Treating Fecal Incontinence:
An Unmet Need in Primary Care Medicine

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Fecal incontinence affects up to 36% of primary care patients. Although effective treatments are available, doctors rarely screen for this condition and patients seldom volunteer complaints of fecal incontinence. Conservative management yields 60% improvement in symptoms and continence in 20% of patients. Referrals are currently being accepted for studies seeking to improve case detection and to support conservative management or self-care.

This article provides an up-to-date commentary on fecal incontinence for the primary care physician. It includes a short summary of the prevalence and impact of this problem on quality of life, recommendations for diagnostic assessment, and a review of treatment options available to the community-based physician. The central message is that fecal incontinence is a common medical problem, yet one that remains undertreated—both because patients are too embarrassed to talk to their doctors about it and because doctors rarely screen for it. However, effective treatments are available, and some of them can be carried out in community-based medical clinics. A research program at the University of North Carolina at Chapel Hill is trying to improve screening and consultation for fecal incontinence.

Definition and Impact

Fecal incontinence, which refers to the involuntary (accidental) leakage of fecal material in anyone over the age of 4 years, occurs much more commonly than most physicians appreciate. Among all adults in the United States, 8.3% report having experienced accidental leakage of solid or liquid stool or mucus at least once in the past month, and an estimated 2.7% report that this occurs at least once per week, making it a severe problem for 1 in 25 adults [1]. The prevalence of fecal incontinence is strongly associated with age but is similar in men and women (see Figure 1).

When fecal incontinence is frequent or severe—occurring at least weekly or associated with leakage of large amounts of stool—it can cause embarrassment, unwillingness to travel or socialize with friends or family, loss of employment, and depression. The likelihood that an older patient will be admitted to a nursing home is increased by 17%, on average, if the individual has fecal incontinence [2].

Inadequate Screening and Treatment

Poor health in general, and diarrhea in particular, are strong risk factors for fecal incontinence. [1] Thus, this condition is even more common among patients attending medical clinics than it is in the general population. When we surveyed patients attending primary care clinics in a large health maintenance organization, 36% reported experiencing fecal incontinence, but only 15 of the 550 affected patients (3%) had this diagnosis listed in their medical records [3]. Other surveys have found that less than 30% of patients with fecal incontinence have talked to their doctor about it, and most of those who have discussed it with a physician brought up the topic themselves, rather than being screened for it [4].

Failure to screen patients for fecal incontinence results in under-recognition and undertreatment of this condition. This situation is unfortunate because a variety of treatments have been shown to be effective, ranging from conservative management (patient education, pelvic floor exercises, and medications that control diarrhea or constipation) to biofeedback, sacral nerve electrical stimulators implanted in the body, and injection of bulking agents around the anal sphincters [5]. The majority of patients with fecal incontinence who were identified in medical clinics through questionnaires said that they wanted their doctor to ask them about bowel incontinence, rather than having to bring it up themselves, but few physicians did so [4]. These studies show that fecal incontinence is a major unmet patient need and that there are several keys to addressing it: identify and address the barriers to patients consulting their doctors for care, and identify and address the barriers to physicians screening for fecal incontinence.

Fecal Incontinence Subtypes

Studies have been inconsistent regarding the criteria used to diagnose fecal incontinence. Surgeons and some patients prefer to include accidental flatulence in the definition of

Electronically published May 6, 2016.

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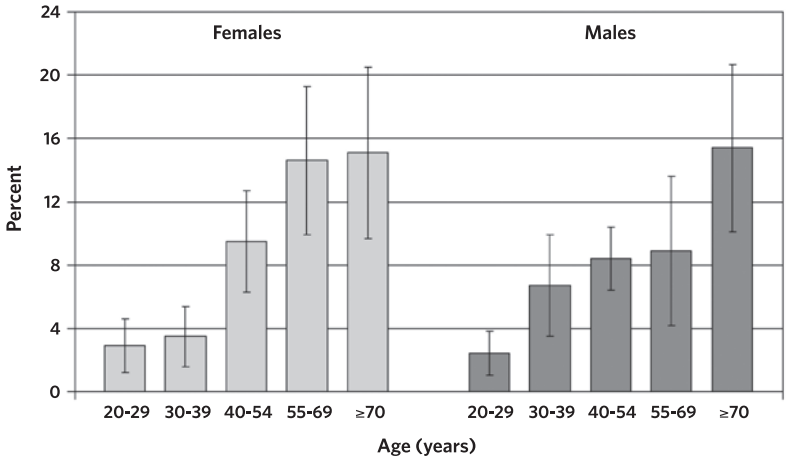
N C Med J. 2016;77(3):211-215.
0029-2559/2016/77314

FIGURE 1.
Prevalence of Fecal Incontinence by Age Group in Female and Male Subjects



Note. Bars represent 95% confidence intervals.
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"anal incontinence" because this symptom is embarrassing and adversely affects quality of life. However, gastroenterologists prefer to define fecal incontinence as accidental leakage of solid stool, liquid stool, or mucus. Their reasoning is that accidental flatulence occurs frequently in healthy individuals—daily in 24% of men and 21% of women, according to the National Health and Nutrition Examination Survey (NHANES) [1]—so it is not possible to reliably distinguish health from disease.

There is also controversy regarding whether to count streaks/stains on underwear or leakage of clear mucus without measurable amounts of stool. Some physicians call this "soiling" and distinguish it from fecal incontinence, while others include it in the definition of fecal incontinence. We recommend distinguishing soiling from fecal incontinence because soiling has a different spectrum of causes and responds to different treatments. For example, soiling is commonly due to prolapsed hemorrhoids or rectal prolapse and may respond to treatments for those conditions; however, it is less likely to respond to treatments that are targeted at strengthening pelvic floor muscles or improving rectal sensation, such as biofeedback or pelvic floor exercises.

The distinction between urge fecal incontinence and passive fecal incontinence [6], which is based on the history provided by the patient, is also useful to guide treatment. Patients with urge-type fecal incontinence experience a warning sensation of rectal fullness prior to most episodes of stool leakage, while patients with passive fecal incontinence are unaware of most accidents. Urge incontinence is more likely to be associated with weakness of pelvic floor muscles due to injuries to muscles or nerves, and it often responds to biofeedback or sacral nerve stimulation. Passive fecal incontinence, on the other hand, is more likely to be due to injuries to the internal anal sphincter or to the afferent nerves responsible for rectal sensations. Passive incontinence may respond better to a toileting schedule designed to keep the rectum empty and/or to treatment with injectable bulking agents.

Risk Factors for Fecal Incontinence

Population-based surveys are consistent in showing that the strongest risk factor for fecal incontinence is diarrhea [1, 6]. In older adults and children, constipation is also a risk factor—especially when it is associated with the accumulation of hard stool in the rectum—but constipation is rarely associated with fecal incontinence in young and middle-aged people. The second-strongest risk factor for fecal incontinence is having a strong urge before bowel movements (not just the normal warning of rectal fullness, but a strong, irresistible urge to evacuate) [7]. Strong urge sensations can be due to rectal inflammation, rectal resection, or anxiety. Chronic illness is also a major risk factor for fecal incontinence [1], especially if illness is associated with diarrhea; specific diseases that are risk factors for fecal incontinence include irritable bowel syndrome, diabetes mellitus, and neurological diseases affecting the sensory or motor innervation of the pelvic floor. Age and urinary incontinence are also strongly associated with fecal incontinence, but they are best thought of as warning signs or concomitant conditions, rather than potential causes of fecal incontinence. A common misperception is that obstetrical injury is the primary cause of fecal incontinence. Although fecal incontinence does sometimes occur secondary to obstetric injury, it often resolves spontaneously [8], and other risk factors explain more of the variance in onset of fecal incontinence at the population level [6].

Information about risk factors not only tells us which patients to screen but can also guide treatment. Specifically, antidiarrheal medications are the mainstay of conservative treatment because diarrhea is the strongest risk factor.

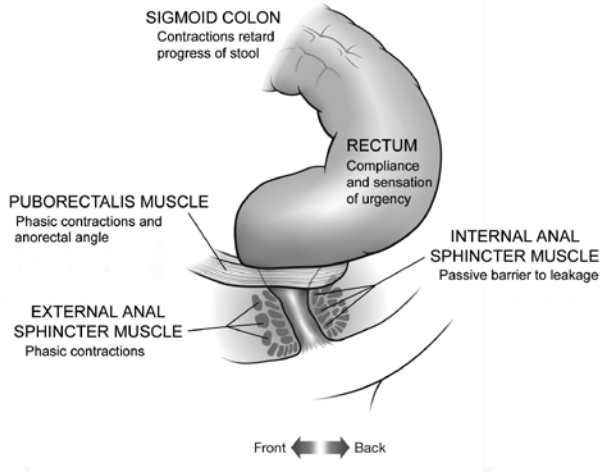
Diagnostic Assessment

Figure 2 shows the anatomy and function of the rectum and anus. The rectum has 2 characteristics that are important to continence: it is highly compliant, which allows it to store stool prior to defecation; and there are sensory nerve endings in the rectal wall that warn people to tighten the pelvic floor muscles when stool or gas descends into the rectum. Patients with inflammation of the rectum or reduced rectal capacity may be at risk of fecal incontinence because they cannot store stool long enough to reach a toilet, and patients who have lost the ability to detect rectal fullness may not contract their pelvic floor muscles at the right time to prevent incontinence. The internal anal sphincter is a smooth (involuntary) muscle that acts as a passive barrier to leakage of gas or liquid stool; thus, injuries to this muscle may cause passive fecal incontinence or soiling. The striated (voluntary) muscles of the pelvic floor—including the puborectalis and external anal sphincter muscles—are used when patients squeeze the anus to hold back stool, and injuries to these muscles or their innervation increase the risk of fecal incontinence.

In summary, there are 4 main requirements for continence: sensation for rectal distention, a compliant rectum to store stool, tonic involuntary contraction of the internal anal sphincter to prevent leakage of gas and liquid, and adequate strength in the striated pelvic floor muscles to delay a bowel movement for at least 20–30 seconds. Deficits in any of these areas may contribute to fecal incontinence. In addition to these physiological requirements, the patient must also be responsive to social norms regarding avoidance of fecal incontinence; lack of understanding of social norms may be a problem for patients with severe cognitive impairment or psychoses.

Some physicians are reluctant to screen for fecal incontinence because they believe that both diagnosis and treatment will require referral to a center specializing in pelvic floor disorders; however, this is not the case. A digital rectal examination by an experienced clinician can detect clinically significant deficits in the resting tone of the internal anal sphincter and the strength of the striated pelvic floor muscles [10]. In addition, a patient history can provide important clues to rectal sensation (eg, Is fecal incontinence preceded by a warning sensation or does it occur without awareness?), rectal compliance (eg, Is fecal incontinence preceded by an excessively strong urge sensation?), and cognitive function [11]. We recommend the following 3 questions be used to screen for fecal incontinence: "Have you had accidental bowel leakage in the last 3 months?" If yes, "Did you leak solid or liquid stool, or only gas?" and "Would you like to receive treatment for accidental bowel leakage?"

FIGURE 2.
Anatomy of the Rectum and Anal Canal Showing Mechanisms for Conserving Continence



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Research on Fecal Incontinence at the University of North Carolina

Our research team in the Center for Functional GI and Motility Disorders has been conducting a series of research studies to address some of the unanswered questions and practical problems associated with fecal incontinence.

Overcoming Patient Barriers to Asking About Fecal Incontinence

We sent medical students to the waiting rooms of clinics at the University of North Carolina to identify patients with fecal incontinence, to interview them, and to learn the reasons why some had not discussed this problem with their physician [4]. Embarrassment about the stigma of having fecal incontinence was important to many of the patients interviewed, but embarrassment did not separate those who consulted their doctor about this problem from the ones who did not. However, 2 primary factors were different in patients who consulted doctors: greater knowledge about fecal incontinence and available treatment options, and greater severity of the condition. Patients with more frequent fecal incontinence were also more likely to talk to their doctor.

In another effort to gain insights into how to make it easier for patients to consult with doctors about fecal incontinence, we interviewed patients in focus groups and also surveyed a large number of fecal incontinence sufferers in online surveys. We sought to see whether there are alternative terms for fecal incontinence that would be less embarrassing for patients to use. This led to the adoption of "accidental bowel leakage" as a preferred term for discussions with patients. Other researchers have reached the same conclusion [12]. We also developed a booklet, *Preventing Bowel Leakage*, to explain the causes of fecal incontinence in lay language and to guide patients through a self-management program [13]. This booklet is intended to be used with the help of nurses, and we developed a website to train nurses about guiding

patients in conservative management of accidental bowel leakage [14].

Enhancing Rates of Physician Screening for Fecal Incontinence

In our clinic survey of people with fecal incontinence [4], we asked patients what would make it easier for them to talk to their doctors about fecal incontinence; we learned that both patients who consulted their doctors about fecal incontinence (57%) and those who did not (72%) thought that physicians should ask directly about accidental bowel leakage. However, we also learned that this rarely happened. Nearly 9 out of 10 (88%) patients who had discussed fecal incontinence with their physician said they had brought up the topic themselves.

In this study, we also interviewed a small group of physicians regarding their screening practices. Those who did not screen for fecal incontinence regarded it as a rare condition that is less important than other conditions for which they are required to screen, and all of these physicians thought it was the patients' responsibility to bring up the condition if they wanted treatment.

Physicians' need for more information about fecal incontinence is being addressed by a dramatic increase in the number of publications about this problem in professional journals and by the development of a National Institute of Diabetes and Digestive and Kidney Diseases webpage that provides information on the causes, diagnosis, and treatment of fecal incontinence for both physicians and patients [15]. In addition, we are testing simple screening methods for fecal incontinence to see which are least burdensome to clinicians and which result in the greatest increase in diagnoses and referrals for treatment.

Expanding Treatment Options

With support from the National Institutes of Health (NIH), our group is developing a self-management website to address the needs of patients who are too embarrassed to consult a doctor about fecal incontinence or who may not have access to this type of medical care. We believe this website will also be used as an adjunct to medical management of fecal incontinence by physicians who have limited resources and/or little interest in treating this condition. The website follows principles of conservative management and includes education about the causes of fecal incontinence, the importance of normalizing stool consistency through diet changes and use of over-the-counter medications, and the use of pelvic floor exercises to strengthen weak sphincter muscles.

Finally, our research team received funding from the NIH to plan a multisite study of the comparative effectiveness of biofeedback, sacral nerve electrical stimulation, and injections of bulking agents for the treatment of severe fecal incontinence. This study is not yet enrolling patients, but it will be ready to do so in 2017.

Conclusions

To recap, this commentary contains several key points. First, fecal incontinence is prevalent—likely affecting 36% of patients seen in primary care clinics. However, many physicians are unaware of this high prevalence and do not screen for this condition. Second, diagnosis and management of fecal incontinence do not require referral to a specialist center; a good history and digital rectal examination can identify the most common causes of fecal incontinence and guide treatment or referral. Third, conservative treatment is within the community physician's scope of practice; it includes patient education, normalizing stool consistency with diet and nonprescription medications, and pelvic floor exercises. Such treatment can be expected to improve fecal incontinence by about 60%, and it eliminates the problem for 1 in 5 patients. Finally, the University of North Carolina at Chapel Hill is conducting several research programs funded by the NIH that are attempting to reduce patients' barriers to consulting about fecal incontinence, increase screening by physicians, and develop online resources to support physicians' use of conservative treatment. NCMJ

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Acknowledgments

Potential conflicts of interest. W.E.W. and O.S.P. received research funding from Salix Pharmaceuticals. M.S. has no relevant conflicts of interest.

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