Evaluation and Management of Urinary Incontinence

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DISCLOSURES

- I do not have any relevant financial relationships with any commercial interests.

Case Introduction:
Mrs. Jones is a 76 year-old woman who came in today for osteoporosis therapy renewal. She is new to your practice. She has no acute concerns, and you concur with her current medication use.

As your patient encounter comes to an end, she confides in you that she has problems controlling her urine. She reports that she seldom leaves home and always knows where the bathrooms are located. She pleads for assistance stating, “I need help so that I’ll be able to attend my niece's college graduation.”

Reported prevalence rates of UI vary depending on:

- Population studied
- Definition of UI
- How the information is obtained

Demographics of UI

- Overall prevalence is 15-30% of non-institutionalized 60+ year olds
- Prevalence nearly 50% of NH residents
- Women have twice the prevalence of men
- Less than half of community dwelling UI sufferers consult healthcare providers
- Direct costs of UI management
  - $7 billion annually in community
  - $3.3 billion annually in NH

Definition of Incontinence:

The involuntary loss of enough urine to cause social or hygienic problems.

Requirements for Continence

- Mentation
- Motivation
- Mobility
- Manual Dexterity
- Proper Lower Urinary Tract Function

Normal Changes Which Predispose the Elderly to Incontinence

DECREASED

- Bladder Capacity
- Inhibitory Ability
- Urethral Closing Pressure

INCREASED

- Residual Volume
- Uninhibited Detrusor Contractions

Incontinence is *not* a normal part of aging.

What diagnostic tests would you perform?

Per AHCPR Guideline:

- **thorough history**
- **relevant physical examination**
- **voiding diary**
- **urinalysis**
- **post void residual**

2 Major Types of Incontinence

- Transient (reversible)
- Established (chronic)

Transient Incontinence
(Normal Lower Urinary Tract)

- D Drugs
- R Restricted Mobility
- I Infection
- P Polyuria
- D Dietary
- R Retention of Feces
- I Inflammation
- P Psychological

Drugs/Dietary Contributors to Incontinence

Decreased Storage

- Alpha blockers
- Beta blockers
- Cholinergic agents
- Diuretics
  - Caffeine
  - ETOH
- Artificial sweeteners, citrus, carbonation

Increased Retention

- Alpha agonists
- Beta agonists
- Anticholinergic agents
- Ca channel blockers
- Narcotics

Voiding Diary: Purpose

- Assess severity
- Determine precipitating events
- Identify fluid intake patterns
- Identify voiding patterns

- Diary demonstrates concern is taken seriously
- Provides objective information for subjective complaint
- Establishes baseline data
- Facilitates self-management of lifestyle / dietary contributors

Mrs. Jones' Voiding Diary

Time	Voided	Accident	Pad change	Activity
6-8am	X			breakfast
8-10am	X	small		
10am-12pm	X		X	meeting
12-2pm	X			lunch
…..				
overnight	XXXX		X	

Established Incontinence

- 1. Normal lower urinary tract
  - FUNCTIONAL INCONTINENCE
- 2. Abnormal lower urinary tract
  - URGE
  - STRESS
  - OVERFLOW
    - NEUROGENIC
    - OBSTRUCTIVE

Functional Incontinence

Anatomy and Physiology of the Bladder are Normal

We are preventing normal function

OR

The patient has a disease preventing normal function

Lower Urinary Tract Impairments of Function

	Store	Release
Bladder	URGE	OVERFLOW
Urethra	STRESS	OBSTRUCTIVE

PVR 0-100 | PVR | PVR > 200

Urge Incontinence

aka: Detrusor Instability, Detrusor Hyperactivity, Detrusor Overactivity

Most common etiology

Frequent voiding of moderate amounts

Problem occurs day and night

Normal PVR

Stress Incontinence

Leakage of small amounts of urine with increased abdominal pressure

Dry at night

Normal PVR

Neurogenic Overflow Incontinence
aka: Myopathic

- Detrusor contractions weakened by muscular or neurologic disease
- Frequent loss of small to moderate amounts
- Occurs day and night
- Increased PVR

Obstructive Overflow Incontinence

- Elimination incomplete from urethral blockage
- Primarily men with prostate disease
- Frequent loss of small to moderate amounts
- Occurs day and night
- Increased PVR

Back to Mrs. Jones…..

- What type of UI does she appear to have?

Mr I.P. Alot is a 72 year old man who complains of one month history of progressive difficulty initiating urination, weak stream, incomplete emptying, frequency, urgency, and abdominal discomfort. He leaks small amounts of urine frequently.

Mr I.P. Alot has a history of hypertension and benign prostatic hypertrophy.

His medications include:
Metoprolol 25mg bid
Elavil 25mg qHS
Tylenol 650mg prn

67 year old man with a history of hypertension, BPH, prostate cancer s/p radical prostatectomy reports small volume urinary incontinence interferes with his work as a handy man.

Back to Mrs. Jones…..

- What type of UI does she appear to have? Answer: URGE
- What therapies would you recommend?

Major Categories of UI Treatment

- Behavioral
- Pharmacological
- Surgical

Approaches to UI Treatment

Per AHCPR Guideline:

- Start with behavioral or pharmacological approach
- Patient preference/motivation must be considered in treatment selection

Behavioral Techniques

- Toileting Assistance
- Bladder Training
- Pelvic Muscle Rehabilitation

Toileting Assistance

- Scheduled toileting- provided by the caregiver on a fixed schedule
- Habit training- toileting scheduled to match the patient's voiding pattern
- Prompted voiding- scheduled voiding that requires prompting from caregiver

Bladder Training

Requires the patient to resist or inhibit the sensation of urgency, postpone voiding, and urinate according to a timetable

Pelvic Muscle Rehabilitation

- **Pelvic muscle exercises-** active exercises to increase periurethral muscle strength
- **Biofeedback-** use of electronic or mechanical instruments to display information about neuromuscular and/or bladder activity
- **Electrical stimulation-** use of electrical current to sacral and pudendal afferent fibers to inhibit bladder instability and improve sphincter and levator ani contractility

Pharmacologic Treatment : URGE

- Anticholinergic agents (first line)
  - Darifenacin
  - Oxybutinin
  - Solifenacin
  - Tolterodine
  - Trospium

Pharmacologic Treatment : STRESS

- Alpha-adrenergic agonists
  - phenylpropanolamine, pseudoephedrine
- Estrogen therapy
- Imipramine
- Duloxetine

Pharmacologic Treatment : Overflow

Alpha-adrenergic antagonists

- Nonselective
  - phenoxybenzamine
- Selective α_1
  - prazosin
- Long Acting Selective α_1
  - terazosin
  - doxazosin
- Long Acting α_{1A} Subtype Selective
  - tamsulosin

Alternative Management & Supportive Measures

- Intermittent catheterization
- Indwelling urethral catheterization
- Suprapubic catheters
- External collection systems
- Penile compression devices
- Pelvic organ support devices
- Absorbent pads or garments

When would you consider referral to a specialist?

- Uncertain diagnosis
- Failure to respond to an adequate therapeutic trial
- Hematuria without infection
- Recurrent symptomatic UTIs
- Abnormal PVR

Where can you get help?

- Urology
- Gynecology
- Geriatrics
- Physical therapy
- Clinical nurse specialist

Collaborative Management of UI

- Deliver large amounts of patient education, repeat information over time
- Lead patient through a series of informed decisions about diagnostic and therapeutic options
- Provide self management skills

- Professional tools, patient forms, patient education handouts are available at www.gericareonline.net and www.americangeriatrics.org