowels work

When we eat food we digest it. **Digestion** separates the nutrients from the waste. The nutrients go into the blood and feed the body. The waste goes out of the body as stool or urine.

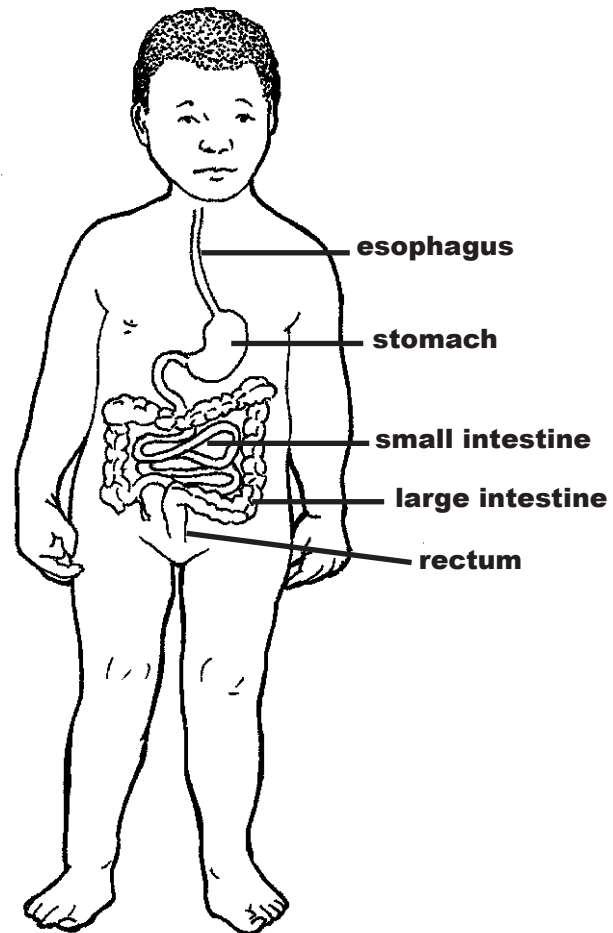
## Here's how it works:

1. You chew food, and mix it with the liquid in your mouth (**saliva**). This starts to break down the food into its parts.

2. The food then passes down a tube (**esophagus**) into your **stomach**. Your stomach holds the food there for a while and breaks it down some more.

3. The food then moves into the **small intestine**. Most food is digested in the small intestine. Here, food is broken down more, and the nutrients (vitamins, minerals, protein and other things) move into the blood. The blood takes these nutrients to the rest of the body, where they are used.

4. By the time this food moves from the small intestine into the **large intestine**, it is becoming **stool** and is very watery. The large intestine takes the extra water from the stool. This turns the stool more solid. The nerves tell the muscles of the large intestine to move the food forward. The muscles squeeze the large intestine.



5. When the stool reaches the **rectum**, it stays there until you have a bowel movement.
6. When the amount of stool in the rectum is right, nerves in the walls of the rectum help you feel the need to go to the bathroom.
7. You walk to the toilet, sit down, then tell other nerves that control the opening (**inner and outer anal sphincter**) to relax and let the stool move out, into the toilet. If you can't get to a toilet right away, you can tighten the outer anal sphincter to keep stool from oozing out.

## **Two systems work together to control bowel movements:**

1. The parts of the gut (anatomic): small intestine, large intestine, rectum, inner (**internal**) anal opening (**sphincter**), outer (**external**) anal sphincter and the muscles of the pelvic area.
2. The nerves (neurologic)  
In the nervous system, there are special nerves that help move the bowels.
  - Some of these nerves are in our control (**voluntary**),
  - Some the body takes care of without our thinking about it (**autonomic**), and
  - Some are in the walls of the intestines (**enteric**).

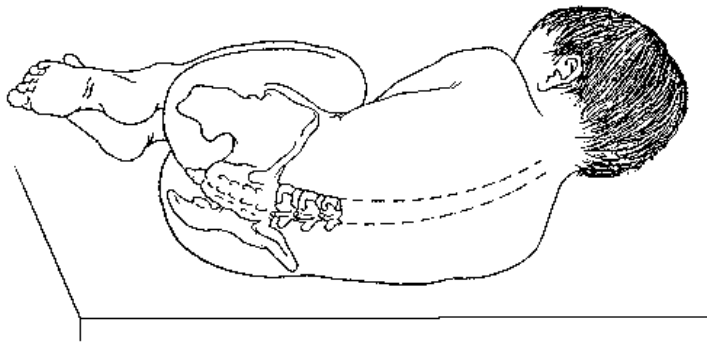
# Neurogenic Bowel

When it is hard to control bowel movements because there is a problem with the nervous system, it is called **neurogenic bowel**. This may happen to children who:

- are born with a problem in the spinal cord
- get an injury to their spinal cord
- have a tumor on the spinal cord.

The **spinal cord** starts at the bottom of the brain and travels down the back. Messages travel along the nerves in the spinal cord. The type of problem depends on where the injury (**lesion**) is. The higher the **spinal cord injury**, the more parts problems it can cause.

The message travels from the intestine through the spinal cord to the brain back down to the rectum telling the bowels to empty.



**Messages travel along the nerves in the spinal cord. The type of problem depends on where the injury is.**

When pressure increases in the rectum, a message is sent to the brain that tells the bowels to empty.

You can increase the pressure by putting a **suppository** into the rectum, so the person moves stool out.

On the other hand, children with spina bifida or myelomeningocele cannot send messages up and down the spine like this. They have more trouble emptying their bowels. They are more likely to be constipated because:

- they can't feel the stool in the rectum
- their intestines don't work as quickly
- the walls of the rectum are so weak and soft, they can hold a lot of stool
- the muscles at the opening of the rectum (**sphincters**) can become loose, and stool may ooze out.

# How to Create a Bowel Program

The emptying of your child's bowel needs to fit your family's routine. Your child needs a bowel program that works for the whole family.

A bowel program is different for each person, and may include:

- diet
- activity
- medicine
- things to do every day

Medicines and special ways to clean out the bowel need to be done within an hour after a meal. Some families like to do it in the morning. Others find their mornings are busy, and they prefer to do it in the evening.

As the child gets older, he or she may do more of the tasks in the bowel program. In time, the child will be able to take care of him or herself.

Your child should help with the bowel program as well as he or she can. How old is your child? What is your child able to do? What does your child understand?

Some things your child can do includes:

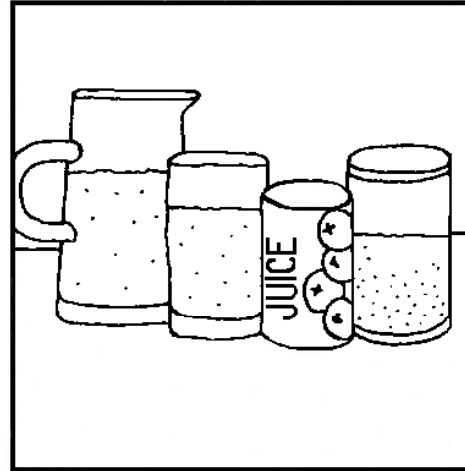
- get the supplies
- wash his or her hands
- get on the potty chair
- clean up after

A child should not go longer than two days without having a good sized bowel movement.

# Bowel Management

## Diet: Fluids and Fiber

Drinking plenty of fluids helps a child pass stool easily. The more your child weighs, the more fluid he or she needs.



**Drinking plenty of fluids helps a child pass stool easily.**

### Weight of child

Birth to 22 pounds

23 to 44 pounds

45 to 99 pounds

100 or more pounds

### Amount of fluid to drink each day

3 to 4 measuring cups (24 to 32 ounces)

4 measuring cups (32 ounces) plus fluid in food

6 measuring cups (48 ounces) plus fluid in food

7 measuring cups (56 ounces) plus fluid in food

Fiber acts to bulk up the stool. Bulky stool is easier to move along the intestine. Include foods with fiber in every meal. Choose foods that are higher in fiber whenever possible. Here is a list of high fiber foods.

## Foods High in Fiber

### The most fiber

#### Vegetables

Artichokes, raw

Carrots, raw

Corn, raw or cooked

Parsley, raw

Potatoes, baked with skin

Turnip greens, cooked

Brussel sprouts, boiled

Chives

French fries, frozen

Peas, canned

Sweet potatoes, raw or cooked

Mixed vegetables, frozen or cooked

## **Fruits**

Apricots, dried

Peaches, dried

Raisins

Figs, dried

Prunes, stewed or dried

## **Grains, Cereals, Legumes, Nuts, Seeds**

Almonds

Barley Beans,

Bulgur

Bread, high-fiber, whole wheat

Cereal, bran flakes

Cereal, granola

Cornmeal, whole germ

Crackers, rye

Cracker, whole wheat

Flour, rye

Lima beans, raw

Pistachios

Rice bran, crude

Spaghetti, whole wheat, dry

Wheat bran, crude

Wheat germ, toasted

Amaranth or amaranth flour

Great Northern, raw

Bread, crisp, rye

Cereal, bran, high fiber

Cereal, fruit with fiber

Cereal, oatmeal corn bran, crude

Cowpeas, raw

Crackers matzo whole wheat

Flour, corn

Flour, whole wheat

Oat bran

Popcorn

Spaghetti, spinach, dry

Triticale or triticale flour

Wheat germ, crude

## **A lot of fiber**

### **Vegetables**

Broccoli

Cauliflower, raw or cooked

Onions, spring, raw

Potatoes, hash browned

Squash, winter, cooked

Turnip greens, raw

Water chestnuts, canned

Cabbage, red or white, raw or cooked

Mushrooms, boiled

Peas, podded, raw or cooked

Spinach raw or cooked

Tomato puree

Turnips, boiled

Watercress

### **Fruits**

Apples, raw with skin

Kiwifruit, raw

Oranges, raw

Strawberries

Blueberries, raw

Olives

Pears, raw

## **Grains, Cereals, Legumes, Nuts, Seeds**

Baked beans, canned  
Bread, bran  
Bread, Hollywood-type, light  
Bread, pita, whole wheat  
Bread, rye  
Bread, whole wheat  
Cashews  
Cereal, wheat or malted barley  
Chips, corn  
Chips, tortilla  
Cornmeal, degermed  
Crackers, Matzo egg or onion  
Fig bars  
Flour, rice, brown  
Hazelnuts  
Lima beans, cooked  
Melba toast  
Mixed nuts  
Muffins, oat bran  
Noodles, spinach  
Rice, wild, raw  
Taco shells  
Walnuts  
Bread, Boston brown  
Bread, cracked wheat  
Bread, mixed grain  
Bread, pumpernickel  
Bread, white, high fiber  
Bread crumbs  
Cereal, wheat flake  
Chickpeas, canned  
Chips, potato  
Coconut Corn, toasted  
Cowpeas, cooked,  
Crackers, wheat  
Flour, oat  
Granola bars  
Ice cream cones  
Macaroni  
Millet, hulled or raw  
Muffins, English, whole wheat  
Noodles, Japanese, udon or somen, dry  
Peanut butter peanuts pecans  
Sunflower, seeds  
Tortillas, corn

## **Some fiber**

### **Vegetables**

Beans, snap, raw or canned  
Cabbage, Chinese, raw or cooked  
Celery, raw  
Cucumbers, raw  
Mushrooms, raw  
Peppers, sweet, raw  
Potatoes, raw, flesh or skin  
Potatoes, boiled, flesh  
Squash, winter, raw  
Tomatoes, raw  
Beets, canned  
Carrots, canned  
Corn, canned  
Lettuce  
Onions, raw  
Pickles  
Potatoes, baked, flesh  
Squash, summer, raw or cooked  
Sweet Potatoes, canned  
Turnips, raw

## **Fruits**

Apples without skin

Bananas

Nectarines, raw

Pineapple, raw or canned

Applesauce

Fruit cocktail, canned

Peaches, raw or canned

Prune juice

## **Grains, Cereals, Legumes, Nuts, Seeds**

Bagel, plain

Bread, Italian

Bread, Vienna

Bread, white toasted

Brownies with nuts

Cereal, farina, dry

Cookies, butter

Cookies, chocolate sandwich

Cornbread

Crackers, matzo

Doughnuts, leavened

Flour, rice, white

French toast, frozen

Hominy, canned

Noodles, chow mein

Pie, pecan

Pretzels

Rice, white, glutinous

Semolina Spaghetti, dry

Waffles, frozen

Bread, French

Bread, oatmeal

Bread, wheat

Bread stuffing

Cereal, cornflakes plain or frosted

Cereal, oatflakes

Cookies, chocolate chip

Cookies, oatmeal

Crackers, graham

Crackers, saltine

Flour, arrowroot

Flour, wheat, white

Fruitcake

Muffins, blueberry

Noodles, egg

Pie, pumpkin

Rice, brown, longgrained, raw

Rolls, dinner, made with egg

Tortillas, whole wheat

Watch how your child's bowel responds to certain foods. Some foods may stimulate the bowel and cause accidents. Examples of these may be candy, chocolate, Kool-Aid, tomatoes, pizza, and corn.

# Activity

Activity is important to promote good bowel movements.

Increased activity helps to move food through the intestines. Encourage your child to move as much as possible. Your child may add activity through play, exercise, or physical therapy.

# Medicine

Sometimes your child may need medicine to increase the bulk of stools. This is more likely if your child has a lower spinal cord problem, such as spina bifida.

A clean out program may include one or more of these medicines:

## **Bulking agents**

Benefiber  
Citrucel  
Fibercon  
Metamucil

## **Stool Softeners**

Docusate sodium (Colace)

## **Stimulant laxatives**

Senna syrup (Senokot)  
Castor Oil  
Bisacodyl suppository (Dulcolax)

## **Lubricants**

Glycerin suppository  
Mineral oil (Agoral)

## **Osmotic laxatives**

Milk of Magnesia  
magnesium citrate  
Miralax

You don't need a prescription for these medicines. However, some of these may cause leaking, soiling, or staining. Work with your health care team to choose the right medicine, and the right amount.

# What to do every day

## Bowel readiness

Your child needs to understand that emptying the bowels is normal. Before you start the bowel program, you might want to read a fun book with your child: **Everyone Poops**. This book shows how all living creatures have to poop. You may find this book is at The Emily Center, your public library, or your local bookstore.

Gomi, Taro. (1993). *Everyone Poops* (Amanda Mayer Stinchecum, Translator). Brooklyn, NY: Kane/Miller Book Publishers. ISBN 0-916291-45-6

## Signs of bowel readiness are:

- Your child at least two years old, and is able and ready to do the program.
- Your child can sit on a potty chair or be held up sitting.

Doing the same thing every day at the same time makes the bowel care program work.

1. Give your child a stool softener every day.

One example of a stool softener given by mouth is docusate sodium (also called Colace). You may need to use other medicines, too.

If your child is constipated, he or she may need a clean out program before you can start the daily bowel program. To find out more, talk to your child's doctor or nurse.

2. Place the child on the potty at the same time everyday

- Position on the toilet.
  - Have safety straps and arm rests on the potty chair if necessary
  - Make sure the child can place both feet firmly on the floor. If your child's feet don't reach the floor, use a small stool.

- Never leave the child alone on a potty.
- Never leave the child sitting on a potty for more than 15 minutes.

Establishing good bowel habits is not easy. It usually takes months. Keep working at it! Praise your child and yourself for a job well done.

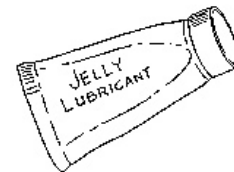
# The Bowel Program — Empty the Bowel

## Supplies

- non latex glove
- KY jelly or other water soluble lubricant
- underpad
- suppository

## What to do

1. Just before your child eats a meal, take a suppository out of the refrigerator. This will let it warm up to room temperature before you use it.
2. Have your child eat a meal and drink something warm.
3. Find a private place. About 30 minutes after the meal, put your child on top of the underpad, on his or her left side, with the knees pulled up towards the chest.
4. Put on the gloves.
5. Take the foil off the suppository. Put some KY jelly on the suppository. Put the suppository up past your child's inner sphincter of the rectum against the rectal wall.



**Put some KY jelly on the suppository.**

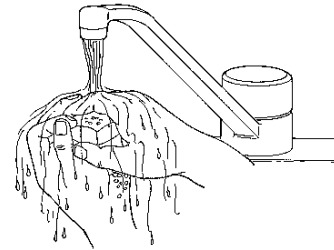
If there is a lot of stool in the rectum, you may need to remove some stool before putting in the suppository.

6. After putting in the suppository, your child should stay lying down for about 15 minutes. Then help your child to sit on the toilet or potty chair.
7. Encourage your child to bear down. Activities that teach your child to bear down include:
  - blowing a pinwheel
  - blowing bubbles
  - blowing party favors
  - pretending to blow up a balloon (don't use a real balloon)

8. After complete emptying, if possible, help your child
- clean him or herself up  
(girls should wipe from the front to the back)
  - put clothing back on
  - wash his or her hands

9. Wash your hands.

10. Thank your child for helping.



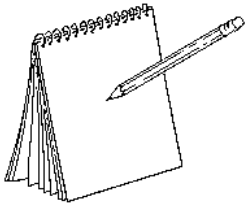
**Wash your hands.**

## Rewards

When you start the bowel program, help your child enjoy it. Reward your child when he or she helps. Keep a calendar or a chart and glue or draw a star on it for each day your child helps. At first, reward every helpful effort. When your child sits on the potty, reward this. Later, when your child is able to empty his or her bowel when sitting on the potty, reward that.

Keep the rewards simple. The best rewards are not money or food. Use a sticker book or chart. Do something together. Go to the park ,or do an art or craft project.

# Keep Records



Every child is different. We need to find out what works for your child and what doesn't work. The best way to do this is to write down the details. Bring these notes with you when you see your child's health care provider. You will be able to talk about ways to make your child's bowel program work better.

Date:

Time:

Was clothing soiled?

Amount and type of stool:

Medicine:

Progress:

Problems:

Date:

Time:

Was clothing soiled?

Amount and type of stool:

Medicine:

Progress:

Problems:

Date:

Time:

Was clothing soiled?

Amount and type of stool:

Medicine:

Progress:

Problems:

Date:

Time:

Was clothing soiled?

Amount and type of stool:

Medicine:

Progress:

Problems:

# Spinal Cord Injury (SCI)

In a **spinal cord injury (SCI)**, stool passes through the body just as it does in a person with normal bowel control. However, the person with spinal cord injury can not control emptying the bowel. The person doesn't know when the rectum is stretched. When the rectum is stretched or stimulated, the bowel will empty.

When pressure increases in the rectum, a message is sent to the brain that tells the bowels to empty. You can increase the pressure by putting a **suppository** into the rectum, so the person has a stool. When your child has a spinal cord injury, stimulating or stretching the rectum can make stool pass.

## Tips for bowel control in spinal cord injury:

- Keep stools soft with fiber, fluids, and stool softener. Soft, formed stool passes most easily.
- Empty the bowel at the same time every day. Make sure all the stool comes out.
- The bowel will empty best about 30 minutes after eating.
- The bowel will empty best if you give your child a warm drink, such as hot cocoa, tea, or warm lemonade.

# Lower Spinal Cord Problems or Spina Bifida

In lower spinal cord injury (SCI) and spina bifida, the bottom of the spine and the spinal cord has a problem. This makes the stool pass through the body much slower than normal. Because the stool is in there longer, more water is pulled out of the stool. This makes the stool hard and dry. The rectum stretches easily, and can store a lot of stool. Children with this problem need to take stool softeners every day, and use suppositories. They also need to eat a lot of fiber and drink a lot of fluid.

## Tips for bowel control in lower spinal cord problems:

- Soft stool passes most easily. Keep stools soft with fiber, fluids, and stool softener. If you don't, your child will become constipated quickly.
- Give the suppository 30 minutes after eating.
- Have your child sit on the toilet or potty chair with his or her feet up on a stool. Keep the knees higher than the hips.
- Sometimes hard stool gets stuck in the rectum, and only loose stool can get out around it. If your child's stool becomes too loose, check the rectum for stuck stool.
- If your child's stool becomes too loose, give less stool softener.
- If your child is constipated, you may need to give an enema.

# For Spinal Cord Injury (SCI), Lower Spinal Cord Problems and Spina Bifida

The child will not know when there is too much stool in the rectum. The stool may come out (**overflow soiling**) and the child will not be able to stop it. A bowel program gets the stool out every day or two. This keeps too much from building up and spilling out when you're not ready for it.



**If your child is constipated,  
you may need to give an enema.**

## Problems

Any bowel program can have some problems: constipation, diarrhea, and urinary tract infection.

### Constipation

Takes longer for the stool to pass through the large intestine, so more water is taken out of the stool.

If the bowel isn't emptied on time, even more water is removed from the stool. This makes it dry and hard. Hard stools can cause sores around the anus.

yes    no   See the handout: **Constipation (#8)**

### Diarrhea

Diarrhea can be caused by illness, or too much medicine that loosens stools.

Sometimes hard stool gets stuck in the rectum, and only loose stool can get out

around it. It may look like diarrhea, but your child may really be constipated. This is called **encopresis**.

If your child has too much diarrhea, your child could become dehydrated.

yes    no   See the handout: **Dehydration (#13)**

## **Urinary tract infections**

- Urinary tract infections are often seen with chronic constipation.
- The amount stool in the rectum, puts pressure on the tubes that drain urine
- Bladder isn't always completely emptied
- Urine that can't get out of the bladder has too much bacteria and can cause an infection

yes    no   See the handout: **UTI or Urinary Tract Infection (#409)**

## **Now that you've read this:**

- Tell your nurse or doctor why your child needs to be on a bowel program. (Check when done.)
- Describe your child's bowel program to your nurse or doctor. (Check when done.)



If you have any questions or concerns,  
 call your child's doctor or  call \_\_\_\_\_

If you want to know more about child health and illness,  
visit our library at The Emily Center at Phoenix Children's Hospital  
1919 East Thomas Road  
Phoenix, AZ 85016  
602-546-1400  
888-908-5437  
[www.phoenixchildrens.com](http://www.phoenixchildrens.com)

**Disclaimer**

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Tuesday, August 9, 2005 • DRAFT to family review  
#371 • Written by Melani Jaskowiak, MS, RN • Illustrated by Dennis Swain



# The Emily Center

## Bowel Control

Procedure/Treatment/Home Care  
Si usted desea esta información en español,  
por favor pídasela a su enfermero o doctor.

Name of Health Care Provider: \_\_\_\_\_ Number: 371  
For office use: Date returned: \_\_\_\_\_  db  nb

## Family Review of Handout

Health care providers: Please teach families with this handout.  
Families: Please let us know what you think of this handout.

Would you say this handout is hard to read?  Yes  No  
easy to read?  Yes  No

Please circle the parts of the handout that were hard to understand.

Would you say this handout is interesting to read?  Yes  No

Why or why not?

Would you do anything differently after reading  
this handout?  Yes  No

If yes, what?

After reading this handout, do you have any  
questions about the subject?  Yes  No

If yes, what?

Is there anything you don't like about the drawings?

Yes

No

If yes, what?

What changes would you make in this handout to make it better or easier to understand?

Please return your review of this handout to your nurse or doctor or send it to the address below.

Fran London, MS, RN  
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Phoenix, AZ 85016-7710

602-546-1395

[flondon@phoenixchildrens.com](mailto:flondon@phoenixchildrens.com)

**Thank you for helping us!**