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**Patient information: Fecal incontinence**

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**INTRODUCTION** — Fecal incontinence refers to the involuntary loss of liquid stool or gas (minor incontinence) or the involuntary loss of solid stool (major incontinence). This condition probably affects between 2 and 7 percent of the general population, although it's difficult to tell because people tend to conceal the condition.

Minor fecal incontinence affects men and women equally, but women are almost twice as likely as men to report major incontinence. Fecal incontinence is also more common in older adults. It is particularly common in nursing home residents: studies suggest that almost half of all residents are incontinent.

The majority of people with fecal incontinence don't mention the problem to their doctor, although this condition can undermine self-confidence, create anxiety, and lead to social isolation. It is important to learn as much as you can about fecal incontinence and to discuss the condition frankly with your doctor. Fecal incontinence is a treatable condition: treatment can lessen symptoms in most cases and can often completely cure incontinence.

**CAUSES OF FECAL INCONTINENCE** — Continence requires the normal function of both the lower digestive tract and the nervous system. The anal sphincters, along with the pelvic muscles, which surround the terminal part of the digestive tract, help ensure controlled movement of digestive tract contents. There are many possible causes of fecal incontinence; in most cases, incontinence results from some combination of these causes.

**Damage of the anal sphincters** — The internal and external anal sphincters are the muscles located at the end of the rectum. These muscles and the surrounding
pelvic muscles create a barrier that prevents the escape of feces. Any damage to or loss of control over these sphincters can lead to incontinence. Damage most commonly results from trauma during vaginal childbirth or during anal surgery.

**Neurologic causes** — Neurologic disorders such as diabetes, multiple sclerosis, and spinal cord injury can decrease the sensation in and neural control over the lower digestive tract. Nerve damage during vaginal childbirth can also lead to impaired anal sphincter function many years later.

**Decreased distensibility of the rectum** — Conditions such as inflammatory bowel disease and radiation-induced inflammation of the rectum can impair this structure’s ability to expand and store fecal matter.

**Fecal impaction** — Collection of hardened feces in the rectum can cause the anal sphincters to relax and allow liquid stool to escape around the blockage. Fecal impaction is a common cause of incontinence in older adults. Factors that make impaction more likely include certain mental health conditions, immobility, loss of rectal sensation, and poor intake of liquids and fiber.

**Unknown causes** — Sometimes the cause of fecal incontinence cannot be identified. In this case, the condition is called idiopathic incontinence. Idiopathic incontinence most commonly occurs in middle-aged or older women.

**EVALUATING FECAL INCONTINENCE** — The underlying cause of fecal incontinence can often be established with a combination of a medical history, a physical examination, and diagnostic tests.

**Medical history** — Certain factors in your medical history may suggest the cause of your incontinence. You can help your doctor by providing as much information as possible about the nature, duration, and severity of your symptoms.

**Physical examination** — A physical examination usually entails evaluation of the perianal area, testing for anal reflexes, and a digital rectal exam.

**Diagnostic tests** — Although your medical history and the results of your physical examination may suggest certain causes of fecal incontinence, tests are particularly useful in pinpointing the correct cause and thereby ensuring the correct treatment. Your doctor will recommend specific tests based on the suspected cause of incontinence.

**Direct inspection of the inside of the digestive tract** — Your doctor may recommend colonoscopy (examination of the entire colon), sigmoidoscopy (examination of the terminal part of the colon), or anoscopy (examination of the anal canal). These examinations can help identify inflammation, tumors, and other disorders that may cause fecal incontinence.

**Anorectal manometry** — Anorectal manometry refers to the measurement of internal pressure in different areas of the lower digestive tract and under different conditions. This test can identify several of the different causes of incontinence and may be especially useful in revealing poor tone of the anal sphincters. Manometry can also be used to determine if rectal sensation and rectal reflexes are impaired.
**Nerve conduction tests** — The pudendal nerve carries the signals to the external anal sphincter that trigger contraction. Tests of conduction speed along this nerve may reveal nerve damage.

**Ultrasound** — An ultrasound examination of the rectum can reveal abnormalities of the anal sphincters, the rectal wall, and the pelvic muscles that help maintain continence. This test is the safest and most reliable test for identifying structural abnormalities of both anal sphincters.

**Defecography** — During defecography, a barium paste is placed in the rectum and x-rays are taken during rest, straining, and defecation of the paste. This test can reveal certain structural abnormalities of the terminal part of the digestive tract.

**Electromyography** — During electromyography, a tiny electrode or recording needle is used to determine check for neurologic or muscular causes for poor anal sphincter function.

**Stool tests** — Evaluation of a stool specimen may reveal a cause of fecal incontinence in people who have diarrhea.

**TREATMENT** — Three types of treatment are commonly used for fecal incontinence: medical therapy, biofeedback, and surgery. The specific treatment(s) your doctor recommends will depend upon the underlying cause of your fecal incontinence.

**Medical therapy** — Medical therapy includes medication and certain measures that can reduce the frequency of incontinence and alter stool consistency, leading to better bowel control. Often, basic measures will improve minor incontinence, but more aggressive measures are needed to control major incontinence.

**Therapy for people with diarrhea** — If diarrhea is contributing to fecal incontinence, specific medications and treatments can target the actual source of the diarrhea.

**Bulking substances** — Oral substances that promote bulkier stools may help control bowel function in people who have liquid stools by adsorbing stool water thereby thickening the consistency of stool. Methylcellulose (a form of fiber) is one type of bulking substance that is commonly used.

**Medications that reduce stool frequency** — The frequency of stools can be reduced with medications that are usually prescribed for diarrhea, such as loperamide and diphenoxylate. Loperamide can also increase internal anal sphincter tone.

**Anticholinergic medications** — When taken before meals, anticholinergic medications (such as the prescription drug hyoscyamine) can decrease the incontinence that occurs after meals in some people. These medications work by reducing contractions in the colon.

**Treatment of impaction** — In cases of fecal impaction, the impacted feces are removed and doctors usually recommend a set pattern of bowel habits and guidelines to prevent impaction from recurring.
Defecation programs — When incontinence is related to the presence of certain disabilities or mental health conditions, doctors often recommend a well-scheduled defecation program to promote normal bowel function.

Biofeedback — Biofeedback is a safe and noninvasive way of retraining muscles in the pelvis and abdominal wall. During biofeedback training, sensors are placed on an anal plug and on the wall of the abdomen; visual and/or auditory feedback helps people identify and contract the muscles that help maintain continence.

Biofeedback can be very successful: it can improve fecal incontinence in up to 90 percent of people with specific types of incontinence. The people most likely to benefit from this type of therapy are people who can contract the external anal sphincter and people who have at least some rectal sensation. The effects of biofeedback may begin to decline six months after the initial training, and retraining may be helpful.

Surgery — Several different surgical procedures can help alleviate fecal incontinence. These procedures include direct repair of damaged sphincters, reinforcement of anorectal structures, implantation of artificial sphincters, and muscle transfer procedures.

In women who have a single tear in the external anal sphincter and in people with discrete injury of the sphincter due to surgery and other causes, direct surgical repair can often resolve incontinence. This surgery cures incontinence in 80 percent of women with childbirth-related sphincter tears.

In people who have irreparable damage of the sphincters, muscles can be transferred from other areas of the body, usually the leg or buttock, and surgically placed around the anal canal. These muscles mimic the action of the damaged sphincters. Some transferred muscles may require constant electrical stimulation to maintain a contracted state. Muscle transfer surgery can restore continence in up to 73 percent of people. An alternative to a transferred muscle is a synthetic anal cuff that can be inflated to hold back feces and deflated to allow bowel movements. A problem with these procedures is that they can only be performed in specialized centers and that complications can occur even in when they are performed by experts.

Nerve stimulation — Nerve stimulation is still being studied as an approach for resolving fecal incontinence. Stimulation of nerves that control bowel function can restore continence in people who don't have muscle damage. The electrodes that provide stimulation are placed on the nerve roots, which lie adjacent to the spine, and a chronic nerve stimulator is implanted under the abdominal wall.

Implantable devices — Implantable devices are available that can help control bowel movements. However, surgical complications continue to be a problem. New devices are being developed.

Colostomy — If all other treatment measures fail, colostomy is a treatment alternative for relieving fecal incontinence. Colostomy diverts stool into an appliance attached to the skin, thereby eliminating leakage of stool from the rectum.
WHERE TO GET MORE INFORMATION — Your doctor is the best resource for finding out important information related to your particular case. Not all patients with fecal incontinence are alike, and it is important that your situation is evaluated by someone who knows you as a whole person.

This discussion will be updated as needed every four months on our web site (www.uptodate.com). Additional topics as well as selected discussions written for health care professionals are also available for those who would like more detailed information.

A number of other sites on the internet have information about fecal incontinence. Information provided by the National Institutes of Health, national medical societies, and some other well-established organizations are often reliable sources of information, although the frequency with which their information is updated is variable.

- National Library of Medicine
  (http://www.nlm.nih.gov/medlineplus)

- National Institute on Diabetes and Digestive and Kidney Diseases
  (http://www.niddk.nih.gov)

- American Society of Colon and Rectal Surgeons
  (http://www.fascrs.org/)

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REFERENCES


