Reversing the Reversible Causes of Urinary Incontinence

JoAnn Ermer-Seltun, MS, RN, ARNP, FNP-BC, CWOCN
Family Nurse Practitioner, WOC Nursing
Mercy Medical Center, Mason City, Iowa
Continence Clinic & Advance Wound Center
Bladder Control Solutions, LLC
Co-Director & Faculty, webWOC Nursing Education Program

Objectives

• Identify common reversible causes of urinary incontinence (UI) using the acronym DIAPPERS or PPRAISED.
• Characterize specific assessment data used to screen for transient UI risk factors through case presentations.
• List at least 3 medications that may negatively affect bladder control.

Strategies to Promote Continence for the WOC Nurse

• Bladder & Bowel Restoration is falls under a Nursing Focus
• WOC Nurses are in the BEST position to assess & promote Continence!
• Y’all Continence Care Nurses!
UI : Why is this Important to Us?

UI is prevalent and treatable
UI is Not Normal…. EVER!
Costly for Facilities
- Personnel
- Skin care products
- Complication management
One of the most common reasons for admission to LTC facilities
Federal regulations – FTAG 315 What an Opportunity for CWOCN
Predisposes patient to costly complications
- Pressure Ulcers
- Skin irritation
- Falls
- Pain

UI Prevalence

• Over 17 Million Americans Afflicted!
  – Twice as common in women vs. men
  – 30-50% of community-dwelling women age >65 have UI
  – 3.4 million men > 65 are affected
  – 8th most prevalent medical condition in the US*

  – Highest in the elderly with a 40-70% range **
    • Non-random sample of LTC, only 15% of residents assessed for UI
    and only 3% received treatment***
    • 99% residents wore absorbent products


Review: Reversible Causes of UI

P harmaceuticals
P sychological
R stricted mobility; Retention
A trophic urethritis and vaginitis
    acute urogenital prolapse
I nfection of urinary tract
S tool impaction
E xcess urine production
D elirium, dietary irritants, dehydration
Review: Reversible Causes of UI

Delirium, dietary irritants, dehydration
Infection of urinary tract
A trophic urethritis and vaginitis
acute urogenital prolapse
Pharmaceuticals
Psychological
Excess urine production
Restricted mobility; Retention
Tool impaction

Delirium

Acute state of confusion:
- Cognitive deficits and behavior disturbances
- Not to be confused with dementia

Reduced ability to recognize and respond appropriately to full bladder sensation.

Polypharmacy and sepsis most common cause in elderly!

Other Causes
- Systemic illness
- CNS disease
- Medications
- Dehydration
- Alcohol use
- Sleep deprivation
- Reaction to anesthesia
- Metabolic conditions
  - renal failure
  - hepatic failure

Delirium: Causes of Acute Change in Mental Status (MS)

A Antiparkinsonian drugs
C Corticosteroids
U Urinary incontinence drugs (especially oxybutynin)
T Theophylline
E Emptying drugs (i.e., metoclopramide)
C Cardiovascular drugs
H H2-blockers
A Antimicrobials
N NSAIDs
G Geropsychiatric drugs (i.e., tricyclics, SSRI’s, anticholinergics)
E ENT drugs (i.e., decongestants, expectorants, antihistamines)
I Insomnia drugs
N Narcotics
M Muscle relaxants
S Seizure drugs
Dehydration

- Concentrated urine is irritating to the bladder
- Indicators of irritable bladder:
  - Urgency
  - Frequency (Over-active bladder)
  - Urge incontinence
- Patients often erroneously restrict fluids due to these symptoms!
- 'Fluid for Thought': Increase fluid slowly if not drinking much. If add 1 c. Additionally, intake weekly until drinking 6-8 cups of fluids daily.

Dietary Irritants

Contribute to detrusor instability, urgency, frequency
- Caffeine
  - Coffee, tea, (even decaf), chocolate, soft drinks
  - Medications: OTC Excedrin, Midol
- Carbonated beverages
- Citrus Juices
- Milk
- Artificial sweeteners (i.e., NutraSweet)
- Honey, sugar, corn syrup
- Spicy foods
- Tomato base products

Remember: What bothers one person may not bother another.

Reflection

Based on these risk factors, what assessments should be routine for patient with UI?
Infection = UTI

- Produces urgency, frequency, discomfort
- Detrusor instability (SPASMS) = leakage

Reflection

Based on these risk factors, what piece of data should be routine for patient with UI?

Atrophy of the Urogenital tract

- Urogenital area is very estrogen sensitive
- Estrogen brings good blood flow, moisture, and supple tissues
- Post menopausal women at risk
- Urethralitis, vaginitis, caruncle
Acute Prolapse

Cystocele
Prolapse uterus
Causes incomplete emptying
Symptoms include:
- Urgency
- Frequency
- Retention

Reflection: Q & A

At this point, what type of exam do we need to routinely include when caring for the patient UI?

Take a Good Look!
Pharmaceuticals

- Alcohol
  - Sedative effect
  - Diuretic effect

- Antihypertensives
  - Ca Channel blockers = retention, nocturia, constipation
  - ACE inhibitors = SE-cough, SUI
  - Alpha blockers = bladder neck relaxation, SUI

- Anticholinergics
  - Constipation, retention

- Antidepressants
  - Constipation, retention

- Antiparkinson’s
  - Constipation, retention

- Cold medicines
  - Snugs up bladder neck to may cause retention

- Narcotics
  - Delirium and sedation,
  - Constipation and retention

- Diuretics
  - Sudden increase in production
  - Urgency, frequency

- Sedatives and tranquilizers
  - Reduce ability to sense full bladder

- Skeletal muscle relaxants
  - Retention

Nuts! Smoking
- Bladder irritant, SUI
- Risk factor for bladder Ca

Meds also have the potential to create a synergistic effect!

Micturition

Storage

- Detrusor relaxes
- Pelvic floor contracts
- Urethral sphincter relaxes

Voiding

- Detrusor contracts
- Pelvic floor relaxes
- Urethral sphincter contracts
- (voluntary control)

- Detrusor relaxed and Bladder neck contracted

Involuntary Process

Sympathetic Pathway
Bladder Filling and Storage Phase

- Beta Adrenergic Receptors
  - Line bladder wall, when stimulated, detrusor relaxes

- Alpha Adrenergic Receptors
  - Located in bladder neck, when stimulated, bladder neck contracts; at rest is normally in a contracted state
  - Supplied by the Sympathetic Nervous System (SNS) via Hypogastic Nerve
Bladder Emptying Phase
Parasympathetic Pathway

(Detrusor contracts and Bladder neck relaxes)

Cholinergic Receptors

- Postganglionic Receptors that are located within bladder wall
- Receptors release the neurotransmitter acetylcholine in response to Parasympathetic system (S2-4) via the pelvic plexus.
- Stimulates contraction of detrusor muscle

Note: Cholinergic receptors are located throughout body. The specific type of cholinergic receptors located in the bladder are muscarinic cholinergic receptors: primarily M2 & M3.

Goal: Store urine
Mechanism: Relax detrusor muscle
Used for OAB & UUI
Anticholinergic Meds
(AKA antimuscarinic)

Oxybutynin (Ditropan)
Tolterodine (Detrol)
Trospium (Sanctura)
Solifenacin (VESIcare)
Darifenacin (Enablex)

Key side effects:
- Dry mouth
- Constipation
- Blurred vision
- Urinary retention
- Mental confusion

How Other Drugs Affect the Bladder
Mechanism: Relax detrusor muscle
(Side effect)
Calcium Channel Blocker Meds

Diltiazem (Cardiazem)
Nifedipine (Procardia)
Verapamil (Calan)

Key side effects:
- Increased urine production at night
- Constipation
- Urinary retention
Diazepam (Valium)
Baclofen (Lioresal)

Skeletal Muscle Relaxant Meds

Goal: Store urine
Mechanism: Relax detrusor muscle

Goal: Store urine
Mechanism: Increased contraction of bladder neck; maybe used in SUI

Alpha Adrenergic Agonist Meds

"Cold medicines" (i.e., Sudafed)
Ephedrine

Side effects:
- Urinary retention in those with emptying problems
- Elevated blood pressure and heart rate
- Anxiety, insomnia
- Drowsiness

Goal: Pass urine
Mechanism: Relax bladder neck,
Often used for increased bladder outlet resistance - i.e. BPH

Alpha Adrenergic Blocker (Antagonists)

The “Sin” drugs:
- Terazosin (Hytrin)
- Prazosin (Minipress)
- Doxazosin (Cardura)
- Tamsulosin (Flomax)
- Alfuzosin (Uroxatral)

Side effects:
- Hypotension
- Dizziness
- Fatigue
- Erectile dysfunction
**Psychologic**

**Depression**
- common in the elderly population
  - Can reduce awareness of bladder fullness
  - Can decrease desire to care for self or motivation
  - E.g., “I’m wearing a pad so I might as well wet in it.”
    (quote from one depressed patient)

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**Excess Urine Output**

**Endocrine disorders**
- DM (due to glucosuria and osmotic diuresis),
- Diabetes Insipidus (due to inability to concentrate urine)

**CHF**
- When supine, fluid returns to the circulatory system which precipitates nocturia

**Excessive fluid intake**
- Common when dieting

**Obstructive sleep apnea**
- Changes in antidiuretic hormone due to an atrial stretch sensation when obstructed

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**Reflection Q & A**

What quick test can we do with a urine specimen to rule out any of the conditions that may precipitate excess urine output?
Restrictive Mobility
Loss of dexterity to unfasten clothing
Increased time to walk to the BR

Presence of devices that restrict mobility
- Compression garment or cast on leg
- Supplemental oxygen per nasal cannula

Retention (Acute)

1. Bladder Outlet Obstruction
   - BPH
   - After anti-incontinence surgery (too snug at the outlet)
   - Prolapse
   - Strictures of the urethra
   - Foreign object

2. Neurological Cause or poor contractility from medication

Stool Impaction

(1) Triggers bladder irritability: (urgency and frequency)
(2) Obstruct urethra via external compression precipitating urinary retention and overflow UI
Reversible Factors Case Study:  Julie

32 y/o, married
G-2, P-2 and 6 mo. Postpartum

Chief complaint:
- UI, soaking 1-3 large Serenity Pads
- Occurs with
  - all exertional activities
  - hurrying to the BR
- Not sure if she is emptying well
- Urinates every 1-2 hours when awake
- Gets up only once at HS

Reversible Factors Case Study:  Julie

- Constipated, BM q 3 days, pushes hard ‘to go’
- She feels something ‘down there’
- Recently placed on an ACE inhibitor for B/P control,
- No history of surgery
- Fluid intake past 24 hours
  - 2c coffee
  - 3 Diet Cokes
  - 2c. Chocolate Skim milk
  - 1c. OJ
  - 1c. water
- Drinks wine 2 glasses/ week
- Does not smoke

Case Study: Julie

- D
- I
- A
- P
- P
- E
- R
- S
Reversible Factors Case Study: Esther

85 y/o alert, or X 3, widow
Admitted to LTC 1 month ago following a repair of a hip fracture. She was living at home independently prior to fall. Diet controlled DM, HTN, arthritis

Chief complaint:
- UI, soaking 2-3 Briefs in 24 hours, dry before hip fracture
- UI occurs with hurrying to the BR
- Not sure if she is emptying well
- Urinates every 1-2 hours when awake
- Gets up only 2 times at HS

Reversible Factors Case Study: Esther

- Constipated, BM q 3 days, pushes hard ‘to go’
- She feels something ‘down there’
- Meds: Recently placed on an Ca channel blocker for HTN, hydrocodone pm for pain, Lasix 20mg daily
- No history of surgery
- Fluid intake past 24 hours
  3c coffee
  1 Diet Coke
  2c Chocolate Skim milk
  1c OJ
  1c water
- Uses a walker with 1 assist at all times
- Does not smoke, no ETOH

Case Study: Esther

<table>
<thead>
<tr>
<th>Reversible Causes</th>
<th>Reversible Causes + findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ P</td>
<td>□ P= pharmacy: Lasix, Ca Ch Blocker, pain med</td>
</tr>
<tr>
<td>□ P</td>
<td>□ P= depression? Widow, new environment</td>
</tr>
<tr>
<td>□ R</td>
<td>□ R= restricted mobility, ? Retention or incomplete emptying</td>
</tr>
<tr>
<td>□ A</td>
<td>□ A= acute prolapse, atrophy? Feels something down there</td>
</tr>
<tr>
<td>□ I</td>
<td>□ I= UTI?</td>
</tr>
<tr>
<td>□ S</td>
<td>□ S= stool impaction? constipated</td>
</tr>
<tr>
<td>□ E</td>
<td>□ E= excess urine, endocrine issues? DM diet controlled</td>
</tr>
<tr>
<td>□ D</td>
<td>□ D= dietary irritants, dehydration; drinks mostly irritants only</td>
</tr>
</tbody>
</table>
Case Study: Larry

Present Situation:
• 65 y/o truck driver who c/o urgency, frequency and small voids for the last 2 weeks, Nocturia X4
• Dribbling urine after his voids, poor stream
• Keeps a change of clothes with him, 'I'm not wearing those Kotex pads!'
• Carries a urinal in his truck and stands while driving the semi because 'I can't stop every time I have to pee!'
• Bowels are regular, firm
• No surgeries

Family History:
• Dad died of prostate cancer; diagnosed in his early 50's

Psychosocial Hx:
• Recently divorced
• Works part time to help sons in trucking business
• Smokes 1 pack a day since age 14

Fluid Intake
• Coffee 1 pot on days he drives to keep him awake (10 cups)
• Stopped drinking water so he doesn't have to 'pee so often'
• Quit drinking alcohol

PMH
• HTN
• Arthritis (especially of the back)
• Dependent edema
• Recent cold

Meds
• Atenolol: beta blocker
• Started on Sudafed for a 'terrible' cold,
• Takes a pain killer for the back pain if he drives for long periods

Larry Case Study

• Any reversible Causes?
• Possible DXs?

• D
• I
• A
• P
• P
• E
• R
• S
Larry (continued)

- Focus PE
  - Tired appearing male, well groomed
  - ABD: WNL
  - External genitals: uncircumcised, meatus central, scrotum no swelling or masses
  - DRE: sphincter tone excellent, formed stool but not hard, prostate irregular to the right, smooth? Mildly enlarged.

- Focus PE cont.
  - Voided 150 cc, PVR= 100 cc (FBV=250cc)
  - UA ok except micro shows 5 RBCs

Larry

- Possible DX

- What will you do?

- What would you do if the RED FLAGS were gone?

UI workup: Data needed to Assess

- Hx of the bladder/bowel dysfunction
  - Review Bladder/bowel diary
- Dietary/ Fluid history
- Review Histories
  - Past Medical, Surgical, Family, Psycho-Social
- Review of systems
  - Ob/gyn, Neuro, GI, GU, Muscle/skeletal, Endocrine
- Medication review
At this point, what type of exam do we need to routinely include when caring for the patient with UI?

**Reflection: Q & A**

- **Focus Physical Exam (PE)**
  - Close Inspection of the male or female genitals
  - Digital Rectal Exam (DRE)
  - Functional assessment
  - Cognition observation

- **Diagnostics**
  - UA
  - PVR
  - Simple CMG?

**Note:** Vital to determine the type of UI so appropriate treatment can be instituted.

**Simple Cystometrogram (CMG)**

- Provides information regarding bladder
  - Capacity
  - Sensory awareness of fullness
  - Compliance
  - Stability
- Assist with decision making on type of UI
Types of UI

- Transient
- Chronic
  - Stress
  - Urge/Reflex
  - Mix
  - Overflow
  - Functional

Management Options for UI

- Good Advice for everyone
  - Foods and beverages
- Treatment for chronic UI
  - Stress, urge, overflow, functional
- Containment

Good Advice for Everyone:
Anticipatory Guidance

- Use the toilet every 2-1/2 to 3-1/2 hours during waking hours
- Relax, take a deep breath in and out
- Do not push or force your stream
- Sit with garments at ankles, feet flat on the floor
- Double void if you feel your bladder isn’t empty
- Do not get into the habit of urinating ‘just in case’ if you recently urinated
Good Advice

• Prevent constipation!

• Gradually increase fiber and fluid intake
  — Benefiber, Metamucil, Citrucel, Fibercon, fresh fruits & veggies, Prunes, bran cereals
  — Fiber One cereal has 14gms of fiber in ½ cup
  — Special recipes

• Natural is best and the easiest!!!!
• Clean Out if full of stool before Bowel Program

Bowel Program Steps

• 1. If Impaction, remove
• 2. Clean distal colon
• 3. Normalize stool
  — Dietary, fluids, fiber, exercise
  — meds
• 4. Schedule for BM
  — Some pt’s may need a stimulated defecation program

Foods and Beverages

• If experiencing urgency & frequency
• avoid caffeinated and carbonated beverages
• others
  — citrus juices, tomatoes, highly -spiced foods, artificial sweeteners, sugar, milk products may be bladder irritants
• Moderation is the key!
  • Note: what bothers one, may not bother another
Water

- Too Much
- Too Little

- General guidelines
  - 30 ml/Kg of weight
  - 6-8 cups daily
  - 1 cup = 8 oz. = 240 cc

Dehydration

- Concentrated urine is irritating to the bladder
  - Indicators of irritable bladder:
    - Urgency
    - Frequency (Over-active bladder)
    - Urga incontinence
  - Patients often erroneously restrict fluids due to these symptoms!
  - ‘Fluid for thought’: Increase fluid slowly if not drinking much ie add 1c. Additionally to intake weekly until drinking 6-8 cups of fluids daily.

Treatment Options for Chronic UI

- Behavioral
  - APN's can make a great impact with simple behavioral management!!!

- Pharmacological
- Surgical
- Mop, Sop, Blot Approach?
**Behavioral Management for UI**

- Fluid Modification program
- Urge inhibition
- Bladder Retraining
- Pelvic Muscle Exercises (PME)
- Biofeedback assisted PME
- Biofeedback & Electrical Stimulation
- Toileting Programs
  - Scheduled toileting
  - Individualized scheduled toileting
  - Prompted voiding

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**National Association For Continence (NAFC)**

- [http://www.nafc.org](http://www.nafc.org)
- 1-800-BLADDER
- Audio cassette and manual

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**Urge Inhibition**

- **Urge Curve:**
  - Urge starts slowly, peaks, and goes away
  - Never run to the toilet when feeling urgency

1) Stop, do not move.
2) Squeeze your pelvic muscle quickly 3-4 X's
3) Breathe, exhale slowly
4) Relax & distract yourself
   - Proceed to BR once the urge subsides completely.

*Remember: FREEZE..... SQUEEZE..... BREATHE!!!*  
Marta Krissovich in Doughty, 2006
Bladder Training or Drill

- Systematically retrain the bladder
- Begins with short intervals between urination
- Teaches you to make the urge to urinate go away
- Best results for mild to moderate urge, stress or mixed UI
- Improvement rates from 12-97% in literature
- Success based on patient motivation & participation

Supportive Care: Mop, Sop, Blot?
Addressing Functional Factors

- Environmental assessment/adjustments
- Assist devices
- Fluid Modification
- Toileting Programs
- Preventive Skin Care
- Absorptive undergarments
- External collection devices

Functional UI
Identify Barriers to Toileting

- Restrictive Mobility- alter factors
  - Loss of dexterity to unfasten clothing- Change to Velcro fasteners, elastic waist bands
  - Increased time to walk to the BR- Bedside commode, relocate BR?, evaluate for toileting program, cane, walker
  - Staff attitudes and availability
  - Presence of devices that restrict mobility
    - Compression garment or cast on leg
    - Supplemental oxygen per nasal cannula
Environmental Adaptations

• PT/OT eval:
  • Transfer aids, muscle strengthening, gait training
  • Assistive devices: cane, walkers, w/c
• Foot wear
• Toilet risers, commode, grab bars
• Clothing modifications
• Lighting, clear access to BR, rid of rugs
• Etc.........

Toileting Programs

• Prompted Voiding
• Individualized Schedule Toileting
• Routine Scheduled Toileting

Care of the Skin

Goal: Prevent Incontinence Associated Dermatitis

1. Cleanse
2. Moisturize
3. Protect

• Multiple products available that combine steps into a 2 to even a 1 step procedure
• Available in products that have a disposable cloth
External Collection Devices

- Condom Caths
  - Multiple choices - silicone, latex, inflatable
  - BioDerm External
    - Thin hydrocolloid attaches to glans
- Retracted penis pouches
- Afex external male collection device

Absorptive Products

- Do not use feminine hygiene products - they are not made for urine
- Best product for leakage amount, odor, activity and $$$$$$
- LTC - do not put all in same product, pt’s occasional incontinent should not be full briefs

Referrals When?

- Presence of other comorbid conditions
  - neurologic conditions such as MS, SCI, advance Parkinson’s disease
- Recurrent symptomatic UTI’s
- Micro hematuria & hematuria without infection
- Unable to empty bladder; high PVR
- Severe pelvic prolapse
- Uncertain Dx - lack of correlation between symptomology and clinical findings
- Persistent pelvic pain/discomfort
- Failure to respond to an adequate therapeutic trial


Resources
- Journals
  - WOCN, SUNA, Annals of LTC
- NAFC
- NIDDK
- Simon Foundation
- Urinary and Fecal Incontinence by Dorothy Doughty, 2006
- & other Guru’s in the field
- Industry

Summary – Clinical Pearls
- Obtain a 3 day Voiding Diary (Urolog)
- Obtain a detailed hx and physical, pelvic assessment is a must
- Know the client’s goal for treatment
  - cure or improvement
  - Identify & alter reversible causes of UI
  - Behavioral treatment is First Line Therapy
- Help patients Find a specialist in incontinence
- National organizations for more help

Summary
- Remember that the UI did not develop over night
- Improvement in symptoms occurs gradually, so be Patient
- Basic behavioral tx will make a great impact!!!
- You can make a BIG difference in enhancing people’s quality of life!!!
- Continence Nursing is a WOO!
  - Window of Opportunities
More Case Presentations
(If Time Allows)
or
Questions?

THANK YOU!!

References