



# Prevalence and Severity of Fecal Incontinence in Veterans

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## Background/Aims

Fecal incontinence (FI) is a common complaint that increases in prevalence with age. Our aim was to determine the prevalence of FI and assess its severity by self-report in a male-predominant Veteran outpatient clinic setting.

## Methods

An anonymous 28 item questionnaire was administered to a convenience sample of veterans awaiting appointments. FI was defined as a loss of liquid or solid stool at least monthly. Multivariable logistic and linear models were used to identify predictors of FI prevalence and severity.

## Results

One hundred thirty-three gastroenterology (GI) participants and 126 primary care (PC) participants completed the survey. Ninety-four of 259 participants (36.3%, 95% confidence interval [CI]: 30.4-42.5) reported an episode of FI (41.4% GI participants vs 31.0% PC participants;  $P = 0.078$ ) with 33.6% having FI within the last 30 days (36.8% GI participants vs 30.2% PC participants;  $P = 0.122$ ). Participants with more bowel movements per week ( $P = 0.005$ ) and per day ( $P < 0.001$ ) and with a higher Bristol Stool Scale form ( $P = 0.010$ ) were more likely to have FI. Of participants with FI, mean Fecal Incontinence Severity Index score was  $23.0 \pm 9.5$  with a significantly higher symptom score in GI participants compared to PC participants ( $25.2 \pm 10.0$  vs  $20.1 \pm 8.2$ ;  $P = 0.011$ ). Few participants had ever been asked by (35.0%) or evaluated by (18.0%) a doctor for FI symptoms.

## Conclusions

FI is a common complaint and under-recognized problem in the male-dominant Veteran population. Despite its prevalence, relatively few participants were asked about FI, with even less being treated. Due to the possible effects and implications on quality of life, more should be done to recognize this condition and arrange treatment.

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## Key Words

Fecal incontinence; Prevalence; Veterans

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## Introduction

Fecal incontinence (FI) is a common complaint with serious implications for quality of life. Whitehead et al<sup>1</sup> and Ditah et al<sup>2</sup> reported that the prevalence of FI in non-institutionalized United States adults to be 8.0%. Alsheik et al found the prevalence to be 12.0% among patients visiting an outpatient gastroenterology clinic.<sup>3</sup> FI affects both men and women, and increases in prevalence with age. The average of onset is 49 years of age, with prevalence rates of up to 16.0% for older adults (70 years or older) and as high as 47.0% for patients living in nursing homes.<sup>1,2,4</sup>

Historically, FI was thought to be more prevalent in women than in men.<sup>5-13</sup> For example, Nelson et al<sup>14</sup> reported an adjusted odds ratio (OR) of 1.51 (95% confidence interval [CI], 1.10-2.11) for FI in women vs men. However, other studies have suggested that the prevalence of FI may be similar between men and women.<sup>1,2,15-17</sup> Both O'Keefe et al<sup>16</sup> (8.1% male vs 7.9% female) and Drossman et al<sup>15</sup> (7.9% male vs 7.7% female) found a similar prevalence in men compared to women. Data from the National Health and Nutrition Evaluation Survey (NHANES) found a non-significant higher prevalence of FI in women (8.9%) compared to men (7.7%). In evaluating the NHANES data from 2005 to 2010, Ditah et al<sup>2</sup> found that women had higher rates of FI only when they had urinary incontinence.<sup>2</sup> Conversely, the largest study of community-dwelling Americans demonstrated male gender as significant risk factor for having FI within the last 7 days (OR, 1.23; 95% CI, 1.07-1.41).<sup>18</sup>

To date, there has been only one study on FI prevalence in men and this was assessing the impact of prostate cancer. There have been no studies screening for the prevalence or frequency of FI in a predominantly male or Veteran population. We hypothesized that FI is a prevalent complaint among Veterans. Therefore, the aim of the study was to determine the prevalence of FI and assess its severity by self-report in a male-predominant Veteran outpatient clinic setting.

## Materials and Methods

### Study Participants and Recruitment

This survey study was conducted at the Ann Arbor Veterans Affairs (VA) gastroenterology (GI) and primary care (PC) outpatient clinics. With investigational review board approval (VA IRB project 002 10/2017-10/202018), a convenience sample of patients with scheduled appointments were invited to participate in the study

upon appointment check-in. Participants aged 18-85 were eligible for participation. Exclusion criteria included the following: participants who were unable to understand or provide written informed consent or unable to read or understand questionnaire. An informational letter was provided to those interested in learning more about the study, and an anonymous questionnaire was given to those willing to participate.

### Survey Instrument

The questionnaire contained 28 items. All participants filled out the first 10 questions that assessed the following: baseline demographics, baseline bowel habits, including frequency and stool consistency by the Bristol stool form scale (BFSF) and history of FI.<sup>19</sup> FI was defined as an involuntary loss of liquid or solid stool at least monthly. Similar wording to the NHANES 2009-2010 Bowel Health survey was utilized in this questionnaire.<sup>20</sup> To those who answered yes to "Have you ever experienced accidental bowel leakage?" participants responded to an additional 18 questions. Using the validated Fecal Incontinence Severity Index (FISI) both type (gas, mucus, liquid, and solid stool) and severity of symptoms were assessed.<sup>21</sup> The FISI measures the severity of FI based on the self-reported frequency of FI symptoms. Additional questions included the willingness to discuss accidental bowel leakage with medical providers, prior evaluation and/or treatment of FI, as well as medical comorbidities (Appendix).

### Statistical Methods

Our planned sample size for each clinic was based on the formula by Kish, using an alpha of 0.05 with a 95.0% power to detect a prevalence of 8.0% based on prior studies.<sup>1,2,22</sup> Using this formula, the sample size for this study was 113 study participants per clinic. We planned for a 20.0% incomplete survey rate and had allowed for the possibility of recruiting up to 136 subjects from each outpatient setting (total of 272 participants).

Descriptive statistics were calculated for patient characteristics by clinic type and by the presence of leakage. Our primary outcome was the prevalence of FI as defined by liquid or solid stool incontinence within the last 30 days. This was determined by an affirmative answer to the following question "Have you ever experienced accidental bowel leakage" and an affirmative answer to either of the following questions, "How often (on average) during the past 30 days have you had any amount of accidental bowel leakage that consisted of liquid stool" or "How often (on average) during the past 30 days have you had any amount of accidental bowel leakage that consisted of solid stool?" Frequency and type of leakage as well

as the FISI was calculated per clinic type. FISI scores > 30 predict a detrimental effect on quality of life.<sup>23</sup> Bivariate analyses utilizing chi-square test for categorical variables and the student's *t* test for continuous variables were performed to examine associations between patient characteristics and FI prevalence of and symptom severity. Additionally, in subjects who had FI, bivariate analysis to assess associations between patient characteristics by clinic type and symptom severity was performed. Multivariable logistic and linear regression models were used for binary and continuous outcomes, respectively. *P*-values less than 0.05 were considered significant with the results presented as OR with 95% CI.

## Results

A total of 272 participants were approached while awaiting their GI and PC appointments. Overall, 133 participants from GI clinic and 126 participants from PC clinic completed the survey for a 95.2% response rate including the 5 questionnaires that were not completed in entirety and excluded from analysis. The average age in years of the respondents was 59.3 ± 13.9 years old. The population was predominantly male (87.3%) and Caucasian (86.3%). GI participants were more likely to have more bowel movements per week and per day with a mean higher BSFS and loose stool consistency (BSFS type 5, 6, and 7) as compared to PC participants. Further study population characteristics are listed in Table 1.

Of the participants, 36.3% (94/259, 95% CI, 30.4-42.5) reported “ever” having an episode of accidental bowel leakage (41.4% GI [55/133] and 31.0% [39/126] PC participants; *P* = 0.078) (Table 1). Subjects with more bowel movements per week (*P* =

0.005) and per day (*P* < 0.001) and with a higher BSFS (*P* = 0.010) and loose stool consistency (BSFS type 5, 6, and 7; *P* = 0.002) were more likely to have “ever” had an episode of accidental bowel leakage (Table 2). No demographic factors were associated with a higher likelihood of FI. When controlling for age and clinic type, only the increased number of bowel movements per day remained significant (*P* = 0.022) (Table 3).

## Participants With Leakage

Eighty-seven of 259 (33.6%) of all participants reported having FI (either solid and/or liquid stool) within the last 30 days, 36.8%

**Table 2.** Overall Study Participant Characteristics by Accidental Bowel Leakage (N = 259)

Characteristics	No ABL (n = 165)	ABL (n = 94)	<i>P</i> -value
Demographic characteristics			
Age (yr)	59.4 ± 14.7	59.1 ± 12.6	0.825
Sex (male)	146 (88.5)	80 (85.1)	0.452
White	144 (87.8)	76 (84.4)	0.521
Married/partner	93 (56.4)	52 (55.3)	0.878
≤ High school education	43 (26.2)	30 (31.9)	0.327
Bowel related measures			
BMs per week	11.2 ± 10.2	16.0 ± 17.3	0.005
BMs per day	1.7 ± 1.4	2.6 ± 2.5	< 0.01
BSFS	4.1 ± 1.5	4.6 ± 1.5	0.010
BSFS type 5, 6, and 7	54 (31.4)	49 (52.1)	0.002

ABL, accidental bowel movement; BM, bowel movement; BSFS, Bristol stool form scale.

Data are presented as n (%) or mean ± SD.

**Table 1.** Overall Study Participant Characteristics by Clinic Visit

Characteristics	Total (N = 259)	GI participants (n = 133)	PC participants (n = 126)	<i>P</i> -value
Demographic characteristics				
Age (yr)	59.3 ± 13.9	57.2 ± 14.4	61.6 ± 14.6	0.220
Sex (male)	226 (87.3)	112 (84.2)	114 (90.5)	0.130
White	220 (86.3)	110 (82.7)	110 (87.3)	0.520
Married/partner	145 (56.0)	67 (50.3)	78 (61.9)	0.060
≤ High school education	75 (16.5)	35 (26.5)	38 (30.2)	0.510
Bowel related measures				
BMs per week	13.0 ± 13.4	15.1 ± 15.7	10.7 ± 10.1	0.001
BMs per day	2.0 ± 1.9	2.3 ± 2.3	1.8 ± 1.5	0.030
BSFS	4.3 ± 1.5	4.6 ± 1.5	4.0 ± 1.5	0.001
BSFS type 5, 6, and 7	103 (39.8)	65 (48.9)	38 (30.2)	0.002
Episode of ABL	94 (36.3)	55 (41.4)	39 (31.0)	0.080

GI, gastroenterology; PC, primary care; BM, bowel movement; BSFS, Bristol stool form scale; ABL, accidental bowel movement.

Data are presented as n (%) or mean ± SD.

(49/133) GI and 30.2% (38/126) PC participants ( $P = 0.120$ ). Participant characteristics by clinic type are listed in Table 4. In both populations, there was a high prevalence of depression and anxiety. Participants by clinic type were similar except in following areas. PC participants were more likely to report back pain ( $P < 0.001$ ) and GI subjects were more likely to have inflammatory bowel disease (IBD) ( $P = 0.021$ ) or a history of anal fissure ( $P = 0.013$ ).

**Table 3.** Multivariable Logistic Regression Estimates of Predictors of Having Experienced Fecal Incontinence

Characteristics	Experienced FI	P-value
Age	1.00 (0.98-1.02)	0.414
GI clinic	1.52 (0.87-2.65)	0.132
BMs per day	2.41 (1.38-4.19)	0.001
BMs per week	1.02 (1.00-1.04)	0.010
BSFS type 5, 6, and 7	1.79 (0.98-3.26)	0.051

FI, fecal incontinence; GI, gastroenterology; BM, bowel movement; OR, odds ratio; CI, confidence interval. Data are presented as OR (95% CI).

**Table 4.** Participant Characteristics With Fecal Incontinence in Last 30 Days by Clinic Type

Characteristics	GI participants (n = 49)	PC participants (n = 38)	P-value
Demographic characteristics			
Age (yr)	59.0 ± 10.2	58.8 ± 14.7	0.924
Sex (male)	41 (83.7)	34 (89.7)	0.282
White	40 (85.1)	30 (81.6)	0.522
Married/partner	26 (53.1)	24 (60.5)	0.498
≤ High school education	13 (26.5)	14 (34.2)	0.444
Comorbid conditions			
Urinary incontinence	7 (14.3)	8 (21.6)	0.375
Diabetes mellitus	12 (26.1)	13 (35.1)	0.372
Irritable bowel syndrome	12 (25.5)	8 (21.6)	0.683
Inflammatory bowel disease	6 (13.0)	0 (0)	0.022
Previous back injury	19 (41.3)	4 (10.8)	< 0.001
Anal fissure	7 (15.2)	0 (0)	0.011
Depression	23 (50.0)	20 (54.1)	0.944
Anxiety	18 (38.3)	20 (54.1)	0.152
Bowel related measures			
BMs per week	17.1 ± 19.7	14.4 ± 14.9	0.444
BMs per day	2.8 ± 2.9	2.4 ± 2.2	0.478
BSFS	4.8 ± 1.5	4.3 ± 1.6	0.092
BSFS type 5,6, and 7	29 (59.2)	17 (44.7)	0.182
FISI	25.2 ± 10.0	20.1 ± 8.2	0.011

GI, gastroenterology; PC, primary care; BM, bowel movement; BSFS, Bristol stool form scale; FISI, Fecal Incontinence Severity Index. Data are presented as n (%) or mean ± SD.

Gas incontinence was the most common type of leakage reported as shown in Table 5. Thirty-two of 49 (65.3%) and 25/38 (65.7%) of GI and PC participants also reported gas leakage at least once or more a week, respectively. Liquid stool incontinence occurred at least weekly in 47.1% (n = 41/87) of participants, with a slight predominance in GI participants (26/49, 53.1%) as compared to PC participants (15/38, 39.4%). Loss of mucus at least once per week or greater (31.0%, n = 27) was reported less frequently than liquid stool loss but similarly in both clinic populations (17/49 [34.6%] in GP participants vs 10/38 [26.4%] in PC participant;  $P = 0.094$ ). Solid stool incontinence happened the least in our cohort, with 11.5% (n = 10) of subjects reporting stool loss at least once per week or greater and mainly found in the GI clinic population.

In those subjects with FI, we found that participants had a mean onset of symptoms at age 53 with 71.3% having symptoms for greater than 1 year (Table 6). The mean FISI score was 23.0 ± 9.5 with a significantly higher symptom score in GI participants

**Table 5.** Fecal Incontinence Severity Index in Last 30 Days by Clinic Type

FI type	GI participants (n = 49)	PC participants (n = 38)	P-value
Gas			
≥ 1/day	17 (34.7)	10 (26.3)	0.892
2-6/wk	9 (18.4)	8 (21.0)	
1/wk	6 (12.2)	7 (18.4)	
1-3/mo	12 (24.5)	9 (23.7)	
Never	5 (10.2)	4 (10.5)	
Mucus			
≥ 1/day	7 (14.3)	2 (5.3)	0.093
2-6/wk	8 (16.3)	3 (7.9)	
1/wk	2 (4.1)	5 (13.2)	
1-3/mo	13 (26.5)	5 (13.2)	
Never	19 (38.8)	23 (60.4)	
Liquid stool			
≥ 1/day	9 (18.4)	5 (13.2)	0.314
2-6/wk	8 (16.3)	2 (5.3)	
1/wk	9 (18.4)	8 (21.1)	
1-3/mo	19 (38.8)	22 (57.9)	
Never	4 (8.2)	1 (2.6)	
Solid stool			
≥ 1/day	2 (4.1)	1 (2.6)	0.122
2-6/wk	2 (4.1)	0 (0)	
1/wk	5 (10.2)	0 (0)	
1-3/mo	9 (18.4)	4 (10.3)	
Never	31 (63.3)	33 (86.8)	

GI, gastroenterology; PC, primary care; FI, fecal incontinence. Data are presented as n (%).

**Table 6.** Details About Fecal Incontinence in Last 30 Days by Clinic Type

Characteristic	GI	PC	P-value
	participants (n = 49)	participants (n = 38)	
Age of onset (yr)	53.4 ± 15.3	53.9 ± 17.2	0.883
Duration of FI in years			
< 1 yr	15 (30.6)	10 (26.3)	0.512
1-5 yr	19 (38.8)	20 (52.6)	
> 5 yr	15 (30.6)	8 (21.1)	
Use of protective pads	16 (32.7)	9 (23.7)	0.522
Per day	1.3 ± 1.0	0.8 ± 0.8	0.134
Per week	8.7 ± 6.2	5.0 ± 4.5	0.181
Per month	31.4 ± 23.6	19.3 ± 13.4	0.220
Use of protective undergarments	11 (22.4)	6 (15.8)	0.573
Per day	0.9 ± 1.0	1.3 ± 1.0	0.432
Per week	5.8 ± 7.2	7.2 ± 7.2	0.711
Per month	24.6 ± 29.6	28.5 ± 27.7	0.792
Ever asked by doctor	21 (42.9)	10 (26.3)	0.214
Evaluated by doctor	12 (24.5)	4 (10.5)	0.129

GI, gastroenterology; PC, primary care; FI, fecal incontinence. Data are presented as mean ± SD or n (%).

compared to PC participants (25.2 ± 10.0 vs 20.1 ± 8.2, *P* = 0.011) (Table 4). Fifteen GI participants (30.6%) reported a FISI greater than 30 compared to 4 PC participants (10.5%) (*P* = 0.024). On bivariate analysis of symptom severity, number of bowel movements per week, and the presence of IBD predicted increased symptom severity. On multivariable linear regression analysis, only the presence of IBD was associated with increasing FI severity (*P* = 0.031) (Table 7).

At the clinic visit, none of the subjects listed any symptom consistent with FI as their reason for visit. Few participants had ever been asked by (31/87, 35.6%) or evaluated by a doctor (16/87, 18.4%) for their FI symptoms (Table 6). Gastroenterologists were involved in assessing symptoms in 68.2% of cases (45.5% asked by GI alone), whereas primary care physicians asked in 36.4% of cases.

## Discussion

FI is a common complaint among Veterans in this cross-sectional survey of GI and PC participants. More than one-third of our population had FI at least monthly. Stool consistency (higher BSFS) and frequency of bowel movements were significant factors associated with FI prevalence. Additionally, few participants were asked or treated for their leakage symptoms. Our study is unique as

**Table 7.** Factors Associated With Fecal Incontinence Severity by Multivariable Linear Regression

Variable	Model		
	Parameter estimate	Standard error	P-value
Age (yr)	0.07	0.11	0.526
Sex			
Female	reference	---	---
Male	-4.38	3.23	0.182
History of urinary incontinence			
No	reference	---	---
Yes	-1.57	2.78	0.568
History of diabetes mellitus			
No	reference	---	---
Yes	-0.15	2.61	0.951
History of anxiety			
No	reference	---	---
Yes	1.29	2.52	0.614
History of depression			
No	reference	---	---
Yes	-1.84	2.46	0.448
History of irritable bowel syndrome			
No	reference	---	---
Yes	3.99	2.57	0.118
History of inflammatory bowel disease			
No	reference	---	---
Yes	9.16	4.23	0.031
Bowel movements per week	0.19	0.21	0.362

it assesses prevalence in a predominantly male population and is the first to assess FI in Veterans. Adolfsson et al<sup>24</sup> assessed the prevalence of urinary and bowel symptoms in population-based groups of men with and without prostate cancer. The authors found that the risk of bowel urgency and FI was 1.3–4.5 times that of the controls with a prevalence of FI of 4.0%.<sup>24</sup> Lastly, Cohan et al<sup>25</sup> characterized 144 men with FI to 897 women who presented to a tertiary medical center and found that men were slightly younger and more likely than women to present with coexistent constipation and less sphincter dysfunction.

One third of participants (36.8% of GI and 30.2% of PC) reported FI within the last 30 days. This finding is at least 3 times higher than most recent monthly estimate of FI prevalence.<sup>2</sup> The reasons for increased FI prevalence in our population is likely multifold. Our population is older with a mean age of 59. From prior studies, age is definite risk factor for increasing prevalence of FI.<sup>1,2</sup> Additionally in our population, there was high prevalence of diabe-

tes mellitus which is a known risk factor for FI.<sup>13,26</sup> The presence of diabetes was noted to be slightly higher in the PC participants compared to the GI participants, but not statistically significant. However, our findings were higher than prior national estimates of Veterans with diabetes, as Reiber et al<sup>27</sup> estimated the prevalence in diabetes in male Veterans receiving VA care was 16%. Further reasons for this high rate of FI need to be further studied and these findings confirmed with a population-based survey.

Results from our study show that subjects with more bowel movements per week ( $P = 0.005$ ) and per day ( $P < 0.001$ ) and with a higher BSFS ( $P = 0.010$ ) were more likely to have FI. These findings are congruent with the literature, as FI often occurs in conditions that cause diarrhea.<sup>28-30</sup> We found that those with FI were more likely to have loose consistency stools (BSFS type 5, 6, and 7;  $P = 0.002$ ). Although diarrhea is often a presenting complaint leading to GI clinic evaluation, similar reports of FI were found between GI and PC clinics ( $P = 0.078$ ). Importantly, there was also no significant difference between type of FI between clinic types, although liquid stool incontinence showed a slight predominance in GI participants (53.1%) as compared to PC participants (39.6%). Therefore, our study emphasizes the critical point that a provider should ask any patient who suffers from diarrhea about episodes of FI.

Using the FISI score, a patient-based scale assessing the degree of FI adapted from Rockwood et al,<sup>21</sup> prior work has shown that FISI scores are highly correlated with quality-of-life measures.<sup>23</sup> This included measures such as life-style restriction, depression, and embarrassment, with scores greater than 30 predicting a detrimental effect on quality of life. From our study, the mean FISI score was  $23.0 \pm 9.5$  with a significantly higher symptom score in GI participants ( $25.2 \pm 10.0$ ) compared to PC participants ( $20.1 \pm 8.2$ ). Fifteen GI participants (30.6%) reported a FISI greater than 30 compared to 4 PC participants (10.5%) ( $P = 0.024$ ). Additionally, a sizeable percentage of participants required the use of protective pads (28.7%) or protective undergarments (19.5%), which varied minimally by clinic type. From the work of Rockwood et al<sup>21</sup> the use of a pad or accidental leakage was also found to be highly correlated with the FISI score; however, their study revealed only 8% of individuals reported wearing a protective pad.

Our study also demonstrates that FI is a persistently under-recognized problem. FI can be a difficult topic to discuss for some patients due to embarrassment or other social factors and not always reported to their medical provider. A concerning finding from our study was that few participants had ever been asked by or evaluated by a doctor for their leakage symptoms. However, this is consistent

with earlier reports in the literature with less than a third of people suffering from this condition having discussed their symptoms with a health care professional.<sup>1,31,32</sup> Of those asked about symptoms related to leakage, gastroenterologists were involved in assessing symptoms in 68.2% of cases, whereas primary care physicians asked in 36.4% of cases. In both clinic settings, more needs to be done to recognize this complaint, as FI can have a devastating impact on quality of life.

Our study has several potential limitations. The primary limitation is the cross-section of participants surveyed. Although subjects with scheduled appointments in 2 clinics were included, there may be selection bias and thus may not represent all Veterans. However, given that no significance was found between the report of FI between PC and GI clinics, our results suggest that FI is also a common complaint among those without underlying bowel or digestive health issues. To counter this, an overall high response rate was seen, further strengthening our results and findings. Administering the survey in a population-based study format would address these issues. Overall, the generalizability of our findings to other populations may be limited. Our study also relied on self-report, therefore recall bias may be introduced by the study design.

In conclusion, FI is a common complaint and under-recognized problem among a cross-section of veterans in both GI and PC clinics. Despite its prevalence, relatively few participants were asked about leakage, with even less being treated. Stemming from these findings, a large-scale study among Veterans should be pursued to determine the actual impact and prevalence of this condition in the Veteran population.

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## Appendix

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**First we want to learn more about you. Please give the answer that best describes you. Remember, there is no right or wrong answer.**

1. Reason for office visit: \_\_\_\_\_

2. Please list your age at your last birthday: \_\_\_\_\_

3. Are you Hispanic or Latino?

Yes

No

4. For your race, do you consider yourself primarily:

Caucasian/White

Asian-American/Pacific Islander

African-American/Black

Native American/Native Alaskan

Other, please list: \_\_\_\_\_

5. My marital status is:

Married

Separated

Divorced

Widowed

Never married

Living with partner

6. Highest level of school completed:

Less than high school

High school graduate or equivalent

Some college or specialty training

College graduate

Post graduate work or graduate degree(s)



7. What is your sex?

- Male
- Female








**Now we'd like to talk to you about bowel health. The bowel is another name for the intestines. Other names for the bowel include guts or innards. Please take a few minutes to answer the following questions.**

8. On average, how often do you usually have bowel movements?

How many times per week? \_\_\_\_\_

How many times per day? \_\_\_\_\_

9. Please circle the ONE form that looks most like to your usual or most common stool type:

Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7
Separate hard lumps, like nuts	Sausage-shaped but lumpy	Like a sausage but with cracks on its surface	Like a sausage or snake, smooth and soft	Soft blobs with clear-cut edges	Fluffy pieces with ragged edges, a mushy stool	Watery, no solid pieces, entirely liquid
						

**Next, we'd like to talk about accidental bowel leakage. Accidental bowel leakage is leaking from the bowel or intestines that can't be controlled.**

10. Have you ever experienced accidental bowel leakage?

- Yes → **Please go on to Question 11 on the next page.**
- No → **Thank You! You are finished with this questionnaire. Please return it to the research staff that gave it to you.**

11. How often (on average) during the past 30 days have you had any amount of accidental bowel leakage that consisted of gas?

- 2 or more times a day
- Once a day
- 2 or more times a week
- Once a week
- 1-3 times a month
- Never

12. How often (on average) during the past 30 days have you had any amount of accidental bowel leakage that consisted of mucus?

- 2 or more times a day
- Once a day
- 2 or more times a week
- Once a week
- 1-3 times a month
- Never

13. How often (on average) during the past 30 days have you had any amount of accidental bowel leakage that consisted of liquid stool?

- 2 or more times a day
- Once a day
- 2 or more times a week
- Once a week
- 1-3 times a month
- Never

14. How often (on average) during the past 30 days have you had any amount of accidental bowel leakage that consisted of solid stool?

- 2 or more times a day
- Once a day
- 2 or more times a week
- Once a week
- 1-3 times a month
- Never

15. Please list your age when the accidental bowel leakage first began: \_\_\_\_\_

16. How long has these episodes of accidental bowel leakage been occurring?

- Less than 1 year
- Between 1-5 years
- Greater than 5 years

17. Do you use protective pads for accidental bowel leakage?

Yes

No

18. If yes to question 17, how often do you use protective pads?

- Pads per day \_\_\_\_\_

- Pads per week \_\_\_\_\_

- Pads per month \_\_\_\_\_

19. Do you use protective undergarments (i.e. depends, diapers) for accidental bowel leakage?

Yes

No

20. If yes to question 19, how many do you use (on average)?

- Diapers per day \_\_\_\_\_

- Diapers per week \_\_\_\_\_

- Diapers per month \_\_\_\_\_

21. Please circle the medications below that you may have used for your accidental bowel leakage. (circle as many as apply, if any):

- Laxatives or stool softeners:

*milk of magnesia, lactulose, bisacodyl (dulcolax), castor oil, Colace, psyllium (Metamucil), senna (se-nokot), sorbitol*

- Antidiarrheals:

*Imodium (loperamide), lomotil (diphenoxylate), Pepto-Bismol*

22. Have you ever talked to your VA doctor about accidental bowel leakage?

Yes

No

23. Have you ever been asked by a doctor about accidental bowel leakage?

Yes

No

24. If you answered yes to question 23, who were asked by?

- Family practice/primary care
- Gastroenterologist
- Surgeon
- Gynecologist
- Other \_\_\_\_\_
- N/A

25. Have you ever been evaluated or treated for accidental bowel leakage?

- Yes
- No

26. If yes, you have been evaluated/treated by your:

- Family practice/primary care
- Gastroenterologist
- Surgeon
- Gynecologist
- Other \_\_\_\_\_
- N/A

27. Please check any of the following medical problems that you have:

- Diabetes
- Urinary incontinence
- Parkinson's disease
- Inflammatory bowel disease (Crohn's disease/ulcerative colitis anal fissure)
- Irritable bowel syndrome
- Celiac disease
- Previous back surgery
- Amyloidosis
- Scleroderma
- Previous abdomen or pelvis radiation therapy
- Anal fissure

- Rectal prolapse
- Hemorrhoids
- Colon or Rectal cancer
- Anxiety
- Depression

28. Please check any of the past surgical procedures you have had:

- Anorectal surgery
- Spinal surgery

29. For Women only:

Please fill in your obstetric history:

Total number of pregnancies \_\_\_\_\_

Total number of normal vaginal deliveries \_\_\_\_\_

Total number of Caesarian sections \_\_\_\_\_

Episiotomy? Yes/No. If yes, how many? \_\_\_\_\_

Forceps/Vaccum? Yes/No. If yes, how many? \_\_\_\_\_