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Assessment of Transient Urinary Incontinence in Older Adults

*A bladder diary reveals patterns. A mnemonic
structures the search for a cause.*



Ed Eckstein

Overview: Urinary incontinence in older adults is associated with an increased risk of institutionalization, as well as with urinary tract infections and depression. Transient urinary incontinence arises suddenly, lasts less than six months, and results from reversible causes. Many caregivers erroneously consider urinary incontinence to be inevitable in older adults, especially in hospitalized patients. Failure to identify and respond to transient urinary incontinence may lead to established incontinence and to other poor outcomes after hospital discharge. A bladder diary and a mnemonic are two methods nurses can use to assess for transient urinary incontinence and its treatable underlying causes. For a free online video showing nurses using these methods, go to <http://links.lww.com/A311>.



Web Video

Watch a free online video demonstrating the use of the bladder diary and the TOILETED mnemonic in older adults at <http://links.lww.com/A311>.



A Closer Look

Get more information on why it's important for nurses to assess older patients for urinary incontinence.



Try This: The Bladder Diary/Record and the DIAPPERS and TOILETED mnemonics

These are the best practices in their original forms. See page 67.

Eloise Chavez, a 72-year-old widow, lives alone in the two-story house she grew up in. (This case is a composite based on our experience.) She is hospitalized with a foot infection she says resulted from a pedicure she had several days ago. Ms. Chavez has type 2 diabetes, hypertension, and osteoporosis; she also had breast cancer and her left breast has been removed. At 7 AM on the morning after her admission, a nursing assistant finds her on the floor next to her bed. The bed and floor are wet with urine. "I'm all right," Ms. Chavez says. "I just needed to get to the bathroom." After the nurse determines that Ms. Chavez suffered no injuries in the fall, the nursing assistant cleans her, applies an absorbent undergarment, and returns her to bed. Ms. Chavez reluctantly agrees to wear the absorbent brief in case she has another accident. Later that day, Ms. Chavez's daughter says to the charge nurse: "Why is my mom lying in bed with a diaper on? I don't understand. She's never had trouble holding her water."

ASSESSING FOR TRANSIENT URINARY INCONTINENCE

Urinary incontinence may be described as transient (acute) or established (also known as "chronic"). Transient urinary incontinence usually arrives sud-

denly, lasts six months or less, and has reversible causes; however, some cases of acute urinary incontinence, such as those resulting from spinal injuries, are not transient—in other words, they're not reversible. Established urinary incontinence includes subtypes such as stress incontinence, urge incontinence, and functional incontinence.

Nurses often note whether a patient is "continent" or "incontinent" but give little context or detail. Such documentation is not adequate to demonstrate the presence of transient urinary incontinence. Ideally, assessment for transient urinary incontinence begins at admission, when a nurse asks the older adult, "Have you ever leaked urine?" or "Have you ever lost control of your bladder?" (If the patient can't reply, a person familiar with the patient can be asked.) If the answer is yes, the nurse should attempt to determine the duration of the urinary incontinence. (For more information, see *Why Assess for Urinary Incontinence in Hospitalized Older Adults?* page 64.)

If a patient has had an incident, but no apparent history, of urinary incontinence, she or he is more likely to have transient urinary incontinence and the nurse should gather more detailed information and assess for underlying causes. For these purposes, patients can use a *bladder diary* to track and



Why Assess for Urinary Incontinence in Hospitalized Older Adults?

Urinary incontinence is so common among hospitalized older adults and those in long-term care that it's often seen as inevitable. It can contribute to falls and loss of skin integrity and has also been associated with depression and social isolation, increased risk of nursing home placement, and increased strain on family caregivers.¹⁻⁴ The financial costs of incontinence care include staff time for assessment and toileting assistance, clothing and linen changes, incontinence products, catheter care, and laundry services.

Risk factors for urinary incontinence include older age, caffeine intake, limited mobility, impaired cognition, diabetes, medications such as diuretics, obesity, fecal impaction, malnutrition, delirium, Parkinson's disease, stroke, pelvic muscle weakness, and prostate problems.

Hospital discharge records may significantly underreport urinary incontinence. A 1999 study by Berlowitz and colleagues found that although incontinence was present in more than 40% of 17,004 nursing home residents on admission, hospital discharge documen-

tation noted it in only 3.4% of these cases.⁵ The researchers suggested that physicians may influence the underreporting of urinary incontinence because they see it as a sign or symptom rather than as a medical diagnosis or consider it a lower priority than the other conditions older adults may have.

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record urination patterns. And nurses can use the *TOILETED mnemonic* to alert them to possible sources.

A bladder diary, also known as a frequency-volume chart, bladder record, or voiding chart, is the patient's record of daily bladder activity. It can capture real-time objective data on bladder activity, establish baseline function, and track response to interventions. In comparison, the information acquired by retrospective questionnaires, which rely on the patient's or caregiver's memory, may be less accurate. In a bladder diary, each 24-hour period is subdivided into one-to-two-hour time frames. The type of data recorded varies but usually includes at least the following elements (see *Urinary Incontinence Assessment in Older Adults*, page 67):

- the number of urinations in the toilet
- episodes of incontinence and amount of urine leaked
- the reasons for incontinence episode (for example, "had an uncontrollable urge," "leaked when sneezed")
- the type and amount of liquid drunk
- the number of bowel movements
- incontinence pads or other products used

Some bladder diaries also have a column for

additional comments. Those that assess response to treatment, such as exercises to strengthen the pelvic floor muscle, will have a space to record pertinent information, such as the number of exercises performed. Some include a column for recording voided volume, which would have to be filled out by the nursing staff. First, urine is collected, either in a plastic measurement device that fits in the toilet or from a bedside commode, bedpan, or urinal. After it's measured and the amount is recorded in the bladder diary, the nurse can identify maximum, mean, and minimum voided volumes.¹ Voided volume data recorded over a 24-hour period may help to identify nocturia,² a risk factor for urinary incontinence, and data on liquid intake may help to identify a pattern of disproportionate evening fluid intake, which is associated with nocturia.

A three- or seven-day diary can provide a detailed overview of relevant factors and patterns; however, in an acute care setting, it may be more realistic to have the patient complete a one-day bladder diary. The nurse discusses the use of the bladder diary with Ms. Chavez and her daughter: "Ms. Chavez, I'd like you to keep a bladder diary for the next three days. The diary is a record of when you empty your bladder, how much urine you empty, and any episodes of

your bladder emptying before you get to the bathroom. Also, please record what and how much you drink. The diary helps to determine why you're having problems with bladder control, how often it's happening, and how we might help you have better control. This form will make it easy for you to record the information. Do you have any questions?" Ms. Chavez and her daughter have no questions about the diary, so the nurse tells them that she'll check on Ms. Chavez two to three times a day to see how she's doing in completing it.

The TOILETED mnemonic. Because Ms. Chavez has no history of urinary incontinence, her nurse decides to use the TOILETED mnemonic to identify possible contributing factors.

Thin and dry vaginal and urethral epithelium. (The "T" in the mnemonic is specific only to female patients, who should be assessed for vaginitis and urethritis.) While performing hygiene care on Ms. Chavez, the nurse asks about vaginal pruritus and assesses her external genitalia for evidence of vaginal atrophy, such as thin and dry mucous membranes or tenderness and inflammation. The reduced estrogen level common in older women can have a negative effect on their lower urinary tract, causing periurethral tissue to become atrophied, dry, and less elastic.³ Although Ms. Chavez's external vaginal tissue is thin and reveals a loss of subcutaneous fat consistent with atrophy, the skin appears moist, pale pink, and without inflammation.

Obstruction. The nurse should ask the patient about normal bowel patterns and the time of the last bowel movement and perform an abdominal assessment.⁴ A bowel full of stool may be palpable and dull to percussion over the left side of the abdomen. Hyperactive bowel sounds may indicate increased peristaltic activity (above the point of or proximal to the impaction), as the body attempts to move fecal matter. A fecal impaction can compress the urethra, which can result in a distended bladder and small amounts of urine leakage.

If the nurse suspects that the bladder is distended, she or he may conduct a postvoid residual (PVR) urine volume test. The PVR volume should be measured a few minutes after the patient has voided, either by bladder ultrasonography or catheter insertion (a straight catheter is inserted into the bladder and the remaining urine is collected and measured). A PVR volume of more than 100 mL suggests incomplete bladder emptying.

A digital rectal examination is part of the evaluation for fecal impaction and can reveal hardened stool or an absence of fecal matter. Even if no stool is present in the rectum, there may still be an

impaction higher in the colon. An abdominal flat plate radiograph may be needed to determine the degree of impaction.

Ms. Chavez's last bowel movement was prior to admission, about three days ago. She has not complained of abdominal discomfort, and her abdominal examination reveals normal bowel sounds in all quadrants, general abdominal distension with no suprapubic distension or tenderness, no palpable masses, and no dullness on percussion over the left-lower abdominal quadrant. However, semiformal stool is found in her rectum.

Infection. Older adults don't always display the typical signs and symptoms of infection.⁵ When transient urinary incontinence occurs, a urinary

*A fecal impaction can compress
the urethra, which can result
in urine leakage.*

tract infection (UTI), which can cause increased urinary urgency and frequency, should be suspected. The nurse may need to obtain a urine specimen to test for the presence of nitrites and leukocyte esterase, signs of bacteriuria.

Ms. Chavez provides a clean-catch urine specimen, and urinalysis reveals no evidence of a UTI. When a clean-catch specimen cannot be obtained (for example, if the patient has dementia or delirium), the nurse may use the urine dipstick-pad method.⁶ This requires cleansing the perianal area, securing an incontinence pad, and monitoring it hourly until it is wet with urine (but with no feces present). The nurse obtains a specimen for analysis by pressing a urine dipstick into the wettest part of the pad for 10 seconds. A study by Midthun and colleagues comparing this method with clean-catch dipstick analysis among asymptomatic nursing home residents found that the dipstick-pad method was equally effective and had a sensitivity of 70% (versus 67% with the clean-catch method), a specificity of 97% (versus 99%), a positive predictive value of 91% (versus 95%), and a negative predictive value of 90% (versus 89%); both methods had an efficiency of 90%.⁶

Limited mobility. The nurse should assess for restricted mobility and identify any environmental barriers to toileting, such as the distance of the bed

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Watch It

Go to <http://links.lww.com/A311> to watch a nurse use the bladder diary and the TOILETED mnemonic to assess for urinary incontinence in a hospitalized older adult. Then watch the health care team plan interventions.

View this video in its entirety and then apply for CE credit at www.nursingcenter.com/AJNolderadults; click on the How to Try This series link. All videos are free and in a downloadable format (not streaming video) that requires Windows Media Player.

from the toilet, the use of physical restraints, bed rest orders, and the presence of bed rails. The nurse learns that Ms. Chavez has sudden, strong urges to void, especially upon waking, but that at home she always makes it to the bathroom on time. "I must have moved too quickly this morning," she says, explaining the earlier episode. "I panicked because I couldn't hold it anymore." She says she was unable to navigate the bedside table and iv pole and "just lost it and slipped . . . It was so embarrassing . . . my bum foot didn't make it any easier."

Emotional or psychological factors. Research on the relationship between transient urinary incontinence and psychological factors is scant, but depression is strongly associated with chronic urinary incontinence.⁷ Depression in older adults can be determined by using a valid and reliable screening tool (see "The Geriatric Depression Scale: Short Form," October 2007). Ms. Chavez's admission screening for depression, conducted using this simple tool, showed no evidence of depression.

Therapeutic medications may contribute to urinary incontinence in some patients. These include hypnotics, narcotics, tranquilizers, antidepressants, laxatives, diuretics, and antibiotics.⁸ Diuretics, for example, are associated with urinary urgency and frequency. It's important to ask the patient about new medications, both prescribed and over the counter. The night before her episode of urinary incontinence, Ms. Chavez had received the sedative-hypnotic sleep medication temazepam (Restoril), which may have reduced her awareness of the sensations indicating a need to void and also made her less steady crossing the hospital room.

Endocrine disorders. Assess for diabetes, which can result in polyuria. Ms. Chavez has type 2 diabetes and reports that her blood glucose level is often

elevated; at the time of admission it was 315 mg/dL. Diabetic patients with poor glucose control often produce more urine as the kidneys work to rid the body of the excess glucose in the blood. And glucose in the urine is a good medium for the growth of bacteria, which increases the risk of UTI.⁹

Delirium, common in hospitalized older adults, increases the likelihood that a patient will experience episodes of urinary incontinence. Ms. Chavez's nurse used a simple and reliable tool known as the Confusion Assessment Method to assess for the presence of delirium (see "Detecting Delirium," December 2007). Ms. Chavez did not display signs or symptoms of delirium.

UNDERLYING CAUSES: TREATING MS. CHAVEZ

The focused assessment of Ms. Chavez, as guided by the TOILETED mnemonic, reveals five possible underlying causes of her episode of urinary incontinence: the medication temazepam, high blood glucose levels, constipation and fecal impaction, and environmental barriers.

The same day, Ms. Chavez's nurse discusses these findings with the interdisciplinary team during rounds. The team then designs a plan with the following elements: offer Ms. Chavez nonpharmaco-

Glucose in the urine is a good medium for the growth of bacteria.

logic interventions to promote sleep, such as herbal tea, relaxation exercises, and environmental modification; adjust her diabetes medications to achieve optimal glucose control; and administer a laxative likely to produce an effective bowel movement.

Since Ms. Chavez didn't have evidence of bladder distension, the team decides not to perform a PVR volume test. The nursing staff considers the use of a bedside commode; however, Ms. Chavez adamantly rejects that option because she finds a commode distasteful and believes she doesn't need one. To make it safer for Ms. Chavez to walk to the toilet and to increase her mobility, the nurse obtains an order to replace continuous iv fluid administration with intermittent iv fluids. Her nurse also informs the nursing staff about the importance of



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Best Practices in Nursing
Care to Older Adults

from The Hartford Institute for Geriatric Nursing
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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 persistent (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 persistent UI. Transient UI is generally defined as a sudden-onset UI that, if left untreated, may lead to persistent UI.

BEST TOOLS: Whether transient or persistent UI is suspected, the bladder diary is recommended for collecting information concerning UI episodes during both assessment and evaluation. 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: While the 7-day bladder diary is the most studied and reliable tool (Jeyaseelan, et al, 2000; Locher, et al, 2001), it is challenging to obtain in clinical settings; a three-day diary may be more practical. The bladder diary has not been validated in the frail or cognitively impaired older adult population or when completed by caregivers, such as home health aides. 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 additional 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 persistent 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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Urinary Incontinence Assessment in Older Adults

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

	Time Interval	Urinated in Toilet	Incontinent Episode ¹	Reason for Episode ²	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						
	08:00–09:00 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.

POSSIBLE CAUSES OF TRANSIENT URINARY INCONTINENCE

DIAPPERS

Delirium
Infection (e. g., urinary tract infection)
Atrophic urethritis or vaginitis
Pharmacology (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., hip fracture population, environmental barriers, restraints)
Stool Impaction

TOILETED

Thin, dry vaginal and urethral epithelium (Atrophic urethritis or vaginitis)
Obstruction (Stool Impaction/Constipation)
Infection
Limited mobility (Restricted mobility)
Emotional (Psychological, Depression)
Therapeutic medications (Pharmacological)
Endocrine disorders
Delirium

(Information in parenthesis refers to the DIAPPERS mnemonic)

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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DIAPPERS versus TOILETED: A Tale of Two Mnemonics

monitoring and assessing Ms. Chavez's need to urinate during the early morning hours when her fall occurred. In addition, the staff is instructed to avoid the use of adult briefs.

That night, Ms. Chavez chooses to forgo the sleeping pill and try an herbal tea her daughter brings from home. Ms. Chavez has an uneventful night. The same nurse is working the next day, which increases Ms. Chavez's continuity of care. Her glucose levels are improving slightly. During the 24 hours after her postfall assessment, Ms. Chavez fills out the bladder diary. Although she has no episodes of urinary incontinence, she voids seven times during this period, with amounts ranging from 200 to 300 mL. One voiding occurs between 8 AM and 1 PM. She voids twice between 1 PM and midnight and four times between midnight and 8 AM, and she records one bowel movement. (Ms. Chavez's bladder activity may be attributed to changes related to aging, which can cause higher urinary volume during sleep, lower volume during waking hours, and more frequent voiding in smaller amounts.¹⁰)

The data collected in the bladder diary are helpful to the interdisciplinary team. Pending further assessment, they decide not to give Ms. Chavez an anticholinergic medication, which can be effective in controlling urge incontinence, but they recommend that she restrict fluid intake before bedtime.

Ms. Chavez has no further episodes of urinary incontinence while in the hospital. Although she's confident that she won't have any episodes at home, her discharge information includes instructions on urge inhibition, pelvic floor muscle exercises, and bladder retraining. Her nurse also offers her contact information for the National Association for Continence (www.nafc.org), a consumer advocacy organization that offers education and assistance on issues relating to bladder and bowel incontinence.

CHALLENGES

We found no studies on the use of bladder diaries in acute care settings and few studies on the possible challenges of using them in culturally diverse populations. Bladder diaries are a challenge for cognitively impaired older adults who live at home.¹¹ It's important to make the bladder diary readily available in the bathroom or by the bed. That way the diary is convenient and patients are more likely to remember to complete it.

In our experience working with nurses on an acute care unit for older adults, we found that the nurses were pleased to have a mnemonic to guide their assessments but were more likely to use it if it came

Continence pads are often the first-line method in the management of incontinence. The general public, physicians, and nurses often have the misconception that urinary incontinence is inevitable in certain populations of older adults and need not be diagnosed or treated. The DIAPPERS mnemonic,¹ from which the TOILETED mnemonic is adapted, implies an emphasis on containing urinary incontinence through the use of pads and other aids rather than on reversing the problem.

Anecdotal evidence from informal discussions among educators and clinicians working in geriatrics reveals that many do not promote the use of DIAPPERS because they feel the word "diaper" is offensive, that its use perpetuates

- the negative psychological consequences of incontinence.²
- the myth that urinary incontinence is a normal part of aging.
- the negative attitudes about urinary incontinence among health care professionals.

The TOILETED mnemonic relies on the basic assessment categories found in the DIAPPERS mnemonic. However, we chose the new name to emphasize that providing toileting assistance should be the first-line treatment for urinary incontinence rather than the initiation of containment strategies such as continence pads or indwelling urinary catheters. We hope nurses will respond more favorably to the TOILETED mnemonic and will actively promote its use.

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in a readily accessible format, such as a laminated pocket card. Its completion usually doesn't require a complete workup or a great deal of extra time; often, all that's needed is a review of available data from existing laboratory work and admission assessments.

CONSIDER THIS

The TOILETED mnemonic hasn't been psychometrically tested, but extensive research has been conducted on the use of bladder diaries.

What's the Evidence for Using the Bladder Diary and the Toileted Mnemonic? Three systematic reviews revealed considerable variation among the types of bladder diaries studied, the study designs, and sampling methods.¹²⁻¹⁴ Women and older adults made up the majority of study samples. A major limitation of bladder diary research is that it has focused largely on white women. Future research needs to investigate various cultural considerations in the use of the bladder diary.

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Online Resources

This article and the accompanying video constitute the last installment in our *How to Try This* series, which has included 30 articles describing best practices in the assessment and care of older adults. All of the articles and videos, along with additional online-only content, can be accessed at ajnonline.com or at www.nursingcenter.com/AJNolderadults. DVDs of the videos can be purchased through Terra Nova Films at www.terranova.org.

The project was conducted in collaboration with the Hartford Institute for Geriatric Nursing at New York University's College of Nursing. The institute provides a variety of online resources on caring for older adults throughout the health care system. These can be accessed at www.hartfordign.org.

The articles and videos in the *How to Try This* series were developed with the support of a generous grant from the John A. Hartford Foundation, an organization dedicated to improving the health and care of older adults in this country. For more information on the foundation, go to www.jhartfound.org.

- **Reliability.** Research has primarily focused on bladder diaries kept for three to 14 days.¹²⁻¹⁴ Although diaries kept for shorter periods of time are more likely to be completed, the longer they're kept the more reliable related research findings will be.¹⁴ Yap and colleagues found completion rates ranging from 57% to 100% in the studies they examined.¹⁴
- **Validity.** Bladder diaries captured bladder activity more accurately than patient questionnaires, which overestimate the number of voidings and episodes of urinary incontinence.^{12, 13, 15} The relatively scant evidence suggests that the maximum voided amount recorded in a bladder diary may be comparable to the maximum cystometric bladder capacity obtained during urodynamic testing. More than two decades ago (the last significant research in this area), in a study of 200 incontinent women, Diokno and colleagues reported a moderate but statistically significant positive correlation ($r = 0.493$, $P < 0.01$) between the mean maximum voiding recorded in a bladder diary and the mean cystometric bladder capacity.¹⁶

How much patient education does a bladder diary require? Since it's typically a self-reported record, a bladder diary is more likely to be completed if the patient is educated on its use. Robinson and

colleagues found no significant difference between voiding diaries completed after minimal instruction and those completed after intensive instruction.¹⁷ The amount of education needed will almost certainly vary among individuals.

Recording fluid intake and voided volume.

Recording voided volumes in bladder diaries is more common in European countries than in North America, although it's not clear why this is so.^{12, 13} Because invasive urodynamic testing is not always available or advisable, a bladder diary that includes voiding volume provides useful data for assessing bladder activity. There's no standard recommendation on whether fluid intake should be recorded, but that information can help in the detection of patterns that may contribute to urinary incontinence or frequency. It also helps to identify the time between fluid intake and bladder emptying. And recording the types of fluids drunk may help to identify potential bladder irritants such as caffeine and artificial sweeteners. ▼

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