

Urinary incontinence: No one should suffer in silence

MANY PEOPLE would rather suffer silently than discuss their urinary incontinence. The topic is just too embarrassing and unpleasant—and after all, incontinence is a normal part of aging, isn't it?

As a nurse, you know that incontinence is never normal. And you should know that if you don't raise the topic with patients at risk for incontinence, they probably won't talk about it. Knowing what to ask depends on your understanding of how the bladder normally functions and what can go wrong. (See *How the lower urinary tract works*.)

Types of urinary incontinence

Urinary incontinence is a leakage of urine, no matter how much or how often. The National Association for Continence estimates that 25 million Americans have either chronic or transient urinary incontinence—problems that can lead to depression, isolation, diminished self-esteem, and work-related difficulties.

Urinary incontinence and urine retention can result from one or more problems:

- failure of the bladder to store urine
- failure of the bladder to empty adequately
- a combination of failure to store and failure to empty
- sensory problems, such as pain during bladder filling or neurologic disorders that impair stimuli transmission to or from the bladder.

The problem may be acute or chronic. Acute incontinence is the sudden onset of urine leakage caused by physical deficits (arthritis, bladder infection, difficulty ambulating) or environmental factors (delay in answering call lights). When

Ask
the
right
questions
and solve
your patient's
secret problem.

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the physical deficit or environmental factor is corrected, the incontinence disappears. To recall the conditions that cause acute incontinence, use the acronym **DIAPPERS**:

- **D**elirium or confusion
- **I**nfection
- **A**trophic vaginitis
- **P**harmacologic therapy
- **P**sychological problems (depression)
- **R**estricted mobility
- **S**tool impaction.

Chronic incontinence results from a disease process. Types of chronic incontinence include:

- *Stress urinary incontinence* is leakage of small amounts of

urine when intra-abdominal pressure exceeds intraurethral pressure, such as during sneezing, coughing, laughing, or rising from a seated position. Contributing factors include traumatic vaginal birth, low estrogen levels, and lax pelvic floor muscles.

- *Overactive bladder* is characterized by urinary frequency (voiding more than eight times a day) and urgency (a sudden, strong urge to void). This type of incontinence results from involuntary bladder contractions caused by damage to nerves of the bladder, the brain or spinal cord, or the muscles that maintain continence. Overactive bladder is often associated with urge incontinence.
- *Urge incontinence* is leakage of large amounts of urine after a sudden, strong urge to void. It's caused by involuntary bladder contractions, resulting from damage to nerves of the bladder, the brain or spinal cord, or the muscles that maintain continence.
- *Overflow urinary incontinence* is caused by incomplete bladder emptying that results in a spillover of small amounts of urine. Rare in women, this type of incontinence results from an obstruction such as benign prostatic hyperplasia (BPH), diabetic nerve damage, or diseases causing muscle weakness.
- *Mixed urinary incontinence* is a combination of stress incontinence and urge incontinence. Urine retention of more than 50 mL of urine in the bladder after voiding contributes to overflow incontinence. Retention can be caused by ineffective contraction

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LEARNING OBJECTIVES

1. Differentiate the types of urinary incontinence.
2. Describe how to assess the patient with urinary incontinence.
3. List current treatment options for urinary incontinence.



How the lower urinary tract works

The lower urinary tract includes the ureters that carry urine from the kidneys, the bladder, the bladder neck, urinary sphincters, the urethra, and the external orifice of the urethral meatus. A continent bladder has distensible walls and an ability to fill with urine at low pressure. Thus, it can store urine and delay voiding until it's socially appropriate.

As a continent adult bladder reaches about 150 to 300 mL of urine, a person feels the first urge to void. When the volume reaches about 300 to 600 mL, stretch receptors in the bladder wall send intense parasympathetic signals through peripheral nerves to the brainstem. Parasympathetic feedback from the brain via peripheral nerves stimulates the pelvic floor muscles and urinary sphincter to relax and stimulates the bladder detrusor muscle to contract. If voiding is socially appropriate, these actions allow urine to be expelled from the bladder.

of the detrusor bladder muscle, obstruction, tumors in the bladder neck or urethra, or strictures or scar tissue in the urethra. Intrinsic sphincter deficiency may occur after a prostatectomy if the sphincter is damaged above the genitourinary diaphragm. (See *Understanding chronic incontinence*.)

At risk for incontinence

Urinary incontinence has modifiable and nonmodifiable risk factors. Modifiable risk factors include obesity, drugs, pelvic floor laxity, multiple vaginal deliveries, smoking, alcohol use, and caffeine intake. Nonmodifiable risk factors include advancing age, prostate surgery, and pelvic radiation therapy. White women have higher rates of moderate to severe incontinence than African-American women. Other risk factors include environmental factors, such as inaccessible toilets, and physical deficits that impair a person's ability to use the toilet independently. Conditions such as diabetes, multiple sclerosis, and Parkinson's disease as well as poor overall health also put people at risk.

According to the Agency for Healthcare Research and Quality, you should screen these high-risk patients for urinary leakage:

- elderly patients
- frail adults
- patients with a history of stroke, diabetes, obesity, or poor over-

all health

- patients who have multiple comorbidities
- pregnant women
- women after vaginal childbirth
- women with vaginal prolapse
- men after urologic surgery such as prostatectomy
- men who have undergone radiation for prostate cancer.

Asking your patient about incontinence

If a patient complains of leakage, evaluate him or her to exclude the leakage as a symptom of an underlying medical condition. If you suspect urinary incontinence and the leakage developed recently, ask about signs and symptoms of urinary tract infection, such as:

- burning on urination
- suprapubic pressure or discomfort
- blood-tinged urine
- back pain.

An elderly patient may have atypical signs and symptoms, such as a change in behavior or mental status or a decreased appetite, without complaints of dysuria.

If you suspect incomplete bladder emptying, the patient should also be tested for postvoid residual urine, using a bladder scan or a postvoid catheterization. More than 50 mL of residual urine indicates ineffective bladder emptying.

Take a thorough history, asking these questions:

- When did the leakage start?
- How often does it occur?
- Is bowel function regular or do you have a history of constipation?
- Does leakage occur during intercourse?
- Do you notice anything that triggers or increases the leakage: coughing, increased caffeine intake, or a new medication?
- Does anything improve your ability to avoid leakage?

Also, ask about medical conditions and obstetric history, if applicable. Ask the patient if he or she is taking prescribed drugs, over-the-counter drugs, or herbal supplements. Determine the effect leakage is having on your patient by asking a question like, "How much does the leakage affect your life?"

To assess the need for intervention, have the patient keep a voiding diary. When keeping a diary, many patients are surprised by the frequency and amount of leakage and fluid intake. A diary may indicate factors contributing to leakage, such as caffeine intake, activities, and fluids consumed before going to bed.

Zeroing in on the problem

Ask these questions to determine your patient's specific problem:

- Do you experience strong urges to empty your bladder? (urgency)
- In an 8-hour period, how often do you have the urge to empty your bladder? (urgency)
- Do you have difficulty reaching the restroom in time to prevent leakage? (urge incontinence, overactive bladder)
- How often do you have leakage before reaching the restroom? (frequency)
- When you have leakage, does it just dampen your undergarments or require a change of clothes? (urge incontinence, if change of clothes needed)

Understanding chronic incontinence

Problem	Causes	Signs and symptoms
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Failure to store

Stress incontinence	<ul style="list-style-type: none"> • Urethral hypermobility • Urethra or bladder neck displacement • Intrinsic urethral deficiency • Pelvic floor muscle laxity 	<ul style="list-style-type: none"> • Leakage of small volumes with increases in intra-abdominal pressure from coughing, laughing, sneezing, lifting, exercising
Urge incontinence, overactive bladder	<ul style="list-style-type: none"> • Detrusor overactivity • Involuntary bladder contraction (instability) • Low bladder compliance • Decreased bladder capacity 	<ul style="list-style-type: none"> • Urgency with or without leakage • Frequency with or without leakage • Large amount of leakage after strong urge to void
Total incontinence	<ul style="list-style-type: none"> • Sphincter incompetence 	<ul style="list-style-type: none"> • Continuous leakage
Mixed incontinence	<ul style="list-style-type: none"> • Many causes 	<ul style="list-style-type: none"> • Mixed symptoms

Failure to empty

Overflow incontinence, retention (obstructive uropathy), neurogenic bladder	<ul style="list-style-type: none"> • Impaired detrusor contractility • Ineffective (unsustained) contractility • Lesion obstructing urethra or bladder neck • Benign prostatic hyperplasia • Neurologic problem 	<ul style="list-style-type: none"> • Nocturia • Nocturnal enuresis (bedwetting) • Diminished stream • Voiding small volumes • Frequent voiding • Sensation of incomplete emptying • Residual urine
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Sensory disorders

Multiple sclerosis, Parkinson's disease, interstitial cystitis, detrusor-sphincter dyssynergia	<ul style="list-style-type: none"> • Impaired sensation • Pain during filling phase • Sphincter hyperactivity (sphincter contracts as bladder contracts) 	<ul style="list-style-type: none"> • Unaware of leakage • Pain during filling • Pain during voiding
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- Do you routinely wear a pad as protection from leakage? (stress incontinence, urge incontinence, overflow incontinence)
- How many times a night do you get up to empty your bladder? (nocturia, if more than two)
- Do you always wake up in time to prevent leakage? (nocturnal enuresis)
- Do you experience leakage when you laugh, cough, bend, or stand up from a seated position? (stress incontinence)
- Do you have leakage when exercising? (stress incontinence)
- Do you have a strong urge to empty your bladder before the leakage occurs? (urge incontinence)
- Is your urine stream as strong as it used to be? (BPH)
- Do you have frequent urges to empty your bladder? (frequency, urgency, overactive bladder)
- Do you have to wait for the stream to begin? (BPH)
- Do you feel that you completely empty your bladder? (overflow incontinence, BPH)
- Do you experience dribbling after you have emptied your

bladder? (overflow incontinence, BPH)

Examining the patient

If the patient is elderly and frail, check his or her alertness and functional status. For elderly patients, vital signs include orthostatic vital signs because orthostatic symptoms may make patients restrict their mobility.

The examination should also include an assessment of neck movement, specifically lateral rotation and flexion, and a check for wasting of the interosseous muscles of the hands. These changes suggest cervical spondylosis or stenosis with a secondary interruption of the inhibitory tracts to the detrusor, causing detrusor overactivity.

Look for evidence of volume overload, such as rales or pedal edema. Abdominal assessment includes palpating for masses and tenderness. A round, soft, tense mass above the pubic bone indicates bladder distention. Examine the patient's joint mobility and function because impaired mobility can contribute to functional incontinence.

Inspect a woman's vaginal mucosa for atrophy (thinning, pallor, and loss of rugae), which may indicate an estrogen deficiency associated with stress incontinence. Assess pelvic support with a split-speculum exam, removing the top blade of the speculum and holding the bottom blade firmly against the posterior vaginal wall for support. Have the patient cough and note if the urethra remains firmly fixed or swings quickly forward, indicating urethral hypermobility. Also, look for anterior vaginal-wall bulging to or through the level of the hymenal ring, which indicates an anterior-wall support defect or a cystocele. To examine posterior wall support for a rectocele, turn the single blade of the speculum to support the anterior vaginal wall

Drug therapy for urinary incontinence

Indications	Drugs	Actions
Urge incontinence, overactive bladder, mixed incontinence, neurogenic bladder, stress incontinence	<ul style="list-style-type: none"> oxybutynin (Ditropan, Oxytrol) tolterodine (Detrol) imipramine (Tofranil)* darifenacin (Enablex) 	Inhibit contractility, increasing storage
Urge incontinence, overactive bladder, mixed incontinence	<ul style="list-style-type: none"> tropium (Sanctura) solifenacin succinate (VESicare) 	Block acetylcholine receptors
Urine retention	<ul style="list-style-type: none"> bethanechol chloride (Urecholine) 	Stimulate contractility, increasing emptying
Mixed incontinence, stress incontinence, vulvovaginal atrophy	<ul style="list-style-type: none"> pseudoephedrine (Sudafed)* estradiol (Estrace Vaginal) periurethral collagen injection 	Increase bladder outlet resistance
Overactive bladder, urine retention	<ul style="list-style-type: none"> botulinum toxin (Botox)* 	Inhibit acetylcholine release, increasing nerve transmission and local muscle activity

* Off-label use

and have the patient cough again.

Check uncircumcised men for phimosis (tight, unretractable foreskin) and balanitis (inflammation of glans penis). After retraction, return the foreskin to its position to avoid causing phimosis. To rule out masses or fecal impaction in men and women, conduct a rectal examination. In men, also note prostate consistency and symmetry.

A neurologic examination should include assessing cognitive status and motor strength and tone. Also, check perineal sensation, anal-sphincter tone, anal wink (in response to a light scratch of the perineal skin lateral to the anus), and bulbocavernosus reflex (similar anal contraction in response to a light squeeze of the clitoris or glans penis).

Treating incontinence

Intervention for urinary incontinence depends on the type of dysfunction and the patient's age, dexterity, and cooperation. Treat-

ment options include drug and nondrug therapies.

Drug therapy

For stress, urge, or mixed incontinence or overactive bladder, a prescriber will select a drug that promotes the bladder's ability to store urine. If the problem is overflow incontinence, urine retention, or BPH, the selected drug will promote bladder emptying. And if a patient has stress urinary incontinence, a barrier to urine leakage, such as periurethral collagen injections, may be used. (See *Drug therapy for urinary incontinence*.)

Drugs that more selectively target bladder receptors are less likely to cause adverse effects than less selective drugs. For example, oxybutynin (Ditropan, Oxytrol), an anticholinergic that promotes the bladder's ability to store urine by decreasing detrusor contractility, also affects anticholinergic receptors in other parts of the body, such as the saliva glands and sweat glands. Many patients taking

oxybutynin complain of dry mouth and are at risk for overheating during extended sun exposure. By contrast, tolterodine (Detrol) more selectively targets bladder receptors, so patients experience less dry mouth and overheating.

As with any drug therapy, you should know the adverse effects and the interactions with other prescription drugs, over-the-counter drugs, and herbal preparations. If your patient is elderly or has hepatic or renal impairment, some drugs may require a dosage reduction.

Nonpharmacologic therapy

Therapy also includes behavioral interventions in which the patient actively retrains the bladder (habit training) or strengthens the pelvic floor muscles to gain bladder control (Kegel exercises). Other therapies include using devices, such as vaginal weights to strengthen the pelvic floor muscles in women and a penile clamp to prevent postvoid dribbling in men.

Surgery for female incontinence includes bladder suspension with sling procedures and use of vaginal tape. Men with urine retention and overflow incontinence from BPH may undergo transurethral resection of the prostate if using selective prostate alpha-1a adrenergic receptor blockers, such as tamsulosin (Flomax), or alpha-reductase inhibitors, such as dutasteride (Avodart), doesn't work. Using an indwelling urinary catheter to manage urinary incontinence should be the last treatment option reserved for patients with chronic, continual leakage causing skin damage. (See *Using nonpharmacologic therapies*.)

Quality of life

Identifying a patient who has urinary incontinence can lead to a significant improvement in his or her quality of life. Teach these patients and their family members about bladder function and available treatments for urinary incontinence.

Using nonpharmacologic therapies

Indications	Types of therapy	Purpose	Therapy
<ul style="list-style-type: none"> Stress incontinence Urge incontinence Mixed incontinence Urinary retention 	Pelvic-muscle therapy	<ul style="list-style-type: none"> Improve pelvic floor muscle tone Teach patient to relax pelvic floor to promote voiding 	<ul style="list-style-type: none"> Kegel exercises: Regular exercise, tightening and relaxing pelvic floor muscles Biofeedback: Audio or visual signals used with Kegel exercises to make patient aware of pelvic floor muscle contractions and relaxation Vaginal training: Weights held in vagina by contracting pelvic floor muscles Pelvic floor stimulation: Electrical impulses that stimulate pelvic floor muscle contraction used with or without Kegel exercises
<ul style="list-style-type: none"> Urge incontinence Overactive bladder Low bladder-storage capacity 	Behavioral therapy	<ul style="list-style-type: none"> Teach patient to regain bladder control 	<ul style="list-style-type: none"> Bladder training: Resistance of urge to void and scheduled voiding; gradually increasing intervals between voiding to increase bladder capacity Toileting training and habit training: Scheduled or prompted voiding to prevent leakage by emptying the bladder regularly
<ul style="list-style-type: none"> Stress incontinence Mixed incontinence 	Surgery	<ul style="list-style-type: none"> Correct anatomic problems, such as urethral hypermobility with stress incontinence 	<ul style="list-style-type: none"> Sling procedures: Use of lift to support bladder in normal anatomic position and creation of sling to augment bladder-neck resistance to urine leakage
<ul style="list-style-type: none"> Urge incontinence Intractable urinary incontinence 	Other therapies	<ul style="list-style-type: none"> Improve toilet access Aid functional ability Manage fluids and diet Use absorbent products 	<ul style="list-style-type: none"> Prompt answering of call lights Use of canes, walkers, wheelchairs to help get to toilet Use of device to elevate toilet seat Elimination of caffeine and fiber from diet Management of wetness from intractable incontinence

Make sure they understand that incontinence is not a normal part of aging and that it can be successfully treated. ★

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Visit www.AmericanNurseToday.com/journal for a complete list of selected references and an example of a patient voiding diary.

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