Fecal Incontinence

National Digestive Diseases Information Clearinghouse

U.S. Department of Health and Human Services

NATIONAL INSTITUTES OF HEALTH

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NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

What is fecal incontinence (FI)?

Fecal incontinence, commonly referred to as bowel control problems, is the inability to hold a bowel movement until reaching a bathroom. FI also refers to the accidental leakage—for example, while passing gas—of solid or liquid stool. Feces is another name for stool.

FI can be upsetting and embarrassing. Many people with FI feel ashamed and try to hide the problem. However, health care providers are experienced in talking about FI. People with FI should not be afraid or embarrassed to talk with their health care provider. FI is often caused by a medical problem and treatment is available.

Who gets FI?

Nearly 18 million U.S. adults—about one in 12—have FI.[1] FI is not always a part of aging, but it is more common in older adults. FI is slightly more common among women.

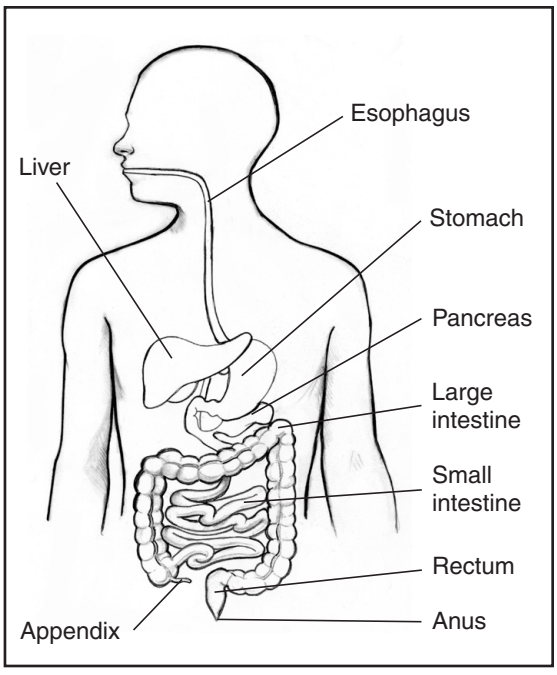
Having any of the following can increase the risk of FI:

- diarrhea
- a disease or injury that damages the nervous system
- poor overall health—multiple chronic, or long-lasting, illnesses
- a difficult childbirth with injuries to the pelvic floor—the muscles, ligaments, and tissues that support the uterus, vagina, bladder, and rectum

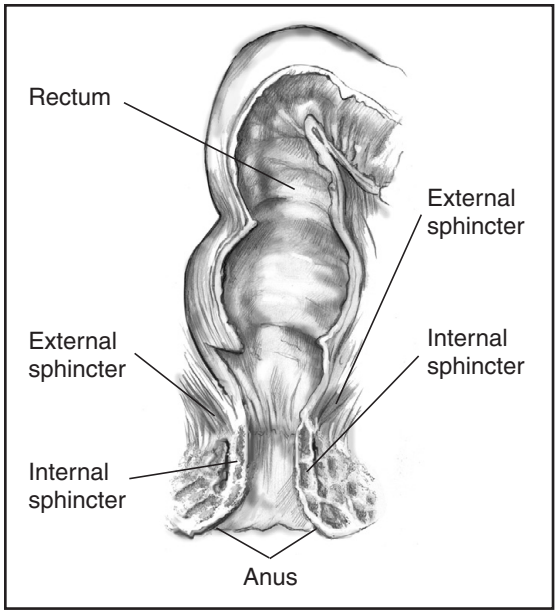
[1]Whitehead WE, Borrud L, Goode PS, et al. Fecal incontinence in US adults: epidemiology and risk factors. *Gastroenterology.* 2009;137:512–517.

How does bowel control work?

Bowel control relies on muscles and nerves of the rectum and anus working together to hold and release stool. The rectum, which is the lower end of the large bowel, also called the large intestine, stretches to hold stool. Stool is normally solid by the time it reaches the rectum. Circular muscles called sphincters close tightly like rubber bands around the opening at the end of the rectum, called the anus, until stool is ready to be released during a bowel movement. Pelvic floor muscles also help maintain bowel control.



The digestive system



The external and internal anal sphincter muscles

What causes FI?

Fecal incontinence has many causes, including

- diarrhea
- constipation
- muscle damage or weakness
- nerve damage
- loss of stretch in the rectum
- hemorrhoids
- pelvic floor dysfunction

Diarrhea

Diarrhea can cause FI. Loose stools fill the rectum quickly and are more difficult to hold than solid stools. Diarrhea increases the chances of not reaching a toilet in time.

Constipation

Constipation, a condition in which a person has fewer than three bowel movements a week, can cause FI. Constipation can lead to large, hard stools that get stuck in the rectum. Watery stool builds up behind the hard stool and may leak out around the hard stool. Constipation can, over time, stretch and weaken sphincter muscles, reducing the rectum's ability to hold stool.

Muscle Damage or Weakness

Injury to one or both of the sphincter muscles can cause FI. If these muscles, called the external and internal anal sphincter muscles, are damaged or weakened, they may not be strong enough to keep the anus closed and prevent stool from leaking.

Trauma, cancer surgery, and hemorrhoid surgery are possible causes of injury to the sphincters. Hemorrhoids are inflamed veins around the anus or in the lower rectum.

Nerve Damage

The anal sphincter muscles won't properly open and close if the nerves that control them are damaged. Likewise, if the nerves that sense stool in the rectum are damaged, a person may not feel the urge to go to the bathroom. Both types of nerve damage can lead to FI. Possible sources of nerve damage are giving birth, a long-term habit of straining to pass stool, stroke, injury, and diseases that affect the nerves, such as diabetes and multiple sclerosis.

Loss of Stretch in the Rectum

Normally, the rectum stretches to hold stool until a person has a bowel movement. Rectal surgery, radiation treatment, and inflammatory bowel diseases, such as Crohn's disease and ulcerative colitis, can cause scarring that stiffens the rectal walls. The rectum then can't stretch as much to hold stool, increasing the risk of FI.

Hemorrhoids

External hemorrhoids, which develop under the skin around the anus, can prevent the anal sphincter muscles from closing completely. Small amounts of mucus or liquid stool can then leak through the anus.

Pelvic Floor Dysfunction

Abnormalities of the pelvic floor muscles and nerves—called pelvic floor dysfunction—can lead to FI by

- impairing the ability to sense stool in the rectum
- decreasing the ability to contract muscles used during a bowel movement
- causing the rectum to drop down through the anus, a condition called rectal prolapse
- causing the rectum to protrude through the vagina, a condition called rectocele
- causing the pelvic floor to become weak and sag

Giving birth sometimes causes pelvic floor dysfunction. Risk is greater if forceps are used to help deliver the baby or if an episiotomy—a cut in the vaginal area to prevent the baby's head from tearing the vagina during birth—is performed. FI related to childbirth can appear soon or many years after delivery.

How is FI diagnosed?

Health care providers diagnose FI based on a patient's medical history, physical exam, and medical test results. Diagnosis is key to treatment. People with concerns about FI should see a health care provider, who may ask the following questions:

- When did FI start?
- How often does FI occur?
- How much stool leaks? Does the stool just streak the underwear? Does just a little bit of solid or liquid stool leak out? Or does complete loss of bowel control occur?
- Does FI involve a strong urge to have a bowel movement or does it happen without warning?
- For people with hemorrhoids, do hemorrhoids bulge through the anus?
- How does FI affect daily life?
- Do certain foods seem to make FI worse?
- Can gas be controlled?

Based on answers to these questions, a health care provider may refer the patient to a doctor who specializes in problems of the digestive system, such as a gastroenterologist, proctologist, or colorectal surgeon. The specialist will perform a physical exam and may suggest one or more of the following tests, which may be performed at a hospital or clinic:

- **Anal manometry** uses a pressure-sensitive tube to check the sensitivity and function of the rectum. Anal manometry also checks the tightness of the anal sphincter muscles and their ability to respond to nerve signals.

- **Magnetic resonance imaging (MRI)** uses radio waves and magnets to produce detailed pictures of the body's internal organs and soft tissues without using x rays. MRI can be used to create images of the anal sphincter muscles.
- **Anorectal ultrasonography,** an ultrasound procedure specific to the anus and rectum, uses a device, called a transducer, that bounces safe, painless sound waves off organs to create an image of their structure. Anorectal ultrasonography can be used to evaluate the structure of the anal sphincter muscles.
- **Proctography,** also known as defecography, is an x-ray test that shows how much stool the rectum can hold, how well the rectum can hold stool, and how well the rectum can eliminate stool.
- **Proctosigmoidoscopy** uses a lighted, flexible tube to see inside the rectum and the lower large intestine to look for potential FI-related problems such as inflammation, tumors, or scar tissue.
- **Anal electromyography** tests for pelvic floor and rectal muscle nerve damage.

How is FI treated?

Successful FI treatment relies on correctly diagnosing the underlying problem. Treatment may include one or more of the following:

- eating, diet, and nutrition
- medication
- pelvic floor exercises
- bowel training
- surgery
- electrical stimulation

Eating, Diet, and Nutrition

Food affects stool consistency and how quickly it passes through the digestive system. If stools are hard to control because they are loose, high-fiber foods may add bulk and make stool easier to control. However, some people find that high-fiber foods loosen stool and make FI worse. Foods and drinks that contain caffeine, such as coffee, tea, or chocolate, may relax the internal anal sphincter muscles and worsen FI.

Keeping a Food Diary

A food diary can help identify foods that cause diarrhea and FI. A food diary should list foods eaten, portion size, and when FI occurs. After a few days, the diary may show a link between certain foods and FI. Eating less of foods linked to FI may improve symptoms. A food diary can also be helpful to a health care provider treating a patient with FI.

Common foods and drinks linked to diarrhea and FI include

- dairy products such as milk, cheese, and ice cream
- drinks and foods containing caffeine
- cured or smoked meat such as sausage, ham, and turkey
- spicy foods
- alcoholic beverages
- fruits such as apples, peaches, and pears
- fatty and greasy foods
- sweeteners in diet drinks and sugarless gum and candy, including sorbitol, xylitol, mannitol, and fructose

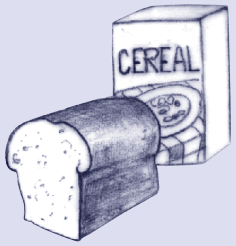
Dietary changes that may improve FI include

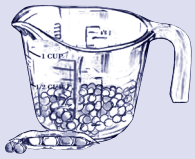
- **Eating the right amount of fiber.** For many people, fiber adds bulk to their stool and makes it softer and easier to control. Fiber can help with diarrhea and constipation. Fiber is found in fruits, vegetables, whole grains, and beans. Fiber supplements sold in a pharmacy or in a health food store are another common source of fiber to treat FI. A normal diet should include 20 to 30 grams of fiber a day. Fiber should be added to the diet slowly to avoid bloating.
- **Getting plenty to drink.** Eight, 8-ounce glasses of liquid a day may help prevent constipation. Water is a good choice. Drinks with caffeine, alcohol, milk, or carbonation should be avoided if they trigger diarrhea.

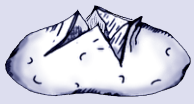
What foods have fiber?

Examples of foods that have fiber include

Beans, cereals, and breads	**Fiber**
1/2 cup of beans (navy, pinto, kidney, etc.), cooked	6.2–9.6 grams
1/2 cup of shredded wheat, ready-to-eat cereal	2.7–3.8 grams
1/3 cup of 100% bran, ready-to-eat cereal	9.1 grams
1 small oat bran muffin	3.0 grams
1 whole-wheat English muffin	4.4 grams
Fruits	
1 small apple, with skin	3.6 grams
1 medium pear, with skin	5.5 grams
1/2 cup of raspberries	4.0 grams
1/2 cup of stewed prunes	3.8 grams
Vegetables	
1/2 cup of winter squash, cooked	2.9 grams
1 medium sweet potato, baked in skin	3.8 grams
1/2 cup of green peas, cooked	3.5–4.4 grams
1 small potato, baked, with skin	3.0 grams
1/2 cup of mixed vegetables, cooked	4.0 grams
1/2 cup of broccoli, cooked	2.6–2.8 grams
1/2 cup of greens (spinach, collards, turnip greens), cooked	2.5–3.5 grams







Source: U.S. Department of Agriculture and U.S. Department of Health and Human Services, *Dietary Guidelines for Americans,* 2010.

Over time, diarrhea can prevent a person's body from obtaining enough vitamins and minerals. Health care providers can recommend vitamin supplements to help correct this problem and can give information about how changes in eating, diet, or nutrition could help with treatment.

Medication

If diarrhea is causing FI, medication may help. Health care providers sometimes recommend using bulk laxatives, such as Citrucel and Metamucil, to develop more regular bowel patterns. Antidiarrheal medicines such as loperamide or diphenoxylate may be recommended to slow down the bowels and help control the problem.

Pelvic Floor Exercises

Exercises that strengthen the pelvic floor muscles may improve bowel control. Pelvic floor exercises involve squeezing and relaxing pelvic floor muscles 50 to 100 times a day. A health care provider can help with proper technique. Biofeedback therapy may also help. Biofeedback therapy uses sensors to tell patients if they are exercising the right muscles. Success with pelvic floor exercises depends on the cause of FI, its severity, and a person's ability to perform the exercises.

Bowel Training

Developing a regular bowel movement pattern can help improve FI, especially FI due to constipation. Bowel training involves attempting to have bowel movements at specific times of the day, such as after every meal. Over time, the body becomes accustomed to a regular bowel movement pattern, thus reducing constipation and related FI. Persistence is key to successful bowel training. Achieving a regular bowel control pattern can take weeks to months.

Surgery

Surgery may be an option for FI that fails to improve with other treatments or for FI caused by pelvic floor or anal sphincter muscle injuries.

Sphincteroplasty, the most common FI surgery, reconnects the separated ends of a sphincter muscle torn by childbirth or another injury. Sphincteroplasty is performed at a hospital by a colorectal, gynecological, or general surgeon.

Another surgery involves placing an inflatable cuff, called an artificial sphincter, around the anus and implanting a small pump beneath the skin that the patient activates to inflate or deflate the cuff. This surgery is much less common and is performed at a hospital by specially trained colorectal surgeons.

Electrical Stimulation

Electrical stimulation, also called sacral nerve stimulation or neuromodulation, involves placing electrodes in the nerves to the anal canal and rectum and continuously stimulating these nerves with electrical pulses. This procedure requires a battery-operated stimulator placed beneath the skin.

Anal Discomfort

The skin around the anus is delicate and sensitive. Constipation and diarrhea or contact between skin and stool can cause pain or itching. The following steps can help relieve anal discomfort:

- **Washing the anal area after a bowel movement.** Washing with water, but not soap, can help prevent discomfort. Soap can dry out the skin, making discomfort worse. Ideally, the anal area should be washed in the shower with lukewarm water or in a sitz bath—a special plastic tub that allows a person to sit in a few inches of warm water. No-rinse skin cleansers, such as Cavilon, are a good alternative. Wiping with toilet paper further irritates the skin and should be avoided. Premoistened, alcohol-free towelettes are a better choice.
- **Keeping the anal area dry.** The anal area should be allowed to air dry after washing. If time doesn't permit air drying, the anal area can be gently patted dry with a lint-free cloth.
- **Creating a moisture barrier.** A moisture barrier cream that contains ingredients such as dimethicone—a type of silicone—can help form a barrier between skin and stool. The anal area should be cleaned before applying barrier cream. Patients, however, should talk with their health care provider before using anal creams and ointments. Some can irritate the anus.
- **Using nonmedicated powders.** Nonmedicated talcum powder or cornstarch can also relieve anal discomfort. As when moisture barrier creams are used, the anal area should be clean and dry before use.
- **Using wicking pads or disposable underwear.** Pads and disposable underwear with a wicking layer can pull moisture away from the skin.
- **Wearing breathable clothes and underwear.** Clothes and underwear should allow air to flow and keep skin dry. Tight clothes or plastic or rubber underwear that blocks air can worsen skin problems.
- **Changing soiled underwear as soon as possible.**

What are some practical tips for coping with FI?

Because FI can cause embarrassment, fear, and loneliness, taking steps to deal with it is important. Treatment can dramatically improve quality of life and help people with FI feel better about themselves. The first step is to contact a health care provider. The organizations listed at the end of this fact sheet can provide information, support, and resources to help find FI treatment specialists.

The following tips can help people cope with FI:

- carrying a bag with cleanup supplies and a change of clothes when leaving the house
- finding public restrooms before one is needed
- using the toilet before leaving home
- wearing disposable underwear if loss of bowel control is suspected
- using fecal deodorants—pills that reduce the smell of stool and gas; although fecal deodorants are available over the counter, a health care provider can help patients find them

What if a child has FI?

A child with FI who is toilet trained should see a health care provider, who can determine the cause and recommend treatment. FI can occur in children because of a birth defect or disease, but in most cases it occurs because of constipation.

Children often develop constipation as a result of stool withholding. They may withhold stool because they are stressed about toilet training, embarrassed to use a public bathroom, do not want to interrupt playtime, or are fearful of having a painful or unpleasant bowel movement.

Similarly to adults, constipation in children can cause large, hard stools that get stuck in the rectum. Watery stool builds up behind the hard stool and may unexpectedly leak out, soiling a child's underwear. Parents often mistake this soiling as a sign of diarrhea.

Points to Remember

- Fecal incontinence (FI), commonly referred to as bowel control problems, is the inability to hold a bowel movement until reaching a bathroom.
- Nearly 18 million U.S. adults—about one in 12—have FI. People with FI should not be afraid or embarrassed to talk with their health care provider.
- FI is often caused by a medical problem.
- Bowel control relies on muscles and nerves of the rectum and anus working together to hold and release stool.
- Circular muscles called sphincters close tightly like rubber bands around the opening at the end of the rectum, called the anus, until stool is ready to be released during a bowel movement.
- The pelvic floor—the muscles, ligaments, and tissues that support the uterus, vagina, bladder, and rectum—helps maintain bowel control.
- FI has many causes, including diarrhea, constipation, muscle damage or weakness, nerve damage, loss of stretch in the rectum, hemorrhoids, and pelvic floor dysfunction.
- Health care providers diagnose FI based on the patient's medical history, a physical examination, and medical tests.
- Successful FI treatment relies on correctly diagnosing the underlying problem.
- Treatment may include eating, diet, and nutrition; medication; pelvic floor exercises; bowel training; surgery; or electrical stimulation.
- A food diary can help identify foods that cause diarrhea and FI.
- Steps that can help relieve anal discomfort include washing the anal area after a bowel movement, keeping the anal area dry, wearing breathable clothes and underwear, and changing soiled underwear as soon as possible.
- Treatment for FI is available. The first step is to contact a health care provider.
- FI can occur in children because of a birth defect or disease, but in most cases it occurs because of constipation.

Hope through Research

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) conducts and supports research into many kinds of digestive disorders, including FI. The NIDDK is researching ways to create new anal sphincter muscles from patients' own cells or tissues.

The U.S. Food and Drug Administration is currently reviewing sacral nerve stimulation, a technique used in Europe to treat FI. Sacral nerve stimulation involves implanting a small electronic device to stimulate the sacral nerves, which run from the spinal cord to the anal sphincter muscles.

Participants in clinical trials can play a more active role in their own health care, gain access to new research treatments before they are widely available, and help others by contributing to medical research. For information about current studies, visit *www.ClinicalTrials.gov.*

For More Information

Fact sheets and easy-to-read booklets about FI and related conditions are available from the National Digestive Diseases Information Clearinghouse at *www.digestive.niddk.nih.gov,* including

- *Bowel Control: What You Need to Know*
- *Constipation*
- *Constipation in Children*
- *Diarrhea*
- *What I need to know about Bowel Control* (Easy-to-Read)
- *What I need to know about Constipation* (Easy-to-Read)
- *What I need to know about Diarrhea* (Easy-to-Read)

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The Bowel Control Awareness Campaign

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Bowel Control Awareness Campaign provides current, science-based information about the symptoms, diagnosis, and treatment of bowel control problems, also known as fecal incontinence. The Awareness Campaign is an initiative of the National Digestive Diseases Information Clearinghouse, a service of the NIDDK.

Download this publication and learn more about the Awareness Campaign at *www.bc.niddk.nih.gov.*

You may also find additional information about this topic by visiting MedlinePlus at *www.medlineplus.gov.*

This publication may contain information about medications. When prepared, this publication included the most current information available. For updates or for questions about any medications, contact the U.S. Food and Drug Administration toll-free at 1–888–INFO–FDA (1–888–463–6332) or visit *www.fda.gov*. Consult your health care provider for more information.

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The National Digestive Diseases Information Clearinghouse (NDDIC) is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The NIDDK is part of the National Institutes of Health of the U.S. Department of Health and Human Services. Established in 1980, the Clearinghouse provides information about digestive diseases to people with digestive disorders and to their families, health care professionals, and the public. The NDDIC answers inquiries, develops and distributes publications, and works closely with professional and patient organizations and Government agencies to coordinate resources about digestive diseases.

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