

Geriatric Urinary Incontinence

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UI: The Problem

Prevalence in elderly $\geq 33\%$

Morbidity substantial

Costs $>$ \$83 billion* *annually*

Geriatric UI and PCP

- UI *never* normal, even at ↑age, ↓MS, NH
- Caused/exac by *medical* diseases, drugs
- Amenable to *medical* Rx and even cure
- Yet, most UI pts are unknown to PCP
∴ PCP's role is crucial

Case

An 88 yo F with Parkinson's disease suffered a hip frx → confusion, Rx with haloperidol. She became incontinent.

O/E: In wheelchair, Parkinsonian, with CHF, impaction, bladder distention, atrophic vaginitis

Two Months Later...

- Home
- Mentally-intact
- Ambulatory
- Continent

How?

Continence Requires

Mentation

Motivation

Mobility

Manual Dexterity

Urinary Tract Function

LUT Changes with Age

Increased

- Involuntary contractions
- Nocturnal U.O.
- Prostate size
- PVR

Decreased

- Bladder sensation
- Urethral resistance (in ♀)
- Contractility

Principles of Geriatric UI

Aging ***predisposes*** to UI

Diseases and drugs ***precipitate*** it

Thus, treatable causes ***outside*** LUT
are more likely

May Rx UI *without* need to Rx LUT !

Transient Causes

- D** Delirium
- I** Infection (sx UTI)
- A** Atrophic urethritis/vaginitis
- P** Pharmaceuticals
- E** Excess excretion
- R** Restricted mobility
- S** Stool impaction

Drugs and UI

Long-acting sedative/hypnotics

“Loop” diuretics

Anticholinergic agents

Adrenergic agents

Drugs causing fluid accumulation

- CCBs, ‘glitazones, NSAIDs, Parkinsons, gabapentin/pregabalin

ACE Inhibitors

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Excess Excretion

- Excess Intake
- Diuretics, Alcohol
- Metabolic (glucose, Ca^{+2} , DI)
- Edematous states
 - Congestive heart failure
 - Venous insufficiency
 - Low albumin
 - Drugs (NSAIDs, CCBs, Parkinsons)

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Benefit of Rx Transient Causes

- Cure UI in 1/3 of older patients
- Improves UI in the remainder
- ↑ patients' responsiveness to further Rx
- Improves other problems and QoL
 - e.g., Rx of atrophic vaginitis
 - ↓ recurrent cystitis
 - ↓ dyspareunia

Causes of Established UI

Overactive Detrusor/OAB

Underactive Detrusor

Stress Incontinence

Outlet Obstruction

Established UI

Storage

- **Overactive
Detrusor**
- **Stress
Incontinence**

Emptying

- **Underactive
Detrusor**
- **Urethral
Obstruction**

Serious Associated Conditions

- Brain/spinal cord lesions
- Bladder/prostate carcinoma
- Bladder stones
- Hydronephrosis

History

Description of symptoms

DIAPERS causes

Functional assessment

Voiding diary

Voiding Diary

<u>Time</u>	<u>Wet/Dry</u>	<u>Void</u>	<u>Comments</u>
08:00	D	100	
10:00	W	50	Dishwashing
12:00	D	125	
14:00	W	40	Coughed

Stress Test

Bladder feels full *but* no precipitancy

Relaxed

Strong, *single* cough

Instantaneous leak/cessation?

Replicates symptom?

If *negative*, bladder volume >150 ml?

Examination

Stress test

Bladder distention (\pm)

Pelvic exam

Rectal exam

Edema/CHF

Neurologic (U/LMN)

Lab Tests

- Metabolic survey
- BUN/Cr
- PVR
- Urinalysis, culture
- Flow rate*
- Renal ultrasound*
- Cytology*
- Cystoscopy*

* in selected cases

Empiric Dx and the PCP

After excluding transient causes

- If retention (or PVR >100), consider referral
- Otherwise, cough stress test (ST). Then,

Women

If ST negative and PVR <50 ml, Rx as DO/OAB

If ST positive and PVR <100 ml, Rx as SI

Men

If ST negative and PVR <50 ml, behavior Rx

If ST positive, refer

Most Frequent Causes

Overactive Detrusor

Stress Incontinence

Outlet Obstruction

Underactive Detrusor

Overactive Detrusor/OAB

50-67% of geriatric UI

“Urge” incontinence

Frequent, periodic voids

PVR generally low

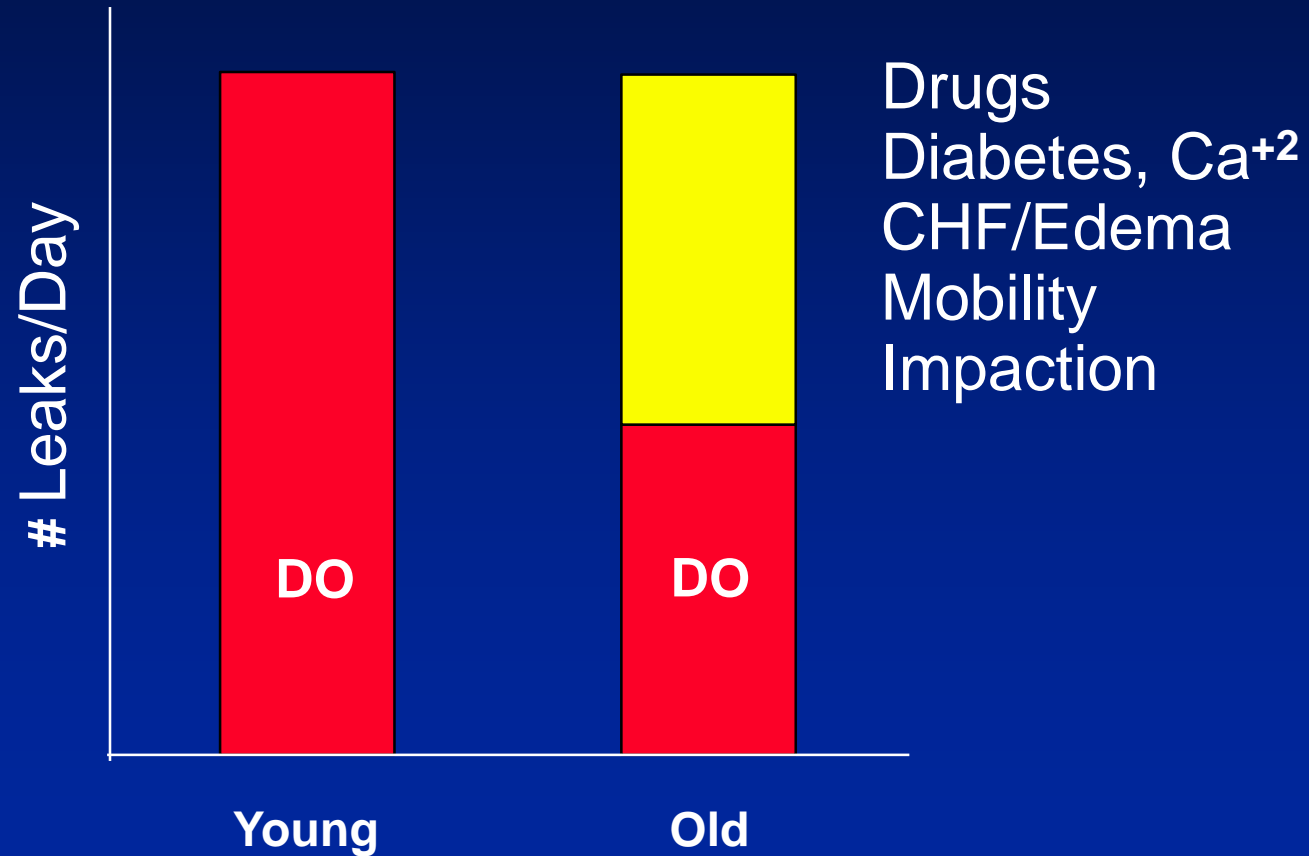
Normal anal reflexes/sensation

May be a/w SI, urethral obstrxn

Rx Principles

- LUT only *one* risk factor
- Minor improvement in many domains reaps major gains

LUT Abnormality vs. UI



Rx General

Improve toilet access/schedule

Adjust fluid excretion

Improve mobility

Treat disease outside LUT:

e.g., CHF, depression, ↓BP

Stop other medications

Case

An 88 yo F with Parkinson's disease suffered a hip frx → confusion, Rx with haloperidol. Incontinence developed.

O/E: In wheelchair, Parkinsonian, with CHF, impaction, bladder distention, atrophic vaginitis

Case - 2

Decompressed bladder

Disimpacted

Diuresed

Discontinued haloperidol

Added estrogen, Sinemet®

Case - 3

Parkinson's remits

CHF resolves

Bowels regularize

Mobility improves

UI lessens

Case - 4

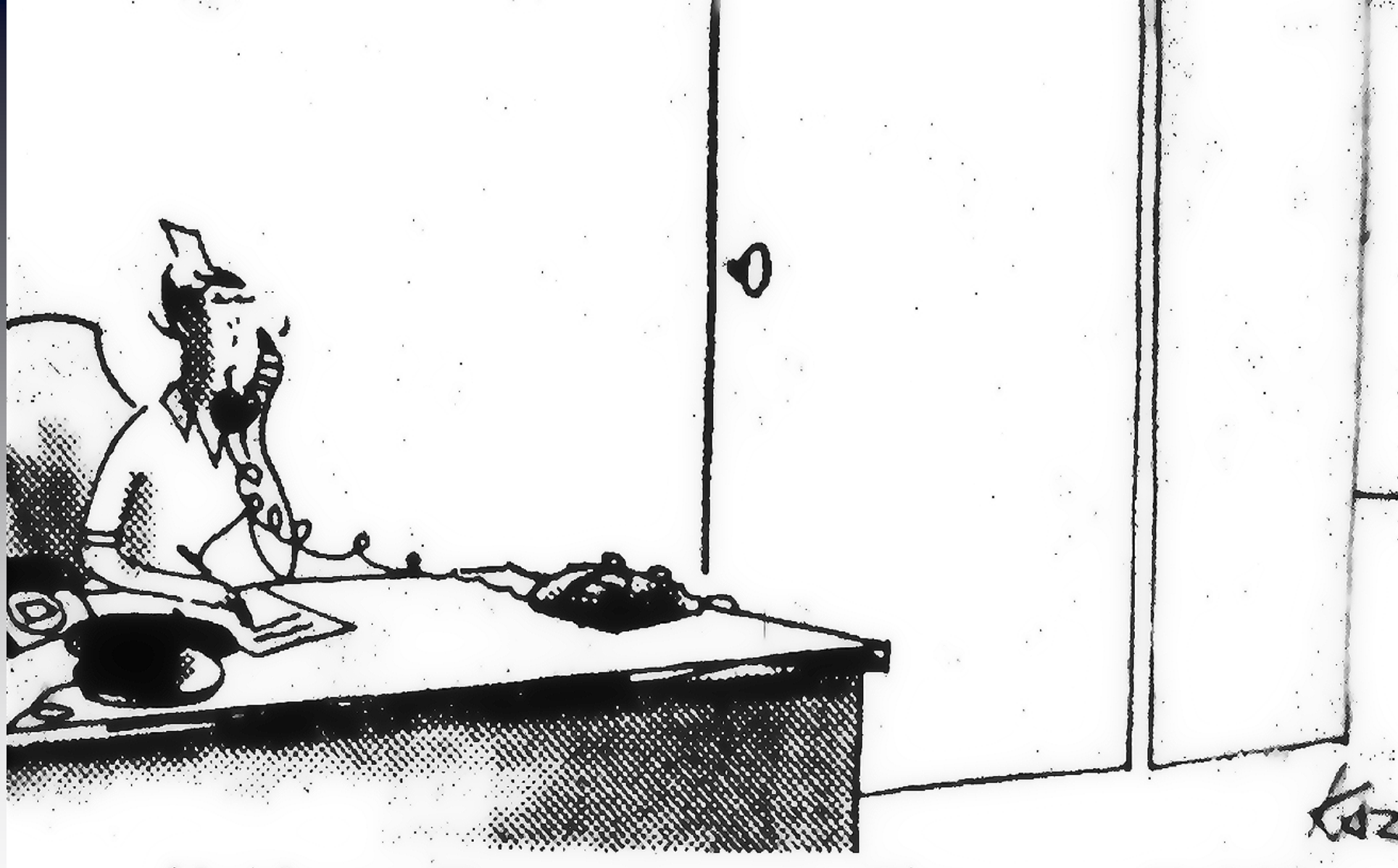
Precipitant UI

Nocturia x 4

No stress sx

Stress test negative

PVR = 75 ml



Urology Department. Can you hold?

Detrusor Overactivity: Rx

Anticholinergic Bladder Relaxants

Oxybutynin (Ditropan[®] [IR, XL, patch, gel])

Tolterodine (Detrol[®] [LA])

Darifenacin (Enablex[®])

Solifenacin (Vesicare[®])

Trospium (Sanctura[®] XR)

Fesoterodine (Toviaz[®])

Beta-3 Agonist: Mirabegron (Myrbetriq[®])

DDAVP? **NO**

Neuromodulation (SNS/PTNS)?

Botulinum A toxin?

Therapeutic Myths

- Bladder relaxants → ↓ MSE?
 - Most evidence indirect, w/o clinical correlates
 - 40 yrs oxybutynin → few case reports; tolterod ≡
 - OPERA trial: <1% for each group; all mild
 - MCI: oxy/solifenacin = no problem (Wagg, 2013)
 - Frail/SNF: well-toler. (Lackner '08; DuBeau '14)
- “Can’t use bladder relaxants w/ChEIs”
- “Elderly less responsive than young pts”

Bottom Line

- UI is common and under detected
- Never normal, regardless of age, mobility, and cognition, even in NH pts
- Causes multifactorial and beyond LUT
- With stepwise, persistent approach, UI is usually treatable –often curable – without complex tests or surgery