

Urinary Incontinence Assessment in Older Adults Part I – Transient Urinary Incontinence

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WHY: Urinary incontinence (UI) is the involuntary loss of urine sufficient to be a bother. Depending on the setting, up to two-thirds of older adults experience UI. Yet, UI should not be considered a normal consequence of aging. Despite available treatment options, UI is not adequately assessed and managed in the older adult population. UI is associated with falls, obesity, skin impairments, urinary tract infections, limited functional status, depression, impaired cognition, poor self-rated health, social isolation, and increased caregiver burden. Proper assessment identifies the type of UI: transient (acute) or established (chronic). *Try This:*[®] UI Part I focuses on assessing for contributing causes of transient UI, which is significantly under addressed both in clinical practice and in the health care literature. *Try This:*[®] UI Part II focuses on established UI. Transient UI is generally defined as a sudden-onset UI that, if left untreated, may lead to established UI.

BEST TOOLS: Whether transient or established UI is suspected, a bladder diary is recommended for collecting information during both assessment and evaluation. There is variation among diaries as to data collected: UI episodes, associated activities during UI episodes, voided volumes, fluid intake, absorbent product usage, and bowel movement episodes. Recent research (Honjo et al., 2009) suggests including urinary perception and feeling of bladder fullness. The mnemonic DIAPPERS (or TOILETED, an alternative mnemonic) provides a framework for focusing the assessment of possible causes of transient UI.

TARGET POPULATION: UI screening is appropriate at any age, but especially for older adults due to increased prevalence. Specific to transient UI, the at-risk patient population includes those with immobility, impaired cognition, depression, certain medication usage (e.g. diuretics and anticholinergics), stool impaction, environmental barriers, diabetes, and estrogen depletion (Fantl et al., 1996; Resnick & Yalla, 1985).

VALIDITY AND RELIABILITY: The bladder diary has not been validated (Bright et al., 2011) but is still considered an important tool to collect historical data essential to the diagnosis and management of UI. A 7-day bladder diary is a reliable tool (Jeyaseelan et al., 2000; Locher et al., 2001), but is challenging to obtain in clinical settings due to its length; a three-day or two-day (Bright et al., 2011; Tincello et al., 2007) diary is more practical. The DIAPPERS or TOILETED mnemonics can be helpful since a valid and reliable tool for distinguishing among possible causes of transient UI is not available.

STRENGTHS AND LIMITATIONS: Bladder diaries, or records, continue to be the standard tool for assessing patterns of UI episodes. While the bladder diary requires validation testing in varied populations, its brevity and ability to be self-administered are strengths for use in clinical settings. Practitioners may find either mnemonic, DIAPPERS or TOILETED, a useful memory aide to recall the most common causes of transient UI.

FOLLOW-UP: Transient UI requires aggressive assessment and treatment of reversible causes. If left untreated, transient UI may transition to established UI. It is essential for nurses to regularly assess for transient UI and treat reversible causes across all health care settings.

MORE ON THE TOPIC:

Best practice information on care of older adults: www.ConsultGerIRN.org.

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Please note: This is an archived guideline for historical purposes.

Honjo, H., Kawachi, A., Ukimura, O., Nakao, M., Kitakoji, H., & Miki, T. (2009). Analysis of bladder diary with urinary perception to assess overactive bladder symptoms in community-dwelling women. *Neurourology and Urodynamics*, 28(8), 982-985.

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Resnick, N.M., & Yalla, S.V. (1985). Management of urinary incontinence in the elderly. *NEJM*, 313, 800-804.

Tincello, D.G., Williams, K.S., Joshi, M., Assassa, R.P., & Abrams, K.R. (2007). Urinary diaries: A comparison of data collected for three days versus seven days. *Obstetrics & Gynecology*, 109(2), 277-280.

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BLADDER DIARY/RECORD - Track a 24-hour time period for several days

	Time Interval	Feeling a Full Bladder	Volume Urinated in Toilet	Incontinent Episode ¹	Reason for Episode ²	Type and Amount of Liquid Intake ³	Bowel Movement	Product Use ⁴
A.M. Hours	12:00–01:00 AM							
	01:00–02:00 AM							
	02:00–03:00 AM							
	03:00–04:00 AM							
	04:00–05:00 AM							
	05:00–06:00 AM							
	06:00–07:00 AM							
	07:00–08:00 AM							
	07:00–08:00 AM							
	09:00–10:00 AM							
	10:00–11:00 AM							
	11:00–12:00 PM							
P.M. Hours	12:00–01:00 PM							
	01:00–02:00 PM							
	02:00–03:00 PM							
	03:00–04:00 PM							
	04:00–05:00 PM							
	05:00–06:00 PM							
	06:00–07:00 PM							
	07:00–08:00 PM							
	08:00–09:00 PM							
	09:00–10:00 PM							
	10:00–11:00 PM							
	11:00–12:00 AM							

¹ **Incontinent episodes:** (++) = SMALL: did not have to change pad/ clothing; (+++) = LARGE: needed to change pad/clothing

² **Examples of reasons for incontinent episodes:** leaked while sneezing; leaked while running to the bathroom

³ **Examples of type and amount of liquid intake:** 12 oz can of cola, 2 cups regular coffee

⁴ **Examples of product use:** pad, undergarment; track times you changed

Adapted from: Fantl, A., Newman, D.K., Colling, J., et al (1996). *Urinary incontinence in adults: Acute and chronic management*. Clinical Practice Guideline No. 2. AHCPR Publication No. 96-0682. Rockville, MD: Agency for Health Care Policy and Research, U.S. Department of Health and Human Services.

Adapted from: U.S. Department of Health and Human Services, National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC) Daily Bladder Diary site (Updated 2010): <http://kidney.niddk.nih.gov/kudiseases/pubs/diary/index.aspx>.

POSSIBLE CAUSES OF TRANSIENT URINARY INCONTINENCE

DIAPPERS

TOILETED

<p>Delirium</p> <p>Infection (e. g., urinary tract infection)</p> <p>Atrophic urethritis or vaginitis</p> <p>Pharmacology (e.g., diuretics, anticholinergics, calcium channel blockers, narcotics, sedatives, alcohol)</p> <p>Psychological disorders (especially depression)</p> <p>Endocrine disorders (e.g., heart failure, uncontrolled diabetes)</p> <p>Restricted mobility (e.g., hip fracture population, environmental barriers, restraints)</p> <p>Stool Impaction</p>	<p>Thin, dry vaginal and urethral epithelium (Atrophic urethritis or vaginitis)</p> <p>Obstruction (Stool Impaction/Constipation)</p> <p>Infection</p> <p>Limited mobility (Restricted mobility)</p> <p>Emotional (Psychological, Depression)</p> <p>Therapeutic medications (Pharmacological)</p> <p>Endocrine disorders</p> <p>Delirium</p> <p>(Information in parenthesis refers to the DIAPPERS mnemonic)</p>
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Source for DIAPPERS mnemonic: Resnick, N.M. & Yalla, S.V. (1985). Management of Urinary Incontinence in the Elderly. *NEJM*, 313(800-804). Copyright 1985 Massachusetts Medical Society. All rights reserved. Adapted with permission.

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CLINICAL NURSING WEBSITE www.ConsultGerIRN.org

Urinary Incontinence Assessment in Older Adults: Part II – Established Urinary Incontinence

By: Annemarie Dowling-Castronovo, PhD(c), RN, GNP, Evelyn L. Spiro School of Nursing Wagner College

WHY: Urinary incontinence (UI) is the involuntary loss of urine sufficient to be a bother. *Try This:* UI Part I highlights the need for evidenced-based assessment and focuses on the initial evaluation for possible causes of transient UI. *Try This:* UI Part II focuses on established (chronic) UI classified as urge, stress, overflow, functional, or a combination of these.

BEST TOOLS: A variety of UI screening tools are available to assist nurses in identifying the type of established UI. Several tools evaluate for specific types of UI (e.g.: urge UI). Two tools, the Urinary Distress Inventory-6 (UDI-6) and the Incontinence Impact Questionnaire-7 (IIQ-7) (Uebersax et al., 1995) are shortened versions of the original UDI and IIQ respectively (Shumaker et al., 1994) and have shown promise in the assessment of health-related quality of life, symptom distress, and in distinguishing among different types of established UI in the clinical setting.

TARGET POPULATION: UI screening is appropriate at any age, but especially for older adults due to increased prevalence. The at-risk patient population includes those with: immobility, impaired cognition, medications, obesity, smoking, fecal impaction, delirium, low fluid intake, environmental barriers, high-impact physical activities, diabetes, stroke, estrogen depletion, and pelvic muscle weakness (Fantl et al., 1996; Holroyd-Leduc & Straus, 2004). Evidenced-based assessment is essential to identify the type of UI.

VALIDITY AND RELIABILITY: The IIQ-7 and UDI-6 are both strongly correlated with original long versions, 0.97 and 0.93 respectfully; both showed significant convergent validity when compared to the pad test and number of incontinent episodes (Uebersax et al., 1995). The long versions demonstrated significant convergent ($r = .09-.52$) and criterion (e.g. discriminated between stress and urge UI; $r=.54$) validity (Shumaker et al., 1994). Question #2 of the UDI-6 demonstrated 83.3% sensitivity and 50.0% specificity for predicting urge UI; question #3 had 84.8% sensitivity and 63.4% specificity for predicting stress UI (Lemack & Zimmern, 1999). These findings suggest that the IIQ-7 and the UDI-6 may be useful as part of the general assessment of UI.

STRENGTHS AND LIMITATIONS: The IIQ-7 and UDI-6 have predominantly been tested in the community-dwelling female population. Both tools have additional testing in Arabic (Altaweel et al., 2009), Turkish (Cam et al., 2007), and Taiwanese women (Huang et al., 2010) populations; their brevity and ability to be self-administered are strengths for clinical use. The UDI-6 guides nurses in determining the type of persistent UI; however, there is no measure for differentiating mixed or functional UI. For the male population, the Male Urogenital Distress Inventory (MUDI) and the Male Urinary Symptom Impact Questionnaire (MUSIQ) (Robinson and Shea, 2002), based on the original IIQ and UDI, are reliable, Cronbach's .89 and .95 respectfully.

FOLLOW-UP: Nurses should utilize current evidence to guide the appropriate assessment, treatment, and management of UI. Once the type of persistent UI is identified, nurses are in the best position to devise an individualized plan of care, which includes healthy bladder behavior skills and collaboration with interdisciplinary team members to promote continence.

MORE ON THE TOPIC:

Best practice information on care of older adults: www.ConsultGerIRN.org.

Altaweel, W., Seyam, R., Mokhtar, A., Kumar, P., & Hanash, K., (2009). Arabic validation of the short form of Urogenital Distress Inventory (UDI-6) questionnaire. *Neurourology and Urodynamics*, 28(4), 330-334.

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Holroyd-Leduc, J.,M. & Straus, S.E. (2004). Management of urinary incontinence in women. *JAMA*, 291(8), 986-995.

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The Incontinence Impact Questionnaire and the Urogenital Distress Inventory. Continence Program in Women (CPW). *Quality of Life Research*,

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UROGENITAL DISTRESS INVENTORY SHORT FORM (UDI-6)

Please answer each question by checking the best response. While answering these questions, please consider your symptoms over the last 3 months. We realize that you may not be having problems in some of these areas, but please fill out this form as completely as possible.

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

INCONTINENCE IMPACT QUESTIONNAIRE-SHORT FORM (IIQ-7)

Some people find that accidental urine loss may affect their activities, relationships, and feelings. The questions below refer to areas in your life that may have been influenced or changed by your problem. For each question, circle the response that best describes how much your activities, relationships, and feelings are being affected by urine leakage.

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

Items 1 and 2 = physical activity; Items 3 and 4 = travel
Item 5 = social/relationships; Items 6 and 7 = emotional health

Scoring: Item responses are assigned values of 0 for “not at all,” 1 for “slightly,” 2 for “moderately,” and 3 for “greatly.” The average score of items responded to is calculated. The average, which ranges from 0 to 3, is multiplied by 33 1/3 to put scores on a scale of 0 to 100.

Reference: Uebersax, J.S., Wyman, J.F., Shumaker, S.A., McClish, D.K., Fantl, J.A., & the Continence Program for Women Research Group. (1995). Short forms to assess life quality and symptom distress for urinary incontinence in women: the Incontinence Impact Questionnaire and the Urogenital Distress Inventory. *Neurology and Urodynamics*, 14(2), 131-139.

The Women’s Health Center of Excellence for Research, Leadership, Education (WHCoE) administers the distribution and use of these two questionnaires. On request, they will send copies of the self-administered instruments (both short and long forms), and scoring materials for each instrument. Requests may be made at the website: <http://www.wakehealth.edu/Research/WHCOE/IIQ-and-UDI-Instrument.htm>.