Special Interest Section Quarterly
Gerontology
Volume 31, Number 4 • December 2008
Published by The American Occupational Therapy Association, Inc.

Urinary Incontinence: A Barrier to Meaningful Days

■ Linda Riccio, OTR, and Stacy Nelson, OTR

Participation in daily activities is essential for leading a satisfactory, independent life and important for an older person's well-being. It is necessary for finding both purpose and meaning in life (Haak, Fange, Horstmann, & Iwarsson, 2008). For older adults, one barrier to participation in meaningful activities is urinary incontinence. This condition changes lives; causes isolation; and leads to a loss of dignity, independence, and self-esteem (Reichenbach, 1998b).

The prevalence of urinary incontinence increases with age, and although it should not be considered a normal part of aging, it is one of the major causes of institutionalization among elderly persons (National Committee for Quality Assurance, 2006). Seventy percent of nursing home residents have some degree of incontinence (Jeter, Faller, & Norton, 1990).

For the older adult, urinary incontinence is often underanalyzed by the occupational therapy practitioner. In elderly persons urinary incontinence often is a medically treatable condition outside of the urinary tract (Reichenbach, 1998a). It is important to complete a functional evaluation and identify all underlying impairment areas that may be affected (see Table 1 for examples). A comprehensive evaluation using the *Occupational Therapy Practice Framework: Domain and Process* (American Occupational Therapy Association, 2002) should identify how activity demands (required body functions) and performance skills (process and motor skills) are affecting performance patterns (routines) and areas of occupation (leisure skills or instrumental activities of daily living). The following are types of urinary incontinence that a physician diagnoses and identifies for appropriate intervention strategies within the interdisciplinary clinical team.

Types of Urinary Incontinence

Urge incontinence involves the involuntary loss of urine with an abrupt strong need to void. It occurs with involuntary contractions of the detrusor muscle or uncontrolled urethral relaxation. Neurological disorders that may be associated with urge incontinence are stroke, paraplegia, multiple sclerosis, parkinsonism, or dementia (Palmer, 1996; Reichenbach, 1998a, 1998b).

Stress incontinence is often seen in women; in men, it occurs after transurethral resection of the prostate. Stress incontinence is the involuntary leakage of small amounts of urine with a rise in intra-abdominal pressure that occurs during coughing, sneezing, laughing, and physical activities. Causes include estrogen deficiency, weakness in pelvic floor musculature, urethral sphincter weakness, childbirth, and obesity (Palmer, 1996; Reichenbach, 1998a, 1998b).

Functional incontinence occurs in an older adult with a functionally intact urinary tract. The individual is unable or unwilling to get to the toilet to urinate. Contributing factors include the use of physical restraints, musculoskeletal dysfunction, unavailability of a urinal, visual impairment, impaired mobility, cognitive deficits, unfamiliar environment, and psychosocial difficulties (Palmer, 1996; Reichenbach, 1998a, 1998b).

Overflow incontinence is the involuntary loss of urine secondary to overdistension of the bladder. This condition results in the leakage of small amounts of urine and is caused by an outflow obstruction or a hypotonic bladder. Common causes include medications, neurological conditions such as diabetic neuropathy or spinal cord injury, prostate enlargement, detrusor weakness, or urethra stricture (Palmer, 1996; Reichenbach, 1998a, 1998b).

Mixed incontinence is common in elderly persons and is a combination of the previously mentioned types, usually urge and stress incontinence (Palmer, 1996; Reichenbach, 1998a, 1998b).

Often, clinicians emphasize adaptations for incontinence (i.e., frequent toileting) instead of communicating with the physician to reach a diagnosis and focusing on restoration of functional abilities. For older adults, that approach may compromise their independence, socialization, and role performance. As occupational therapy practitioners, we play a vital role in remediating treatable conditions that affect incontinence. This assistance enables older adults to be actively engaged in their home and community and maintain their quality of life. ■

References

American Occupational Therapy Association. (2002). Occupational therapy practice framework: Domain and process. *American Journal of Occupational Therapy*, 56, 609–639.

Haak, M., Fange, A., Horstmann, V., & Iwarsson, S. (2008). Two dimensions of participation in very old age and their relations to home and neighborhood environments. *American Journal of Occupational Therapy*, 62, 77–86.

Jeter, K., Faller, N., & Norton, C. (1990). *Nursing for continence*. Philadelphia: Saunders.

National Committee for Quality Assurance. (2006). Health plan employer data and information set. In *Specifications for the Medicare health outcomes survey* (Vol. 6, p. 86). Washington, DC: Author.

Palmer, M. (1996). Incontinence: A major problem for patients, a major concern for OBRA. *Nursing Home Medicine*, *4*(9), 260–267.

Reichenbach, V. (1998a, March). Incontinence. *Gerontology Special Interest Section Quarterly Newsletter*, *21*, 1–3.

Reichenbach, V. (1998b, May). From secrecy to self-esteem. Addressing incontinence can restore dignity and independence to clients. *OT Practice*, *3*, 26–29, 32.

Table 1. Treatable Conditions Affecting Incontinence and Functional Evaluation Questions To Consider

Performance Skills and Activity Demands	Performance Patterns and Areas of Occupation
Muscle strength	Does the client have sufficient strength to get out of the chair quickly enough to get to the bathroom?
Vision	Does the toilet contrast enough with the floor?
Cognition	Can the client remember how to locate the bathroom?
Dynamic sitting/ standing balance	Can the client stand safely to manage lower-extremity clothing and perform pericare?
Vestibular function	Does the client become dizzy when going from sit to stand?
Sensation	Does the client have enough sensation in his or her hands to manage clothing?
Endurance	Can the client get to the bathroom in time without taking a rest break?
Sequencing	Can the client sequence the steps of the transfer, clothing management, and pericare?
Coping	Is the client coping appropriately, or is he or she hiding the issue or blaming others?
Gross motor control	Is motor control sufficient to pull up undergarments and pants?
Fine motor coordination	Can the client manage buttons and zippers?

Note. Adapted from American Occupational Therapy Association (2002).

***Linda Riccio**, OTR, is Regional Rehab Director, Peoplefirst Rehabilitation, 8256 La Habra Lane, Indianapolis, Indiana 46236; Linda.Riccio@yahoo.com. She is also Professional Development Coordinator, Gerontology Special Interest Section (GSIS).*

***Stacy Nelson**, OTR, is Clinical Specialist, Aegis Therapies, Rapid City, South Dakota, and a GSIS Advisory Council member; nelsons7@mac.com.*

Riccio, L., & Nelson, S. (2008, December). Urinary incontinence: A barrier to meaningful days. *Gerontology Special Interest Section Quarterly, 31*, 1–2.

Using Evidence To Inform Practice for Urinary Incontinence

■ Natalie Leland Wiatrowski, MS, OTR/L, BCG, Linda Riccio, OTR/L, and Jessica Scheer, PhD

Trudy has been working in a 130-bed skilled nursing facility (SNF) for 2 years since completing her occupational therapy education and training. One day, upon arriving at work, Trudy received a request from the floor nurses for an occupational therapy screen of Mrs. B, an 87-year-old retired high school teacher. Mrs. B had been a resident for 3 years since falling at home, sustaining a hip fracture, and participating in an initial episode of rehabilitation. Mrs. B currently uses a four-wheeled walker, along with a portable oxygen tank that she has been using for about a decade due to chronic obstructive pulmonary disease (COPD). The nursing request form noted that Mrs. B. had been declining in several areas of function over the past month and now refuses to leave her room to attend meals in the dining room or any other facility activities, and that during the previous night, Mrs. B. fell inside the doorway of her dark bathroom.

Trudy first spoke with the unit charge nurse and the certified nursing assistant (CNA) to learn more about Mrs. B's change in status over the past month and the details of her fall. The charge nurse discussed how Mrs. B's incontinence has increased over the past few weeks to the point where more recently Mrs. B has been leaving her room less frequently because she worries about possibly wetting her clothes "for all to see" if she does not get to the bathroom in time. Test results for a urinary tract infection were negative.

The CNA added that Mrs. B. was having occasional difficulty putting on her shoes and taking them off by herself and that she sometimes confused the days of the week. Another CNA reported that Mrs. B was starting to forget to leave the bathroom light on at night, which may have contributed to her fall. The charge nurse reported that the medical staff were running tests to rule out other medical issues.

Trudy went to Mrs. B's room and found her sitting in her lounge chair, squinting while reading the newspaper. The day was overcast, and none of the lights in the room had been turned on. Mrs. B seemed glad to have company and began talking about how it was becoming more difficult to do things for herself, such as getting to the bathroom in time. She described how embarrassed she felt when she had leaked through her incontinence pad. Mrs. B. said that she had worn an incontinence pad in her undergarment for many years, and was adamant about not wanting to wear a larger protection brief:

> I really enjoy spending time with my friends—we eat together or go to the recreation room to listen to music. When I chat with the high school students during bingo games, it reminds me of my days as a teacher. But, I'd rather stay in my room by myself than risk having an accident or wear one of those awful large briefs that make bulges in my clothes.

After obtaining information from the nurse, CNAs, and Mrs. B, Trudy requested a physician order for a skilled occupational therapy evaluation and an intervention program, if needed. Knowing that it would take a few days for the order to come through, Trudy had time to search the Internet for the best available evidence to help address Mrs. B's incontinence and the impact it has had on her participation in desired activities. The search led Trudy to a recently published meta-analysis (Choi, Palmer, & Park, 2007) on the effectiveness of pelvic floor muscle training (PFMT) to treat incontinence in both young and elderly women. PFMT is a program of repeated pelvic floor muscle contractions taught by a health care professional (Burgio, 2004).

Trudy then turned to the Evidence-Based Practice Resource section on the American Occupational Therapy Association's (AOTA's) Web site (www.aota.org) and found the results of a systematic review on the effectiveness of routines for improving the quality of life for clients with Alzheimer's disease, which included several articles on

Gerontology

Special Interest Section Quarterly

(ISSN 1093-717X)

Published quarterly by The American Occupational Therapy Association, Inc., 4720 Montgomery Lane, Bethesda, MD 20814-3425; ajotsis@aota.org (e-mail). Periodicals postage paid at Bethesda, MD. POSTMASTER: Send address changes to *Gerontology Special Interest Section Quarterly*, AOTA, PO Box 31220, Bethesda, MD 20824-1220. Annual membership dues are $225 for OTs, $131 for OTAs, $75 for Student-Plus members, and $53 for Standard Student members. All *SIS Quarterlies* are available to members at www.aota.org. The opinions and positions stated by the contributors are those of the authors and not necessarily those of the editor or AOTA. Sponsorship is accepted on the basis of conformity with AOTA standards. Acceptance of sponsorship does not imply endorsement, official attitude, or position of the editor or AOTA.

toileting routines for persons living in long-term-care facilities (AOTA, 2005). Trudy was confident that the findings from both sources of research evidence, along with her own clinical experience and Mrs. B's preferences, would result in an effective treatment plan for Mrs. B.

What Does the Evidence Say?

The objectives of Choi et al.'s (2007) meta-analysis were to (a) calculate the effect size of PFMT compared to no treatment on two objective outcome measures (incontinent episodes, amount of urine leakage) and one subjective outcome measure (perceived severity of urine loss) and (b) identify the parameters of PFMT and study participants' characteristics influencing the magnitude of the effects. Studies selected for the review ($n = 12$) were randomized controlled trials published between 1980 and 2005.

The meta-analysis found that PFMT was effective in reducing incontinent episodes when compared to no treatment. The results of a subgroup analysis showed with statistical significance that both training lengths (#8 weeks and .8 weeks) were effective and that the difference between the two subgroups was not significant. Authors found that the intervention was effective if clients completed at least 24 pelvic floor muscle contractions daily and if the regimen was maintained for at least 6 weeks. The results of another subgroup analysis found that the effect of PFMT in the younger group (#59 years of age) was significantly greater than that for the older group ($60 years of age); however, PFMT was significantly effective in reducing incontinent episodes in both groups.

The focused question of the critically appraised topic (CAT; AOTA, 2005) was: "What is the evidence for the effectiveness of interventions designed to establish, modify, or maintain routines on the occupational performance, quality of life, health and wellness, and client and caregiver satisfaction of persons with Alzheimer's disease?" Studies were included if they described (a) an intervention based on the use of routine and (b) responses to the use of routine in the course of daily care. Selected studies ($n = 14$) were published between 1994 and 2004 and addressed routines in general (defined as the value of establishing a set of daily occupations in routine ways) and, specifically, toileting and sleep routines.

Several strategies for developing toileting routines for persons with dementia living in long-term-care facilities were described in the three articles on the topic included in the CAT: scheduled toileting (also called *timed voiding*); habit retraining, which is individualized scheduled toileting that includes monitoring and then matching the person's typical toileting schedule; and prompted voiding, an established routine that requires a caregiver to suggest voiding and provide assistance as needed. Some of the studies used a toileting routine in combination with education or medication, whereas others did not. Results of studies included in the CAT note that prompted voiding require that the client recognize the need to void (Eustice, Roe, & Paterson, 2000 [Level I systematic review]; Skelly & Flint, 1995 [Level V]). Based on these studies and the work of Doody et al. (2001), which was also included in the CAT, the CAT authors concluded that either timed voiding or prompted voiding can be beneficial for many persons with dementia who live in long-term-care facilities.

What Are the Implications for Practice?

After receiving physician orders, Trudy completed the evaluation and identified limitations in Mrs. B's functional mobility, self-care, cognition, safety, vision, and the physical environment. Together with Mrs. B, Trudy established client-centered goals that addressed not only incontinence, but also other limitations identified in the evaluation (i.e., bilateral upper-extremity strength, static and dynamic sitting and standing balance for self-care, clothing management, toilet hygiene, functional transfers for toileting). Client-centered goals were also established to improve safety in the environment. Trudy knew from her training in evidence-based practice that she would need to combine the scientific evidence, her clinical expertise, and patient preferences to develop an appropriate intervention plan. This composite was especially important for her work with Mrs. B because neither of the incontinence-related articles exactly fit Mrs. B's profile. Trudy knew that although she could rely on the evidence, she would need to use her wealth of clinical expertise to individualize the intervention program.

During the evaluation, Trudy had identified that Mrs. B had some cognitive deficits but was able to recognize the need to void and follow multi-step directions. Using the evidence from the CAT (AOTA, 2005), which supported the use of toileting schedules for persons who recognize the need to void, Trudy worked with Mrs. B and the CNA staff. Collectively they established the toileting schedule and Trudy educated the staff to use verbal cues to facilitate Mrs. B's initiation of the toileting task. Throughout the skilled occupational therapy treatment sessions, Trudy worked with Mrs. B to establish a toileting program that accommodated activity participation and her daily routine, keeping in mind Mrs. B's goal of returning to valued activities with her friends and local high school students. For a toileting program to be successful, Trudy acknowledged the importance of the entire nursing team and its involvement to ensure that the program is carried out consistently throughout the day. Once the toileting program was established, Trudy provided an in-service to train the unit staff and established a functional maintenance program for Mrs. B that addressed the toileting program.

In addition, she planned to incorporate PFMT into the treatment sessions. Although Trudy was aware of Mrs. B's cognitive impairments, the positive results of PFMT for older women reported in the meta-analysis gave Trudy confidence in recommending that Mrs. B start a PFMT program of at least 24 contractions daily, 7 days a week, for at least the next 6 weeks and possibly longer. Trudy recognized the need for a verbal or visual cue that Mrs. B could independently use to initiate the PFMT program that fit with Mrs. B's daily schedule and could be carried out after she was discharged from occupational therapy services. After trying several approaches, Trudy and Mrs. B found that having a laminated card with a written cue, in large print, placed on top of Mrs. B's daily newspaper enabled her to initiate her exercises. Because the activities department delivered the papers daily to each resident, Trudy provided an in-service to the activities department staff regarding Mrs. B's new routine, to ensure carryover. Mrs. B responded well to the daily program, feeling empowered that she was doing something every day that could help her situation by participating in an intervention that made perfect sense to her.

At the same time that Trudy was establishing the ongoing intervention program, she also made sure that some immediate changes were made to improve Mrs. B's participation in daily activities at the SNF. Besides installing a nightlight in Mrs. B's bathroom, Trudy was able to locate an incontinence brief that was acceptable to Mrs. B. As a result, Mrs. B. felt more comfortable leaving her room and resuming some of her social and leisure interests such as playing bingo.

Trudy was pleased to have developed an intervention plan that was informed by the evidence, resulted in positive outcomes, and increased Mrs. B's participation. ■

References

American Occupational Therapy Association. (2005, August). *Critically appraised topic: Alzheimer's disease* [AOTA Critically Appraised Topics and Papers Series]. Retrieved January 22, 2008, from http://www.aota.org.

Burgio, K. L. (2004). Behavioral treatment options for urinary incontinence. *Gastroenterology, 126,* S82–S89.

Choi, H., Palmer, M. H., & Park, J. (2007). Meta-analysis of pelvic floor muscle training: Randomized controlled trials in incontinent women. *Nursing Research, 56*(4), 226–234.

Doody, R. S., Stevens, J. C., Beck, C., Dubinsky, R. M., Kaye, J. A. Gwyther, L., et al. (2001). Practice parameter—Management of dementia: An evidence-based review: Report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology, 56,* 1154—1166.

Eustice, S., Roe, B., & Paterson, J. (2000). Prompted voiding for the management of urinary incontinence in adults. *Cochrane Database of Systematic Reviews* (Issue 2, Article No. CD002113. DOI: 10.1002/14651858.CD002113).

Skelly, J., & Flint, A. J. (1995). Urinary incontinence associated with dementia. *Journal of the American Geriatrics Society, 43,* 286–294.

Natalie Leland Wiatrowski, *MS, OTR/L, BCG, is Doctoral Candidate, Department of Gerontology, McCormack Graduate School of Policy Studies, University of Massachusetts, Boston; neleland@yahoo.com.*

Linda Riccio, OTR/L, *is Regional Rehab Director, Peoplefirst Rehabilitation, 8256 La Habra Lane, Indianapolis, Indiana 46236; Linda.Riccio@yahoo.com.*

Jessica Scheer, *PhD, is Research Professor, School of Public Health and Health Services, George Washington University, Washington, DC; hcsjxs@gwumc.edu. She is also an AOTA Consultant for the Evidence-Based Practice Project.*

Wiatrowski, N. L., Riccio, L., & Scheer, *J. (2008, December).* Using evidence to inform practice for urinary incontinence. *Gerontology Special Interest Section Quarterly*, 31, 2–4.

The American Occupational Therapy Association, Inc.
PO Box 31220
Bethesda, MD 20824-1220

PERIODICALS
POSTAGE
PAID AT
BETHESDA
MD