

Journal

of AGING (ife CARE™



SPRING 2014

Incontinence

2013 Editor-in-Chief and Executive Director Message

Letter from 2013 Editor-in-Chief & Executive Director

We are pleased to introduce our New Journal of Geriatric Care Management. We want to recognize the significant contributions of all those who've been dedicated to the publication and say thank you to all participating in the transition to this new format. Suzanne Modigliani served as the Journal's Editor-in-Chief in 2013. In this first issue of 2014, working with Mary Palmer as Guest Editor of the seven evidence-based articles, Suzanne has helped guide the transition and served as Co-Editor, along with Jennifer Voorlas, MSG, CMC.

Here's What's New in the New Journal

- Contains both clinical/research-based articles, as well as general practice- or business-based articles
- Uses a web-based technology that allows easier navigation and includes features to search, share, archive, and comment on articles
- Enables use of links, videos, and audio features

Committee Structure

The newly formed Publications Committee is chaired by Jennifer Voorlas, MSG, CMC, who was the Editor-in-Chief of Inside GCM in 2013, and will continue as Editor-in-Chief of the New Journal. We are fortunate to have the participation of all those members who were on last year's Journal and Inside GCM Committees.

We hope you enjoy the new format and expanded content of the New Journal of Geriatric Care Management.

Suzanne Modigliani, LICSW, CMC
Brookline, MA

Kaaren Boothroyd
Executive Director

Topics: Editor's and Guest Editor's Message

2 thoughts on “2013 Editor-in-Chief and Executive Director Message”



1. Emily Saltz says:

August 25, 2014 at 6:14 pm

Congratulations on the new user friendly, easy to view journal of geriatric care management. It looks terrific !
Thanks to the editors, writers and staff for such a great effort.

Reply



2. Jennifer Voorlas says:

September 27, 2014 at 9:32 am

Thank you Emily,

We appreciate the feedback !!!

Reply

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Journal

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Why the Bladder Matters*



FIND AN AGING LIFE
CARE EXPERT

SPRING 2014

Incontinence

Mary H. Palmer, PhD, RN,C, FAAN
Guest Editor

Summary

Urinary incontinence (UI) and other lower urinary tract symptoms (LUTS) are prevalent, embarrassing, and costly. They affect both men and women especially with age. Yet age alone does not cause urinary incontinence and other lower urinary tract symptoms like overactive bladder. Although many people do not seek help, there are effective treatment options. Knowing more about the lower urinary tract and the causes of and risk factors for urinary incontinence and other symptoms of the lower urinary tract can assist older adults, families, and caregivers in advocating for and receiving appropriate healthcare.

Introduction

Mrs. Owens, a 90 year old woman, enjoys good health and lives independently in her own home with her poodle, Sally. Mrs. Owens' daughter, Marsha, who is 65 years old, lives close by and takes her mother to a nearby mall once a week. Last month Mrs. Owen and Marsha went to the mall and before leaving they stopped to eat dinner before returning home. Mrs. Owens went to the restroom by herself and when she did not return to their table, Marsha decided to look for her. Mrs. Owens was still in a stall in the restroom. She told Marsha that she had voided through her absorbent pad and soaked her pants. Marsha hadn't known that her mother was incontinent, but having had some leaking episodes herself she wasn't surprised, because she believed incontinence was something that happens to women as they age. Marsha felt embarrassed for her mother and went to a nearby drug store to buy a box of absorbent pads and a roll of plastic trash bags. She returned and took the soiled pad and panties and disposed of them. She then helped Mrs. Owens dry her pants with paper towels and got her to the car. Mrs. Owens sat on a plastic bag on the car seat and neither talked on the drive to Mrs. Owens' home. Mrs. Owens declined to go out to the mall in the weeks that followed. Marsha felt sad that their weekly outings had ended but thought, "This is how it is when you are old."

This scenario repeats itself at varying levels of severity and distress every day. With the world population both growing and aging (e.g., 10,000 Baby Boomers turn 65 years old each day) (Pew Research Center, 2010) the number of people with urinary incontinence in the United States and

ABOUT THE AUTHOR

Dr. Palmer, Guest Editor, is the Helen W. and Thomas L. Umphlet Distinguished Professor in Aging in the UNC School of Nursing. She is also the interim co-director of and senior scientist at the Institute on Aging at the University of North Carolina (UNC) at Chapel Hill. Dr. Palmer has conducted research, published, and lectured extensively for over 25 years on urinary incontinence and bladder health in adults. Her current research investigates behaviors that affect bladder health and chronic symptom management. Dr. Palmer received her BS in Nursing and Master of Science degrees from the University of Maryland at Baltimore, her PhD in Behavioral Sciences and Health Education from the Johns Hopkins University School of Hygiene and Public Health (now Bloomberg School of Public Health), and received post-doctoral research training as a fellow in the intramural research program at the National Institutes of Health. Dr. Palmer also has an MFA in Creative Writing from Goddard College, Plainfield, Vermont.

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worldwide is expected to grow. Yet ample evidence exists that aging alone does not cause urinary incontinence. By attributing incontinence to age, people often do not seek help from healthcare providers to assess and treat it. Some people do not seek help from healthcare providers because of embarrassment and the belief there is nothing to be done but to cope with it.

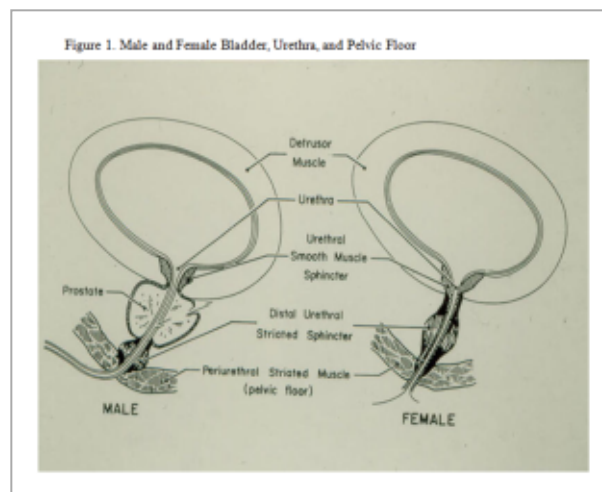
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However, there is sufficient evidence that urinary incontinence can improve through behavioral interventions such as pelvic floor muscle exercises, prompted voiding, timed voiding, lifestyle changes, and combinations of medication and behavioral interventions. Assessment, through physical examination, medical history, medication review (Wagg et al., 2013), and consideration of environmental factors such as access to toilet facilities, is essential to determining the most appropriate treatment options for the affected person. Knowing more about the lower urinary tract and the causes of and risk factors for urinary incontinence and other symptoms of the lower urinary tract can assist older adults, families, and caregivers in advocating for and receiving appropriate healthcare. This article provides an introduction to the structures and function of the lower urinary tract and lower urinary tract symptom definitions and risk factors.

Structures and Functions of the Lower Urinary Tract

The lower urinary tract consists of the ureters (two muscular tubes leading from the kidneys to the bladder), the bladder (comprised of a cylinder-shaped smooth muscle called the detrusor and at the base of the detrusor, the bladder neck where an internal sphincter to hold back urine is located), and the urethra (the tube leading from the bladder neck to the outside of the body), see Figure 1.

The upper urinary tract (the kidneys) continuously produces urine which empties into the ureters. The main function of the bladder is to store and empty that urine. The process of emptying or voiding urine is called micturition. Urine storage and emptying occurs throughout the day, with about 8 emptying episodes in a 24 hour period with an approximate urine output of 1500mL. During the storage phase, the detrusor is relaxed to facilitate bladder expansion during filling, while the external and internal urinary sphincters are contracted to prevent urine escaping from the bladder through the urethra. During the emptying phase, the detrusor is forcefully contracted and internal and external sphincters are relaxed, resulting in urine leaving the bladder via the urethra and exiting the body.



Lower Urinary Tract Symptoms (LUTS)

Lower urinary tract symptoms can occur in the storage, emptying, or a combination of storage and emptying, and post-micturition (Abrams et al., 2002). Treatment is dependent on the type of lower urinary symptom or symptoms. Urinary tract infections (UTI) are usually acute, occurring suddenly. When located in the lower urinary tract UTIs are also called cystitis. These infections occur when an organism, usually bacteria, invade and inflame the bladder. UTI symptoms include frequency, urgency, and pain when voiding. Transient urinary incontinence (incontinence with a sudden onset that resolves when the UTI resolves) can occur with UTIs. Thus, prompt assessment and treatment is necessary. Serious bladder conditions, not considered lower urinary tract symptoms, include bladder cancer. Hematuria (blood in the urine) requires professional evaluation to rule out serious conditions. To learn more about urinary tract infections and other bladder conditions, the National Institute of Diabetes and Digestive and Diseases of the Kidney (NIDDK) website: www.nih.niddk.gov provides important information.

LUTS Definitions and Symptoms

Lower urinary tract symptoms are prevalent and affect adults of all ages. The Epidemiology of Urinary Incontinence and other Lower Urinary Tract Symptoms (LUTS), Pelvic Organ Prolapse (POP) and Anal Incontinence Committee of the 5th International Consultation on Incontinence estimated that 46% of the adult population worldwide experiences some type of lower urinary tract symptoms; 8% of the world’s adult population experiences urinary incontinence (Milsom et al., 2013). The number of adults with urinary incontinence is expected to rise, for example 275 million women in 2013 have some type of urinary incontinence. The projection for 2018 is that 301 million adult women will be incontinent (Milsom et al., 2013). LUTS are costly to individuals, the healthcare system and society. The total annual cost for overactive bladder with urgency urinary incontinence for adults aged 25 years and over living in the community and in institutions was estimated to be \$65.9 billion (2007 dollars) (Milsom Global Prevalence).

Phase	Symptoms	Clinical Presentations	Risk Factors
Storage Phase Symptoms	Urinary incontinence	Leakage of urine from the bladder, either spontaneously or during activities such as coughing, laughing, or exercise.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.
	Urgency	Sudden compelling desire to pass urine which is difficult to defer.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.
	Urgency urinary incontinence	Urgency associated with involuntary leakage of urine.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.
	Stress urinary incontinence	Leakage of urine on effort, exertion, or physical activity.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.
Voiding Phase Symptoms	Overactive bladder (OAB)	Urgency with or without urgency urinary incontinence.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.
	Voiding dysfunction	Abnormalities of voiding, such as hesitancy, straining, or a weak stream.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.
	Obstructive voiding dysfunction	Voiding dysfunction associated with a mechanical obstruction of the urinary tract.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.
Mixed Symptoms	Mixed urinary incontinence	Storage and voiding phase symptoms.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.
	Voiding dysfunction with urgency	Voiding dysfunction associated with urgency.	Age, gender, parity, menopause, obesity, chronic cough, constipation, alcohol consumption, smoking, caffeine intake, and certain medications.

Urinary incontinence and overactive bladder (OAB) are considered storage phase symptoms of the lower urinary tract. Urinary incontinence, defined as “the complaint of any involuntary leakage of urine.”³ is further sub-classified as stress urinary incontinence, urgency urinary incontinence, or mixed urinary incontinence, see Table 1. Overactive bladder, characterized by the symptom of urgency (i.e., “sudden compelling desire to pass urine which is difficult to defer”) (Abrams 38) is defined as “urinary urgency, usually accompanied by frequency and nocturia, with or without urgency urinary incontinence, in the absence of urinary tract infection or other obvious pathology”(Haylen et al. 6). Post-micturition symptoms occur immediately after emptying the bladder.

The bladder matters because urinary incontinence and overactive bladder can be devastating to one’s dignity. Caregivers and healthcare providers should pay attention to the preferences for treatment, access to emotional support, ability and motivation to follow treatment plans, and availability of caregiving to provide toileting assistance. The articles in this special issue focus on topics that will increase awareness of the need for assessment and appropriate treatment. Consequences of LUTS are also discussed, as are additional educational and other resources.

Summary and Conclusion

Marsha thought she was doing the best thing after her mother’s incontinent episode by pretending nothing happened. She thought she was protecting her mother’s dignity and believed that nothing could be done to improve incontinence. She was also taking the same approach to her own occasional incontinent episodes.

Without assessment and appropriate treatment, urinary incontinence will not resolve or get better. Reviewing medications, both over-the-counter and prescription, for their effect on the lower urinary tract system is part of this assessment along with a detailed medical history and physical examination. Identifying reasons for worsening urinary incontinence such as urinary tract infections and making lifestyle changes such as losing weight, monitoring fluid intake and voiding patterns, adhering to a program of pelvic floor muscle exercises, and healthy toileting behaviors may help improve or alleviate the incontinence experienced by Mrs. Owen and her daughter. Understanding the feelings of stigma that often comes from being incontinent, the level of assault of incontinent episodes can have on one’s dignity, and the lack of knowledge about UI and LUTS allows healthcare providers to proactively engage in dialogue with older adults that will encourage them to seek effective help for lower urinary tract symptoms.

References/Figures


Article References

Figure 1

Table 1

Topics: Incontinence

One thought on “Why the Bladder Matters*”

1.  Audrey Cochran, MSN, GCNS-BC says:

June 12, 2014 at 3:56 pm

I wrote my master’s thesis on urinary incontinence and learned no one wants to talk about it and assume if you don’t want surgery, you just “pad up and go.” I have helped several thousand persons, both patients and listeners when I give talks on the subject at senior centers. 6 times a year I teach a class sponsored by a local hospital for welfare to work individuals about how to help persons with dementia become continent.

Reply

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Urinary Incontinence: Decreasing Risk and Optimizing Management by Engaging in Physical Activity and Other Health Behaviors*

Barbara Resnick, PhD, CRNP, FAAN, FAANP

Abstract/Summary

Urinary incontinence is a complex clinical syndrome in aging, not a disease state that is easily treated and resolved. There are numerous factors that influence urinary incontinence, some of which are normal age changes and others associated with contributing disease states and lifestyle factors. Examples of contributory factors include but not limited to constipation, estrogen deficiency and atrophic vaginitis, benign prostatic hypertrophy, cystocele, nicotine, alcohol use, and sedentary lifestyles. Given the multiple causes of urinary incontinence, there are multiple opportunities for interventions to decrease episodes of incontinence. This paper provides the background and guidance for how to optimally change behavior in older adults to improve management of urinary incontinence.

Background

Numerous factors influence UI among older adults including age related changes, medical problems (i.e., acute and chronic illness and medication management of disease states), functional changes (Khatutsky, 2013; Kraus, 2010) and behavioral factors (Burgio, Locher, Goode, et. al., 1998; Burgio, Locher, Goode, et. al., 2001; Burrows, Meyn, Walters, & Weber, 2004; De Gagne, 2013; Griffiths, 2007; Harris, 2010; Hashim, 2006; Kafri, 2012; Pfisterer, Griffiths, Schafer, Resnick, 2006; Pfisterer, Griffiths, Rosenberg, et. al., 2006; Resnick, Yalla, Laurino, 1989; Taylor, 2006; Yoshida, 2001). This paper will provide a brief overview of factors external to the lower urinary tract that contribute to urinary incontinence in older adults. It will also discuss a physical activity intervention to improve urinary incontinence.

Age related factors

With age the levator ani and coccygeus muscles that comprise the pelvic floor weaken. As the individual ages there is also a decrease in bladder sensation, decreased detrusor contractility, and urethral closure pressure, and an increase in nocturnal micturition, (i.e., emptying the bladder at night) (Pfisterer, Griffiths, Schafer, Resnick, 2006; Pfisterer, Griffiths, Rosenberg, et. al., 2006). There is not, however, a normal decrease in bladder capacity (Pfisterer, Griffiths, Schafer, Resnick, 2006). These age-related changes are not sufficient enough to cause urinary incontinence but rather, increase an older person's vulnerability of becoming incontinent.

Some gender specific changes that influence UI include an age associated decrease in local estrogen levels in women. Estrogen decline contributes to both a decline in bladder sensation and detrusor motor function, and

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it can also cause atrophic vaginitis (i.e., inflammation of the vagina and surrounding tissue due to the lack of estrogen) which results in vaginal discomfort, burning, itching and associated dyspareunia (i.e., painful sexual intercourse), and a sense of urinary urgency. A cystocele (i.e., prolapse of the bladder into the vagina) can cause overflow of urine from the bladder, referred to as overflow incontinence (Thurmon, 2013). Although it is associated with “nerve stretch” the actual pathophysiology for why pelvic organ prolapse causes urinary incontinence is unclear (Burrows, et al., 2004). In men, obstruction in urinary flow can be due to external pressure on the urethra from benign enlargement of the prostate also called prostatic hypertrophy (BPH), or prostatic cancer.

Medical Problems

Medical problems contributing to UI may be either acute or chronic. A symptomatic urinary tract infection can cause bladder irritation with a subsequent urge to urinate. Diabetes and hyperglycemic states can put individuals at risk for urinary tract infections and cause frequency by virtue of the hyperglycemic state of the urine. Cardiovascular disease such as heart failure and venous insufficiency contribute to urinary frequency and nocturia, (i.e., awakening to empty the bladder one or more times at night) both of which can result in urinary incontinence. This is particularly true for older adults who also have some mobility impairment.

Neurological disorders such as stroke can cause urinary incontinence due to central nervous system changes and inability to regulate urine flow. Dementia may result in urinary incontinence as the individual may lose the ability to recognize the urge to void and to follow the steps involved in toileting or voiding. Other diseases such as Parkinson’s disease can cause impairments in mobility and cognition and thereby contribute to urinary incontinence.

Constipation also increases the risk of experiencing urinary retention and overflow incontinence. Constipation commonly results in impacted stool in the rectum which elicits local, spontaneous neurogenic activity and can cause frequency and incontinence.

Medication management

Medication management of chronic and acute problems may likewise contribute to and/or cause UI. Table 1 provides a list of medications that are likely to cause/contribute to UI.

Table 1. Medications that Contribute to or Cause Urinary Incontinence

Alpha-adrenergic blockers
Neuroleptics
Benzodiazepines
Bethanechol
Cisapride
Diuretics
Anticholinergics
Anti-Parkinsonian agents
Beta blockers
Disopyramides
Angiotensin-converting enzymes inhibitors
Narcoleptics
Psychotropics (sedatives and benzodiazepines)

Functional Impairment

Functional impairment is commonly noted with age and is associated with urinary incontinence (Friedman, 2006; Kafri, 2012; Khatutsky, 2013). Rates of incontinence are significantly higher among individuals with functional impairment, particularly impairments in toileting behavior as well as overall activities of daily living (Khatutsky, 2013). Specifically, approximately 20% of those with one or two impairments in activities of daily living (ADLs) reported urinary incontinence; about 33% of those with three or four impairments in activities of daily living reported incontinence; and more than 50% of those with five to six impairments in activities of daily living reported urinary incontinence. These rates are even higher among adults 85 years of age and older.

Lifestyle Factors That Influence UI

Several lifestyle factors and health behaviors impact UI including smoking, alcohol and caffeine intake, diet and weight management and amount of physical activity and subsequent maintenance of function. Caffeine causes both a diuretic effect as well as being a direct bladder irritant. Although the findings are not always consistent, there is some evidence that excessive caffeine (more than 4 cups a day) results in urgency and an involuntary

desire to urinate (Gleason, 2013; Rai, 2012; Tettamanti, 2011). Although there are fewer studies, it appears that alcohol intake has an effect on urinary frequency, urgency, and complaints of incontinence (Zhu, 2009). It is not clear what the mechanism of action is associated with this association. It is possible that alcohol intake is associated with urinary incontinence because of the impact of alcohol, particularly excessive alcohol use, on cognitive and functional ability.

Smoking, whether current smoking or a history of smoking including heavy smoking (defined as more than 20 cigarettes a day), has been associated with urinary urgency and frequency but not with nocturia or stress urinary incontinence (Hannestad, 2000; Karon, 2009; Tahtinen, 2011). No studies have been conducted however to show that smoking cessation can improve urinary incontinence or any of the associated symptoms.

Although not specific to older adults, obesity [defined as a body mass index (BMI) that exceeds 30 kg/m²] has been noted to be a risk factor for urinary incontinence (Clinical Key, 2012; Hannestad, 2000; Karon, 2009). Obesity results in increased intra-abdominal pressure and weakening of the pelvic floor and urethral support structures, all of which contribute to urinary incontinence. For those who are described as overweight or obese there is some evidence to suggest that weight loss improves urinary incontinence (Kim, Yoshida, Suzuki, 2011; Olivera, 2012; Skelly, 2009; Wing, 2010). Specifically a 5% to 10% loss of body weight were noted to be sufficient for significant improvement in urinary incontinence (Wing, 2010). Ongoing research is looking at the relationships not only of weight loss but of the changes in dietary intake and impact that diet can have on urinary incontinence. One study has noted that decreasing saturated fat relative to polyunsaturated fat and decreasing total calories may account for the improvements noted in urinary incontinence among those that lose weight (Maserejian, 2010).

Physical Activity as an Intervention for Urinary Incontinence

Like obesity, sedentary behavior has been associated with risk of urinary incontinence (de Souza Santos Machado, Valadares, da Costa-Paiva, Moraes, & Pinto-Neto, 2012; Smith, 2010). Interventions that increase time spent in physical activity improve urinary incontinence (Brown, 2006; Schnelle, 2010). It is important, however, that the physical activity recommended for an older adult be appropriately geared toward decreasing episodes of incontinence and that it not cause incontinence. For example, high-impact physical activity (e.g, jumping rope) can actually increase episodes of urinary leakage. There is no evidence that this occurs in low impact, moderate level physical activity (Nygaard, 2005). Moreover, physical activity should be encouraged to help improve functional tasks such as transfers and ambulation so that getting to the bathroom, performing a toilet transfer, and managing clothes can be successfully achieved in a timely fashion.

Given the many contributing factors to UI and the high likelihood that older adults present with a mixed type of incontinence, multiple and combined treatment approaches will likely be needed. In addition, the use of conservative approaches such as weight loss when appropriate, smoking cessation, and exercise interventions and increased time spent in overall physical activity have been recommended as the best way in which to manage UI among older adults (Gomelsky, 2011; Karon, 2009; Roe, 2011). Across all of these approaches, increasing physical activity has the greatest likelihood of being beneficial to older adults. In addition to improving UI by directly strengthening pelvic floor muscles (Danforth, 2007), physical activity has the potential to increase functional ability and performance such as walking speed, gait and balance, toilet transfers, and endurance and thereby further decrease episodes of incontinence that occur simply due to insufficient time to get to the bathroom (Resnick, Galik, Gruber-Baldini, & Zimmerman S, 2011; Resnick et. al., 2009). Increasing time spent in physical activity also has important clinical benefits for older adults in terms of management of clinical problems such as hypertension, heart failure, and diabetes (American College of Sports Medicine and the American Heart Association, 2008; Calhoun et al., 2008; Gross, Anderson, Busby, Frith, & Panco, 2013).

Unfortunately, however, the majority of older adults do not engage in regular physical activity. A recent report noted that 32% of adults report engaging in no aerobic physical activity and the rate of participation is even

lower for older adults with adherence rates in 2011 reported as low as 15% (Morbidity and Mortality Weekly Report, 2013). Rates of physical activity among nursing home residents and those in assisted living settings are even lower and the majority engage in no moderate level activity over the course of a 24 hour period (Resnick, Galik, Gruber–Baldini, & Zimmerman, 2010). It is critical, therefore, that health care providers implement interventions to increase physical activity among older adults with UI across all settings. Physical activity as a conservative approach should be used as a primary intervention for UI (that is, keeping continent older adults continent) as well as combined with other treatments that may have been initiated (e.g., medication management, surgical interventions).

Barriers and Challenges to Increasing Physical Activity Among Older Adults

Lack of adherence to participating in regular physical activity among older adults is due, in part, to lack of provider recommendations (Fallon, Wilcox, & Laken, 2006; Goldstein et al., 2006), lack of belief in the benefits associated with these behaviors (Hekler et al., 2008; Kaplan, Bhalodkar, Brown, White, & Brown, 2006; N. Kim, Talwalkar, & Holmboe, 2006), intrapersonal factors such as motivation, resilience, ability to overcome perceived and/or real barriers such as time, pain, comorbid conditions (Ailinger, Dear, & Holley–Wilcox, 1993; Belza et al., 2004; Sin, LoGerfo, Belza, & Cunningham, 2004) and access to resources such as safe walking paths or age appropriate exercise equipment (Cox, McKeivitt, Rudd, & Wolfe, 2006; Hendrix, Riehle, & Egan, 2005; Travis, et. al., 2003).

Interventions to Increase Adherence to Physical Activity

Interventions that have been shown to increase adherence to physical activity include: easy accessibility to resources and opportunity to practice desired behaviors in a safe setting (Resnick, Galik, Gruber–Baldini, & Zimmerman, 2009); establishing positive attitudes and beliefs about the benefits of physical activity (Mishra, Gioia, Chilaress, Barnet, & Webster, 2011; Pepper, Carpenter, & DeVellis, 2012); using social supports to engage the individual in physical activities (Boutin–Foster, 2005; Jackson, 2006); implementing behavior oriented counseling and positive reinforcement (Drayton–Brooks & White, 2004; Kim, Ahn, Chon, Bowen, & Khan, 2005; Robbins, Rausch, Garcia, & Prestwood, 2004; Sisk et al., 2006; Thrasher, Campbell, & Oates, 2004); making therapeutic regimens simple and eliminating unpleasant sensations (Mishra, et al., 2011; Pepper, et al., 2012); removing barriers to access (Hekler, et al., 2008; Osterberg, & Blaschke, 2005); and providing ongoing verbal encouragement from a credible source (Osterberg & Blaschke, 2005; Petrilla, Benner, Battleman, Tierce, & Hazard, 2005; Schroeder, Fahey, Hay, Montgomery, & Peters, 2006; Vermeire, Hearnshaw, Van Royen, & Denekens, 2001).

Optimizing Physical Activity Benefits by Managing Sarcopenia

An important aspect of exercise interventions for UI is the ability of the older individual to gain muscle strength and improvement in function. Sarcopenia, once believed to be a normal age change, is a reduction in lean body mass and an increase in fat mass. Skeletal muscle and bone mass are the principal components of lean body mass. The reduction in lean body mass results in a decrease in strength, metabolic rate, aerobic capacity, and function. Sarcopenia is considered present among older adults who have muscle mass depletion, usually defined as two standard deviations below the mean muscle mass of younger persons. The causes are not due simply to aging. Instead the causes are multi-factorial and they include sedentary lifestyles, changes in endocrine function, chronic disease, inflammation, insulin resistance, and nutritional deficiencies. Thus interventions that decrease sarcopenia should also be considered to help older individuals with UI. In addition to engaging in some resistance exercise, to optimally stimulate muscle hypertrophy there must be a positive energy balance and adequate protein intake. There is no consensus on the amount of protein intake that an older individual should consume. Generally, however, it is recommended that intake of 1.0 to 1.3 g/kg/day of protein may facilitate muscle protein anabolism (Edwards, et. al., 2013). All meals for older adults should

Conclusion

Although UI in older adults is a complex syndrome with multiple causes, there are multiple options for interventions including physical activity interventions. Older adults need to be engaged in a process that involves working with their providers to decrease UI episodes using multiple approaches. Following a seven step approach to assessing and developing a plan of care can help older individuals safely and most effectively manage their UI and improve overall quality of life.

References/Figures

Article References

Table 1

Table 2

Topics: Incontinence

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The Impact of Urinary Incontinence on Older Adults and Their Caregivers*



SPRING 2014

Incontinence

Kevin R. Emmons, DrNP, CRNP, AGPCNP–BC, CWCN
Joanne P. Robinson, PhD, RN, GCNS–BC, FAAN

Abstract

Urinary incontinence is a frequent problem among older adults, yet many never seek treatment. Urinary incontinence can lead to unwarranted physical, psychosocial, and economic burdens on both older adults and their caregivers. This paper will review the impact of urinary incontinence on the quality of life of older adults and caregivers. Assessment and care considerations will be addressed.

The Impact of Urinary Incontinence on Older Adults and Their Caregivers

Urinary incontinence (UI), the complaint of any involuntary loss of urine (Abrams et al., 2010), is a well documented problem in the United States and worldwide. The impact of UI extends from cost of care to quality of life. The prevalence of UI is highest among older adults, with some estimates as high as 60% (DuBeau, Kuchel, Johnson II, Palmer, & Wagg, 2010; Griebing, 2009; Ko, Lin, Salmon, & Bron, 2005). Evidence suggests that UI is more prevalent in women up until 80 years of age; thereafter, rates of UI in men and women are similar (Khandelwal & Kistler, 2013).

Despite efforts over the past 20 years to educate health care providers and the public about bladder health, many still believe that UI is a normal part of the aging process. Thus, considerable numbers of older adults with UI never seek or receive treatment (Ko et al., 2005). Doing nothing about UI can exact unnecessary physical, psychosocial, and economic tolls on affected individuals, their loved ones, and their caregivers. This paper reviews: basic types and causes of UI; consequences associated with underreporting and undertreatment; tips for accessing appropriate treatment; assessment of the severity of UI and its impact on quality of life; and commonsense management strategies.

Types and Causes of UI

There are two basic types of UI: acute (transient) and chronic (persistent). Acute UI is characterized by relatively sudden onset and is usually reversible. Clinicians have long used the mnemonic, DIAPPERS (Resnick & Yalla, 1985), to remember the most common causes of acute UI:

- Delirium
- Infection (e.g., urinary tract infection)
- Atrophic urethritis or vaginitis

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- Pharmaceuticals (e.g., diuretics, anticholinergics, calcium channel blockers, narcotics, sedatives, alcohol)
- Psychological disorders (especially depression)
- Endocrine disorders (e.g., heart failure, uncontrolled diabetes)
- Restricted mobility (e.g., hospitalization, environmental barriers, restraints)
- Stool impaction

The search for one or more of the above causes of acute UI is the first step in treating any new onset of involuntary urine loss. Continence typically returns once underlying causes are identified and addressed.

Chronic UI involves persistent problems associated with the storage and/or evacuation of urine. Table 1 describes types of chronic UI that are commonly seen in older adults, including: urge, stress, mixed, overflow, and functional UI. (Griebing, 2009; Holroyd-Leduc, Tannenbaum, Thorpe, & Straus, 2008).

Consequences of Underreporting and Undertreatment

UI is notorious for its negative effects on physical and psychosocial dimensions of health-related quality of life. (Ko et al., 2005). Those affected by multiple types of UI are at greatest risk. For example, women who experience mixed UI report more than double the impact on quality of life compared to those with stress UI alone (Frick et al., 2009). In older women, however, evidence suggests that quality of life is affected more by symptom severity than by type of UI (Barentsen et al., 2012). In one study, the impact of moderate UI was similar to that of diabetes, hypertension or cancer, and the impact of severe UI was similar to that of a heart attack or stroke (Robertson et al., 2007). Thus, the severity of UI proportionately affects quality of life and the potential for negative physical and psychosocial consequences cannot be underestimated.

Physical Consequences. Physical consequences of UI are both direct and indirect. UI is an early indicator of frailty in older adults (DuBeau et al., 2010). UI is associated with an increase in functional decline and nursing home placement, and a two-fold increase in falls, (Goode, Burgio, Richter, & Markland, 2010). Recurrent exposure of skin to urine increases the risk for developing dermatitis, skin infections, fungus, itching, and pressure ulcers (Farage, Miller, Berardesca, & Maibach, 2007). While UI alone may not cause pain, it can exacerbate and intensify the perception of pain related to other conditions (Ko et al., 2005). Physical consequences of UI often trigger psychosocial distress in the form of anxiety, embarrassment, social withdrawal, and depression. For example, older adults with UI often restrict their participation in social activities due to concerns about odor, failure of absorbent products, or discomfort related to skin issues. As social withdrawal progresses, depression becomes a significant risk.

Psychosocial Consequences. Evidence suggests that older adults with UI have a negative view of their overall health status (Ko et al., 2005). Depression, loss of interest, and social isolation are common (Huang et al., 2006; Ko et al., 2005). One study found that emotional well being, particularly anxiety, frustration, and embarrassment, were common among older adults with UI (Teunissen, Van Den Bosch, Van Weel, & Lagro-Janssen, 2006). For many, fear of accidents becomes a barrier to everyday living. It is common for people with UI to plan for frequent bathroom stops when they go out; if there is uncertainty about the availability of bathroom facilities, trips are often abandoned. UI is also known to impair quality of life related to sexual function (Sen et al., 2006), which affects both the individual with UI and their spouse/partner.

Table 1. Description of Common Types of Chronic UI in Older Adults (Abrams et al., 2010; Khandelwal & Kistler, 2013)

UI Type	Description
Urge UI	Involuntary leakage associated with a sudden strong need to void; often associated with overactive bladder.
Stress UI	Involuntary leakage associated with sudden pressure on the bladder, as with coughing, sneezing, or exercise.
Mixed UI	Involuntary leakage associated with a combination of urge and stress UI symptoms.
Overflow UI	Involuntary leakage associated with loss of bladder muscle contractile strength and/or bladder outlet obstruction, resulting in incomplete emptying of the bladder and retention of urine.
Functional UI	Involuntary leakage associated with cognitive, functional, or mobility difficulties that impair the ability to use the toilet, but without failure of the bladder's capacity for storage and emptying.

Caregiver Consequences. Although not widely studied, the literature suggests that UI has a substantial negative impact on caregivers. In one study, the time and cost of providing care in the home setting were significantly greater for older adults with UI than for their continent counterparts (Langa, Fultz, Saint, Kabeto, & Herzog, 2002). Another study found that caregivers reported problems with role change, sleeping, finances, intimacy, and social isolation, as well as negative emotions such as embarrassment (Cassels & Watt, 2003). Finally, the burden of caring for older adults with UI may be a risk factor for nursing home placement (DuBeau et al., 2010), generally a dreaded and distressing outcome for all parties and often an intense source of guilt for caregivers.

Accessing Treatment

Improving quality of life for older adults with UI requires working with a qualified healthcare professional to eliminate or mitigate symptoms. Doing less is a missed opportunity for symptom relief, bladder health, and optimum quality of life. Care that is improvised without advice and oversight from a qualified professional can lead to complications.

Overcoming popular misconceptions about UI among older adults, their families, and their caregivers is a crucial initial step in the process of seeking treatment. For example, women often view UI as more of a hygiene issue than a legitimate medical problem and subsequently dismiss the idea of treatment (Huang et al., 2006). Finding the right healthcare provider is the next step. Physicians, advanced practice nurses, or physical therapists that offer conservative treatment for UI (i.e., behavioral and pharmacologic treatments) are good first-line providers. High marks go to the National Association for Continence for their excellent website dedicated to connecting consumers to geographically convenient clinical experts (<https://www.nafc.org/home/find-an-expert/>).

Assessing UI Severity and Impact on Quality of Life

Assessing the severity of UI and its impact on quality of life is a critical component of the work-up of every new patient with UI. Fortunately, a number of tools are available to help clinicians quantify the symptom and quality of life burdens imposed by UI. The numerical benchmarks provided by these tools are helpful to both clinicians and patients as a way to clarify baseline status and then detect changes over time as treatment progresses. Tools can also help with identification of specific symptoms and quality of life issues that can be targeted for intervention, such as improving participation in social activities or learning problem-oriented coping skills to reduce worry and frustration over accidents.

Most clinicians use tools developed for research purposes since they offer reasonable assurance of dependability and accuracy. Although a variety of tools for measuring UI severity and impact on quality of life are available, all focus on individuals with UI rather than caregivers.

Selected Tools. UI severity can be measured directly through use of a pad test, or indirectly through use of a questionnaire. A pad test involves calculating the quantity of urine lost over a 24-hour period from the weight of absorbent pads worn by the individual over that period. Wearing time is set at two hours and pad weights are recorded before and after wearing. The difference between dry and wet pad weights corresponds to the amount of urine lost in milliliters. While pad tests are a good option for measuring UI when precision is desired or when completion of a questionnaire is challenging, they can be burdensome for both individuals with UI and their caregivers. For this reason, clinicians often substitute self-reported 24-hour pad count for the pad test. In doing so, what is gained in feasibility must be balanced with what is lost in dependability and accuracy since pad use can vary considerably relative to circumstances such as the availability and cost of absorbent products, amount of leakage, caregiver accessibility, and individual preferences.

UI severity can also be measured indirectly through use of a questionnaire. Completion of a questionnaire requires intact cognition since most discourage completion by proxy (e.g., caregiver, spouse, friend). The

Urogenital Distress Inventory–6 (UDI–6) (Uebersax, Wyman, Shumaker, & McClish, 1995) is the instrument of choice for measuring the presence and perceived severity of lower urinary tract symptoms, including UI (Dowling–Castronovo, 2013). As shown in Table 2, the tool consists of six items that correspond to common lower urinary tract symptoms. Ratings are requested concerning the presence and associated bother of each symptom on a scale of 0 (no bother) to 3 (greatly bothersome). The UDI–6 is sensitive to change and can assess the efficacy of treatment and management strategies. The questionnaire and scoring directions are readily available online for use in clinical practice at https://consultgerirn.org/uploads/File/trythis/try_this_11_2.pdf.

Do you experience, and if so, how much are you bothered by...	Not at all	Slightly	Moderately	Greatly
Frequent urination	0	1	2	3
Leakage related to feeling of urgency	0	1	2	3
Leakage related to physical activity, coughing, or sneezing	0	1	2	3
Small amounts of leakage (drops)	0	1	2	3
Difficulty emptying bladder	0	1	2	3
Pain or discomfort in lower abdominal or genital area	0	1	2	3

Quality of life is a subjective notion; as such, it is always measured by self–report. The Incontinence Impact Questionnaire–7 (IIQ–7) (Shumaker, Wyman, Uebersax, McClish, & Fantl, 1994) is the instrument of choice for measuring the specific impact of UI on quality of life (Dowling–Castronovo, 2013). As shown in Table 3, the tool consists of seven items that correspond to activities in four domains of quality of life: physical activity, travel, emotional health, and social activities. Ratings are requested concerning the impact of UI on each activity on a scale of 0 (not at all) to 3 (greatly). Evidence supports the validity, reliability, and sensitivity of the IIQ–7. The IIQ–7 and UDI–6 are frequently administered concurrently. Scoring and access is the same for both, which facilitates seamless implementation.

Commonsense Management Strategies

A variety of behavioral and pharmacologic interventions are available to treat UI in older adults. All are conservative approaches that are best administered by qualified health professionals with expertise in the treatment and management of UI, and all offer an excellent chance of eliminating or significantly mitigating leakage. If desired results are not achieved through behavioral and pharmacologic interventions, a host of minimally invasive treatments are available and accessible through the continence health professional, either directly or by referral.

Has urine leakage affected your...	Not at all	Slightly	Moderately	Greatly
Ability to do household chores (cooking, housecleaning, laundry)?	0	1	2	3
Physical recreation such as walking, swimming, or other exercise?	0	1	2	3
Entertainment activities (movies, concerts etc.)?	0	1	2	3
Ability to travel by car or bus more than 30 minutes from home?	0	1	2	3
Participation in social activities outside your home?	0	1	2	3
Emotional health (nervousness, depression, etc.)?	0	1	2	3
Feeling frustrated?	0	1	2	3

Meanwhile, prevention of accidents, particularly in public, is an important priority for older adults with UI. Appropriate absorbent products, awareness of bathroom facilities, easy–access clothing, spare clothing, and organization of fluid intake and activities around a planned voiding schedule are all commonsense strategies that can be discussed with the continence health professional and incorporated into a comprehensive plan of care (Teunissen et al., 2006). Caregivers report that practical information, moderate priced supplies, respite, and financial and social support would help to reduce the burden associated with caring for a loved one with UI (Cassels & Watt, 2003).

Conclusion

UI is not a normal part of aging; however older adults are prone to the development of both acute and chronic UI. UI is often underrecognized as a medical problem and undertreated by health care providers. Consequently, UI can have a profound impact on the quality of life of older adults and their caregivers. Physical and psychosocial consequences of untreated UI are common. Recognizing symptoms and seeking appropriate treatment are necessary steps toward improving quality of life.

References/Figures

Article References

Table 1

Table 2

Table 3

Topics: Incontinence

One thought on “The Impact of Urinary Incontinence on Older Adults and Their Caregivers*”



1. Audrey Cochran, MSN, GCNS-BC says:

June 12, 2014 at 4:05 pm

One of my patients commented, I know I’m improving (implementing what I had taught her) because now I can put a seatcover on the toilet before I use it.

[Reply](#)

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Social Isolation and Incontinence: The positive impact of problem solving therapy

Stacey A. Ogbeide, MS, PsyD

Problem Solving Therapy (PST) is an intervention that can assist with improving coping and problem solving skills (D’Zurilla & Nezu, 1999), and can be used by Geriatric Care Managers to improve the care and activity levels of those elders experiencing emotional distress due to incontinence. As practitioners for older adults, we know that urinary and fecal incontinence can have a negative impact on the psychosocial experience for older adults. For example, it can lead to embarrassment, depressive and anxiety-related symptoms, and social isolation. Siegel, Schrimshaw, Brown-Bradley and Lekas (2010) found that older adults who experience incontinence feared the possibility of having “accidents” while in a public setting due to the shame the experience can bring. In order to avoid the possibility of a negative experience, older adults with incontinence restrict their time in public, especially when there is not easy access to a restroom. While social isolation can have an increasingly negative effect on older adults, it is also amenable to psychotherapeutic interventions to elicit behavior change. Problem solving therapy attempts to help the older adult identify adaptive solutions to problems they encounter in daily life. It is also important to note that PST has been found effective when delivered by non-mental health professionals such as nursing and hospice staff.

What is Problem Solving Therapy (PST)?

Problem solving therapy (PST) is a cognitive-behavioral therapy intervention with face-to-face delivery that can assist a patient with developing coping and problem-solving skills (Demiris et al., 2012; Hoek, Schuurmans, Koot, & Cuijpers, 2012). Problems that can be adequately addressed using PST include but are not limited to mood management through the use of behavioral activation (e.g., increasing positive social behaviors), increasing activity levels, and managing stress. In this model, the goal of the health care professional is to assist the patient in identifying an effective solution for their problem. For example, when a patient has urinary or fecal incontinence, there could be shame associated with leaving their room in a long-term care facility. This could, in turn, increase social isolation and psychosocial stressors. Thus for this patient, the focus of the intervention would be increasing social activity outside of their room in a long-term care environment (e.g., participating in social activities in the facility). The acronym (in the graphic to the right) is used to explain in more depth the features of this intervention.

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Dr. Stacy Ogbeide is a Behavioral Health Consultant with Healthcare for the Homeless of Houston. Dr. Ogbeide is also an instructor with the Department of Family and Community Medicine at Baylor College of Medicine. She holds a doctorate in clinical psychology from the School of Professional Psychology at Forest Institute in Springfield, Missouri. She received a Master’s of Science degree in Wellness Management from the University of Central Oklahoma. Her professional areas of interest include primary care psychology, geropsychology, program development and evaluation, behavioral medicine, and education and training. To contact Dr. Ogbeide, please visit: www.stacyogbeide.com

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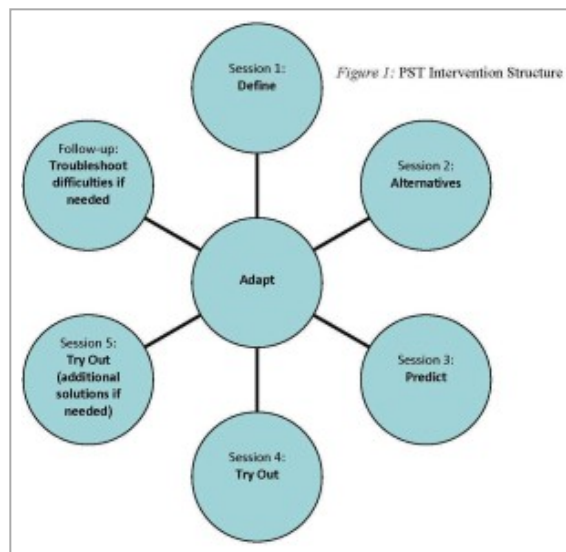
Overall, the important feature of this intervention is to assist the patient in identifying a problem that has been difficult for them to overcome. This is a process that can provide meaningful behavioral change over time, because the patient is able to take ownership of selecting a problem and finding an effective solution to their problem.

A	Adapt	Assisting the patient with developing and maintaining a positive attitude
D	Define	Assisting the patient with defining the problem at hand, obstacles to change, and discussing realistic goals
A	Alternatives	Assisting the patient with developing a list of alternatives to arrive at an effective solution to achieve goals
P	Predict	Determining what the pros and cons of each alternative would be and choosing an alternative with the best possibility of being effective [determined by the patient with assistance from the health care professional]
T	Try Out	The patient implements a solution and tracks progress [with assistance from the health care professional]

Transforming Knowledge into Practice

So what does this intervention look like in practice? Compared to other lengthy behavior change interventions, PST is a time-limited intervention that can be administered on a weekly basis, initially with 4–5 sessions. When implementing the “ADAPT” model for PST, to the right is a depiction of this intervention structure.

Figure 1 describes the core elements of PST, with the element of adaptation (maintaining a positive attitude) at the center of the intervention. The time frame for each session can be altered based on the needs of the patient, but it is recommended to begin with 20–30 minute sessions. Figure 2 provides a sample worksheet that can be used in the PST intervention between the patient and the health care provider. This tool can be tailored to the needs of the patient. During the PST intervention, working at a slower pace and using repetition may be helpful with the retention of information, especially when working with cognitively-impaired individuals. When working with the older adult, it is important to consider a multifactorial approach including physical, psychological, cognitive, social, developmental, and environmental factors. For example, the health care professional will need to employ flexibility in treatment planning, with the goals of the intervention clearly defined by the patient and health care professional. Facilitating PST with follow-up visits post intervention (e.g., following up with the patient 1–2 months after the end of the intervention to assess progress) may also be beneficial. It is important for the health care professional to work with other primary care and mental health providers as well as caregivers concerning the older adult’s behavior change (Ogbeide, 2011).



Conclusions and Implications

The purpose of this article is to raise awareness among Geriatric Care Managers as to the challenges associated with maintaining adequate management of social isolation in older adults with urinary and fecal incontinence. It is important to note that a multidisciplinary approach to patient care is essential for the successful treatment of incontinence symptoms—which are often associated with a great source of emotional distress, loss of autonomy, decrease in activity levels, and social isolation.

For most geriatric patients in a long-term care setting, usually the nursing staff is the first contact in identifying the problem and seeking help. Hence, it is important for the GCM to recognize how the nursing staff plays a crucial role in the coordination and implementation of behavioral interventions and how the GCM can support this process. Problem Solving Therapy (PST) is a behavioral approach that can be used to increase patient activity levels and in turn, decrease social isolation, by setting appropriate behavioral activation goals to increase patient autonomy. When emotional distress cannot be effectively managed through the use of PST,

Geriatric Care Managers should address the patient's concerns by providing appropriate referrals for follow-up behavioral health treatment by a licensed, mental health professional.

Additional Resources on Problem Solving Therapy

Nezu, A. M., Nezu, C. M., & D'Zurilla, T. (2012). Problem solving therapy: A treatment approach. New York: Springer.

Pierce, D. (2012). Problem-solving therapy: Use and effectiveness in general practice. *Australian Family Physician*, 41(9), 676–679. Retrieved from <https://www.racgp.org.au/afp/2012/september/problem-solving-therapy/>

Problem Solving Therapy Training Videos: <https://www.apa.org/pubs/videos/4310852.aspx>

Problem Solving Therapy Training: https://impact-uw.org/training/problem_solving.html


References/Figures

Article References

Tables/Figures

Topics: [Incontinence](#)

2 thoughts on “Social Isolation and Incontinence: The positive impact of problem solving therapy”

-  Audrey Cochran, MSN, GCNS says:

June 12, 2014 at 4:18 pm

A diary is especially important in cases of fecal incontinence. I ask my patients to keep one for 2 weeks. One found that her episodes occurred after eating large meals. When she changed her eating habits to 3 smaller meals plus 3 snacks a day, her fecal incontinence stopped.

[Reply](#)

-  Dr. Stacy Ogbeide says:

June 27, 2014 at 1:02 pm

That is great to hear, Audrey! Thank you for sharing.

[Reply](#)

Incontinence Associated Dermatitis in the Elderly Patient: Assessment, Prevention and Management*

Mikel Gray, PhD, FNP, PNP, CUNP, CCCN, FAANP, FAAN

Abstract

Incontinence associated dermatitis (IAD), sometimes referred to as perineal dermatitis, is characterized by inflammation and/or erosion of the skin associated with exposure to urine or stool. IAD is prevalent in frail elders with urinary and/or fecal incontinence, especially when these conditions are managed by absorptive products. This article briefly reviews the etiology and epidemiology of IAD. Discussion will also focus on assessment, prevention, and management of IAD in the elderly patient.

Introduction

Incontinence associated dermatitis (IAD) is characterized by skin damage (inflammation with or without erosion of the epidermis and dermis) following exposure to urine or stool (Gray et al. 2007). Previously referred to as perineal dermatitis, the term IAD was decided on by a consensus conference of clinical experts because it labels the condition as a form of irritant dermatitis that occurs when the skin is exposed to irritating substances (urine and/or stool) and because it acknowledges clinical observations that IAD often extends far beyond the perineum into the perigenital area, perianal area and upper thighs. Cutaneous infections also may occur with IAD. Junkin and Selekof (2007) found that 18% of a group of 263 hospitalized patients with IAD had secondary cutaneous candidiasis.

Little is known about the natural history of IAD; clinical experience suggests that skin damage tends to originate as inflammation of the skin, seen as bright (redness) erythema in persons with lighter skin tones and more subtle redness in persons with darker skin tones (Gray et al., 2012). Erosion of the skin is thought to begin as isolated islands that may lead to epidermal and dermal denudation in severe cases. Nevertheless, when skin is exposed to severely irritating incontinence, such as that seen with high volume infectious diarrhea, erosion may occur as rapidly as inflammation. Erosion tends to result in a partial thickness (erosion through the epidermis but not the dermas) wound; full thickness (erosion through epidermis and dermas) wounds are usually associated with ischemic skin damage caused by pressure or shear forces (Doughty et al., 2012).

Moisture Barrier of the Skin

In order to understand the pathophysiology of IAD, it is necessary to briefly review the elements of the skin's moisture barrier. In addition to immune related and thermoregulation functions, the skin acts as a barrier between internal and external environments. It protects the body from exposure to irritants or toxic materials in the environment, while preventing excessive loss of fluids and electrolytes from the internal environment (Gray, 2010). Multiple elements compose the skin's moisture barrier. The primary elements are the

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keratinocytes (skin cells also called corneocytes) and fats within the dermis and epidermis. The elements are arranged in a lamellar fashion similar to a brick wall to slow the passage of water and other elements into or out of the body. The keratinocytes also contain abundant hygroscopic (water attracting) molecules such as filaggrin that maintain a 20% intercellular water content in the skin. The rate that water diffuses through the skin's moisture barrier is quantified as transepidermal water loss (TEWL); the rate of diffusion in a healthy adult varies significantly according to body location. TEWL tends to be highest in the groin and axillae, ranging from 39.8–42.8 gm²/hour, while the lowest TEWL is found on the chest or volar surface of the forearm and varies from 39.8–42.8 gm²/hour. Repeated exposure to moisture from perspiration, urine, or liquid stool raises the TEWL and compromises the efficiency of the skin's moisture barrier (Kottner et al. 2013). Age-related changes also influence the efficiency of the skin's moisture barrier, an older individual's vulnerability to IAD increased when the skin is exposed to urine or stool (Gray, 2010).

Etiology and Epidemiology

Incontinence associated dermatitis is common among patients with fecal and urinary (i.e. double) incontinence; reported prevalence rates vary from 5.7% to 27%. In two larger studies of older individuals residing in long-term care facilities (n= 10,215 and 19,964 respectively), 5.7% of all residents were found to have IAD. Beeckman and colleagues (2011) evaluated 141 nursing home residents with urinary and/or fecal incontinence and reported a 22.5% prevalence rate. Less is known about the IAD incidence. Bliss and associates (2006) evaluated incidence rates in 876 incontinent nursing home residents and reported a 3.4% incidence over an observation period of 6 weeks.

Two factors are defined as etiologic of IAD: urinary and/or fecal incontinence. A growing body of evidence suggests that while both urinary and fecal incontinence may cause IAD, exposure to stool is more likely to result in skin damage and causes more severe damage than urine (Bliss et al., 2006; Junkin & Selekof, 2007). Urine renders skin more vulnerable to IAD by overhydrating exposed skin, raising the pH of the skin's acid mantle, and enhancing the level of friction created when moist skin moves across clothing, absorptive products or bed clothing. Exposure of skin to urine is also hypothesized to compromise its tolerance to pressure and shear forces, possibly rendering it more susceptible to pressure related injuries. In addition, alkaline urine interacts with stool in patients with double incontinence, activating enzymes responsible for digestion of protein and fat.

Stool predisposes exposed skin to IAD via the presence of digestive enzymes (lipases and proteinases) that breakdown proteins and fats, critical elements of the skin's moisture barrier (Gray, 2010; Caplan, 1966). These enzymes are sensitive to pH, and tend to be especially active in patients with high volume diarrhea when liquid stool passes rapidly from the proximal colon and small bowel to the rectum in persons with double incontinence.

Although there is insufficient evidence to definitively identify risk factors for IAD, several factors are associated with an increased likelihood of skin damage associated with urinary or fecal incontinence. Absorptive incontinence products have long been linked to a risk for developing IAD; this link led to the term used to describe IAD in infants, diaper dermatitis (Gray et al., 2012). The role of absorptive devices in the occurrence of IAD in adults is not entirely understood; limited research in healthy volunteers demonstrated that occluding the skin with an absorptive product compromised the skin's moisture barrier by increasing perspiration and transepidermal water loss and raising the pH of the skin (Zimmerer et al, 1986; Runeman, 2008). The risk of IAD or perineal skin damage is greatest when the absorptive product becomes saturated with urine, or when the skin remains occluded under a wet absorptive product over an extended period of time (Fader et al., 2003).

Assessment

The diagnosis of IAD and its differentiation from other forms of perineal or sacral skin damage mainly relies on a focused history and visual assessment of affected skin (Gray et al., 2012). Key elements of the focused history include presence, duration, and severity of urinary and/or fecal incontinence, as well as use of absorptive or occlusive containment products. The clinician should also determine whether the person has risk factors for pressure and shear forces such as immobility leading to an increased risk for pressure ulceration, or factors associated with an increased risk for trauma or friction leading to skin tears.

Physical assessment primarily relies on visual inspection of the sacral and perigenital skin (Gray et al., 2012). As noted earlier, in persons with light skin tones, IAD is characterized by bright red discoloration of the affected skin while those with darker skin tones tend to have more subtle reddish hues. The borders of the inflamed skin are irregular in IAD; inflammation tends to follow areas of skin exposed to urine or stool and often involves the perianal area, buttocks, perineal and perigenital area, and inner aspects of the thighs. Candidiasis occurs in some patients with IAD, which appears as a confluent red to brownish red centralized rash with characteristic satellite lesions. The inflamed skin of persons with IAD often glistens or appears to have a glow under direct lighting associated with damage to the skin's moisture barrier resulting in loss of serous exudate from the damaged dermis and epidermis. Erosion of the epidermal and dermal layers of the skin occurs with more severe cases. It often begins as patches of denuded skin (that is, missing the outer layer) with serous exudate. When exposure to irritants persists or if the skin is exposed to friction due to movement or repositioning moist skin against clothing or bedclothes, widespread denudation of the skin may occur, resulting in significant skin damage and burning and stinging with repeated exposure to the offending irritant.

Differentiation between IAD and other causes of perigenital or sacral skin damage is important, especially in the immobile or acutely or critically ill elder patient with risk factors for both ischemic skin damage and irritation from urinary or fecal (Black et al., 2011; Gray et al., 2012). While both forms of skin damage share certain characteristics, they are caused by differing pathologies; irritation of the skin with IAD causes top-down skin damage versus deep tissue damage with bottom-upward cutaneous damage with pressure ulcer formation. A pressure ulcer is suspected when skin damage occurs over a bony prominence, or when the lesion has distinctive borders as compared to the irregular or indistinct borders characteristic of IAD. Similarly, while IAD causes brighter red inflammation of affected skin, darker red discoloration of the skin or a purplish discoloration indicates a suspected deep tissue injury. A suspected deep tissue injury is now characterized as one form of pressure ulcer that leads to full thickness open ulcers in some cases (Black et al., 2007). While both Stage II pressure ulcers and IAD may cause partial thickness wounds involving the epidermis and dermis, pressure ulcers present as full thickness wounds exposing the underlying muscle, tendon, or bone. The presence of necrotic tissue (black eschar caused by necrosis of muscle tissue or the yellowish slough caused by subdermal fatty tissue) also differentiates a pressure ulcer from IAD. Despite differences that aid the clinician to differentiate incontinence-related dermatitis from a pressure ulcer in most cases, it is important to remember that some patients with urinary and/or fecal incontinence and immobility, poor nutrition, or other risk factors for ischemic injuries may have skin damage attributable to both IAD and pressure ulceration.

A comprehensive literature review revealed only three instruments for evaluating IAD (Gray et al., 2012). One tool was designed to identify risk factors for IAD (Nix 2002) and a second tool was designed to describe and grade IAD (Storer-Brown, 1993) but it was not subsequently validated. The IAD and its Severity Tool (IADS) was designed to describe and rate the severity of IAD (Borchert et al., 2010). This instrument demonstrates identifies 13 areas affected by IAD, including the genitals, perineum, upper thighs, and skin folds between the genitals and thighs. Initial evaluation demonstrated content validity and inter-rater reliability of the IADS.

Prevention and Management

Prevention and management of IAD is based on two principles of care: avoiding contact between urine or stool and the skin, and providing a structured skin care regimen that protects the skin from the damaging effects of

urinary and/or fecal incontinence. A detailed discussion of methods of treating urinary or fecal incontinence is beyond the scope of this article. Management of urinary or fecal incontinence in the older person begins with non-invasive behavioral interventions such as diet and fluid management or toileting techniques, and may progress to pharmacologic or surgical interventions in selected cases.

Instituting a structured skin care regimen is essential because it protects vulnerable skin in the person with chronic incontinence that may not be able to achieve complete continence using available interventions, or the person with acute onset incontinence associated with a systemic infection or other disorder such as a stroke. A structured skin care regimen comprises three essential elements: cleansing the skin, application of a moisturizer, and application of a skin protectant (Beeckman, Woodward and Gray, 2011; Gray et al., 2007; Gray et al., 2012).

Perineal cleansing should be sufficiently frequent to remove offending irritants, without causing additional damage to the skin's moisture barrier (Beeckman, Woodward and Gray, 2011). The clinician should select a cleanser that mimics the skin's pH, which varies from 5.5–5.9. Soaps with higher pH ranges (sometimes as high as 8.0 to 10.0) should be avoided because of their propensity to further compromise the skin's moisture barrier by disrupting its acid mantle, exacerbating local swelling of the stratum corneum, and altering rigidity of the ceramides and other lipids within the epidermis (Korting and Braun-Falco, 1996). Cleansing using gentle motions along with a soft, reusable or disposable washcloth is also recommended to minimize epidermal damage caused by the friction of vigorous washing.

Application of a moisturizing agent is recommended because it replaces intracellular lipids and aids the moisture barrier function of damaged or inflamed skin (Doughty et al., 2012). Commercially available moisturizers contain several classes of products including emollients containing lipids or oil, and humectants that attract water to the skin. Humectants are especially useful in xerotic (dry) skin, but moisturizers used in the already hyperhydrated skin of persons with IAD should contain a predominance of emollient rather than humectant based ingredients.

The final step in a structured skin care regimen is application of a skin protectant. Skin protectants can be divided into two categories: ointments and polymer acrylates. Most skin protectants contain one of three main ingredients: petrolatum, silicone, or a zinc oxide paste (Gray 2010). Each of these ingredients has been evaluated based on their ability to prevent toxic elements in urine stool or other moisture sources from irritating the skin, in combination with their ability to maintain adequate hydration and prevent hyperhydration of the skin covered by the ointment (Hoggarth et al., 2005). Zinc oxide pastes provide the best protection from contact with irritants, but exhibit less efficiency maintaining optimal hydration of the underlying skin. Petrolatum also provides good protection against irritants and demonstrates better ability to maintain hydration and prevent maceration of underlying skin. Silicone based ointments provide variable protection against irritants but perform well in maintaining underlying skin hydration; they are often preferred when frequent application of a protectant is needed to manage severe fecal or urinary incontinence. Polymer acrylates are applied in a liquid format via a swab, spray, or wipe. Bliss and colleagues (2007) compared a liquid polymer acrylate to an ointment based regimen and found no differences in their ability to prevent IAD in a group of older patients in a long-term care setting.

The timing of skin cleansing is an important consideration. Although evidence is sparse, current research and expert opinion suggest that the skin should be cleansed on a daily basis and when the patient experiences a major incontinence episode, such as involuntary passage of liquid stool (Doughty et al., 2012; Beeckman, Woodward and Gray, 2011). Very frequent cleansing is discouraged because it has been shown to transiently compromise the function of the skin's moisture barrier, especially when cleansing is followed by drying with a towel (Vogeli et al, 2007).

A growing body of evidence supports the efficacy of a structured skin regimen when compared to non-structured regimens typically using soap and water with or without application of a moisturizer or skin protectant. Doughty and colleagues (2012) completed a comprehensive review of available research and found robust evidence supporting use of a structured skin care regimen. Results of a more recent non-randomized comparison trial supported this conclusion in a group of 76 critically ill adults with fecal incontinence (Park et al., 2014). Beeckman and co-investigators (2011) reported results of a randomized trial that compared a 3-in-1 disposable washcloth with a 3% dimethicone skin protectant to cleansing with a pH neutral soap and water in a group of 141 nursing home residents (mean age 86.3 years in experimental group and 85.9 years in standard care group). He found that patients managed by the 3-in-1 disposable washcloth were significantly less likely to develop IAD than were patients managed by washing with pH neutral soap and water.

Evidence supporting active treatments for IAD is especially sparse (Doughty et al., 2012). Several ointment based skin protectants containing antifungal agents are commercially available that are recommended by clinicians for use in patients with IAD and cutaneous candidiasis. Sparse evidence suggests that neither topical antimicrobial nor steroid based products should be used for routine treatment of IAD. Instead they should be used under the direction of a specialist such as Wound, Ostomy Continence (WOC) nurse or dermatologist. Diversion of high volume liquid stool or urine is indicated in selected cases of severe IAD, especially when dermatitis coexists with other forms or sacral skin damage, such as a Stage II or Stage IV pressure ulcer. Urine may be diverted via an indwelling catheter that is removed as soon as medically possible. Liquid stool may be diverted via an anal pouch applied to the perianal skin or a stool management system inserted into the rectal vault. Similar to the indwelling urinary catheter, these devices should be removed as soon as possible.

Conclusion


Incontinence associated dermatitis is a prevalent but under-recognized form of skin damage in the older person with urinary or fecal incontinence. Prevention and treatment focus on treatment of underlying incontinence and protection of skin exposed to urine or stool based on a structure skin care regimen. Essential elements of this skin care regimen include gentle cleansing with a cleanser that has a pH bases similar to that of normal skin, application of a moisturizer with a predominance of emollients, and use of an ointment or polymer acrylate-based skin protectant.

References


Article References

Topics: Incontinence

2 thoughts on “Incontinence Associated Dermatitis in the Elderly Patient: Assessment, Prevention and Management*”

-  Carol Crocker says:
August 27, 2018 at 2:57 am
Great info. Thank you.

Reply

-  Bill Steele says:
October 22, 2018 at 2:36 pm

What if you had an intelligent device that notified you immediately in real time when an incontinence event occurred?
Wouldn't quick response and care be more beneficial in hospitals to more effectively manage and reduce IAD's?

Reply

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Assessment of older adults with continence issues*

Diane K. Newman, DNP, ANP-BC, FAAN

Summary

Urinary incontinence is a prevalent condition in older adults and often they do not seek help from healthcare providers. Clinicians should screen for continence issues at each health encounter. When urinary incontinence or other lower urinary tract symptoms are detected a thorough assessment should take place. Elements of a symptom based assessment include a medical history, physical examination, and assessment of cognitive and functional abilities.

JG is an eighty-two year old woman who has lived independently in her home for the past 48 years. She has been alone since her husband died 9 years ago, but she has a son who lives close. She takes several medications for hypertension, mild depression, and elevated cholesterol. On history, she reports a recent fall. This distressed her because she reports, "I have never fallen before." The fall occurred at night when she was walking to the bathroom. She bumped into an end table and fell. When questioned about bladder control problems, she reported that like her friends, when she sees a bathroom sign, she feels a sudden need to urinate. Many times, she will lose some urine on the way. This has been worse lately and she thinks it is because of the recent addition of a diuretic medication for her hypertension. She has been noticing urinary urgency is also worse after breakfast and she thinks it may be related to morning coffee. When she goes out, she will wear a pad in her underwear as a safeguard against unexpected episodes.

The above is a typical scenario of an older adult living with urinary incontinence (UI), the involuntary loss of urine, which is a significant health problem in women and men women of all ages. It is estimated that 40% of elderly patients (age ≥ 75 years) experience UI, a condition that impairs quality of life and are associated with co-morbidities (such as diabetes and obesity) in the older adult.

Despite the high prevalence of UI, it is consistently under-diagnosed and under-treated as, on average, only one out of four women (13% to 54%) with symptoms of UI seeks clinical help. A contributing factor is the "stigma" surrounding UI and the fact that older adults have many misconceptions about these conditions thus preventing them from seeking care. Owing to the widespread taboo that surrounds bladder control problems and incontinence, it is important that clinicians take every opportunity to raise

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the subject of UI and associated lower urinary tract symptoms (LUTS) with older adult patients. The Fifth International Consultation on Incontinence (ICI) committee on incontinence in the frail elder made recommendations on continence evaluation in the frail elder and these are listed in Table 1. Questions about UI should be part of a preventive and follow-up medical visit.

Table 1. International Consultation on Incontinence recommendations for frail older adults

- Clinicians need to assess and manage co-existing or morbid conditions which are known to have an impact on continence status or the ability to successfully toilet. (pg.1015)
- Environmental cues such as toilet visibility, signage, color differentiation, and images should be used to compensate for visual-perceptual deficits in frail older adults with cognitive impairment. (pg.1021)
- As remaining physical strength and dexterity varies in individuals with cognitive impairment, each component of the toileting process which creates difficulties for such patients should be identified and treated individually. (pg.1021)
- As inappropriate use of continence aids may contribute to onset or continuation of UI, clinicians who advocate or authorize their use, should be familiar with evidence-based guidelines that advocate an active approach to prevention, diagnosis, and treatment. (pg.1021)
- Active case finding and screening for UI should be done in all frail older persons because many do not spontaneously report their symptoms. (Level 1). (pg.1021)
- Urodynamic testing is feasible in frail older people (Level 1) but it is unlikely to change management or outcomes except, perhaps, in those considered for surgical treatment of UI (Level 4). (pg.1025)

Level 1 evidence - involves meta analysis of trials (RCTs) or a good quality RCT, or 'all or none' studies in which no treatment is not an option.

Level 4 evidence - expert opinion where the opinion is based not on evidence but on "first principles" (e.g. physiological or anatomical) or bench research.

While UI should not be considered a normal consequence of aging, age-related changes within the urinary tract do predispose older people toward UI and other LUTS. Table 2 lists the age-related changes in the GU tract. Although not a consequence of aging, co-morbid conditions and age-related medical changes place the older adult at risk for developing UI (see Table 3). Therefore, a comprehensive continence assessment that includes a review of symptoms, a comprehensive medical history, and focused physical examination is necessary to determine the etiology, contributing factors, and to obtain a presumptive diagnosis of UI.

Symptom-Focused Assessment

The evaluation should start with a thorough history to determine the patient's most bothersome symptom(s) that impact continence status, especially important in guiding therapy and determining response to treatment. A symptoms-based approach to continence bypasses the need for invasive and expensive testing that require referral to a specialist or tertiary medical center, and that many patients, particularly older adults, find distressing.

The history should determine the onset, duration and progression of the UI and associated LUTS, (urinary urgency, frequency, nocturia, post-void dribbling, nocturnal enuresis, straining to void, hesitancy and weak stream). Table 4 is a checklist that identifies symptoms associated with LUTS. The distinction between symptoms is important, because this will determine treatment modalities or the need for referral to a specialist. As in the scenario at the beginning of this article, older adults often report situational antecedents or "triggers" (e.g., hearing running water, seeing a bathroom sign, during washing dishes or clothes, placing hands in warm water, anxiety or stressful situations).

Older adults may follow "self care" practices to accommodate their symptoms and these should be explored during history taking. A common practice reported is "toilet mapping," which is when the person will habitually look for toilet locations and plan daily activities such as traveling and shopping based on knowing where toilets can be easily reached. Some older adults admit to limiting activities, such as socializing with friends and family, because of the embarrassment of having to visit the bathroom regularly or the fear of experiencing a UI "accident." Withdrawal from social activities can lead to isolation. Other information elicited involves occurrence of urgency, frequency, or urine leakage occurring during sexual activity. Many people refrain from sexual intimacy to avoid the anxiety and embarrassment caused by urine leakage or the sudden need to urinate during sex.

Tracking Continence by Using a Diary

Table 2. Age-related changes in the genitourinary tract (GU) Tract

- There is a 30% to 40% loss of functional kidney cells (nephrons) and a decrease in the kidney's ability to filter blood and concentrate urine.
- Changes in the circadian rhythm of water excretion leads to the largest amount of urine production occurring at night, usually during the night. During the night, there is a lower level of physical activity, the individual is lying flat, promoting the movement of body fluid from extracellular spaces to blood vessels, causing an increase in the amount of urine in the bladder. Older adults will report nocturia (awakening several times during the night). Because of this larger volume of urine in the bladder, urine loss can occur during sleep (called nocturnal enuresis or nighttime incontinence).
- The sensory nerve from the bladder through the spinal cord and to the brain often "wears out," creating breaks in the neural pathway. There is "short-circuiting" of nerve firing, and messages may not completely reach the brain. In general, the nervous system takes longer to respond to sensory stimuli. This causes a delay in the urge sensation to void and a decreased interest in when the time the urge sensation is felt and voiding occurs. This shortened warning period is called urgency. Urgency, which in most persons is sudden and strong, causes the older adult to rush when attempting to toilet.
- Due to an incomplete nerve pathway or cortical brain damage that causes impaired bladder inhibition, there is an increase in bladder contractions (referred to as overactive bladder) that create the urgency before the bladder is full. The older adult may have little or no control over these contractions, which cause urine leakage (urgency or nocturnal incontinence).
- Detrusor muscle (smooth muscle of the bladder) is able to expand as muscle fibers relax and stretch. This can cause bladder capacity to decrease and prevent the bladder from emptying completely (called urinary retention). This is the reason why the older adult needs to void more frequently in small amounts. The urine that remains in the bladder after the individual has voided (post-void residual [PVR]) may become infected with bacteria, causing an increased incidence of urinary tract infections.
- Estrogen receptors are found in squamous epithelium of the urethra, vagina, and bladder trigone (muscle in the bladder) in women. The pelvic floor muscle is also estrogen sensitive. After menopause, the tissue lining of the vagina and outside bladder thin and this contributes to leading to vaginal atrophy/vaginitis and urinary symptoms, such as urgency and frequency. Also, estrogen reduction in the genitourinary (GU) tract increases risk for urinary tract infections (UTIs) by inhibition of vaginal colonization of lactobacilli. These changes can worsen independently or several years postmenopause.
- The prostate gland in men enlarges with aging and can cause "bladder outlet obstruction" leading to lower urinary tract symptoms, especially urgency and frequency.

Table 3. UI Risk Factors

Risk Factor	Notes
Age	Prevalence of UI increases exponentially in both men and women (10% in men aged 60 to 70 and 20% in women aged 60 to 70).
Gender	Prevalence of UI is higher in men than in women (10% in men aged 60 to 70 and 20% in women aged 60 to 70).
Obesity	Increased body mass index (BMI) is associated with an increased risk of UI. Excess weight increases intra-abdominal pressure, which directly increases the pressure in the bladder, thereby making voiding more difficult. Excess weight also contributes to hormonal and structural changes that increase the risk of UI.
Diabetes	Diabetes is associated with an increased risk of UI. Diabetes can cause nerve damage (neuropathy) and bladder dysfunction (neurogenic bladder).
Medications	Many medications can cause urinary retention and increase the risk of UI. These include anticholinergics, sedatives, and opioids. Some medications can also cause urinary incontinence (e.g., diuretics, alpha-blockers, and antidepressants).
Constipation	Constipation can cause urinary retention and increase the risk of UI. Constipation can also cause urinary incontinence (e.g., fecal impaction).
Alcohol	Alcohol consumption has been associated with an increase in urinary incontinence. Heavy alcohol use can also cause urinary incontinence (e.g., acute alcohol intoxication).
Menstrual history	Menstrual history is associated with an increased risk of UI. Women who have had a hysterectomy or oophorectomy are at an increased risk of UI.
Sexual history	Sexual history is associated with an increased risk of UI. Women who have had a hysterectomy or oophorectomy are at an increased risk of UI.
Urinary tract infections (UTIs)	UTIs can cause urinary retention and increase the risk of UI. UTIs can also cause urinary incontinence (e.g., acute UTI).
Prostate gland (in men)	The prostate gland in men enlarges with aging and can cause "bladder outlet obstruction" leading to lower urinary tract symptoms, especially urgency and frequency.

Table 4. Identifying LUTS Symptoms

- Urinary leakage
 - When does it occur?
 - With standing, coughing, sneezing, laughing, lifting objects, on the way to the bathroom, getting up?
 - Does it occur during the night (nocturnal enuresis)?
 - How frequent does it occur?
 - Every time, sometimes, daily, once or twice a week
 - How often?
 - In the person using something to contain the urine - (wipes, pads, absorbents)?
 - How often do they need to be changed per day?
 - How long has the problem with leakage been going on?
- Awareness of need to urinate
 - Does the person feel the urge sensation?
 - Does the person report bedwetting?
- Presence of urgency
 - Whether urgency not normal but sudden, intense, and urge-related?
 - When the bladder feels full or there is the urge to go, how soon after the urge occurs does the person need to go?
- Frequency of urination
 - Frequency of voiding during the day? (More than 8-10 times is considered abnormal. Normal time between voids is 3-4 hours)
- Nocturia
 - How often is the person getting up in the night to urinate?
 - Does the person report bedwetting?
- Inhibition of urination
 - Once on the toilet, can the person inhibit the stream within a minute?
 - Does it take multiple sips, sipping water or other techniques?
 - What is the number of times when on the toilet that the person actually urinates?
- Characteristics of the urinary stream
 - When and how the stream starts once the person tries to initiate it.
 - Is the stream continuous or does it start and stop, how strong is it, whether the person strains to get the urine out.
 - Whether there is pain (e.g., burning, itching, and stinging) with urination.
 - Presence of post-void dribbling.
 - Does the person strain to urinate.
- Characteristics of the urine
 - Color and amount of sediment or mucus.
- Emptying of the bladder
 - Does the bladder feel completely empty once voiding is completed?

In general, most individuals, young and old, are unaware of how often they should urinate. As they age, they may have developed abnormal and in some cases harmful voiding habits. Having the older adult or caregiver monitor fluid intake and urinary output by recording voiding times, voided volume, incontinence episodes, symptom triggers, and beverages ingested is integral to initial screening and to determine how best to proceed with evaluation and treatment. Keeping a daily Bladder Diary (see Figure 1) is simple and practical and can provide important information (Sampselle, 2004; Stav, Dwyer, & Rosamilia, 2009). Beverage consumption well beyond 64 ounces (with food fluid source excluded) sometimes occurs, and it is associated with incontinence, and LUTS of urgency, frequency, and nocturia. However, there are no definitive data concerning healthy older adult norms and quantitative evidence of association between fluid intake, urinary output, voiding pattern changes, and bladder control issues is lacking.

Figure 1
Bladder Diary

Time	Toilets in bathroom	Did you feel a strong urge to go?	Urine Leakage?	Circumstances of Urine Leakage	Drinks: What kind and how much? (glasses or oz)
6:00 a.m. - awake	Yes	yes	0	Getting out of bed walking to bathroom	1/2 glass of water
6:15 a.m.	Yes	yes			1/2 cup of coffee
6:30 a.m.	Yes	yes			1 cup of coffee
7:00 a.m.	Yes	yes	0		1/2 glass of water
7:30 a.m.	Yes	yes			1/2 glass of water
8:00 a.m.	Yes	yes		Having water, washing hands	1/2 glass of water
8:30 a.m.	Yes	yes	0	Coming home from shopping	1/2 glass of water
9:00 a.m.	Yes	yes	0	On the way to bathroom	2 glasses of water
9:30 a.m.	Yes	yes			2 glasses of water
10:00 a.m.	Yes	yes			2 glasses of water
10:30 a.m.	Yes	yes			2 glasses of water
11:00 a.m.	Yes	yes			2 glasses of water
11:30 a.m.	Yes	yes			2 glasses of water
12:00 p.m.	Yes	yes			2 glasses of water
12:30 p.m.	Yes	yes			2 glasses of water
1:00 p.m.	Yes	yes			2 glasses of water
1:30 p.m.	Yes	yes			2 glasses of water
2:00 p.m.	Yes	yes			2 glasses of water
2:30 p.m.	Yes	yes			2 glasses of water
3:00 p.m.	Yes	yes			2 glasses of water
3:30 p.m.	Yes	yes			2 glasses of water
4:00 p.m.	Yes	yes			2 glasses of water
4:30 p.m.	Yes	yes			2 glasses of water
5:00 p.m.	Yes	yes			2 glasses of water
5:30 p.m.	Yes	yes			2 glasses of water
6:00 p.m.	Yes	yes			2 glasses of water
6:30 p.m.	Yes	yes			2 glasses of water
7:00 p.m.	Yes	yes			2 glasses of water
7:30 p.m.	Yes	yes			2 glasses of water
8:00 p.m.	Yes	yes			2 glasses of water
8:30 p.m.	Yes	yes			2 glasses of water
9:00 p.m.	Yes	yes			2 glasses of water
9:30 p.m.	Yes	yes			2 glasses of water
10:00 p.m.	Yes	yes			2 glasses of water
10:30 p.m.	Yes	yes			2 glasses of water
11:00 p.m.	Yes	yes			2 glasses of water
11:30 p.m.	Yes	yes			2 glasses of water
12:00 a.m.	Yes	yes			2 glasses of water
12:30 a.m.	Yes	yes			2 glasses of water
1:00 a.m.	Yes	yes			2 glasses of water
1:30 a.m.	Yes	yes			2 glasses of water
2:00 a.m.	Yes	yes			2 glasses of water
2:30 a.m.	Yes	yes			2 glasses of water
3:00 a.m.	Yes	yes			2 glasses of water
3:30 a.m.	Yes	yes			2 glasses of water
4:00 a.m.	Yes	yes			2 glasses of water
4:30 a.m.	Yes	yes			2 glasses of water
5:00 a.m.	Yes	yes			2 glasses of water
5:30 a.m.	Yes	yes			2 glasses of water
6:00 a.m.	Yes	yes			2 glasses of water
TOTAL	84 (7 days x 12)	84 (7 days x 12)	0	4	72 (6 cups/glasses) (2100 ml)

Thus a daily diary kept for 1, 2, or 3 days can provide patterns about the time of day for each void (bladder emptying), as well as the time and day of each UI episode. The record can provide information about associations, such as urine leakage that occurs following urgency or if it occurred after consumption of a known bladder irritant like a caffeinated beverage. A Bladder Diary may also track absorbent product use that may assist in quantifying amount of urine leakage (Newman, 2002). The following scale may be a useful guide in this quantification:

- Small volume (less than 30 cc)—enough to make underwear damp (with protective pad) or wet (without protective pad)
- Moderate volume (31 to 90 cc)—enough to wet or soak underwear (with protective pad) and trickle down legs (without protective pad)
- Large volume (more than 90 cc or 3 ounces)—leakage soaks through clothing and onto furniture or floor; usually represents entire bladder contents

A daily Bladder Diary is considered therapeutic and a type of “behavioral intervention” because it increases the person’s awareness about the need to void and to seek a toilet.

Relevant Medical History

As symptoms can be induced by an underlying medical condition, a medication, cognitive decline and/or functional abnormality, it is important to identify pre-existing conditions, such as diabetes, stroke, enlarged prostate in men, or pelvic floor muscle weakness.

A sudden and new onset of UI and associated LUTS may be suggestive of an acute medical problem such as an infection, like a urinary tract infection (UTI), or recent trauma or surgery, while chronic symptoms can be indicative of degenerative or neurologic disorders that can contribute to, or even be the cause of, urinary dysfunction. Table 3 includes medical conditions that may be a cause of newly acquired LUTS. Neurologic events such as a cerebrovascular attack or a transient ischemic stroke—or the presence of a chronic neurological condition such as a spinal cord injury or multiple sclerosis—can lead to neurogenic-related bladder conditions. A musculoskeletal disorder (e.g. arthritis) can cause problems in ambulation and mobility, making it difficult for the patient to easily reach a bathroom. In addition, a history of pelvic surgery or radiation treatment to the area, as well as bladder, prostate, or urethral surgery, should be considered as possible causative factors.

Medication Review. Medications, especially polypharmacy, will impact continence (Kalisch Ellett et al, 2014). Obtaining a detailed list of prescription and over-the-counter drug use is an important part of history taking in this population (Kashyap & Tannenbaum, 2013). Medications such as diuretics, antidepressants, alpha-agonists, beta-antagonists, sedatives, anticholinergic agents, and analgesics (see Table 5) can alter continence

(Hall et al., 2012), although it is not known if de-prescribing these medications results in improved urinary symptoms. Sometimes changing the timing of administration the elder takes a medication can eliminate a continence problem.

Bowel Function. Bowel function should be assessed as problems with constipation, fecal staining, straining while stooling, and fecal incontinence can contribute to UI. The close proximity of the bladder and urethra to the rectum and their similar nerve innervations make it likely that there are reciprocal effects between them or “crosstalk: between the bowel and bladder (Kaplan, 2013). Older adults with UI may also have fecal urgency resulting in anal incontinence. These individuals rarely volunteer to talk about these symptoms. In a case-control study of women with LUTS (n=820) and matched controls (n=148), constipation and straining during defecation, were significantly more common among the women with LUTS including bladder overactivity and urgency, than among the women who did not have constipation or strained while emptying their bowels (Manning, 2003). Jelovsek (2005) reported a 36% overall rate of constipation in women with UI and advanced pelvic organ prolapse (POP).

Medication	Effect
Alpha-adrenergic receptor agonists	Increase smooth muscle tone in the prostatic urethra and generally results in more prostatic obstruction, urinary retention with symptoms of postural dizziness, straining, and difficulty in urine flow.
Alpha-adrenergic receptor antagonists	Decrease smooth muscle relaxation of the bladder neck and prostatic urethra causing stress UI (mainly in women).
Angiotensin-converting enzyme inhibitors (ACE inhibitors)	Common side effect of cough, which can worsen UI.
Anticholinergics	Impaired bladder emptying, urinary retention with symptoms of postural dizziness, straining, hesitancy to urinate flow, overflow incontinence, and constipation/fecal impaction. Can affect cognition.
Antidepressants, tricyclic	Anticholinergic effect and alpha-adrenergic receptor antagonist effect causing postural dizziness, straining, and hesitancy to urinate flow.
Calcium channel blockers (verapamil, diltiazem, nifedipine)	Decrease bladder contractility that may lead to incomplete bladder emptying. Constipation is a common side effect which can contribute to UI.
Cholinesterase inhibitors	May cause UI by increasing acetylcholine levels in the bladder. Acetylcholine is a neurotransmitter that causes the bladder to contract and is released at the time of voiding.
Diuretics	Diuretics can result in frequency and urgency for up to 6 hours after ingestion.
Lithium	Diuretic due to diabetes insipidus.
Neurotic antagonists, agents	
Psychotropic medications: hypnotics, antipsychotics	Anticholinergic effects. Can cause sedation, confusion, and incontinence, resulting in functional UI.
Nonsteroidal anti-inflammatory drugs (NSAIDs, ibuprofen)	Can cause edema, causing mechanical pressure and obstructing results may result without constipation.
Other: caffeine, alcohol	Act as diuretics causing rapid diuresis, leading to urgency and frequency, altered tubular excretion.

Functional assessment. An assessment of the older adult’s functional abilities should be performed to ascertain independence and/or dependence. Lower urinary tract symptoms such as urinary frequency, urgency, nocturia, urinary incontinence, and voiding difficulties are associated with falls in the elderly (Foley, et al., 2012). Therefore it is important to assess the ability to perform self-care tasks or activities of daily living (ADLs).— e.g., mobility, ability to transfer to the toilet, disrobe, and use any necessary assistive devices (Graf, 2013; Shelkey & Wallace, 2012). A discussion about “toileting behavior” should determine toilet habits (e.g. whether a man stands or sits to void). The older adults or caregiver should be asked about the assistance needed for toileting or if an assistive toileting aid, like a bedside commode or urinal, is used. During the assessment, the older adult should be observed rising from a chair and walking into the exam room to assess transfer ability, balance, and gait. Lower extremity impairment can be assessed by a timed “Up and Go” test (Mathias et al., 1986). The older adult should also be observed manipulating clothing to assess fine motor skills and manual dexterity.

Cognitive assessment. Cognitive impairment is a risk factor for UI as this impairment can interfere with the ability to recognize urge sensation to void, ability to delay voiding until it is appropriate, ability to find and recognize the toilet, and ability to disrobe and use the toilet appropriately (Yap & Tan, 2006). Mental status examination should include assessment of mood, affect, orientation, speech pattern, memory, and comprehension. Cognition is assessed by response to questions or through the use of a mental status exam such as the Mini Cog (Doerflinger, 2013).

Physical examination

General. Assess for presence of dehydration (symptoms include dry mouth, falling, weakness and fatigue, decreased urine output, headache, weight loss, and increased confusion). Pedal edema (swelling on the top of the foot/feet) and signs of chronic heart failure indicate problems with fluid redistribution that may cause nocturia and nocturnal enuresis (bedwetting at night).

Abdominal examination. During the abdominal examination the older adult is placed in a supine position to listen for bowel sounds. Normal bowel sounds consist of clicks or gurgles occurring every 5 to 15 seconds. More frequent bowel sounds are hyperactive, which indicate increased bowel motility. Sluggish bowel sounds, 3 or fewer/minute, indicate decreased bowel motility. Prolonged gurgling sounds may result from increased motility seen with diarrhea. If no bowel sounds are heard for 5 minutes in any quadrant of the abdomen, they are described as absent. After auscultation (listening with a stethoscope), the clinician palpates the abdomen for the presence of masses (may indicate hard stool in the colon or bowel impaction) or organomegaly (enlargement of abdominal organs, such as the ovaries, bowel or liver. If a mass is felt, note its size, shape,

consistency, texture, and location. The clinical also notes if the older adult complains about tenderness, discomfort, or fullness during palpation. Percussion (tapping the abdomen) to detect fluid is important to detect a distended bladder that may indicate urinary retention. A distended bladder may rise above the symphysis pubis (pelvic bone) and it may be possible to palpate or percuss the bladder above the level of the symphysis pubis if it contains 150 mLs or more of urine.

Genitalia examination. External observation of the perineum in both men and women should always be performed. The examination should note the presence of any urinary products (e.g. incontinence pads, external male catheter). Assessment of the perineal skin and gluteal area is important because UI often results in increased skin wetness which in turn promotes incontinence-associated dermatitis (IAD) (Doughty et al., 2012).

In women, the external perineal skin should be assessed for rash, skin lesions, odor, and discharge. If a urethral caruncle is present it looks like a cherry-red bulge at the opening of the urethral meatus and it can contribute to irritative voiding symptoms (e.g. urgency, frequency). Excoriations and maceration of the vulva (external female organ) may occur with constant wetness or may be secondary to infection. The vulva may show signs of hypoestrogenism (low estrogen level as a result of menopause). These signs include vaginal mucosa that looks dry, pale, inflamed and may be red, petechial (red or purple spots), or ecchymotic (purple discoloration).

In men, external examination of the perineal skin is performed to detect penile discharge, redness or rash along the penile shaft. In the uncircumcised man, the foreskin should be retracted and the glans and meatus should be assessed for its size and position, i.e., the meatus should be located at the tip of the glans. Retracting the foreskin is a very important component of personal hygiene in the uncircumcised man. A cheesy, whitish material called smegma may accumulate normally under the foreskin. The foreskin should be replaced back over the glans. In uncircumcised men, a condition called phimosis can be present if the orifice of the foreskin is constricted preventing replacement of the foreskin over the glans or tip of the penis. The scrotum, a loose, wrinkled pouch that contains 2 testicles should also be examined. Size, shape, consistency, and tenderness of the testes should be noted.

Pelvic examination in women is performed to assess for the presence of POP, a general term for prolapse of the pelvic organs. Women with POP will complain of urinary urgency, frequency and they often describe a bulging feeling in their vagina or perineum. Assessment of POP should be performed by having the woman strain or bear down like she is having a bowel movement. The following describe the organ prolapsing:

- Bladder (cystocele) – anterior wall of the vagina, together with the bladder above it, bulges into the vagina and sometimes out the introitus.
- Uterus (uterine prolapsed) – descent of the uterus and cervix into the vagina.
- Vaginal vault prolapse – the walls of the vagina fall in and out of the vagina.
- Rectum (rectocele) – protrusion of the posterior vaginal wall and the rectum behind it.

The “Baden-Walker Halfway” grading system is used when describing the prolapse:

- Grade 0: no prolapse
- Grade 1: vaginal segment descends halfway to the hymen
- Grade 2: descent to the hymen
- Grade 3: descent halfway outside the hymen

- Grade 4: maximum possible descent (when the vagina with the vaginal vault and uterus protrude completely outside the body without Valsalva (referred to as procidentia). The Valsalva maneuver consists of attempting to force air out of a closed airway, i.e. holding nose while trying to blow out of it to clear one's ears.

Rectal examination. In both men and women, inspection of the anus is performed noting any stool smearing or liquid stool seepage. The perianal area is inspected for lumps, ulcers, inflammation, rashes, or excoriation. Assessment of the presence of rectal vault contents should be performed, noting stool, rectal tumor, hemorrhoids, masses, and mucosal polyps. In men, a digital rectal examination (DRE) should also include an assessment of the size, consistency, and contour of the prostate. The consistency of the normal prostate is generally described as “rubbery” in nature. Abnormal consistency may be noted as “nodular abnormalities,” areas of indurations or “bogginess.” A man with an abnormal or enlarged prostate should be referred to an urologist.

Pelvic floor muscle assessment. Transvaginal or transrectal digital palpation of the pelvic floor muscles (PFM) is part of a continence assessment in an older adult. In women, the clinician inserts the index finger into the vagina to the level of the first knuckle and instructs the woman to tighten or pull in and upward vaginally. If the woman is able to contract the pelvic floor muscles, the clinician often has the woman repeat contracting the muscles and holding the contraction for as hard and for as long as possible to determine strength and muscle bulk. Rectal and anal sphincter can determine levator ani (pelvic floor muscle) strength. As the sphincter relaxes, the clinician gently inserts the index finger into the anal canal in a direction pointing toward the umbilicus. The clinician notes if the resting sphincter tone is weak, moderate, or strong. The clinician then asks the woman to tighten her rectum around examiner's finger. This is one method to determine if the woman can perform a pelvic floor muscle (PFM) contraction. The clinician is interested in the muscle pressure or force, elevation or vertical displacement of the examiner's fingers, and duration of contraction. There are several scales that have been validated in small studies for PFM muscle evaluation (FitzGerald et al., 2007; Newman and Laycock, 2008). Most scales rate each variable is on a 4–point ordinal scale.

- Pressure or force
 - 1 – no response
 - 2 – weak squeeze
 - 3 – moderate squeeze
 - 4 – strong squeeze
 - Vertical displacement
 - 1 – none
 - 2 – finger base moves anteriorly
 - 3 – whole length of fingers move anteriorly
 - 4 – whole fingers move anteriorly, are gripped and pulled in
 - Duration of contraction (in seconds)
 - 1 – none
 - 2 – second
 - 3 – 1–3 seconds
 - 4 – 3 seconds

Neurologic examination is especially important in the older adult and should include an assessment of specific lumbosacral dermatomes (dermatomes is an area of skin that is supplied by a specific spinal nerve) for position, vibration, pinprick, light touch, and temperature. Relevant dermatomes include L1 (labia majora), L1–2 (labia minora), and S3–5 (perineum and perianal skin). The sacral nerve roots (S2–S4) innervate the striated muscles of the bladder and pelvic floor (external urethral and anal sphincter). Tests used to evaluate these sacral nerve root reflexes include stimulation of the anal reflex (S2–5) and bulbocavernosus (S2–4).

- anal “wink”—lightly stroke the anus while observing for anal contraction (the anus puckers or “winks”). Absence of the anal wink in the elderly is not pathologic
- bulbocavernosus reflex—gently squeeze the clitoris or glans penis while observing for anal contraction.

Bladder Evaluation

One of the transient causes of UI is a UTI therefore a urinalysis after obtaining a clean-catch urine specimen and using a reagent strip testing (e.g. dipstick) should be performed at the initial visit to determine the presence of nitrites, WBCs, red blood cells, and glucose. Gross, microscopic, and culture examinations of the urine may help distinguish between a noninfectious condition and an infectious agent. A urinalysis positive for leukocytes does not always require antibiotic treatment in older women. If an infection is suspected and the woman is symptomatic, treatment of the infection should occur before starting treatment of UI. The patient with asymptomatic hematuria needs further tests to rule out the possibility of bladder cancer.

In the older adult, particularly those patients with comorbidities (e.g. diabetes, neurologic diseases), men with enlarged prostate glands, and women with POP, assessing for incomplete bladder emptying should be considered. Symptoms include urinary hesitancy, straining to initiate voiding, split urine stream, post-void dribbling, and suprapubic discomfort. Urologic experts agree that the normal range of residual urine is 50–75 mLs and in older adults who are sixty-five years or older, a volume of 200 mLs or greater is probably abnormal. In addition to symptoms, suprapubic palpation, urethral catheterization, or portable ultrasound of the bladder can determine post-void residual (PVR) which is defined as the amount left in the bladder 10 to 15 minutes after voiding. Patients who have abnormal volumes should be referred to a urology specialist for further studies.

Specialist referral

Referral to a specialist may be necessary in certain older patients and should be made on the basis of these criteria:

- Uncertain diagnosis and inability to develop a reasonable management plan
- Failure to respond to an adequate trial of conservative treatments (e.g. bladder training, pelvic muscle exercises, and drug therapy)
- Hematuria (blood in the urine) without infection
- Severe (beyond the introitus) pelvic organ prolapse
- Abnormal post-void residual (PVR) urine
- Prostate nodule/enlargement
- Neurologic condition (e.g. multiple sclerosis (MS), spinal cord lesions (in which a component of neurogenic bladder is suspected)

Conclusion

A screening assessment for urinary continence should be part of evaluation medical visits in all older adults as most report UI and LUTS symptoms, especially those who are “at-risk.” The assessment should be a symptom-based approach and it should be followed by a history and physical examination. Completion of a Bladder Diary can provide the clinician with valuable information about the older adult’s voiding habits and symptoms.

References/Figures

Article References

Tables/Figures

Topics: Incontinence

One thought on “Assessment of older adults with continence issues*”



1. Distended Bladder says:

July 23, 2016 at 2:39 am

Great article its very striking. You have beautifully presented your thought in this blog post. I found so many interesting things in this blog, excellent work.

Reply

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Assessment of older adults with continence issues*

Diane K. Newman, DNP, ANP-BC, FAAN

Summary

Urinary incontinence is a prevalent condition in older adults and often they do not seek help from healthcare providers. Clinicians should screen for continence issues at each health encounter. When urinary incontinence or other lower urinary tract symptoms are detected a thorough assessment should take place. Elements of a symptom based assessment include a medical history, physical examination, and assessment of cognitive and functional abilities.

JG is an eighty-two year old woman who has lived independently in her home for the past 48 years. She has been alone since her husband died 9 years ago, but she has a son who lives close. She takes several medications for hypertension, mild depression, and elevated cholesterol. On history, she reports a recent fall. This distressed her because she reports, "I have never fallen before." The fall occurred at night when she was walking to the bathroom. She bumped into an end table and fell. When questioned about bladder control problems, she reported that like her friends, when she sees a bathroom sign, she feels a sudden need to urinate. Many times, she will lose some urine on the way. This has been worse lately and she thinks it is because of the recent addition of a diuretic medication for her hypertension. She has been noticing urinary urgency is also worse after breakfast and she thinks it may be related to morning coffee. When she goes out, she will wear a pad in her underwear as a safeguard against unexpected episodes.

The above is a typical scenario of an older adult living with urinary incontinence (UI), the involuntary loss of urine, which is a significant health problem in women and men of all ages. It is estimated that 40% of elderly patients (age ≥ 75 years) experience UI, a condition that impairs quality of life and are associated with co-morbidities (such as diabetes and obesity) in the older adult.

Despite the high prevalence of UI, it is consistently under-diagnosed and under-treated as, on average, only one out of four women (13% to 54%) with symptoms of UI seeks clinical help. A contributing factor is the "stigma" surrounding UI and the fact that older adults have many misconceptions about these conditions thus preventing them from seeking care. Owing to the widespread taboo that surrounds bladder control problems and incontinence, it is important that clinicians take every opportunity to raise

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the subject of UI and associated lower urinary tract symptoms (LUTS) with older adult patients. The Fifth International Consultation on Incontinence (ICI) committee on incontinence in the frail elder made recommendations on continence evaluation in the frail elder and these are listed in Table 1. Questions about UI should be part of a preventive and follow-up medical visit.

Table 1. International Consultation on Incontinence recommendations for frail older adults

- Clinicians need to assess and manage co-existing or morbid conditions which are known to have an impact on continence status or the ability to successfully toilet. (pg.1015)
- Environmental cues such as toilet visibility, signage, color differentiation, and images should be used to compensate for visual-perceptual deficits in frail older adults with cognitive impairment. (pg.1021)
- As remaining physical strength and dexterity varies in individuals with cognitive impairment, each component of the toileting process which creates difficulties for such patients should be identified and treated individually. (pg.1021)
- As inappropriate use of continence aids may contribute to onset or continuation of UI, clinicians who advocate or authorize their use, should be familiar with evidence-based guidelines that advocate an active approach to prevention, diagnosis, and treatment. (pg.1021)
- Active case finding and screening for UI should be done in all frail older persons because many do not spontaneously report their symptoms. (Level 1). (pg.1021)
- Urodynamic testing is feasible in frail older people (Level 1) but it is unlikely to change management or outcomes except, perhaps, in those considered for surgical treatment of UI (Level 4). (pg.1025)

Level 1 evidence - involves meta analysis of trials (RCTs) or a good quality RCT, or 'all or none' studies in which no treatment is not an option.

Level 4 evidence - expert opinion where the opinion is based not on evidence but on "first principles" (e.g. physiological or anatomical) or bench research.

While UI should not be considered a normal consequence of aging, age-related changes within the urinary tract do predispose older people toward UI and other LUTS. Table 2 lists the age-related changes in the GU tract. Although not a consequence of aging, co-morbid conditions and age-related medical changes place the older adult at risk for developing UI (see Table 3). Therefore, a comprehensive continence assessment that includes a review of symptoms, a comprehensive medical history, and focused physical examination is necessary to determine the etiology, contributing factors, and to obtain a presumptive diagnosis of UI.

Table 2. Age-related changes in the genitourinary tract (GU) Tract

- There is a 30% to 40% loss of functional kidney cells (nephrons) and a decrease in the kidney's ability to filter blood and concentrate urine.
- Changes in the circadian rhythm of water excretion leads to the largest amount of urine production occurring at night, usually during the night. During the night, there is a lower level of physical activity, the individual is lying flat, promoting the movement of body fluid from extracellular spaces to blood vessels, causing an increase in the amount of urine in the bladder. Older adults will report nocturia (awakening several times during the night). Because of this larger volume of urine in the bladder, urine loss can occur during sleep (called nocturnal enuresis or nighttime incontinence).
- The sensory nerve from the bladder through the spinal cord and to the brain often "wears out," creating breaks in the neural pathway. There is "short-circuiting" of nerve firing, and messages may not completely reach the brain. In general, the nervous system takes longer to respond to sensory stimuli. This causes a delay in the urge sensation to void and a decreased interest in when the time the urge sensation is felt and voiding occurs. This shortened warning period is called urgency. Urgency, which in most persons is sudden and strong, causes the older adult to rush when attempting to toilet.
- Due to an incomplete nerve pathway or cortical brain damage that causes impaired bladder inhibition, there is an increase in bladder contractions (referred to as overactive bladder) that create the urgency before the bladder is full. The older adult may have little or no control over these contractions, which cause urine leakage (urgency urinary incontinence).
- Detrusor muscle (smooth muscle of the bladder) is able to expand as muscle fibers stretch and atrophy. This can cause bladder capacity to decrease and prevent the bladder from emptying completely (called urinary retention). This is the reason why the older adult needs to void more frequently in small amounts. The urine that remains in the bladder after the individual has voided (post-void residual [PVR]) may become infected with bacteria, causing an increased incidence of urinary tract infections.
- Estrogen receptors are found in squamous epithelium of the urethra, vagina, and bladder trigone (muscle in the bladder) in women. The pelvic floor muscle is also estrogen sensitive. After menopause, the tissue lining of the vagina and outside bladder thin and lose vascularized leading to vaginal atrophy/vaginitis and urinary symptoms, such as urgency and frequency. Also, estrogen reduction in the genitourinary (GU) tract increases risk for urinary tract infections (UTIs) by inhibition of vaginal colonization of Lactobacilli. These changes can worsen independently or several years postmenopause.
- The prostate gland in men enlarges with aging and can cause "bladder outlet obstruction" leading to lower urinary tract symptoms, especially urgency and frequency.

Symptom-Focused Assessment

The evaluation should start with a thorough history to determine the patient's most bothersome symptom(s) that impact continence status, especially important in guiding therapy and determining response to treatment. A symptoms-based approach to continence bypasses the need for invasive and expensive testing that require referral to a specialist or tertiary medical center, and that many patients, particularly older adults, find distressing.

Table 3. UI Risk Factors

Risk Factor	Notes
Age	Prevalence of UI increases exponentially in both men and women (10% in men and 15% in women aged 70 to 74, 20% in men and 25% in women aged 80 to 84).
Diurnal voidable voids	• Overnight voids Prevalence rates of 0% women voiding 0-1 healthy voids throughout the 8-hour period in women, which directly increase the pressure in the bladder, thereby enabling easier the movement of urine from the bladder that support the external sphincter. • Chronic heart failure Increased right atrial pressure contributes to venous congestion and UI. • Lower urinary tract outflow obstruction • Bladder infection Prevalence rates increase with increasing retention and emptying in women. UI also associated with increased likelihood of urgency in men and women. • Sleep apnea May increase right atrial pressure leading to increased production of antidiuretic hormone (ADH). Contraception, hormonal therapy • Women Hormonal therapy has been associated with a decrease in overall continence. Progesterone and estrogen therapy, as well as diuretic therapy, may increase the risk of urinary incontinence. Progesterone and estrogen therapy, as well as diuretic therapy, may increase the risk of urinary incontinence. Progesterone and estrogen therapy, as well as diuretic therapy, may increase the risk of urinary incontinence. • Men Large prostate hypertrophy, an enlarged prostate gland, and/or prostate cancer may increase the risk of urinary incontinence. Neurologic conditions • Stroke Stroke increases the risk of UI and may also lead to incontinence if there is damage to the brain areas that control bladder function. • Multiple sclerosis Multiple sclerosis may also cause incontinence bladder emptying if there is damage to the brain areas that control bladder function. • Parkinson's disease Associated with urgency UI, also may cause impaired voiding and cognition. • Dementia Associated with urgency UI, impaired cognition and a greater likelihood of UI. Diets • High protein High protein diets may increase the risk of UI. • High fiber High fiber diets may increase the risk of UI. • High fat High fat diets may increase the risk of UI. Fluids • Alcohol Alcohol may increase the risk of UI. • Caffeine Caffeine may increase the risk of UI. Medications • Diuretics Diuretics may increase the risk of UI. • Anticholinergics Anticholinergics may increase the risk of UI. Other • Obesity Obesity may increase the risk of UI. • Smoking Smoking may increase the risk of UI.

The history should determine the onset, duration and progression of the UI and associated LUTS, (urinary urgency, frequency, nocturia, post-void dribbling, nocturnal enuresis, straining to void, hesitancy and weak stream). Table 4 is a checklist that identifies symptoms associated with LUTS. The distinction between symptoms is important, because this will determine treatment modalities or the need for referral to a specialist. As in the scenario at the beginning of this article, older adults often report situational antecedents or "triggers" (e.g., hearing running water, seeing a bathroom sign, during washing dishes or clothes, placing hands in warm water, anxiety or stressful situations).

Older adults may follow "self care" practices to accommodate their symptoms and these should be explored during history taking. A common practice reported is "toilet mapping," which is when the person will habitually look for toilet locations and plan daily activities such as traveling and shopping based on knowing where toilets can be easily reached. Some older adults admit to limiting activities, such as socializing with friends and family, because of the embarrassment of having to visit the bathroom regularly or the fear of experiencing a UI "accident." Withdrawal from social activities can lead to isolation. Other information elicited involves occurrence of urgency, frequency, or urine leakage occurring during sexual activity. Many people refrain from sexual intimacy to avoid the anxiety and embarrassment caused by urine leakage or the sudden need to urinate during sex.

Table 4. Identifying LUTS Symptoms

- **Urinary leakage?**
 - When does it occur?
 - With standing, coughing, sneezing, laughing, lifting objects, on the way to the bathroom, getting up?
 - Does it occur during the night (nocturnal enuresis)?
 - How frequent does it occur?
 - Every time, sometimes, daily, once or twice a week
 - How often?
 - Is the person using something to contain the urine - (wipes, pads, absorbents)?
 - How often do they need to be changed per day?
 - How long has the problem with leakage been going on?
- **Awareness of need to urinate?**
 - Does the person feel the urge sensation?
- **Presence of urgency?**
 - Whether urgency not normal but sudden, intense, and urge-related?
 - When the bladder feels full or there is the urge to go, how soon after the urge occurs does the urine start to flow?
- **Frequency of urination**
 - Frequency of voiding during the day? (More than 8-10 times is considered abnormal. Normal time between urination is 3-4 hours)
- **Reflexes**
 - How often is the person getting up in the night to urinate?
 - Does the person report bedwetting?
- **Isolation of questions**
 - Once on the toilet, can the person inhibit the stream within a minute?
 - Does it take multiple sips, sipping water or other techniques?
 - What is the number of times when on the toilet that the person actually urinates?
- **Characteristics of the urinary stream**
 - When and how the stream starts once the person tries to initiate it.
 - Is the stream continuous or does it start and stop, how strong is it, whether the person strains to get the urine out.
 - Whether there is pain (e.g. grinding, burning, and stinging) with urination.
 - Presence of post-void dribbling.
 - Does the person strain to urinate.
- **Characteristics of the urine**
 - Color and amount of sediment or mucus.
- **Emptying of the bladder:**
 - Does the bladder feel completely empty once voiding is completed?

Tracking Continence by Using a Diary

In general, most individuals, young and old, are unaware of how often they should urinate. As they age, they may have developed abnormal and in some cases harmful voiding habits. Having the older adult or caregiver monitor fluid intake and urinary output by recording voiding times, voided volume, incontinence episodes, symptom triggers, and beverages ingested is integral to initial screening and to determine how best to proceed with evaluation and treatment. Keeping a daily Bladder Diary (see Figure 1) is simple and practical and can provide important information (Sampselle, 2004; Stav, Dwyer, & Rosamilia, 2009). Beverage consumption well beyond 64 ounces (with food fluid source excluded) sometimes occurs, and it is associated with incontinence, and LUTS of urgency, frequency, and nocturia. However, there are no definitive data concerning healthy older adult norms and quantitative evidence of association between fluid intake, urinary output, voiding pattern changes, and bladder control issues is lacking.

Figure 1
Bladder Diary

Time	Toilets in bathroom How much urine void? (oz) (yes or no)	Did you feel a strong urge to go? (yes, no)	Urine Leakage?	Circumstances of Urine Leakage	Drinks: What kind and how much? 3 glasses = 6 oz 2 cups = 8 oz
6:00 a.m. awake	6oz	yes	0	Getting out of bed walking to bathroom	1/2 glass of water
8:00 a.m.	3oz	yes			1/2 cup of coffee
9:00 a.m.	5oz	yes			1 cup of coffee
10 a.m.	7oz	yes	0		1/2 glass of water
11 a.m.					1/2 glass of water
12:00 p.m.	4oz	yes		Having water, washing hands	1 glass of water
2:00 p.m.	7oz		0	Coming home from shopping	1/2 glass of water
4:00 p.m.	8oz	yes	0	On the way to bathroom	2 glasses of water
6 p.m.	4oz				2 glasses of wine
8 p.m.	4oz				
10 p.m.	5oz				
11 p.m.	5oz				
1 a.m.	dark urine	yes			
3:00 a.m.	10oz	yes			1/2 glass of water
7 a.m.	dark urine				
TOTAL:	50 (daytime voids)/ 4 (nighttime voids) Volume 67 oz (200 ml)	8 negative episodes	4 incontinence episodes		22 oz (650 ml)

Thus a daily diary kept for 1, 2, or 3 days can provide patterns about the time of day for each void (bladder emptying), as well as the time and day of each UI episode. The record can provide information about associations, such as urine leakage that occurs following urgency or if it occurred after consumption of a known bladder irritant like a caffeinated beverage. A Bladder Diary may also track absorbent product use that may assist in quantifying amount of urine leakage (Newman, 2002). The following scale may be a useful guide in this quantification:

- Small volume (less than 30 cc)—enough to make underwear damp (with protective pad) or wet (without protective pad)
- Moderate volume (31 to 90 cc)—enough to wet or soak underwear (with protective pad) and trickle down legs (without protective pad)
- Large volume (more than 90 cc or 3 ounces)—leakage soaks through clothing and onto furniture or floor; usually represents entire bladder contents

A daily Bladder Diary is considered therapeutic and a type of “behavioral intervention” because it increases the person’s awareness about the need to void and to seek a toilet.

Relevant Medical History

As symptoms can be induced by an underlying medical condition, a medication, cognitive decline and/or functional abnormality, it is important to identify pre-existing conditions, such as diabetes, stroke, enlarged prostate in men, or pelvic floor muscle weakness.

A sudden and new onset of UI and associated LUTS may be suggestive of an acute medical problem such as an infection, like a urinary tract infection (UTI), or recent trauma or surgery, while chronic symptoms can be indicative of degenerative or neurologic disorders that can contribute to, or even be the cause of, urinary dysfunction. Table 3 includes medical conditions that may be a cause of newly acquired LUTS. Neurologic events such as a cerebrovascular attack or a transient ischemic stroke—or the presence of a chronic neurological condition such as a spinal cord injury or multiple sclerosis—can lead to neurogenic-related bladder conditions. A musculoskeletal disorder (e.g. arthritis) can cause problems in ambulation and mobility, making it difficult for the patient to easily reach a bathroom. In addition, a history of pelvic surgery or radiation treatment to the area, as well as bladder, prostate, or urethral surgery, should be considered as possible causative factors.

Medication Review. Medications, especially polypharmacy, will impact continence (Kalisch Ellett et al, 2014). Obtaining a detailed list of prescription and over-the-counter drug use is an important part of history taking in this population (Kashyap & Tannenbaum, 2013). Medications such as diuretics, antidepressants, alpha-agonists, beta-antagonists, sedatives, anticholinergic agents, and analgesics (see Table 5) can alter continence

(Hall et al., 2012), although it is not known if de-prescribing these medications results in improved urinary symptoms. Sometimes changing the timing of administration the elder takes a medication can eliminate a continence problem.

Bowel Function. Bowel function should be assessed as problems with constipation, fecal staining, straining while stooling, and fecal incontinence can contribute to UI. The close proximity of the bladder and urethra to the rectum and their similar nerve innervations make it likely that there are reciprocal effects between them or “crosstalk: between the bowel and bladder (Kaplan, 2013). Older adults with UI may also have fecal urgency resulting in anal incontinence. These individuals rarely volunteer to talk about these symptoms. In a case-control study of women with LUTS (n=820) and matched controls (n=148), constipation and straining during defecation, were significantly more common among the women with LUTS including bladder overactivity and urgency, than among the women who did not have constipation or strained while emptying their bowels (Manning, 2003). Jelovsek (2005) reported a 36% overall rate of constipation in women with UI and advanced pelvic organ prolapse (POP).

Medication	Effect
Alpha-adrenergic receptor agonists	Increase smooth muscle tone in the prostatic urethra and prostatic vesicle and may precipitate obstruction, urinary retention with symptoms of postural dizziness, straining, and difficulty in urine flow.
Alpha-adrenergic receptor antagonists	Decrease smooth muscle relaxation of the bladder neck and prostatic urethra causing stress UI (mainly in women).
Angiotensin-converting enzyme inhibitors (ACE inhibitors)	Common side effect of cough, which can worsen UI.
Anticholinergics	Impaired bladder emptying, urinary retention with symptoms of postural dizziness, straining, hesitancy to urinate flow, overflow incontinence, and constipation/fecal impaction. Can affect cognition.
Antidepressants, tricyclic	Anticholinergic effect and alpha-adrenergic receptor antagonist effect causing postural dizziness, straining, and hesitancy to urinate flow.
Calcium channel blockers (verapamil, diltiazem, nifedipine)	Decrease bladder contractility that may lead to incomplete bladder emptying. Constipation is a common side effect which can contribute to UI.
Cholinesterase inhibitors	May cause UI by increasing acetylcholine levels in the bladder. Acetylcholine is a neurotransmitter that causes the bladder to contract and is released at the time of voiding.
Diuretics	Diuretics can result in frequency and urgency for up to 6 hours after ingestion.
Lithium	Diuretic due to diabetes insipidus.
Neurotic antagonists, agents	
Psychotropic medications: hypnotics, antipsychotics	Anticholinergic effects. Can cause sedation, confusion, and incontinence, resulting in functional UI.
Nonsteroidal anti-inflammatory drugs (NSAIDs, ibuprofen)	Can cause edema, causing mechanical pressure and obstructing results may result without awareness.
Other: caffeine, alcohol	Act as diuretics causing rapid diuresis, leading to urgency and frequency, altered tubular excretion.

Functional assessment. An assessment of the older adult’s functional abilities should be performed to ascertain independence and/or dependence. Lower urinary tract symptoms such as urinary frequency, urgency, nocturia, urinary incontinence, and voiding difficulties are associated with falls in the elderly (Foley, et al., 2012). Therefore it is important to assess the ability to perform self-care tasks or activities of daily living (ADLs).— e.g., mobility, ability to transfer to the toilet, disrobe, and use any necessary assistive devices (Graf, 2013; Shelkey & Wallace, 2012). A discussion about “toileting behavior” should determine toilet habits (e.g. whether a man stands or sits to void). The older adults or caregiver should be asked about the assistance needed for toileting or if an assistive toileting aid, like a bedside commode or urinal, is used. During the assessment, the older adult should be observed rising from a chair and walking into the exam room to assess transfer ability, balance, and gait. Lower extremity impairment can be assessed by a timed “Up and Go” test (Mathias et al., 1986). The older adult should also be observed manipulating clothing to assess fine motor skills and manual dexterity.

Cognitive assessment. Cognitive impairment is a risk factor for UI as this impairment can interfere with the ability to recognize urge sensation to void, ability to delay voiding until it is appropriate, ability to find and recognize the toilet, and ability to disrobe and use the toilet appropriately (Yap & Tan, 2006). Mental status examination should include assessment of mood, affect, orientation, speech pattern, memory, and comprehension. Cognition is assessed by response to questions or through the use of a mental status exam such as the Mini Cog (Doerflinger, 2013).

Physical examination

General. Assess for presence of dehydration (symptoms include dry mouth, falling, weakness and fatigue, decreased urine output, headache, weight loss, and increased confusion). Pedal edema (swelling on the top of the foot/feet) and signs of chronic heart failure indicate problems with fluid redistribution that may cause nocturia and nocturnal enuresis (bedwetting at night).

Abdominal examination. During the abdominal examination the older adult is placed in a supine position to listen for bowel sounds. Normal bowel sounds consist of clicks or gurgles occurring every 5 to 15 seconds. More frequent bowel sounds are hyperactive, which indicate increased bowel motility. Sluggish bowel sounds, 3 or fewer/minute, indicate decreased bowel motility. Prolonged gurgling sounds may result from increased motility seen with diarrhea. If no bowel sounds are heard for 5 minutes in any quadrant of the abdomen, they are described as absent. After auscultation (listening with a stethoscope), the clinician palpates the abdomen for the presence of masses (may indicate hard stool in the colon or bowel impaction) or organomegaly (enlargement of abdominal organs, such as the ovaries, bowel or liver. If a mass is felt, note its size, shape,

consistency, texture, and location. The clinical also notes if the older adult complains about tenderness, discomfort, or fullness during palpation. Percussion (tapping the abdomen) to detect fluid is important to detect a distended bladder that may indicate urinary retention. A distended bladder may rise above the symphysis pubis (pelvic bone) and it may be possible to palpate or percuss the bladder above the level of the symphysis pubis if it contains 150 mLs or more of urine.

Genitalia examination. External observation of the perineum in both men and women should always be performed. The examination should note the presence of any urinary products (e.g. incontinence pads, external male catheter). Assessment of the perineal skin and gluteal area is important because UI often results in increased skin wetness which in turn promotes incontinence-associated dermatitis (IAD) (Doughty et al., 2012).

In women, the external perineal skin should be assessed for rash, skin lesions, odor, and discharge. If a urethral caruncle is present it looks like a cherry-red bulge at the opening of the urethral meatus and it can contribute to irritative voiding symptoms (e.g. urgency, frequency). Excoriations and maceration of the vulva (external female organ) may occur with constant wetness or may be secondary to infection. The vulva may show signs of hypoestrogenism (low estrogen level as a result of menopause). These signs include vaginal mucosa that looks dry, pale, inflamed and may be red, petechial (red or purple spots), or ecchymotic (purple discoloration).

In men, external examination of the perineal skin is performed to detect penile discharge, redness or rash along the penile shaft. In the uncircumcised man, the foreskin should be retracted and the glans and meatus should be assessed for its size and position, i.e., the meatus should be located at the tip of the glans. Retracting the foreskin is a very important component of personal hygiene in the uncircumcised man. A cheesy, whitish material called smegma may accumulate normally under the foreskin. The foreskin should be replaced back over the glans. In uncircumcised men, a condition called phimosis can be present if the orifice of the foreskin is constricted preventing replacement of the foreskin over the glans or tip of the penis. The scrotum, a loose, wrinkled pouch that contains 2 testicles should also be examined. Size, shape, consistency, and tenderness of the testes should be noted.

Pelvic examination in women is performed to assess for the presence of POP, a general term for prolapse of the pelvic organs. Women with POP will complain of urinary urgency, frequency and they often describe a bulging feeling in their vagina or perineum. Assessment of POP should be performed by having the woman strain or bear down like she is having a bowel movement. The following describe the organ prolapsing:

- Bladder (cystocele) – anterior wall of the vagina, together with the bladder above it, bulges into the vagina and sometimes out the introitus.
- Uterus (uterine prolapsed) – descent of the uterus and cervix into the vagina.
- Vaginal vault prolapse – the walls of the vagina fall in and out of the vagina.
- Rectum (rectocele) – protrusion of the posterior vaginal wall and the rectum behind it.

The “Baden-Walker Halfway” grading system is used when describing the prolapse:

- Grade 0: no prolapse
- Grade 1: vaginal segment descends halfway to the hymen
- Grade 2: descent to the hymen
- Grade 3: descent halfway outside the hymen

- Grade 4: maximum possible descent (when the vagina with the vaginal vault and uterus protrude completely outside the body without Valsalva (referred to as procidentia). The Valsalva maneuver consists of attempting to force air out of a closed airway, i.e. holding nose while trying to blow out of it to clear one's ears.

Rectal examination. In both men and women, inspection of the anus is performed noting any stool smearing or liquid stool seepage. The perianal area is inspected for lumps, ulcers, inflammation, rashes, or excoriation. Assessment of the presence of rectal vault contents should be performed, noting stool, rectal tumor, hemorrhoids, masses, and mucosal polyps. In men, a digital rectal examination (DRE) should also include an assessment of the size, consistency, and contour of the prostate. The consistency of the normal prostate is generally described as “rubbery” in nature. Abnormal consistency may be noted as “nodular abnormalities,” areas of indurations or “bogginess.” A man with an abnormal or enlarged prostate should be referred to an urologist.

Pelvic floor muscle assessment. Transvaginal or transrectal digital palpation of the pelvic floor muscles (PFM) is part of a continence assessment in an older adult. In women, the clinician inserts the index finger into the vagina to the level of the first knuckle and instructs the woman to tighten or pull in and upward vaginally. If the woman is able to contract the pelvic floor muscles, the clinician often has the woman repeat contracting the muscles and holding the contraction for as hard and for as long as possible to determine strength and muscle bulk. Rectal and anal sphincter can determine levator ani (pelvic floor muscle) strength. As the sphincter relaxes, the clinician gently inserts the index finger into the anal canal in a direction pointing toward the umbilicus. The clinician notes if the resting sphincter tone is weak, moderate, or strong. The clinician then asks the woman to tighten her rectum around examiner's finger. This is one method to determine if the woman can perform a pelvic floor muscle (PFM) contraction. The clinician is interested in the muscle pressure or force, elevation or vertical displacement of the examiner's fingers, and duration of contraction. There are several scales that have been validated in small studies for PFM muscle evaluation (FitzGerald et al., 2007; Newman and Laycock, 2008). Most scales rate each variable is on a 4–point ordinal scale.

- Pressure or force
 - 1 – no response
 - 2 – weak squeeze
 - 3 – moderate squeeze
 - 4 – strong squeeze
 - Vertical displacement
 - 1 – none
 - 2 – finger base moves anteriorly
 - 3 – whole length of fingers move anteriorly
 - 4 – whole fingers move anteriorly, are gripped and pulled in
 - Duration of contraction (in seconds)
 - 1 – none
 - 2 – second
 - 3 – 1–3 seconds
 - 4 – 3 seconds

Neurologic examination is especially important in the older adult and should include an assessment of specific lumbosacral dermatomes (dermatomes is an area of skin that is supplied by a specific spinal nerve) for position, vibration, pinprick, light touch, and temperature. Relevant dermatomes include L1 (labia majora), L1–2 (labia minora), and S3–5 (perineum and perianal skin). The sacral nerve roots (S2–S4) innervate the striated muscles of the bladder and pelvic floor (external urethral and anal sphincter). Tests used to evaluate these sacral nerve root reflexes include stimulation of the anal reflex (S2–5) and bulbocavernosus (S2–4).

- anal “wink”—lightly stroke the anus while observing for anal contraction (the anus puckers or “winks”). Absence of the anal wink in the elderly is not pathologic
- bulbocavernosus reflex—gently squeeze the clitoris or glans penis while observing for anal contraction.

Bladder Evaluation

One of the transient causes of UI is a UTI therefore a urinalysis after obtaining a clean-catch urine specimen and using a reagent strip testing (e.g. dipstick) should be performed at the initial visit to determine the presence of nitrites, WBCs, red blood cells, and glucose. Gross, microscopic, and culture examinations of the urine may help distinguish between a noninfectious condition and an infectious agent. A urinalysis positive for leukocytes does not always require antibiotic treatment in older women. If an infection is suspected and the woman is symptomatic, treatment of the infection should occur before starting treatment of UI. The patient with asymptomatic hematuria needs further tests to rule out the possibility of bladder cancer.

In the older adult, particularly those patients with comorbidities (e.g. diabetes, neurologic diseases), men with enlarged prostate glands, and women with POP, assessing for incomplete bladder emptying should be considered. Symptoms include urinary hesitancy, straining to initiate voiding, split urine stream, post-void dribbling, and suprapubic discomfort. Urologic experts agree that the normal range of residual urine is 50–75 mLs and in older adults who are sixty-five years or older, a volume of 200 mLs or greater is probably abnormal. In addition to symptoms, suprapubic palpation, urethral catheterization, or portable ultrasound of the bladder can determine post-void residual (PVR) which is defined as the amount left in the bladder 10 to 15 minutes after voiding. Patients who have abnormal volumes should be referred to a urology specialist for further studies.

Specialist referral

Referral to a specialist may be necessary in certain older patients and should be made on the basis of these criteria:

- Uncertain diagnosis and inability to develop a reasonable management plan
- Failure to respond to an adequate trial of conservative treatments (e.g. bladder training, pelvic muscle exercises, and drug therapy)
- Hematuria (blood in the urine) without infection
- Severe (beyond the introitus) pelvic organ prolapse
- Abnormal post-void residual (PVR) urine
- Prostate nodule/enlargement
- Neurologic condition (e.g. multiple sclerosis (MS), spinal cord lesions (in which a component of neurogenic bladder is suspected)

Conclusion

A screening assessment for urinary continence should be part of evaluation medical visits in all older adults as most report UI and LUTS symptoms, especially those who are “at-risk.” The assessment should be a symptom-based approach and it should be followed by a history and physical examination. Completion of a Bladder Diary can provide the clinician with valuable information about the older adult’s voiding habits and symptoms.

References/Figures

Article References

Tables/Figures

Topics: Incontinence

One thought on “Assessment of older adults with continence issues*”



1. Distended Bladder says:

July 23, 2016 at 2:39 am

Great article its very striking. You have beautifully presented your thought in this blog post. I found so many interesting things in this blog, excellent work.

Reply

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SPRING 2014

Incontinence

A Case Study: What happens when a dementia patient violently opposes incontinence care?

Jillian Gordon Rieger, MA, CMC

It can have devastating effects. It can ruin a marital relationship, cause social isolation and create havoc for caregivers and loved ones. It can affect an entire family and the individual's quality of life. What can we do as Care Managers in what might seem like an unmanageable situation?

I had been working with an elderly couple, both with cognitive impairment, although the husband was the identified client. He was considered to be moderate stage dementia with episodes of incontinence which became a pattern.

He opposed all direct hygiene care, including showering, but his wife and his live-in aides were able to sporadically provide this. However, episodes of bowel incontinence were becoming his norm, which became more obvious in public places such as when crossing the street or in the elevator in his apartment building. Over time, the problem became so acute that he refused to wear anything but his boxer shorts. While he was alert enough to be aware and embarrassed, he became quick to anger at anyone who tried to clean him. He gradually withdrew and refused to leave the apartment.

The caregivers and his wife utilized various tactics to encourage him to participate in activities that were once the core of his social life, such as dinners with longtime friends who could reminisce with him about the "good old days." However, his incontinence began to repel others, including his wife. Sadly, she began to socialize as a "single" woman.

Each day the client got up, he went to the chair where his clothes were laid out, to put on his boxer shorts. The aides had to be clever by sneaking into his bedroom at night to remove his soiled clothing. With the progression of his incontinence, it was decided to replace his boxer shorts with Depends. The client knew the difference but had no choice but to wear them. He became outraged — the "underwear" as he knew it, was gone. At first he screamed and directed his anger towards the caregivers. Screaming at the caregivers did not result in the return of his underwear, he eventually adjusted — but his depression deepened. The aides began to change him when he soiled and provided hygiene care for comfort, but he kicked, bit, and clawed despite pharmacological treatment by a psychiatrist. His rage became directed towards his wife, so she decided to move out of the bedroom and into the study.

Throughout this period, his only son and daughter-in-law and his grandchildren were horrified and saddened. How could such a powerful and successful CEO become so diminished? Needless to say, it took a terrible toll on the entire family. The "well spouse" became our focus as her anxiety grew and her own depression deepened. She could not tolerate watching her husband's behavior nor live with his verbal abuse of her and the

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Jillian Gordon Rieger, MA, CMC is a graduate of the University of South Florida's School of Aging Studies. Since receiving a Master's Degree in Gerontology, she has earned a graduate certificate in Geriatric Care Management, has been designated as a Certified Geriatric Care Manager, and works for Elder Care Alternatives in NYC.

caregivers. In efforts to maintain her quality of life, we explored relocation options, and she chose a premier residence in New York City, while her husband remained in the comfort of his own home. There were initially some separation issues, but within three months, these abated. She blossomed in her new environment, and he received the care he required under the careful eye of Care Management intervention and the support of his family.

Since then, the husband passed away, and we found a very high-end facility his wife could live in, which took her away from the apartment she had once shared with him. She soon realized the value of being surrounded by individuals who she could relate to and having the close proximity of activities, which reduced the hassle of trying to coordinate transportation to get to them. Moreover, the close proximity of medical care helped to preserve her overall quality of life and peace of mind.

As Geriatric Care Managers we consider this to be a success story, because we were able to use our skill set to not only help identify how incontinence impacted the husband, but how it changed those closest to him. In the end, what appeared to be an insurmountable situation, led the surviving spouse to where she needed to be in order to truly be happy for the rest of her life.

Topics: Case Studies, Incontinence

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Treatment of Urinary Incontinence: Special Consideration for Older Adults*

Mary H. Palmer, PhD, RN,C, FAAN
Guest Editor

Summary

There are multiple treatment options for urinary incontinence in older adults, including those who have dementia and other health conditions. In order to receive the most appropriate and effective treatment, older adults should first undergo a comprehensive assessment. This paper briefly reviews the most frequently used treatments for urinary incontinence in older adults.

Introduction

Although urinary incontinence is a prevalent condition in the older population, effective treatment options are available to improve or manage it. The 5th International Consultation on Incontinence committee on incontinence in frail elders provided recommendations for urgency urinary incontinence, stress urinary incontinence, and for those with significant post-void residual urine volumes (i.e., the amount of urine left in the bladder 5 to 10 minutes after emptying the bladder) (Wagg Chen, Kirscher-Hermanns, Kuchel, Johnson, Ostazkiewicz, Markland, Palmer & Szonyi, 2013). These recommendations include lifestyle interventions and behavioral therapies that can be implemented alone and concurrently with environmental modifications to improve toilet access. As with all treatments, the older adult should be monitored to evaluate the effectiveness of the intervention in improving UI and other outcomes such as improving quality of life. See the article by Emmons and Robinson on the effects of UI on the quality of life in this issue. If UI does not improve with the treatment plan, further reassessment should occur with the goal to improve or control co-morbid conditions and limit the effects of functional impairments (i.e. difficulty dressing, walking, toileting, bathing, etc.). Treatment for UI should best match the person's health and functional status, quality of life, and preferences for care.

Special considerations for older adults

The first step to treatment is a comprehensive assessment; see the article by Newman in this issue. The type and severity of UI and its impact on daily life should also be established before the clinician discusses various treatment options and elicits preferences for treatment from the older adult and

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caregiver. Table 1 provides a brief description of treatment options for UI in older adults.

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Because behavioral interventions have no adverse effects, are noninvasive, and have evidence supporting their effectiveness, they should be used first to treat UI in older adults. Before selecting a treatment approach, however, the clinician should provide information to the older adult and caregiver about why UI is occurring, how the treatment should work, and what should be the expected outcomes. Some behavioral interventions require the older adult to actively participate in the intervention (such as performing pelvic floor muscle exercises according to a specific protocol). Other behavioral interventions require the active and consistent involvement of a caregiver who can provide toileting on a timely and regular schedule. Misperceptions also need to be addressed. For example, some people erroneously think that long-term use of an indwelling catheter to manage UI is appropriate. Because of the high risk of life-threatening infections and damage to surrounding tissue, indwelling catheters should only be used on a limited basis for certain medical needs and conditions. (Wagg et al). Understanding the pros and cons of interventions can help the older adult and caregiver to make informed decisions.

Because mobility problems and falls are associated with UI, making changes in the older adult’s personal environment to improve its safety and access to toilets is important. The article by Park and Marquez in this issue describes environmental modifications that can help with toileting and improve UI. There is evidence that increasing physical activity can improve UI by improving walking, balance, and transfers on and off the toilet. See the article by Resnick in this issue. Older adults who have cognitive impairments can benefit from making environmental changes, and if they have urgency urinary incontinence or mixed urinary incontinence, certain lifestyle and behavioral therapies can be effective in reducing the number of UI episodes; see article by Palmer in this issue that provides definitions for UI.

Lifestyle interventions

Changing the fluid type and amount ingested can improve UI. For example, high levels of caffeine consumption (usually more than 2 cups of coffee daily) can cause urgency and, if the urge to void is strong enough or combined with mobility impairment or not being close to a toilet, urgency urinary incontinence can result. Some older adults wrongly believe that restricting the amount of fluid that they drink will prevent UI. By restricting fluid however, the urine becomes concentrated with waste products that can irritate the bladder and lead to increased sensations of urgency and UI. Limiting fluids can also lead to constipation, which is linked to urinary frequency and urgency. Therefore drinking about eight 8-ounce cups of fluid (water is ideal) during the day is recommended (Newman & Wein, 2013). Eating foods with dietary fiber that help to regulate the bowels and to avoid constipation is also recommended for bladder health (Kaplan, Dmochoski, Cash, Kopp, Berriman & Khullar, 2013). For women who are obese (defined as a body mass index (BMI) equal to and greater than 30), weight loss under the supervision of a health care provider can reduce the number of incontinent episodes (Moore, Dumoulin, Bradley, Burgio, Chambers, Hagen, Hunter, Immara, Thakar, Williams & Vale, 2013).

Behavioral therapies

Although all behavioral therapies aim to reduce UI, the most frequently used behavioral interventions with older adults, timed voiding, habit retraining, and prompted voiding, have different methods and outcomes. Timed voiding is often used with older adults who have cognitive impairment and includes using a toileting schedule, usually at fixed times (e.g. 1pm, 4pm, 7pm and so on). There are no attempts to educate the older adult about UI or try to re-establish voiding patterns (Wagg et al). Habit retraining can be used with people with or without

cognitive impairment and it uses information from the bladder diary to identify the older adult's voiding patterns. As a result, a toileting schedule is designed to pre-empt UI episodes. Prompted voiding involves monitoring the older adult's voiding pattern then, at an appropriate time, prompting (also called cueing) them to use the toilet and providing assistance to the toilet. Once the older adult has used the toilet, the caregiver provides social reinforcement (usually praising the individual for toileting). Prompted voiding is effective in older adults, with and without cognitive impairment, although for those older adults who require toileting assistance from more than one person, do not achieve greater than 20% reduction in incontinent episodes, and who only successfully void less than a third of the times when toileted, are not good candidates for this intervention (Wagg et al). Because of the dependence on caregivers to provide toileting assistance, in order for these therapies to be successful, the caregiver must consistently follow the toileting schedules.

Bladder retraining with urgency suppression is a behavioral therapy for urgency urinary incontinence. The purpose of this therapy is to lengthen the interval between voidings, such as increasing from a pattern of voiding every 2 hours to a pattern of voiding every 3 hours. The older adult also learns techniques to suppress the urge to void until the specified time. Therefore individuals with cognitive impairment that affects memory and learning and those who cannot adhere to the toileting schedule are not candidates for this intervention.

Medications

Sometimes medications, especially antimuscarinics, are added as an adjunct to behavioral therapies (Wagg et al). Because there can be adverse drug effects (ADEs), especially for many older adults who are taking multiple medications, caution should be used. Antimuscarinic medication can also exacerbate constipation, which may make UI and urinary urgency and frequency worse (Kaplan, et al, 2013). Pharmacists should be consulted for drug interactions and the older adult monitored for changes in behavior or functioning. The Beers Criteria for Potentially Inappropriate Medications in Older Adults, available from the American Geriatrics Society, is a valuable resource to consult when addressing pharmacological intervention for UI. For older adults who need assistance with toileting, no matter how effective a medication is in improving bladder function, without caregiver diligence in providing timely toileting assistance the therapeutic effects of the medication will be rendered useless.

Surgery

Surgery may be an appropriate option when UI is caused by a lesion, obstruction, or anatomical defect and behavioral and other interventions have been proven ineffective for severe UI. Careful pre-operative assessment and discussion with the older adult and caregiver about expected outcomes is important.

Pessaries

Pessaries are medical devices for women who have pelvic organ prolapse (POP) and stress UI. A pessary is placed in the vagina to provide support to the bladder neck and its mechanism of action involves compressing the bladder neck and urethra (Hersh & Salzman, 2013). Pessaries can be fitted in a medical office and since they come in various sizes, several may need to be tried before the one best suited is found. Pessaries require care; they need to be removed, cleaned, and replaced on a regular basis. If the older woman or caregiver is unable to do this, then regular trips to the medical office or clinic may be necessary for pessary care. Pessary use should be monitored for effectiveness in decreasing the number of incontinent episodes and, as noted, they should be removed for cleaning every 4 to 6 weeks (Goode et al, 2010).

Absorbent products

Park and Marquez in this issue provide a detailed discussion about absorbent products for incontinence. Care should be used that the products selected are appropriate for the frequency and severity of the incontinence and, if the older adult is capable, that the product can be easily removed for toileting. Careful monitoring of the

skin (see the article on incontinence–associated dermatitis by Gray in this issue) is important when absorbent products are used.

Conclusion

Multiple treatment options are available for older adults who are incontinent. Treatment should come only after a comprehensive assessment and exploration of the preferences for treatment of the older adult and caregiver. Treatments should be regularly evaluated for their effectiveness, especially when there is a change in the older adult's health or functional status.

References/Figures

Article References

Table 1

Topics: Incontinence

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A Case Study of Maria: Psychological Perspectives



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SPRING 2014

Incontinence

Kelly Gustafson PsyD

“Maria,” a pleasant 80-year-old female subacute rehabilitation patient was referred to me for a psychological evaluation of her depression and anxiety. At the time, Maria had just suffered a right frontal lobe cerebrovascular accident (CVA) with left-sided hemiparesis and worsened urinary incontinence. Although she experienced dramatic deterioration in most areas of functioning, her greatest concern and self-reported origin of most of her anxiety surrounded her urinary incontinence and subsequent changes in privacy.

Maria reported that she was never married and had no children. She was an independent and successful woman up until her CVA. She designed preschool programs in her early adulthood and later worked as a social worker for low-income children and families. She went back to school to become a registered home health nurse. After retirement, she raised a therapy dog and visited nursing homes and hospitals. She described her work as her “life mission,” and she found great purpose and meaning in serving others. The biggest blow to her self-esteem was that she now was the patient who relied on others for care, which was an extremely difficult reality for her to face.

Her thought process was often focused on her fear of not getting to the restroom in time, sitting in a wet diaper, and/or the possibility of recurrent urinary tract infections (UTIs). Maria reported experiencing worsening urinary frequency and occasional urinary incontinence starting approximately 10 years ago, altering her quality of life. Over the years she increasingly focused on this physical symptom, while her social and professional life suffered, and she withdrew from many activities. She became more self-conscious of her perceived “disability.” Maria recognized that her urinary continence was one of the last areas of functioning she could control and by “letting go” of that fear meant that she was accepting her need for care.

While in rehabilitation, Maria interacted with staff and residents, used humor in most social environments, asserted ideas of hope and recovery, and stayed in contact with friends and family members in the community. However, as time progressed she appeared to be more withdrawn, similar to her life pattern prior to her CVA. She isolated in her room between rehabilitation sessions, rarely spoke with other residents, and presented with increased anxiety and depression. She used her call light at least every hour to request to go to the restroom. She often focused her attention on physical symptoms that could be related to a UTI. Even after results from multiple urinalyses were negative for an infection, she continued to question the accuracy of the results. Some staff described her as a “problem resident” as they viewed her frequent requests for assistance as attention-seeking behavior.

Once we began talking about her urinary incontinence, common underlying themes were observed in session. She experienced sadness regarding the loss of independence and control in her life. Maria felt as if she were not heard by staff. She acknowledged a decreased desire to interact with other residents and family. She

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Dr. Kelly Gustafson is a licensed clinical geriatric psychologist who works in private practice serving patients in a comprehensive care clinic, in long-term care facilities, in assisted living facilities, and in her outpatient clinic. She has specialized training in pain management, geriatric psychology, and health psychology.

expressed feelings of hopelessness and helplessness, and she displayed a poor self-image. Because she had developed good insight and empathy for others through her professional training and life experiences, she was able to pick up on negative non-verbal cues from the staff members, such as poor eye contact, quick and abrupt body movements, sighs and groans, and rapid speech. She interpreted these cues as an act of not caring. Maria often felt abandoned. As a result of the culminating stress, her concerns about her urinary incontinence and requests for help continued to increase.

Treatment plan

Therapy was focused on helping Maria connect with her former “successful” self and shift her focus from her losses to her strengths. I also consulted with the staff regarding the patient’s perspective and provided suggestions on how to most effectively interact with her when providing care. I recommended the following suggestions:

1. Always use consistent eye contact and face her when talking.
2. Speak slowly and allow her ample time to respond to questions.
3. Use gentle touches and move slower when transferring her.
4. Listen to each concern empathetically and find a solution to her concern if at all possible.
5. If unable to attend to her needs at that time, provide an estimation of time to return to care for her.
6. If at all possible, have a conversation when providing care. Ask her about her past work and life experiences.

Within a couple of weeks, Maria noticed a change in her care and her overall self-image. She became less focused on her urinary incontinence as she felt she had more control over her environment. She began engaging more in her social life inside and outside of the long-term care facility. Ultimately, she was able to connect with her inner strengths and emotional capabilities because of psychological intervention and training of staff.

Signs that a person’s urinary incontinence could be contributing to psychological distress

1. The person withdraws from pleasurable activities due to fear of having an accident.
2. The person becomes focused on going to the bathroom, so much so that he/she loses contact with friends and family.
3. The person’s appetite and/or fluid intake dramatically declines.
4. The person asserts feelings of sadness, helplessness, and/or worthlessness.
5. The person displays changes in sleep.
6. The person shows increased irritability, agitation, and/or anger.
7. The person schedules multiple appointments with his/her physician for the same complaint.

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Educational and Environmental Resources about Urinary Incontinence for GCMs, Older Adults, and their Families*



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Incontinence

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Summary

Urinary Incontinence (UI) defined by the International Continence Society as the involuntary loss of urine is often a symptom of an underlying condition. Although increasing age is a risk factor for UI, UI is not a normal part of aging. Many people do not have up-to-date and correct information about UI and its treatment. This paper presents an overview of educational and other resources to help geriatric care managers, older adults who have UI, and their families better understand UI and its different treatment options.

Introduction

Many people who live with urinary incontinence (UI) do not seek treatment because they feel embarrassed, that nothing can be done to treat it or believe it is due to being old. (El-Azab and Shaaban, 2010; Kinchen et al., 2003). Therefore, they may have limited resources to improve or manage their incontinence. This article provides educational and environmental resources for geriatric care managers, older adults who have UI, and their families about UI and treatment options.

Educational resources

In addition to physical discomfort related to incontinence such as incontinence-associated dermatitis and urinary tract infections (UTIs) (Brown, McGhan, and Chokroverty, 2000), affected older adults can suffer emotional discomfort (Farage et al., 2008). There is a need for educational resources and for emotional support. These needs can be met by accessing educational materials from professional organizations that may also provide support groups and advocacy opportunities. See Table 1 for a list of web resources available for care managers, affected older adults, and their families to be better prepared to understand and talk about UI.

Table 1: List of web resources available for Care Managers, Older Adults, and Their Families

Name	URL/Address	Description	Phone	Email
Continence Foundation for America (CFA)	www.cfa-usa.org	The CFA provides information on all aspects of urinary incontinence, including diagnosis, treatment, and support groups. The CFA also provides information on the latest research and clinical practice.	800-368-2222	info@cfa-usa.org
Continence Foundation for America (CFA) - International	www.cfa-international.org	The CFA International provides information on all aspects of urinary incontinence, including diagnosis, treatment, and support groups. The CFA International also provides information on the latest research and clinical practice.	800-368-2222	info@cfa-international.org
The Silver Lining Foundation	www.silverlining.org	The Silver Lining Foundation provides information on all aspects of urinary incontinence, including diagnosis, treatment, and support groups. The Silver Lining Foundation also provides information on the latest research and clinical practice.	800-368-2222	info@silverlining.org
U.S. National Library of Medicine, MedlinePlus	www.nlm.nih.gov/medlineplus	The U.S. National Library of Medicine provides information on all aspects of urinary incontinence, including diagnosis, treatment, and support groups. The U.S. National Library of Medicine also provides information on the latest research and clinical practice.	800-368-2222	info@nlm.nih.gov
U.S. National Library of Medicine, MedlinePlus	www.nlm.nih.gov/medlineplus	The U.S. National Library of Medicine provides information on all aspects of urinary incontinence, including diagnosis, treatment, and support groups. The U.S. National Library of Medicine also provides information on the latest research and clinical practice.	800-368-2222	info@nlm.nih.gov

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One important role of geriatric care managers is helping affected older adults and their families prepare for an appointment with a healthcare provider. Geriatric care managers can help compile a list of risk and associated factors for UI to discuss during the medical appointment. This approach will help focus the discussion on specific concerns about UI or other urinary symptoms and strategies that older adults and caregivers can use to prevent, improve, or manage UI. Clear communication about continence issues is vital among older adults, caregivers, and healthcare providers, especially when medications are adjusted or changed or when non-invasive interventions (such as lifestyle changes or one of the several available behavioral interventions) that are appropriate for the urinary symptoms are prescribed. A helpful resource is located on the National Association for Continence website: <https://www.nafc.org/urge-incontinence/before-you-seek-treatment-for-oab/> (National Association for Continence, 2013). The resource provides specific examples of information that geriatric care managers can help older adults who have UI compile prior to a medical appointment.

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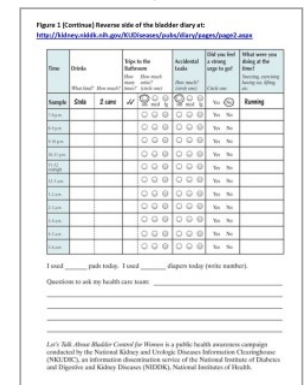
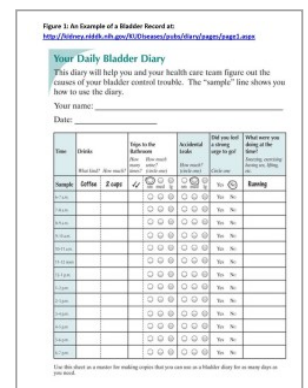
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Bladder diary

A comprehensive assessment is initially needed in order to tailor the best intervention for an older adult who has UI. Keeping a bladder diary, also called a voiding diary or bladder record, is an important first step to raising self-awareness about how often an affected older adult is voiding (Sampselle, 2003). An average of six to eight visits to the toilet every 24 hours is considered within normal range. In addition to voiding patterns, a bladder diary helps healthcare providers understand and assess incontinent episodes, oral fluid intake and frequency of bowel movements. Information documented includes pad usage, daily fluid intake, frequency of UI episodes, the timing of voids, and the urine volume of each void. A 3-day bladder diary is essential for conducting an accurate assessment of incontinence; it helps in identify the type, severity, and potential underlying cause(s) of the urine leakage. A 1-day diary is not sufficient to accurately represent the affected older adult's voiding patterns. In order to get an accurate bladder diary, the healthcare provider should explain the importance of documenting information as it occurs, rather than relying on memory at the end of the day. The healthcare provider should further instruct older adults to identify and immediately record events or activities that most likely resulted in urinary incontinence episodes, because this information will be helpful in identifying the type of incontinence. The type of incontinence will determine treatment options. For example, an effective treatment option for a motivated older adult who has stress UI is pelvic floor muscles exercises, also called Kegel exercises. An example of a bladder diary is shown in Figure 1 and copies of a 24-hour bladder record can be downloaded at the National Kidney and Urologic Diseases Information Clearinghouse (<https://kidney.niddk.nih.gov/kudiseases/pubs/diary/>) (National Institute of Diabetes and Digestive and Kidney Diseases, 2010).

Healthy bladder diet: fluid intake and bladder irritants

Evidence from research shows that inadequate (both too much and too little) fluid intake is associated with UI. Specifically, leakage episodes and average urgency ratings improved in women with overactive bladder after receiving instructions for general fluid management (Zimmern et al., 2010). Normal fluid intake is six to eight 8-ounces of glasses of liquids (1 ounce= 30mL), much of which comes from ingesting liquid beverages but also from fruits and vegetables, such as oranges and celery. By ingesting the normal fluid intake, 40 to 50 ounces of urine is produced daily.



Healthcare providers can help older adults and their caregivers adjust fluid intake levels after reviewing information on the bladder record. Some beverages that contain caffeine when ingested in specific amounts (for example, more than 2 cups of caffeinated coffee at one time) can act as a diuretic and can increase the number of trips to the toilet. In the United States, a typical coffee drinker consumes a mean of 2 to 4 cups of coffee a day which is about 4 mg caffeine/kg of body weight (Mandel, 2002). Although there is evidence that the number of urgency UI episodes can be reduced by reducing caffeine intake, recent findings suggest that older adults with UI don't need to stop drinking coffee, but rather pay attention to the amount of coffee they are ingesting. More than 4 cups a coffee a day can increase the risk for urgency UI (Jura et al., 2011).

In addition to caffeine content in coffee, the healthcare provider should assess for the total caffeine intake from different sources of beverages and food. Caffeine can also be found in soda, tea, energy drinks, certain frozen desserts, and chocolate. For example, a 1.5 ounce (45 mL or about 1/5 of a cup) of a chocolate bar contains approximately 9 mg of caffeine. Older adults who have frequency or urgency may need to reduce the amount of caffeinated beverages and food they consume in a day. Some carbonated beverages may also have an effect on bladder symptoms and this information should be recorded on the bladder diary form. By using this information, older adults and their caregivers can reduce certain beverage types and record changes in bladder symptoms. A detailed list of beverages and food products that contain caffeine can be accessed at the U.S. Food and Drug Administration (FDA) website:

https://www.accessdata.fda.gov/scripts/fcn/gras_notices/GRN000347.pdf (U.S. Food and Drug Administration (FDA), 2010)

Other Resources

The bathroom can be a dangerous place for older adults who have difficulty with mobility and vision. Some older adults have difficulty lowering themselves onto the commode and getting up from it after voiding. Obtaining a referral for a physical and occupational therapy consult in the home can be invaluable in identifying equipment such as raised toilet seats, arm rails, and lifts that can aid in transferring a person to and from the commode. There are commercially available toilets, also called comfort height toilets, that are higher than standard toilets (19 inches in height versus 17 inches in height) that may aid an older adult in rising from the toilet. Caution should be used for older adults whose legs dangle while sitting on the commode, because this can create a higher risk for falls (Alexander, Koester, and Grunawalt, 1996). In this instance, a foot stool could be useful to prevent leg dangling, but caution should be taken so the foot stool is not a trip hazard. An appropriate seat height requires less knee extension and less work by the quadriceps muscles, and less forward leaning during transfer from the toilet seat to a standing position (Alexander et al., 2001). On the other hand, a low seat height, which is less than 100% of the lower leg length (LLL), the distance from the heel to the joint line of the knee, also requires an increased effort to rise from the toilet seat and may also contribute to unsafe transfers and falls. The measurement of LLL helps determine the proper toilet seat height. In general, an optimal toilet height for older adults should be at 100% to 120% of their LLL (Capezuti et al., 2008). This height, which corresponds to the Americans with Disabilities Act (ADA) handicap toilet of 17 inches, But for individuals with LLLs less than 14 inches, this height may be too high, therefore, individual assessment is necessary.

In order to live at home, bathrooms should be adapted to meet the specific needs of older adults. For example, older adults with arthritis or weak hand grip may find turning a bathroom doorknob difficult and painful. Lever-style hardware on the bathroom door helps with the opening and closing of doors. Other strategies include keeping the path to the bathroom clear, wearing non-slip shoes, and keeping a bathroom light on, especially at night. Other useful toilet aids include the use of toilet seat risers, toilet safety frames and rails, commodes with self-powered lifting mechanisms which can be used over a regular toilets, and grab bars. A toilet seat riser is a technological device that can add up to 6 inches of height to a toilet to help with transfers on and off the commode and with transfers to a wheelchair. Toilet seat risers are available in both temporary

and permanent installation. Toilet safety frames and rails are specially designed frames for around the toilet that provide safety or support when standing or sitting on the toilet. The armrests provide a secure hand support to prevent injuries. Commode with the self-powered lifting mechanism helps older adults gently seat and raise themselves, while relieving pressure on their joints. It can be used as a stand alone commode or can be placed over the toilet. Toilet grab bars provide additional support and balance when sitting or transferring from a wheelchair. A horizontal bar is preferred over a vertical bar to prevent injuries. The Americans with Disabilities Act (ADA) specifies that grab bars should be 33" to 36" high, above the finish floor measured to the top of the gripping surface. More information about the ADA toilet grab bar specifications is available at: <https://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.htm#pgfld-1010419> (The Americans with Disabilities Act)(The Americans with Disabilities Act, 2010). Although these aids vary by price and level of sophistication, their overall goal is to increase the functional ability and independence of older adults.

The use of bedside aids, also called "portable toilet substitutes," is an option if the individual cannot safely self-toilet, for those who have limited mobility, problematic nocturnal frequency and urgency, and decreased toilet access (such as inability to move the wheelchair through a narrowed bathroom door)(Newman, 2012). There are several types of bedside aids that vary depending on the affected older adult's self-toileting needs, and functional ability to move from side to side in bed, safely transfer from bed to a bedside commode, and sit and stand (Alexander et al., 2001).

A bedside commode is a portable toilet that is used to facilitate self-toileting. In selecting a commode, it is important to consider the height and weight of the older adult and his or her Lower Leg Length. For increased security, bedside commode seats with grab bars at either side can provide support and assistance when sitting or standing to use the toilet. Toilet seat risers can also be used if an existing bedside commode is too low as determined by the measurement of the LLL of less than 17 inches (The Americans with Disabilities Act, 2010).

During periods of acute illnesses or after medical procedures, getting up to the toilet is not an option. A bedpan is a shallow pan that allows for toileting of older adults who cannot use the standard toilet or bedside commode. There are two types of bedpans: standard and fracture. The standard bedpan has a contoured shape that provides additional support for the older adult. A fracture pan or slipper pan is smaller and flatter than a standard bedpan. The fracture pan can be useful for older adults after a fracture or hip repair when hip flexion is discouraged. Older adults should have the ability to call for immediate help in order to prevent pain and discomfort, decrease urine to skin contact, and prevent skin breakdown from prolonged skin contact with the bedpan and never be left for more than 20 minutes while using a bedpan. (Newman, 2012).

Other bedside aids include urinals. Urinals are receptacles with handles that can be hung on a bedrail or a wheelchair. Urinals are good alternatives for older adults with severe mobility restrictions. Manual dexterity should be assessed before providing a urinal to an older adult. Some commercially available urinals are designed to prevent backflow or spillage from the urinal even when it is held upside down. Urinals for men are commonly used, while female urinals for non-ambulatory women are not widely available.

Other containment devices include indwelling urinary catheters, intermittent catheters and external incontinence devices (also called condom catheters, urinary sheaths, external catheters, or Texas catheters). Because of the morbidity and mortality associated with indwelling urinary catheters, caution should be used when handling the catheters and the Centers for Disease Control (CDC) guidelines should be followed. Guidelines for prevention of catheter-associated urinary tract infection are located on the (CDC) website: https://www.cdc.gov/hicpac/cauti/001_cauti.html ((Centers for Disease Control and Prevention (CDC), 2009). If catheterization is required due to a medical reason, intermittent catheterization is often preferred to indwelling catheters because it is removed after urine is drained, and the older adult is left catheter-free (Newman, 2012).

External incontinence devices may be used for draining or collecting urine and they are commonly used intermittently or continuously at night. External incontinence devices are for men, are disposable, and come in different sizes. They must be changed or removed at least every 24 hours. Older men should try different size external incontinence devices for the best fit and they may prefer to use external incontinence devices to contain dribbling that sometimes occurs after they finish urinating. External incontinence devices are applied over the penis with a self-adhesive tape and can be connected to a drainage bag sometime secured to the thigh, free standing or attached to the bed with a bag hanger during sleep. A small collection bag (500 mL capacity) should be used during the day and a larger one (one that can hold up to 1000 mL) should be used at night (Newman, 2012). Care of the external incontinence devices is very important to prevent skin irritation and pain. During application, complete shaving of the pubic area is not necessary. During removal, warm soapy water and rolling the sheath off the penis is recommended instead of pulling it off.

Use of absorbent products (also called “bodyworn”) may be necessary to provide hygienic and dignified care for older adults who are not able to use the toilet on a regular basis. It is important to note that absorbent products only contain or collect urine; they do not help to improve urine control. Some appropriate uses for absorbent products include: 1) using them while waiting for another UI treatment such as pelvic floor exercises to take effect (Pellatt, 2012); during periods of acute illnesses when the person does not have the energy to get to the toilet and cannot use a bedpan; when other treatment options are not appropriate or effective; or as part of palliative and end of life care. Absorbent products come in different shapes, sizes, costs, and are gender-specific. The selection of an absorbent product should be based on careful assessment and with the older adult’s input. The selection of a suitable absorbent product is very important for the well-being and quality of life of the affected older adults and their caregivers. According to the Centers for Medicare & Medicaid Services (CMS) absorbent products should be chosen based on the ability to contain urine, comfort, ease of application, and removal. When determining the need to use absorbent products, the following must be assessed: the older adult’s functional ability to ambulate to the toilet and to use the toilet, use of assistive devices to ambulate, ease and ability to self-toileting, and ability to remove the absorbent product to use the toilet to urinate or have a bowel movement. Absorbent products should be used to contain incontinent episodes. They should not be used solely for the convenience of the caregiver or as a substitute toilet for all of the person’s elimination needs. Therefore, access to toilets should still be provided to older adults using absorbent products unless their health and functional condition makes it unsafe or not feasible.

Information from the bladder diary including the frequency of incontinent episodes and amount of urine lost will help when selecting an absorbent product. The absorbent product selected should match the amount of urine loss to provide the best containment of urine without any leakage and address the needs of the older adult. For example, incontinence pads, guards, and liners are useful for affected older adults who can ambulate and have light incontinence. Belted shields or undergarments (also called protective underwear), and adult briefs (diaper-style products) can be used for moderate to heavy leakage. While disposable pull-ups may be more suitable for older adults with urinary tract infections (UTIs), reusable underwear may be the best option economically. In addition, absorbent products should be assessed for comfort with the specific size of the absorbent product such as youth or adult sizes matching the older adult’s waistline size. The absorbent product should also fit snugly using leg and waistband elastics and the skin should be frequently checked for chafing or irritation. Another consideration for choosing a product is the ease of application or removal. Affected older adults with leg abduction problem may find it challenging to use pull-ups and may prefer using incontinence pads. The National Association for Continence (NAFC) has released recommended national quality performance standards for disposable absorbent products for incontinence. The NAFC website addresses eight specific characteristics for selection of absorbent products (National Association For Continence, 2012) which can be accessed at: <https://www.nafc.org/news/176/521/NAFC-Council-Issues-National-Quality-Performance-Standards-for-Absorbent-Products/>(National Association For Continence)

Conclusion

Urinary incontinence can be distressing for older adults and caregivers. Many educational and other resources are available to help start conversations about UI and its treatment and to improve physical care and emotional support. Providing equipment and supplies that promote independence and dignity is an important role in the care of older adults who are incontinent.

References/Figures

Article References

Tables

Topics: Incontinence

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