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The authors reported no potential conflict of interest relevant to this article.

Fecal incontinence: Help for patients who suffer silently

Once you've identified patients with this embarrassing condition, achieving optimal outcomes hinges on your familiarity with advances like sacral nerve stimulation.

PRACTICE RECOMMENDATIONS

› Consider adding a question about fecal incontinence—a condition often unreported by patients and undetected by physicians—to your medical intake form. **C**

› Use bowel diaries and fecal incontinence grading systems, as needed, to better understand the extent of the problem and assess the effects of treatment. **C**

› Consider sacral nerve stimulation, the first-line surgical treatment for fecal incontinence, for those who fail to respond to medical therapies. **B**

Strength of recommendation (SOR)

- A** Good-quality patient-oriented evidence
- B** Inconsistent or limited-quality patient-oriented evidence
- C** Consensus, usual practice, opinion, disease-oriented evidence, case series

Estimates suggest that about 18 million adults in the United States suffer from fecal incontinence.¹ But because the condition often goes unreported by patients and undetected by physicians, the actual prevalence is not known—and may be considerably higher.

What is known is that fecal incontinence carries a substantial socioeconomic burden. The average annual per patient cost is estimated at \$4110.² But fecal incontinence also exacts a heavy personal toll, and is one of the main reasons elderly individuals are placed in nursing homes.³

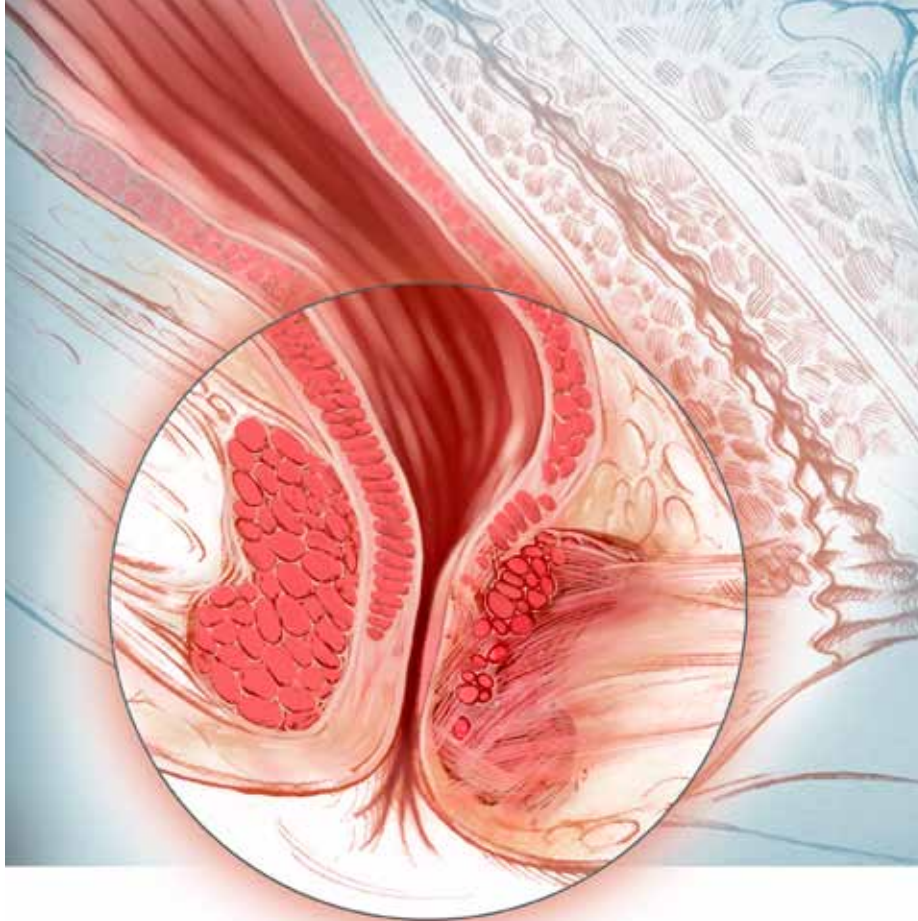
But it's not just the elderly who are affected. A recent study of women ages 45 years and older found that nearly one in 5 had an episode of fecal incontinence at least once a year, and for nearly half, the frequency was once a month or more.⁴ Less than 3 in 10 reported their symptoms to a clinician, but those who did were most likely to have confided in their primary care physician.⁵

Fortunately, recent developments—most notably, sacral nerve stimulation, a minimally invasive surgical technique with a high success rate—have changed the outlook for patients with fecal incontinence. Here's what you need to know to help patients who suffer from this embarrassing condition achieve optimal outcomes.

Risk factors and key causes

Maintaining fecal continence involves a complex series of events, both voluntary and involuntary. Problems at various levels—stool consistency, anatomic and neurologic abnormalities, and psychological problems among them—can disrupt the process.

Those at high risk for fecal incontinence, in addition to the elderly, include patients who are mentally ill and institutionalized, individuals with neurologic disorders, patients who have had anorectal surgery, and women who have had vaginal de-



Sphincter defects, including attenuation and scarring (shown here), are commonly caused by obstetric and operative injuries.

liveries.⁶⁻⁸ Obstetric and operative injuries account for most cases of fecal incontinence.⁹⁻¹⁰

Risks of vaginal delivery

As many as 25% of women report some degree of fecal incontinence—although often confined to loss of control of flatus—3 months after giving birth.¹¹ Stool incontinence is more frequent among women who sustained third- or fourth-degree perineal tears. Obstetrical risk factors include first vaginal birth, median episiotomy, forceps delivery, vacuum-assisted delivery, and a prolonged second stage of labor.

■ Asymptomatic sphincter defects.

Studies in which women underwent endo-sonographic examination of the sphincter complex both before and after vaginal delivery have found sphincter defects in anywhere from 7% to 41% of new mothers.¹²⁻¹⁴ It is important to note, however, that as many as 70% of those with defects detected by sonogram were asymptomatic.¹⁵ (Despite the risk of sphincter injury during vaginal delivery and evidence suggesting that the risk of fecal incontinence increases with additional deliveries after a previous perineal tear, prophylactic cesarean section is not recommended.)

Fistula surgery and postop incontinence

Fistula surgery is the primary cause of postoperative incontinence, typically resulting from inadvertent injury to either the internal or external sphincter muscle.¹⁶ Other relatively common causes of fecal incontinence are rectal prolapse, trauma, irradiation, neurologic and demyelinating disorders such as multiple sclerosis, neoplasms, stroke, infection (eg, of a perineal wound), and diabetes.¹⁷ As diagnostic modalities have improved, much of what was previously termed idiopathic incontinence has been found to have identifiable underlying pathology, such as pudendal and inferior hypogastric neuropathies.¹⁸⁻²⁰

Identifying fecal incontinence starts with a single question

As already noted, most patients with symptoms of bowel leakage do not voluntarily mention it to their physician. Many are likely to acknowledge the problem, however, if they're specifically asked. While little has been written about how best to screen for fecal incontinence, simply adding it to the checklist on your medical intake form may be a good starting point.

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Follow up with a targeted history and physical

When a patient checks fecal incontinence on a form or broaches the subject, it is important to question him or her about medical conditions that may be related. These include urinary incontinence, prolapsing tissue, diabetes, and a history of radiation, as well as childbirth. A medication history is also needed, as certain drugs—including some antacids and laxatives—have been implicated in fecal incontinence.²¹

Physical assessment should include a general neurologic exam as well as a perineal exam, to look for prolapsing tissue and evidence of scars from prior surgery or obstetrical trauma. Check the anocutaneous reflex by stroking the perianal skin. Absence of the anal wink in a younger patient is likely associated with nerve damage; in an older patient, it may simply indicate muscle weakness. Perform a digital rectal exam to assess for normal resting tone and augmentation with squeeze, regardless of the patient's age.

Use tools to assess the severity

Anal incontinence can be broadly characterized as complete or partial. Numerous other systems have been proposed for classifying severity, the simplest of which has the following 4 components:

- A: Continent of solid, liquid, and flatus (complete continence)
- B: Continent of solid and liquid, but not flatus
- C: Continent of solid, but not liquid or flatus
- D: Continued fecal leakage (complete incontinence).²²

Although this classification system may be helpful, it yields little information about the significance of the problem from the patient's perspective.²³ Thus, scales that take into account both the frequency of incontinence episodes and the extent of both the mental and physical impact are used more frequently.

One of the most widely used scales is the Cleveland Clinic Fecal Incontinence Score (TABLE),²⁴ which quantifies both the frequency and type of incontinence and scores the level of severity. Fecal incontinence quality of

life scales are available, as well, and include questions about the impact on the patient's lifestyle, coping behavior, mood, and level of embarrassment.²⁵

Even without a quality of life scale, a couple of targeted questions—(eg, Are you ever afraid to go out? Do you worry about others smelling stool on you?)—will give you an idea of how great an impact fecal incontinence is having on your patient's life. Asking patients to keep bowel diaries can also be helpful in assessing the extent of the problem and the effect of treatment.

Next steps: Start with modifiable risks

While there are numerous diagnostic tests for fecal incontinence (more about these in a bit), none is necessary for initial treatment, which starts with modifiable risks. Chief among them is smoking.

■ **Smoking cessation.** Nicotine is believed to have a direct effect on colonic transit and rectal compliance.²⁶ Thus, smoking is associated with an increased risk for fecal incontinence, independent of chronic cough or chronic obstructive pulmonary disease. Patients should be advised to quit smoking and referred to a smoking cessation program.

■ **Dietary fiber.** Diet may be a factor in fecal incontinence, as well. Ask patients to record everything they eat, and advise those with a low intake of dietary fiber to eat more fruits, vegetables, whole grains, and other high-fiber food. Recommend that they avoid caffeine and alcohol, as well.

■ **Some medications** may also affect stool form and frequency, and precipitate fecal incontinence. Common offenders, in addition to laxatives and antacids, include antibiotics, proton pump inhibitors, and senna-based colon cleansers.²⁷ Consider a switch to another drug class. A trial with a drug thought to improve bowel continence is recommended, as well.

Prescribe pharmacologic treatment

Kaolin, pectin, bulking agents, bismuth salts, anticholinergics, opium derivatives, diphenoxylate/atropine, and loperamide have all been used to treat fecal incontinence, with variable success. Loperamide, the drug most

➤ **Absence of the anal wink in a younger patient is likely associated with nerve damage; in an older patient, it may simply indicate muscle weakness.**

TABLE

Cleveland Clinic Fecal Incontinence Score*²⁴

Type of incontinence	Never	Rarely (<1/mo)	Sometimes (≥1/mo but <1/wk)	Usually (≥1/wk but <1/d)	Always
Solid	0	1	2	3	4
Liquid	0	1	2	3	4
Gas	0	1	2	3	4
Wears pad	0	1	2	3	4
Lifestyle alteration	0	1	2	3	4

*A score of 0=perfect continence; 20=complete incontinence (0-5 is considered mild; 6-15=moderate; and 16-20=severe).

extensively studied for this purpose, has been found to increase resting anal pressure and improve anal sphincter function and continence by acting directly on the circular and longitudinal muscles of the bowel.²⁸

Amitriptyline has also been used empirically, with some success. It is believed to work by decreasing the frequency and amplitude of rectal motor complexes.²⁹ Clonidine in the form of a transdermal patch has been shown to increase the number of problem-free days and overall quality of life for patients with fecal incontinence.³⁰

Consider biofeedback

Biofeedback training is often the next step after pharmacologic treatment. It has been investigated for the treatment of fecal incontinence, and many patients—particularly if they are highly motivated—have reported improvement.³¹ Therapy generally has 3 components: exercising the external sphincter complex, training in the discrimination of rectal sensations, and developing synchrony of the internal and external sphincter responses during rectal distension.

The goal is for the patient to learn to contract the sphincter in response to small amounts of rectal distension.

But a significant time commitment on the part of the patient and sophisticated apparatus are necessary to carry out such therapy, and only a few randomized controlled trials (RCTs) have evaluated the effect. The largest RCT had 4 arms: a standard care group; standard care plus instruction on sphincter exercises; standard care with sphincter exercises and biofeedback; and standard care

with sphincter exercises, biofeedback, and training at home.³²

All 4 groups had similar improvement in symptoms, raising questions about the therapeutic value of biofeedback.³² Long-term studies have found that 60% to 80% of patients will continue to have episodes of incontinence after undergoing biofeedback. A Cochrane review of RCTs concluded that there is not enough evidence to judge whether sphincter exercises and biofeedback are effective in reducing fecal incontinence.³³

Still no relief? Order tests and consider surgery

For patients with fecal incontinence refractory to conservative management, more sophisticated diagnostic studies can provide invaluable information for guiding further treatment.

Endoanal ultrasound is considered the gold standard diagnostic test for fecal incontinence. It is superior to electromyography in terms of availability, patient tolerance, and ability to assess the internal anal sphincter, except in cases in which nerve injury is suspected.³⁴

Other tests sometimes used to pinpoint the cause of fecal incontinence include an enema challenge (which can differentiate between liquid and solid incontinence) and anal manometry (which can quantify anal sphincter tone). Defecography (which makes it possible to visualize the rectal emptying process) can be helpful if a diagnosis of rectal prolapse is being considered.

Magnetic resonance imaging is among the most costly diagnostic studies associated



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Sacral nerve stimulation: A case study

Barbara W, a 64-year-old patient with diabetes, hypertension, and hypothyroidism visited her family physician because she was experiencing daily episodes of incontinence to formed stool, liquid stool, and flatus. She had a history of 2 vaginal deliveries, one of which had required an episiotomy.

The problem started, she said, after she attempted medical management of constipation with lubiprostone and an over-the-counter laxative. Although she had stopped taking them, the fecal incontinence had progressed to a point at which she had to wear pads on a daily basis. It was having a negative effect on her lifestyle, Ms. W said.

Ms. W's physician had her complete the Cleveland Clinic Fecal Incontinence Score, which revealed severe incontinence (with a score of 17 out of 20). She also completed a 2-week bowel diary, which revealed 11 incidents in 14 days. Her physician thought she would be a good candidate for sacral nerve stimulation (SNS) and referred her to a colorectal specialist. Prior to the procedure, the patient underwent manometry, endoanal ultrasound, and pudendal nerve terminal motor latency testing (PNTML). These studies revealed decreased sphincter tone, a 180-degree disruption of the external anal sphincter, and bilateral prolonged PNTML.

The patient underwent placement of a temporary SNS device; in the 2 weeks that followed, she had 3 incidents of incontinence, and her score on the incontinence scale fell to 7. She underwent placement of a permanent SNS device and, with one alteration in the stimulator settings, she achieved near perfect continence. At an 18-month follow-up, Ms. W reported only one incident since her last visit.

with fecal incontinence. But it is the only modality that can depict the morphology of the external sphincter and the presence of muscle atrophy—providing information that has been shown to significantly improve the likelihood of successful sphincter repair.³⁵

A wider range of surgical options

When medical therapy and biofeedback fail to produce adequate results, referral to a colorectal surgeon is appropriate. (Although conservative management is frequently unsuccessful, health plans typically require that they be attempted before surgical intervention is considered.)

Sphincteroplasty, or anterior anal sphincter repair, addresses the most common cause of fecal incontinence—and is still a common surgical procedure.³⁶ Sphincteroplasty generally has good to excellent results, providing there is sufficient muscle mass for a successful repair.^{37,38}

The procedure involves dissecting the sphincter complex from the surrounding anoderm, then overlapping the edges of the sphincter muscle and suturing them together. Continence has been reported nearly 80% of the time, although a longer duration of fecal incontinence and incontinence secondary to operative injury of the sphincter are risk factors for poorer outcomes.^{39,40}

Recent studies have called into question the durability of anterior sphincter repair. A systematic review of 16 studies reporting short- and long-term outcomes for more than 900 patients found that all but one of the studies showed a decline over time in the number of patients who were happy with the outcome.³⁹

Sacral nerve stimulation is first-line surgical treatment

Sacral nerve stimulation (SNS) is the most promising development in the treatment of fecal incontinence. In the last decade, SNS has become the first-line surgical treatment for patients for whom medical and behavioral therapy are unsuccessful.⁴⁰

A minimally invasive procedure that involves an implantable device, SNS is always preceded by an effectiveness trial in which a finder needle is percutaneously inserted into the third sacral foramen. Stimulation should result in immediate contraction of the pelvic floor and external sphincter and plantar flexion of the big toe.

The next step is the insertion of a temporary stimulator lead, which remains in place for a 2- to 3-week test of low-frequency stimulation. If significant reduction in the number of incontinence episodes during the trial period occurs, the device is inserted (See “Sacral nerve stimulation: A case study” above left).

Improvement in fecal continence has been reported to be as high as 100% in some cases, with up to 75% of patients achieving complete continence.⁴¹ While the mechanism involved remains unclear, multiple

studies have confirmed its effectiveness.^{42,43}

■ **Posterior tibial nerve stimulation** is another recent development, in which a small, thin lead is placed at the posterior tibial nerve, then connected to a temporary stimulator. Less data are available for this treatment, but a recent review summarized the findings of 8 published studies and found success rates ranging from 30% to 83%.⁴⁴

■ **The Secca procedure**—a relatively new therapy that delivers radiofrequency energy to the anal sphincter—is another option, believed to work by reducing compliance of the sphincter complex and the level of tolerable rectal distension.⁴⁵ Procedures using injectable bulking materials and fat grafting around the sphincter complex have demonstrated some promise, as well.⁴⁶

■ **A number of other surgical modalities** are available, and often effective under certain circumstances. Among them are rotational and free muscle transfers, used only in cases in which the bulk of the sphincter complex has been destroyed.^{47,48} Implantable anal sphincters (made from human muscle and nerve cells) are occasionally used, as well,

but frequently need to be removed because of infection.⁴⁹⁻⁵¹

Regardless of the type of treatment they receive, patients often do not achieve total continence. Anyone who continues to have occasional episodes of fecal incontinence or leakage should be advised to wear incontinence pads, as needed.

Consider colostomy when incontinence is severe

For patients with fecal incontinence severe enough to be disabling—often as a result of irradiation—colostomy remains a tried and true treatment. The rectum can either be left intact or a proctectomy performed in concert with ostomy creation. Most studies evaluating colostomy for the treatment of incontinence have found that it significantly improves the quality of life and that most patients say they would choose to undergo the procedure again.⁵² **JFP**

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