INCONTINENCE

Pre-test Questions

1. An 85-year-old man with a history of benign prostatic hyperplasia with no history of prostate cancer or prostate procedures comes into your outpatient clinic complaining of chronic incontinence. He says he is frustrated because he is nearly always wet and doesn’t notice when he is about to become incontinent. When he does go to the bathroom to void, he has difficulty initiating a urinary stream and has some dribbling afterward.

What type of incontinence does the patient most likely have?

a. Urge incontinence  
b. Stress incontinence  
c. Overflow incontinence  
d. Transient incontinence from a urinary tract infection  
e. Functional incontinence

2. A 70-year-old woman with a history of congestive heart failure and diabetes mellitus is seen in your clinic because of frequent episodes of incontinence. She says that these episodes happen without warning, usually in the context of coughing or sneezing.

Which of these interventions is the most likely to help with her incontinence?

a. Tolterodine  
b. Topical estrogen  
c. Pelvic muscle exercises  
d. Tamsulosin  
e. Augmentation cystoplasty

3. You are the new primary care physician for a 78-year-old man with advanced Alzheimer’s disease who lives in a nursing home. Other than his dementia, he is relatively healthy and is able to participate in group activities. His nurse is very concerned about his chronic incontinence. She states that, since he has been admitted, he has chronically been wetting his diaper. She noticed skin breakdown in his perineal area and would like treatment for his incontinence.

What would be the initial best treatment?

a. Pelvic muscle exercises  
b. Tolterodine  
c. Indwelling urinary catheter  
d. Set voiding schedule; encourage patient to get up and void  
e. Doxazosin
Vignette

A 78-year-old man has a past medical history of diet-controlled diabetes and hypertension, and ischemic stroke 2 years ago. He has no residual neurological deficits from his stroke and had no history of post-stroke bowel or bladder incontinence.

He comes to your office today complaining of a 4-month history of “leaky urine.” He says it happens any time during the day or night and usually involves only a small amount of urine. He reports no issues with getting to the bathroom or mobility and is always fully aware when he has to urinate. When asked to describe his symptoms and frequency, he reports a strong urgency, with difficult initiation and weak stream. He reports urinating up to 8 times per day and at least twice in the evening. “I feel like my bladder is never empty, like there is a constant pressure feeling.” “Sometimes I have to strain to get it out and have cramps in my lower stomach.”

He reports that he was treated by his previous doctor with antibiotics a month ago, but treatment didn’t change any of the symptoms or pain. Patient denies any foul-smelling or discolored urine, hematuria, fevers, previous back or pelvic surgeries, and neurological diseases. He is married and denies any extramarital affairs and denies prior history of STDs or genital lesions. He does not take any medication; however, last week he took pseudoephedrine for some nasal congestion and did not leak all day. He denies inciting factors such as laughter, coughing, or sneezing.

Tasks, part 1

1. What is the most likely cause of urinary incontinence (UI)? What type of UI does he most likely have?

2. Identify the appropriate UI work-up.
**Subsequent course**

Basic blood work was done. CBC, electrolytes, and liver function tests were all normal. Urinalysis was negative for blood, glucose, or bacteria. BUN 18 and Cr 1.2 revealed mild kidney compromise. BUN/Cr ratio is 15:1, PSA is 4.6.

**Tasks, part 2**

3. What would you expect urodynamic studies to show?

4. What is the treatment for this type of UI?
Resources

Emory University Geriatric Medicine Resource Module. Urinary Incontinence.
http://www.medicine.emory.edu/divisions/geriatrics/education/edu_resources/modules/Urinary_Incontinence.cfm

http://www.guideline.gov/content.aspx?id=14817


http://consultgerirn.org/uploads/File/trythis/try_this_11_2.pdf

Bradway C. Evaluation and Management of Urinary Incontinence in Older Adults [slide presentation].
https://umconnect.umn.edu/p21535432/


http://www.ahrq.gov/clinic/uiovervw.htm

International Continence Society
http://www.icsoffice.org/ASPNET_Membership/Membership/Home.aspx

American Urological Association
http://www.auanet.org

Canadian Urological Association
http://www.cua.org
Post-test Questions

1. What is the most common cause of urinary incontinence in an elderly patient?
   a. Functional
   b. Infection
   c. Drugs
   d. Dementia
   e. Constipation

2. All the following are common side effects of bladder relaxant medication except:
   a. Urinary retention
   b. Constipation
   c. Blurry vision
   d. Diaphoresis
   e. Gastroesophageal reflux

3. Which is true regarding the normal control of urine storage?
   a. The intravesicular pressure increases to a threshold pressure as the bladder slowly fills.
   b. Reflex activation of the parasympathetic innervation of the detrusor during filling prevents bladder contraction and facilitates storage.
   c. Both the internal and external sphincters must remain closed during filling for continence.
   d. Pelvic nerve afferents monitor the bladder volume.
   e. Sensory urgency is associated with an acontractile bladder.

4. Which of the following statements regarding lower urinary tract dysfunction after cerebrovascular accidents is correct?
   a. A correlation between urinary incontinence following a stroke and prognosis has not been shown.
   b. The majority of patients with internal capsular CVA have uninhibited relaxation of the sphincter during involuntary bladder contractions.
   c. In the acute phase of a CVA, the commonest urodynamic abnormality is detrusor hypocontractility.
   d. A disturbance of bladder control is commoner following a posterior than an anterior cerebral infarct.
   e. In patients with persisting urinary symptoms post-CVA, urodynamic studies correlate well with the site and size of the lesion.
5. All the following are associated with an increased incidence of urinary incontinence except:
   a. Age
   b. Obesity
   c. Chronic cough
   d. Indwelling catheter
   e. Peripheral nerve injury

6. Which of the following is true of urge incontinence?
   a. Increased innervation and control of bladder function resulting in involuntary bladder contraction
   b. Decreased innervation and control of bladder function resulting in involuntary bladder contraction
   c. Decreased innervation and loss of bladder control resulting in voluntary bladder contraction
   d. Decreased innervation and loss of bladder control resulting in bladder atrophy
   e. Increased innervation and control of bladder function resulting in bladder spasm
Answer Key — Post-test Questions

1. — b
2. — e
3. — d
4. — b
5. — d
6. — a

Answer Key — Vignette Tasks

What is the most likely cause of urinary incontinence (UI)? What type of UI does he most likely have? Benign prostatic hyperplasia is the most likely etiology for his UI. He has overactive bladder incontinence.

Identify the appropriate UI work-up. Basic components of UI evaluation include history of the problem, situation in which it occurs, medical history, bowel and bladder habits, symptoms, and lifestyle behaviors. Physical exam. CBC, BMP, LFTs, PSA, UA and urine culture, thyroid function, and glucose tests. Further work-up includes postvoid residuals, renal ultrasound, and urodynamic studies. Additional testing could include renal ultrasound to rule out hydronephrosis and kidney stones, and postvoid residuals to monitor urinary retention secondary to enlarged prostate or urethral blockage.

What would you expect urodynamic studies to show? Urodynamic and pressure flow studies would reveal a high detrusor pressure with good bladder contractility, poor flow rate, elevated postvoid residuals, elevated voiding pressure, and possible ureteral reflux.

What is the treatment for this type of UI? Overactive bladder is treated primarily with behavioral interventions, followed by drug therapy. Prompted voiding or scheduled toileting is most appropriate. In addition, bladder training, pelvic muscle exercises, biofeedback, and lifestyle changes are effective. These all require learning, memory, practice, and incorporation into daily living. Pharmacologic treatment includes alpha-1 blockers, which relax smooth muscle in the prostate and bladder neck, decreasing blockage of urine flow. Common side effects include orthostatic hypotension, nasal congestion, ejaculation changes, and weakness. In addition, 5-alpha-reductase inhibitors inhibit dihydrotestosterone, which is responsible for prostate enlargement, and antimuscarinics decrease acetylcholine effects on bladder smooth muscle, helping with control.