

# **Urinary Incontinence in the Elderly**

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**ACP Colorado Chapter Meeting**

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**MSFM**

**Jeff Wallace MD, MPH**

**Professor, Division of Geriatric Medicine**

**University of Colorado Health Sciences Center**

**Denver CO**

# Disclosures

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**No conflicts of interest**

# Urinary Incontinence Learning Objectives

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- **Identify different types of urinary incontinence based on clinical assessments**
- **Describe initial management strategies for incontinence in older adults**
- **Recognize the limited role of pharmacologic interventions for managing urinary incontinence**
- **Determine when referral to a urologic or gynecologic specialist is indicated**

# Incontinence Good News Up Front: A Geriatric Condition We Can Often Cure



"It makes you look fifty years younger."

# **L01/Q1: Identify different types of urinary incontinence based on clinical assessments**

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- **1<sup>st</sup> step is to identify pts with UI**
- **Despite high prevalence rates (1/3) that ↑ w/age 50+% pts do not c/o & MDs often do not inquire**
- **Quality improvement project inquired re: UI ---**
  - **“Do you have a problem with urinary incontinence that is bothersome enough that you would like to know more about how it could be treated?”**
- **↑<sup>ed</sup> appropriate care by 15% in pts aged 75+**

# Clinical Classification of UI

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Now that you have identified pts with UI ---

- **Categorize into 1 of the 4 types of UI**

- **Urinary urge incontinence (UUI)**
  - **Stress urinary incontinence (SUI)**
  - **Overflow**
  - **Functional, eg cognitive or physical impairment**
- } **Mixed #1  
among older  
women**

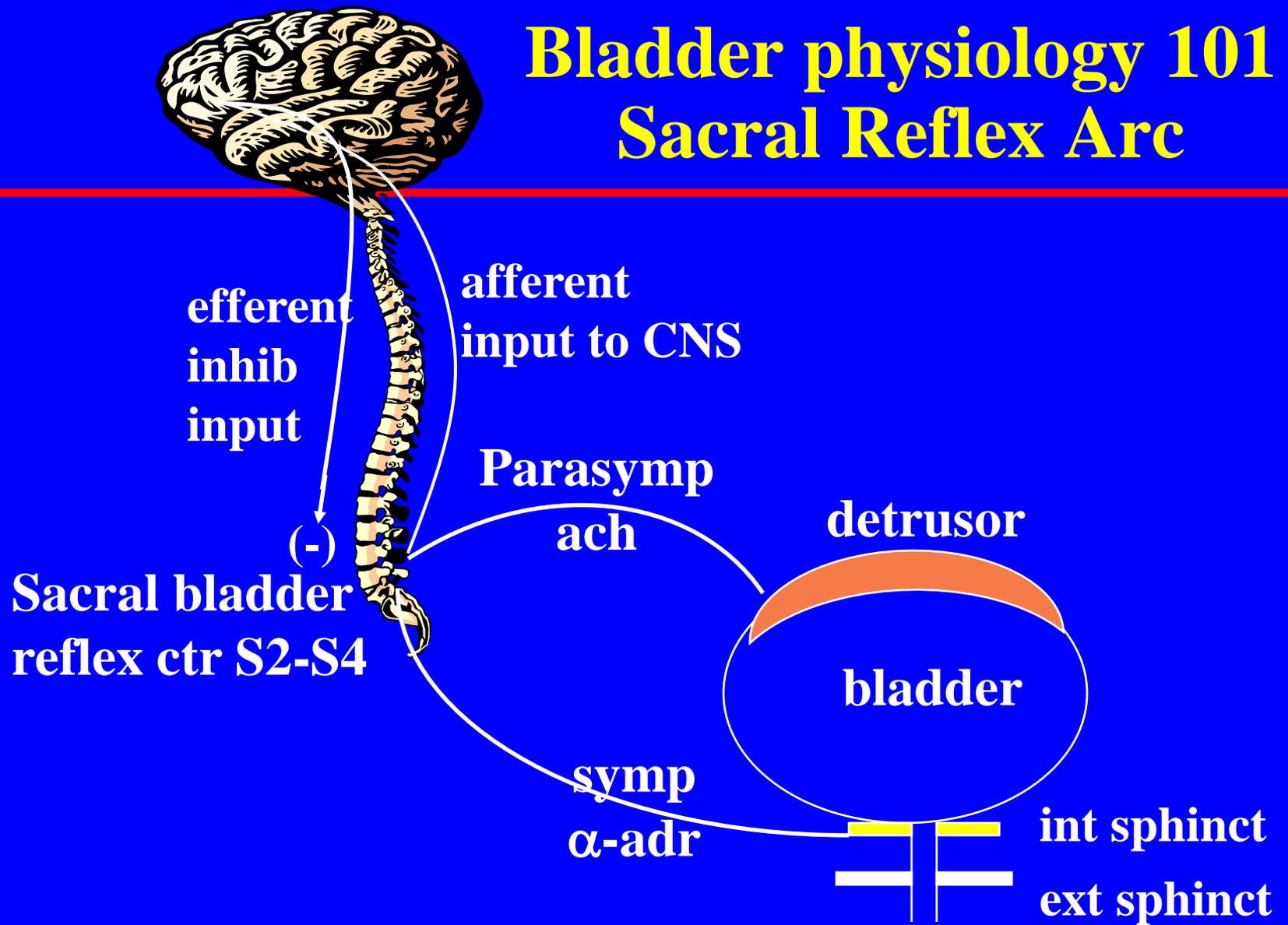
# Urge Incontinence (“overactive bladder”)

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- **Most common type of UI in older persons**
- **Hx is key: sign/sxms of early/excessive bladder contractions**
  - **Abrupt urgency**
  - **Frequency**
  - **Volume of leakage may be large or small**
- **Need to understand bladder physiology**

# Bladder physiology 101

## Sacral Reflex Arc



# Urge Incontinence Etiology

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## **Detrusor hyperreflexia (2/3 of UUI)**

- **↓ CNS inhibition of sacral reflex arc**
- **Age related or idiopathic**
- **Due to lesion in central inhibitory pathway (eg, CVA, AD, PD, NPH, cervical &/or lumbar stenosis)**

# Urge Incontinence Etiology

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## Detrusor instability

- **Due to local bladder irritation**
  - **UTI**
  - **Bladder stones or tumors**
  - **Other inflammation (interstitial cystitis)**
  - **U/A will be (+) for RBCs &/or WBCs**
- **BPH (detrusor hypertrophy)**

# Stress Incontinence

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- **Primarily affects women**
- **Results from failure of sphincter mechanisms to preserve outlet closure during bladder filling**
  - **Anatomic  $\Delta$ 's s/p childbearing**
  - **$\downarrow$  pelvic floor support, atrophic  $\Delta$ 's, obesity**
- **Sxms: episodic leakage w/ $\uparrow$  intra-abdominal pressure in absence of bladder contraction**
  - **bend, cough, laugh, sneeze, exertion**

# Overflow Incontinence

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- PVR is elevated – nl < 30 cc, **overflow > 100cc**
- Results from detrusor underactivity, bladder outlet obstruction, or both
- Sxms
  - leakage is usually small volume
  - may be continual if PVR near capacity (eg 500ml)
  - dribbling, weak urinary stream, intermittency, hesitancy, etc



# Overflow incontinence

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- **Detrusor underactivity due to**
  - **meds!!!** (eg, anticholinergics, opiates, calcium channel blockers, TCAs, etc)
  - **neurologic** (eg, autonomic neuropathy)
  - **mechanical damage to spinal detrusor nerves** (e.g., disc herniation, spinal stenosis, tumor)
- **Bladder outlet obstruction**
  - **BPH, surgery, stricture, large prolapse**



# Completing The Medical Evaluation of UI

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- **Medical hx in addition to leakage pattern**
  - **Meds: eg, anticholinergic, opiates, TCA**
  - **Med dx's: DM, CHF, CVA, etc**
- **Physical examination**
  - **neurologic (lower ext, sacral dermatomes)**
  - **rectal (tone, mass, prostate, impaction)**
  - **pelvic (prolapse, atrophic/inflammatory Δs)**

# Medical Evaluation of UI

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- **Studies**

- **U/A: r/o infection, inflammation, hematuria**
- **PVR**
- **Select labs: glucose, Ca<sup>++</sup>**



# L02/Q2: Describe initial management strategies for incontinence in older adults

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## UI Management Overview

- Correct underlying medical illnesses and **medications** that may contribute to UI
- Start with least invasive treatments
  - behavioral
  - medications
  - procedures/surgery

# **L02/Q2: Describe initial management strategies for incontinence in older adults**

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**Address by etiology: Urinary urge incontinence**

- **Nonpharmacologic strategies more effective than meds**  
**AUA & ACP**
- **Components**
  - **Timed voids**
  - **Bladder training**
  - **Urge suppression**
  - **Fluid intake: avoid excess caffeine, etoh, soda, citrus**
  - **address ↓ mobility: urinal, commode, etc**



# Timed voids/bladder training example

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- **Timed voiding: for use while awake**
- **Initial toileting frequency: use the shortest interval between voids from voiding record**
- **Urge suppression: suppress urge by relaxation techniques, eg kegel → reflex inhib of detrusor**
- **After 2 days without leakage: ↑ time between scheduled voids by 30-60 min**
- **Goal: void every 2-4 hours without leakage**
- **Success usually takes several weeks**

# Stress Incontinence Tx

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- **Non-pharmacologic works best**
  - **Pelvic Muscle Exercises (kegels) → ↓ UI > 50%**
  - **Biofeedback, other (electric stim, vag wts)**
  - **Timed voids**
  - **Wt loss if obese**

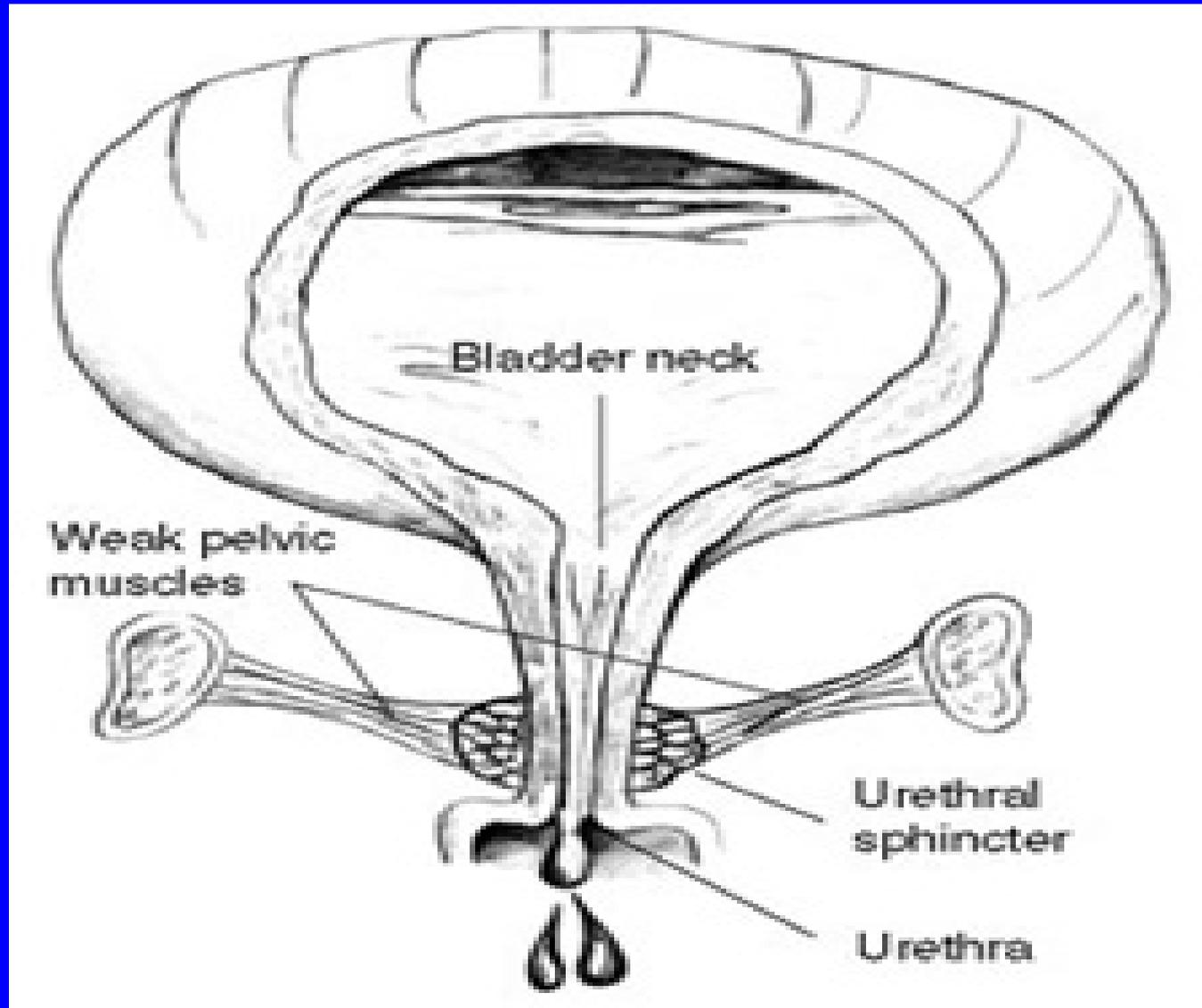
**Cochrane Database Syst Rev 2014;5:CD005654**

**Ann Intern Med 2014;161:429**

**JAMA 2014;311:2007**

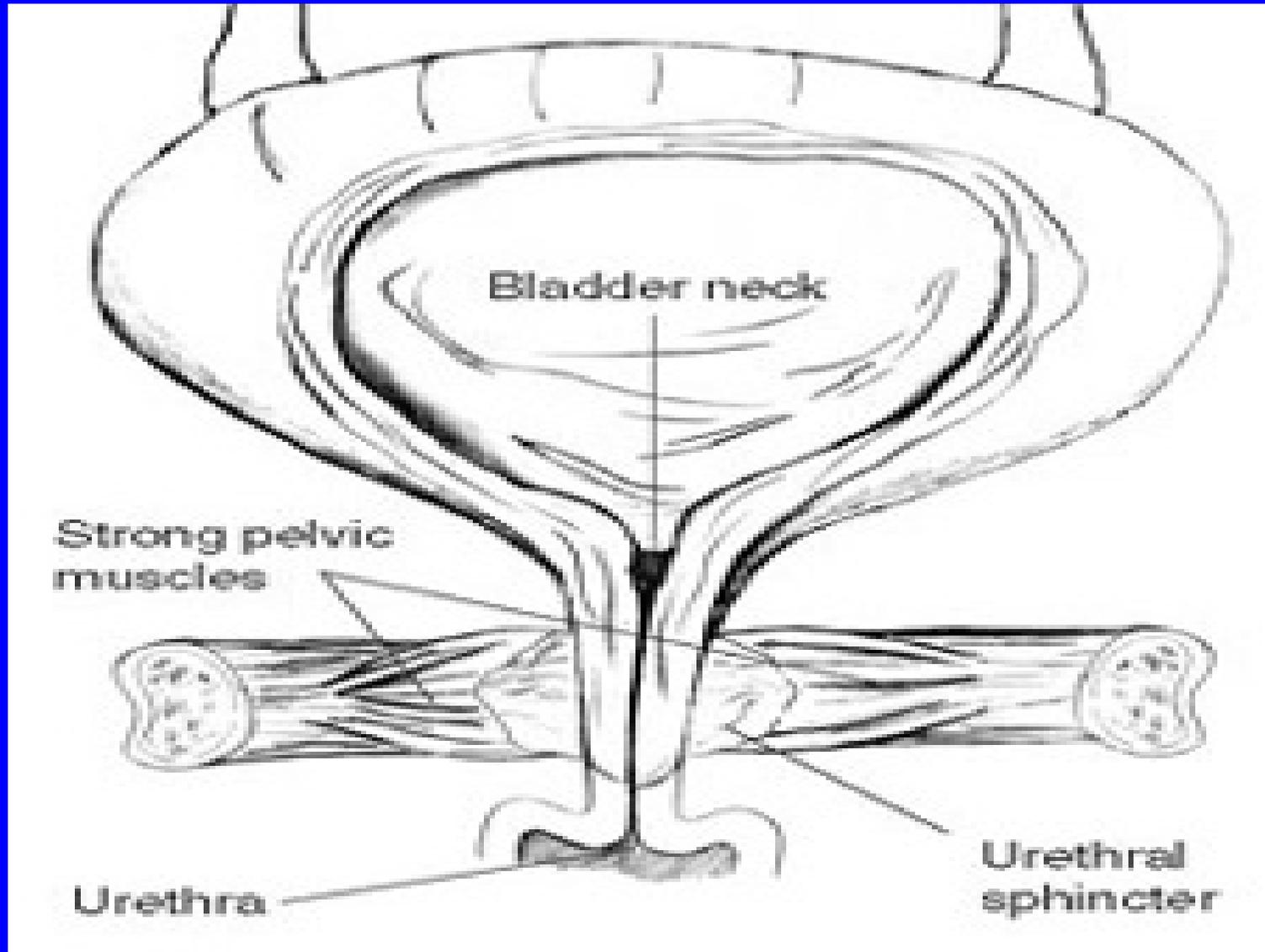
# Stress Incontinence Management

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# Stress Incontinence: Kegel Effects

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# Pelvic Floor Muscle Exercise (Kegels)

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**They work, keys are ---**

- **Getting exercise right, eg “try to keep from passing gas” (good advice in general!)**
- **Contract 2-10 sec, 10 reps/set, 3 sets/d minimum**
- **Aim at 40-50/d, “you can do Kegel exercises anytime & anywhere”**
- **Time to benefit: 4-6 wks**
- **Pt handouts useful: see AAFP ref below**

# Overflow Incontinence Management

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## Anatomic/outlet obstruction causes

- **BPH**
  - alpha1-antagonists, eg tamsulosin: 1-2wk to onset
  - 5- $\alpha$  reductase inhibitors eg, finasteride: 6m max effect
  - Combo best to ↓ long term risk retention/TURP

## Detrusor underactivity

- Determine/tx etiology (have I mentioned meds?!)
- Cholinergic agonists (eg bethanechol) – ineffective
- CIC (clean intermittent cath)

# L03/Q3: Recognize the limited role of pharmacologic interventions for managing UI

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## Urinary urge incontinence

- Add pharmacologic rx if inadequate response to non-pharm approaches
- Pharmacologic rx alone restores continence < 20%
- Often not well tolerated: over 1/2 pts stop UI meds after 1 yr
- Base choice of med rx on tolerability, adverse effects, ease of use, & cost

# Urinary Urge Incontinence

## Pharmacologic tx: antispasmodic meds

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- **Old & New – efficacy similar**
    - oxybutynin (ditropan) – short/long acting & patch
    - tolterodine (detrol) – short/long acting
    - fesoterodine (toviaz)
    - trospium chloride (sanctura)
    - solifenacin (vesicare) – M3
    - darifenacin (enablex) – M3
    - mirabegron – newest, no anticholinergic effects
  - **Alone: 20% ↓ incont, combine w/non-pharm tx: 60% ↓**
- Theoretically  
less CNS effects  
(*clinical data lacking*)

# What's new for "overactive bladder"?

## Mirabegron: FDA approved 2012

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- Only antispasmodic agent for urinary urge incontinence w/o anti-cholinergic/muscarinic effect
- Constipation, dry mouth, cognitive concerns, vision  $\Delta$ s, narrow angle glaucoma, may limit antispasmodics
- Mirabegron
  - MOA:  $\beta$ 3-adrenoceptor agonist  $\rightarrow$   $\uparrow$  sympathetic tone
  - ADEs: HTN(10%), GI (4-6%), nasopharyngitis (4%)
- AUA 2014 Guidelines: if inadequate sxm control and/or unacceptable adverse drug effects, consider  $\Delta$  anti-muscarinic agents or  $\Delta$  to mirabegron

# Comparison of OAB agents (RCTs in ♀)

Improved Dosing Continent UI Dry Mouth Cost/mo

oxybutynin	2-3x/d	11%	17%	40-80%	\$10 gen
oxybut XL	QD	11%	17%	30-50%	\$35 gen
oxybut patch	2x/wk	limited	data	10-15%	\$32 <b>OTC</b>
tolterodine	1-2x/d	12%	10%	20-30%	\$50 gen
fesoterodine	QD	13%	10%	20-35%	\$237
trospium	1-2x/d	11%	8%	20%	\$75 gen
solifenacin	QD	11%	18%	11-28%	\$272
darefenacin	QD	12%	12%	20-35%	\$287
mirabegron	QD	9%	11%	3%	\$280

# Stress Incontinence Tx

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## Pharmacologic

- ACP recs against tx w/*systemic* pharmacotherapy
  - alpha-agonists (eg, pseudoephedrine)
  - duloxetine (off-label)
  - systemic estrogen → oral ERT ↑'s UI
- Local estrogen?

# Stress/Mixed Incontinence Pearls

## Any role left for estrogen?

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- **Local Estrogen Tx**

- ↓ atrophic changes, dryness, dyspareunia
- May ↓ UTIs in women w/freq recurrences
- May ↓ GU urge, dysuria, mixed UI
- Less impact on stress incont

**JAMA 2014;311:2007**      **PLoS One. 2015 Sep 18;10(9):e0136265**  
***Cochrane Database Syst Rev. 2009;4(4):CD001405***

# Stress/Mixed Incontinence

## Local Estrogen Tx Options

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- **Topical estrogen (cream or vag tab)**
  - Has systemic effects
  - Single study: pts prefer e-ring over e-cream
- **Estrogen ring**
  - Estring or Femring
  - Micronized 17B-estradiol 3mo contin release
  - Minimal impact on serum estradiol levels
  - 85% report improved vaginal sxms by 3wks
  - ↓ urgency, ↓ dysuria, ↓ UTIs

# L04/Q4: Determine when referral to a urologic or gynecologic specialist is indicated

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Clinical Assessment (hx, exam, U/A, PVR, labs)



Referral criteria met\* → GU/Gyn eval

no



w/o sig  
effect?

Trial of Therapy (based on presumptive dx)

\* **Referral Criteria:** PVR > 100, hematuria, unexplained pyuria, prostate nodule, significant prolapse

# L04/Q4: Determine when referral to a urologic or gynecologic specialist is indicated

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What do those guys got that I don't have?!

- **Dx**

- Exam nuances: prolapse, atrophic Δs
- Urodynamic testing
- Cystoscopy

# **L04/Q4: Determine when referral to a urologic or gynecologic specialist is indicated**

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**What do those guys got that I don't have?!**

- **Tx**

- **SUI: pessaries, urethral bulking, slings/TVT, colposuspension, other prolapse repairs**
- **UUI: sacroneuromodulation (sacral nerve stim, percut tibial nerve stim), intravesic botox**
- **Overflow: TURP, dilate strictures, other**

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