

Urinary Incontinence in Elderly Patients: Beyond Detrol™

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2011-2012

Learning objectives

- Determine type of urinary incontinence and appropriate management

Overview

- Urinary Incontinence
 - Types
 - Appropriate evaluation and management

UI: Prevalence & Impact

- Increases with age
- W>M (2:1) until 80yo, then W=M
- Up to 30% comm. elderly; LTC up to 50%
- **Morbidity**: cellulitis, PU, UTI, falls/fx, sleep deprivation, social w/d, depression, sexual dysfunction, dec QOL
 - Not asso'd with inc mortality
 - Inc caregiver burden, ?→ institution
- Estimated UI-related cost:
 - >\$26,000,000,000/yr

Urinary Incontinence

- Not necessarily, abnormal micturition physiology
 - Contenance: multi-factorial
 - Ability to toilet self (physical, cog, motivation, availability)
 - Absence of medical cond, meds, other factors that affect lower U tract fxn, vol status or urine excretion
 - **Geriatric syndrome requiring comprehensive diagnostic evaluation**
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Reversible causes of UI

Condition	Management
<i>Affecting the lower urinary tract</i>	
Urinary tract infection	ABX; consider topical estrogen PMW
Atrophic vaginitis/urethritis	Topical estrogen Rx atrophic vaginitis
Postprostatectomy	Pre-op & Post-op behavioral therapy
Stool impaction	Disimpaction, fiber, mobility and fluids
<i>Increased urine production</i>	
Metabolic (hyper-glycemia, Ca)	Tx DM or hypercalcemia
Excess fluid intake	Reduce excess fluids, esp diuretics (eg, caff, ETOH)
Venous insufficiency with edema, overload	Support stockings; elevation; Na restrict; (<i>diuretic</i>)
Heart failure , overload	Medical therapy
<i>Impaired ability or willingness to reach a toilet</i>	
Delirium	Diagnosis and treatment of underlying cause
Chronic illness, impaired mobility	Address cause; remove restrains. Regular toileting; Accomadate (eg, bedside commode, urinal).
Psychological	Appropriate Tx
<i>Nocturia</i>	
Nocturnal polyuria	PM fluids, ? volume overload, sleep apnea
Sleep disturbance	Sleep hygiene; ? pain, depression, envr, sleep apnea

Meds → UI

More than diuretics!

Medication	Effect on continence
Alcohol	Frequency, urgency, sedation, delirium, immobility
α-Adrenergic agonists	Outlet obstruction (men)
α-Adrenergic blockers	Stress leakage (women)
ACE-inhibitor	Cough → worse stress (? Urge) leakage if impaired sphincter function
Anticholinergics	Impaired emptying, retention, delirium, sedation, constipation, impaction
Antipsychotics	Anticholinergic effects, rigidity, immobility
CCB	Impaired detrusor contractility/retention; pedal edema → nocturnal polyuria
Estrogen	Worsens stress and mixed leakage in women
GABAnergic agents	Pedal edema causing nocturia and nighttime incontinence
Latanoprost	Urge incontinence
Loop diuretics	Polyuria, frequency, urgency
Narcotics	Urinary retention, fecal impaction, sedation, delirium
NSAIDs	Pedal edema causing nocturnal polyuria
Sedative hypnotics	Sedation, delirium, immobility
Thiazolidinediones	Pedal edema causing nocturnal polyuria
TCA	Anticholinergic effects, sedation

Type	Mechanism	Associated factors
Urge	Unstable bladder or detrusor instability (DI)	No neurologic deficit
	Detrusor hyperreflexia (DH), detrusor sphincter dyssynergia (DSD)	With neurologic lesion such as stroke, supraspinal cord lesion, multiple sclerosis
	Detrusor hyperactivity with impaired contractility (DHIC)	Elderly, usually also associated with obstructive or stress symptoms
Stress	Impaired urethral support (female)	Damage to pelvic muscles, nerves, and/or endofascia
	Intrinsic sphincter deficiency (ISD)	Postoperative (after prostatectomy or anti-incontinence surgery), trauma, aging, radiation, congenital (epispadias)
	Neurogenic sphincter deficiency	Neurogenic, sacral, or infrasacral lesion
Overflow	Under-active or acontractile detrusor	Neurogenic (low spinal cord lesion, neuropathy, postradical pelvic surgery), idiopathic detrusor failure
	Outlet obstruction	Male: prostate gland disease, urethral stricture Female: postoperative

Age related changes → UI

Change	Predisposition	Type
Atrophic vaginitis and urethritis	Decreased urethral mucosal seal, irritation, UTI	Urge, Stress
BPH	Prostatic hyperplasia &/or outlet obs → freq, urg, nocturia, DO	Urge, "Overflow"
Decreased ability to postpone voiding	Frequency, urgency, nocturia	New or worse Urge, stress, or mixed
Decreased detrusor contractility	Dec flow rate, hi PVR, hesitancy	"Overflow," Detrusor hyperactivity w/ impair contractility (DHIC)
Decreased total bladder capacity	Frequency, urgency, nocturia	New or worse Urge, Stress, mixed
Detrusor overactivity	Frequency, urgency, nocturia	Urge, mixed, DHIC
Increased post-void residual	Frequency, nocturia	New or worse Urge, Stress, mixed
More UOP later in day	Nocturia	Nocturnal UI

Evaluation of UI

- You have to ask- 50% won't volunteer symptoms
 - Frequency
 - Volume
 - Timing
 - Precipitants (meds, caff, ETOH, activity, cough)
 - Associated factors (bowel/ sexual fxn, med cond, meds)
 - QOL (patient and caregiver)
 - ADLs, social role, emotional, interpersonal, health perception, etc.
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Bladder Diary

This diary will help to see why you have trouble holding your urine or why you go to the bathroom very often.

Keep this record for at least 2 days.

Please write down 4 things every time you pass or leak urine:

1. Time
2. Amount of urine (into "hat" or best guess)
3. Whether you leaked any urine ("wet") or not ("dry")
4. Whether anything special may have caused you to go (ex. coffee, cough, tried to get to bathroom, water pill)

Start the record in the morning the first time you go to the bathroom after you get up.

Please indicate on the form the time you went to bed and the time you got up.

UI: Physical exam

- Volume status
 - Abdominal palpation
 - bladder distention detection insensitive
 - Neuro: Cognition, fxn'l status, cervical signs
 - Rectal: masses, sphincter
 - Gyn: vaginal mucosa, pelvic support
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Evaluation UI: Testing

- Renal function
 - UA
 - *Glucose*
 - *Calcium*
 - *Vitamin B12*
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UI: Management

- Correct if other cause
 - Meds, constipation, co-morbid, etc
 - Step-wise approach (least → most invasive)
 - Try behavioral methods before medications
 - Try meds before surgery
 - Avoid (high fluid intake), caffeine, alcohol, limit pm intake
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UI: Management

- Urge:
 - Behavioral: frequent voiding, retrain to suppress urgency OR habit training and timed voided if cognitive impairment
 - Medication:
 - Anti-muscarinic
 - Oxybutynin (Ditropan™), tolterodine (Detrol™), trospium (Sanctura™), darifenacin (Enblex™), solifenacin (Vesicare™)
 - Similar efficacy, different s/e. Response to one doesn't predict response to others.
 - Anti-cholenergics: avoid due to s/e in elderly
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UI: Management

- Stress
 - Pelvic Muscle exercise to strengthen urethral support mm. Ensure proper technique.
 - Pessaries may benefit if prolapsed
 - Oral estrogen not found to be effective
 - Duloxetine (NSSRI) may be helpful, limited by s/e
 - Surgery provides highest cure rate in women, based on proper patient selection
 - Men: post-prostatectomy declines in 6-12 mos
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“DRIP”

- **D**
 - Drugs (any agent that impairs cognition, mobility, bladder contractility, fluid balance)
 - Delirium
- **R**
 - Restricted mobility
 - Retention
- **I**
 - Infection
 - Impaction (fecal)
 - Inflammation (atrophic urethritis, vaginitis)
- **P**
 - Polyuric states (CHF, diabetes, hypercalcemia)
 - Polydipsia



“DIAPERS”

- Delirium
 - Infection
 - Atrophic Changes
 - Pharmacologic, psychologic
 - Endocrine, excess urine output
 - Restricted mobility
 - Stool impaction
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Cases

Mr. C.

- A 77 yo man screens positive for urinary incontinence at a routine clinic visit. He relates 6 months of frequent small-volume urine loss occasionally if he bends over and at times when he sneezes.
 - He notes some urinary hesitancy and occasionally has a sense of incomplete emptying. He awakens to urinate one or two times a night but has no dysuria or constipation.
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Mr. C.

- **PMHx**: HTN treated with HCTZ, large joint OA managed with celecoxib and acetaminophen with codeine, and depression treated with nortriptyline.
 - **Exam**: VS (supine, standing) and heart and lungs are normal. Lower extremity strength and sensation are intact. Sphincter tone is normal, and the prostate gland is soft and normal in size.
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Mr. C.

- UA shows 1+ glucose and 1+ protein but no cellular elements
 - BMP is normal; random serum glucose is 138mg/dL
 - PVR is 100mL
 - < 50 is normal (for board purposes)
 - < 200mL is considered adequate (for practical purposes)
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Mr. C.

- Which of the following are the most likely cause and most appropriate intervention for this patient's urinary incontinence?
 - A. Overflow incontinence; stop nortriptyline and codeine
 - B. Stress incontinence; stop HCTZ
 - C. Overflow incontinence; stop nortriptyline and start finasteride
 - D. Stress incontinence; teach timed voids and Kegel exercises
 - E. Overflow incontinence; treat diabetes
-

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Ms. R.

- An 82 yo woman returns to your office because of urinary incontinence and recurrent UTI's that she first related a few months ago.
- She notes urinary frequency and daily low-volume urine loss, usually when she coughs or sneezes, that have been present for over a year

Ms. R.

- She has also had three episodes of bladder infections over the past 15 months that resolved with antibiotic therapy; but seem to recur every few months despite her drinking cranberry juice.
 - She does not now have symptoms of urinary urgency or dysuria.
 - PMHx: SVT, well-controlled with low-dose atenolol
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Ms. R.

- Prior pelvic exam revealed a small cystocele and moderate to severe atrophic changes
 - UA: 5-10 WBCs/HPF; nitrite (+)
 - UCx: normal Gm positive flora
 - At her initial visit you recommended Kegel exercises and timed voids, but they have not helped her incontinence as much as desired.
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Ms. R.

- What is the most appropriate pharmacologic intervention at this time?
 - A. A trial of pseudoephedrine
 - B. A course of Abx
 - C. A trial of imiprimine
 - D. A trial of oxybutinin
 - E. A trial of topical estrogen
-

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 - **E. A trial of topical estrogen**
-

Ms. B

- 77 yo PMH HTN, DM2, OA presents for PCP visit after recent discharge for left hip repair
 - States generally feeling well, no pain in hip. Patient has no complaints
 - Daughter, however, stops you in the hall to note that “mom has been more confused and sleepy over past few days.”
 - What else do you want to know?
-

Ms. B

- Ms. B had routine scheduled L THA done 10 days ago, recovered well post-op, and was discharged home to continue with PT recovery.
 - Daughter has been staying with her and notes that the first few days she was great, but over the past week, more irritable, dosing off during the day, intermittently confused.
 - Meds: HCTZ 25 mg qd, Vicodin 5/325 2 tabs q6 prn pain, Colace
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Ms. B

- PE: 118/62, 85, 12, 98%
 - Gen: Alert, fully conversant
 - HEENT: dry mucous mb
 - CV: RRR, no M/R/G
 - Lungs: CTA B
 - Abd: Distended, nl BS, no T/G/R
 - Ext: no edema, 2+ pulses
 - Neuro: A&O to person, place only. MMSE: 26/30, but difficult to get her to focus on it
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What's wrong with Ms. B?

- Delirious
 - Decrease attention, acute change in cognition with wax/ wane pattern
 - DDX: broad; so more H&P
 - PCP noted distended abdomen, asked re: BM. Neither patient nor daughter recalled her last normal BM, did note some loose stool, small volume over past few days, as well as some UI.
 - Rectal exam: stool impaction
 - AXR: next slide
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Ms. B AXR



Ms. B

- Decreased colonic motility from post-op narcotics, perhaps contributed to by diuretic
 - Colace: softens stool, but does not contribute to decreased motility
 - Impaction led to urinary incontinence
 - Resolution: dis-impacted in clinic, started on Senna while on narcotics, increased dietary fiber and held HCTZ. Returned to normal BM in 2 days and delirium cleared over the next 2 weeks. Resolution of urinary incontinence
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