Overview of Urinary Incontinence (UI) in the Long Term Care Facility

Evaluation and Management
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Learning Objectives

- Describe common reversible causes of UI
- Differentiate between chronic types of UI and describe appropriate treatment options for each diagnosis
- Describe evaluation procedures, which are appropriate for establishing diagnosis of UI in the long-term care setting
- Describe the process for completing the UI Physical Assessment and History Form
- Describe all the components for completing the physical examination for urinary incontinence
Steps to Continence

1. Complete Physical Assessment and History form
2. Determine the type of urinary incontinence
3. Complete Algorithm
Evaluation is the Key!

Identification of the type of urinary incontinence is the key to effective treatment.
History

Obtaining an accurate and comprehensive UI History
Prevalence of Urinary Incontinence

- Estimated 10% to 35% of adults
- ≥ 50% of 1.5 million nursing home residents
- A conservative estimated cost of $5.2 billion per year for urinary incontinence in nursing homes

Impact on Quality of Life

- Loss of self-esteem
- Decreased ability to maintain independent lifestyle
- Increased dependence on caregivers for activities of daily life
- Avoidance of social activity and interaction
- Restricted sexual activity

Consequences of UI

- An increased propensity for falls
- Most hip fractures in elders can be traced to nocturia especially if combined with urgency
- Risk of hip fracture increases with
  - physical decline from reduced activity
  - cognitive impairments that may accompany a UTI
  - medications often used to treat incontinence
  - loss of sleep related to nocturia
Risk Factors

- Aging
- Medication side effects
- High impact exercise
- Menopause
- Childbirth
Factors Contributing to Urinary Incontinence

- **Medications**
  - Diuretics
  - Antidepressants
  - Antihypertensives
  - Hypnotics
  - Analgesics
  - Narcotics
  - Sedatives

- **Diet**
  - Caffeine
  - Alcohol

- **Bowel Irregularities**
  - Constipation
  - Fecal Impaction
Age Related Changes in the Genitourinary Tract

- Majority of urine production occurs at rest
- Bladder capacity is diminished
- Quantity of residual urine is increased
- Bladder contractions become uninhibited (detrusor instability)
- Desire to void is delayed
Types of Urinary Incontinence

- Stress
- Urge
- Mixed
- Overflow
- Total
Types of Urinary Incontinence

- **Stress**: Leakage of small amounts of urine as a result of increased pressure on the abdominal muscles (coughing, laughing, sneezing, lifting)
- **Urge**: Strong desire to void but the inability to wait long enough to get to a bathroom
Types of Urinary Incontinence (continued)

- **Mixed**: A combination of two types, stress and urge
- **Overflow**: Occurs when the bladder overfills and small amounts of urine spill out (bladder never empties completely, so it is constantly filling)
- **Total**: Complete loss of bladder control
Remember...

Urinary Incontinence can be treated even if the resident has dementia!!
Cause of Stress Urinary Incontinence

- Failure to store secondary to urethral sphincter incompetence
Causes of Urge Urinary Incontinence

- Failure to store, secondary to bladder dysfunction
  - Involuntary bladder contractions
  - Decreased bladder compliance
  - Severe bladder hypersensitivity
# Stress Incontinence vs. Urge Incontinence: System Check List

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Stress Incontinence</th>
<th>Urge Incontinence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgency accompanies incontinence (strong, sudden desire to void)</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Leaking during physical activity (e.g. coughing, sneezing, lifting, etc.)</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Ability to reach the toilet in time, following an urge to void</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Waking to pass urine at night</td>
<td>SELDOM</td>
<td>OFTEN</td>
</tr>
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Causes of Mixed Urinary Incontinence

- Combination of bladder overactivity and stress incontinence
- One type of symptom (e.g., urge or stress incontinence) often predominates
Symptoms of Overactive Bladder

- Urgency
- Frequency
- Nocturia, and/or urge incontinence
- ANY COMBINATION - in the absence of any local pathological or metabolic disorder
Causes of Overflow Urinary Incontinence

- Loss of urine associated with over distention of the bladder
- Failure to empty
  - Underactive bladder
  - Vitamin B₁₂ deficiency
- Outlet obstruction
  - Enlarged Prostate
  - Urethral Stricture
  - Fecal Impaction
- Neurological Conditions
  - Diabetic Neuropathy
  - Low Spinal Cord Injury
  - Radical Pelvic Surgery
Neurogenic Bladder

What is a neurogenic bladder?

- A medical term for overflow incontinence, secondary to a neurologic problem
- However, this is NOT a type of urinary incontinence
# Basic Types and Underlying Causes of Incontinence

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>Loss of urine with increase in intra-abdominal pressure (coughing, laughing, exercise, standing, etc.)</td>
<td>Weakness and laxity of pelvic floor musculature, bladder outlet or urethral sphincter weakness</td>
</tr>
<tr>
<td>Urge</td>
<td>Leakage of urine because of inability to delay voiding after sensation of bladder fullness is perceived</td>
<td>Detrusor muscle instability, hypersensitivity associated with local genitourinary conditions or central nervous system disorders</td>
</tr>
<tr>
<td>Overflow</td>
<td>Leakage of urine resulting from mechanical forces on an over distended bladder, or from other effects of urinary retention on bladder and sphincter function</td>
<td>Anatomic obstruction by prostate, stricture, cystocele, acontractile bladder, detrusor-sphincter dyssynergy</td>
</tr>
<tr>
<td>Mixed</td>
<td>Urinary leakage associated with inability to toilet because of impairment of cognitive and/or physical functioning, unwillingness, or environmental barriers</td>
<td>Severe dementia, other conditions that cause severe immobility, and psychological factors</td>
</tr>
</tbody>
</table>
Reversible or Transient Conditions That May Contribute to UI

“D” Delirium
Dehydration*

“R” Restricted mobility
Retention

“I” Infection
Inflammation
Impaction

“P” Polyuria
Pharmaceuticals
*Dehydration*

- Dehydration due to decreased fluid intake; increased output from diuretics, diabetes, or caffeinated beverages; or increased fluid volume due to congestive heart failure can concentrate the urine (increased specific gravity) and also lead to fecal impaction.
- The specific gravity of the urine can be tested to determine whether or not the resident is dehydrated.
Basic Evaluation

- Physical Exam
- Female genitalia abnormalities
  - Rectocele
  - Urethral Prolapse
  - Cystocele
  - Atrophic Vaginitis
Basic Evaluation for Differential Diagnosis

- **Patient History**
  - Focus on medical, neurological, genitourinary
  - Review voiding patterns and medications
  - Voiding diary
  - Administer mental status exam, if appropriate

- **Physical Exam**
  - General, abdominal and rectal exam
  - Pelvic exam in women, genital exam in men
  - Observe urine loss by having patient cough vigorously
Basic Evaluation for Differential Diagnosis (continued)

- **Urinalysis**
  - Detect hematuria, pyuria, bacterimia, glucosuria, proteinuria
  - Post void residual volume measurement by catheterization or pelvic ultrasound
Lab Results

- Lab results from approximately the last 30 days:
  - Calcium level normal 8.6 - 10.4 mg/dl
  - Glucose level normal fasting 65 - 110 mg/dl
  - BUN normal 10 - 29 mg/100 ml (OR)
  - Creatinine normal 0.5 - 1.3 mg/dl
  - B₁₂ level (within the last 3 years) normal 200 - 1100 pg/ml

*Normal lab values may vary depending on laboratory used.*
Three Day Voiding Diary

- Three day voiding diary should be completed on the resident
- Assessment should be completed 24 hours a day for 3 days
- Make sure CNA’s are charting when the resident is dry or not, the amount of incontinence, if the voiding was requested or prompted
Basic Continence Evaluation

Focused Physical Exam, including:

- **Pelvic exam** to assess pelvic floor & vaginal wall relaxation and anatomic abnormalities including digital palpation of vaginal sphincter
- **Rectal exam** to rule out fecal impaction & masses including digital palpation of anal sphincter.
- **Neurological exam** focusing on cognition & innervation of sacral roots 2-4 (Perineal Sensation)
- **Post Void Residual** to rule out urinary retention
- **Mental Status exam** when indicated
Simple Urologic Tests

- Provocative Stress Testing
- Key components
  - Bladder must be full
  - Obtain in standing or lithotomy position
  - Sudden leakage at cough, laughing, sneezing, lifting, or other maneuvers
Female Exam of Urethra and Vagina

During a bed side exam the nurse should observe for the following:

- The presence of pelvic prolapse (urethroceles, cystoceles, rectoceles)
  - It is more important that you identify the presence of a prolapse than the particular type
- Is the vaginal wall reddened and/or thin?
- Is the vaginal wall atrophied?
- Is there abnormal discharge?
Female Exam of Urethra and Vagina (continued)

- Test the vaginal pH by taking small piece of litmus paper and dabbing it in the vaginal area
  - Document the vaginal pH
  - If the pH is >5 it is a positive finding
Dorsal Lithotomy Position
(Normal Vaginal Area)
Male Exam of the Penis

- Is the foreskin abnormal? (Is the foreskin difficult to draw back, reddened, phimosis)
  
  Phimosis is a general condition in which the foreskin of the penis can not be retracted

- Is there drainage from the penis?

- Is the glans penis urethral meatus obstructed?
Male Genitalia
Rectal Exam

- Nursing staff should perform a rectal exam
  - Document if the resident has a large amount of stool or the presence of hard stool
Prostate Exam

- While completing a rectal exam for constipation, note if you feel the prostate enlarge
- Please note findings
The Bulbocavernous Reflex Test

- When the nurse is inserting a finger into the anus to check for fecal impaction, the anal sphincter should contract.
- When the nurse is applying the litmus paper to check the vaginal pH, the vaginal muscle should contract.

(When both these muscles contract this indicates intact reflexes)
Post Void Residual

- A post void residual should be obtained after voiding via a straight catheterization or via the bladder scan.
  - If the resident has > 200 cc residual the test is positive. (Document the exact results on the assessment form)
Mini Mental Exam (MMSE)

- Complete a mini mental exam on the resident
- Chart the score on the assessment form
- Score the resident on the number of questions they answered correctly to the total number of questions reviewed
Basic Evaluation

- **Rectocele**
  - Anterior and downward bulging of the posterior vaginal wall together with the rectum behind it
Rectocele
Basic Evaluation

- **Urethral Prolapse**
  - Entire circumference of urethral mucosa is seen to protrude through meatus
Urethral Prolapse
Basic Evaluation

- Cystocele
  - Anterior wall of the vagina with the bladder bulges into the vagina and sometimes out of the introitus
Distension Cystocele
Basic Evaluation

- **Uterine Prolapse**
  - The uterus falls into the vaginal cavity
Uterine Prolapse
Huge Prolapsed Cervix
Basic Evaluation

- Atrophic Vaginitis
  - Thinning of vaginal and urethral lining causing dryness, urgency, decreased sensation
Advanced Postmenopausal Atrophy
Treatment

Guidelines recommend least invasive evaluation and treatment as baseline!!
Treat Transient Causes First

Such as:
- Atrophic vaginitis
- Symptomatic urinary tract infections (UTI)
Hypoestrogenation Causes (Loss of Estrogen)

- Decreased glycogen
- Decreased lactic acid
- Increased vaginal pH
- Increased risk of UTI’s
Urinary Tract Infections (UTI)

The vaginas of postmenopausal women not being treated with estrogen have been found to be predominately colonized by E. coli.
Circulating Estrogen Inhibits Uropathogen Growth by:

- Colonization of the vagina with lactobacilli
- Maintenance of acidic pH (<5)
Positive Effects of Estrogen Replacement

- A decrease in vaginal pH
- Reemergence of lactobacilli
- Colonization of the vagina rarely occurs when the pH is below 4.5
Symptoms tend to re-appear when estrogen treatment ends!
Other Treatments of Urinary Incontinence

- Behavioral therapy
- Pharmacotherapy
- Electrical Stimulation
- Denervation/decentralization
- Augmentation cystoplasty
- Catheterization
- Urinary diversion
Behavioral Treatments

- Fluid management
- Voiding frequency
- Toileting assistance
  - Scheduled toileting
  - Prompted voiding
- Bladder training
- Pelvic floor muscle exercise
Bladder Training & Urgency Inhibition Training

- **Bladder Training** - techniques for postponing voiding
- **Urge Inhibition Training** - techniques for resisting or inhibiting the sensation of urgency

Bladder training & urge inhibition training is strongly recommended for urge & mixed incontinence & is recommended for management of stress incontinence
Behavior Treatments

* Pelvic muscle exercises
* Effects of exercises
  - Support, lengthen and compress the Urethra
  - Elevate the urethrovesical junction
  - Increase pelvic/muscle tone
Behavior Treatments

- Pelvic muscle (Kegel) exercises
- Goal: to improve urethral resistance and urinary control through the active exercise of the pubococcygenus muscle

Components:
- Proper identification of muscle (if able to stop urine mid-stream)
- Planned active exercise (hold for 10 seconds then relax) 30-80 times per day for a minimum of 8 weeks
Biofeedback

- Very helpful in assisting patients in identifying and strengthening pelvic muscles
  - Give positive feedback for bladder training, habit training and/or Kegels
Pharmacotherapy

◆ Medications
  ➡ To relax or augment bladder or urethral activity
Inserts

- Pessary
- Urethral inserts
- Vaginal weights
Pessary

Pessary Types

A: Smith [S, FO]
B: Hodge without support [S, FO]
C: Hodge with support [S, FO]
D: Gehrung with support [S, FO]
E: Risser [S, FO]
F: Incontinence dish without support [S, FO]
G: Incontinence dish with support [S, FO]
H: Incontinence ring [S]
I: Ring with support [S, FO]
J: Ring without support [S, FO]
K: Cube [S, FL]
L: Tandem-cube [S, FL]
M: Schaatz [S, FO]
N: Gellhorn [S, FL, MD]
O: Gellhorn [A, R, MD]
P: Gellhorn (95% rigid S, MD)
Q: Inflato ball [L]
R: Donut [S]

A = acrylic; L = latex; S = silicone; FL = flexible (can be flexed for insertion); FO = folding (can be folded for insertion); MD = multiple drain (has several holes that permit drainage of vaginal secretions; can be left in place for up to three months); R = rigid; without support = simple ring or other basic structural form; with support = solid material stretched across basic structural form. Photograph courtesy of Milex Products, Inc., Chicago, Illinois 60634-1403.
Surgical Treatment (Last Choice)

- More than 100 techniques
- Repair hypermobility
- Repair urethral support
- Contigen™ implants (ISD)
When do you Refer to a Specialist?

- Uncertain diagnosis/no clear treatment plan
- Unsuccessful therapy/resident requests further therapy
- Surgical intervention considered/previous surgery failed
- Hematuria without infection
Referral to Specialist (continued)

- **Existence of other comorbid conditions:**
  - Recurrent symptomatic urinary tract infection
  - Persistent symptoms of difficulty with bladder emptying
  - Symptomatic pelvic prolapse
  - Prostate nodule enlargement, asymmetry, suspicion of cancer
  - Abnormal post void residual urine
  - Neurological condition: multiple sclerosis, spinal cord lesion/injury
  - History of previous radical pelvic or anti-incontinence surgery
Indwelling Catheters

- Indwelling catheters (urethral or suprapubic) may be necessary for certain residents with incontinence:
  - Urinary retention that cannot be corrected medically or surgically, cannot be managed by intermittent catherization and is causing persistent overflow incontinence, symptomatic UTIs
  - Pressure ulcers or skin lesions that are being contaminated by incontinent urine
  - Terminally ill severely impaired residents
Summary

With correct diagnosis of UI, expect more than 80% improvement or cure rate without surgery!!
Evaluation is the Key!

Identification of the type of urinary incontinence is the key to effective treatment.
Case Study 1

Mrs. Martin:

She was admitted to a skilled nursing facility following a hospitalization for surgical repair of a fractured hip which occurred when she fell on the way to the bathroom.
Prior to Admission:

- She was living at home with her daughter. Her medical history included hypertension and osteoporosis. Mrs. Martin’s daughter reported that her mother frequently rushed to get to the bathroom on time and often got out of bed 4 to 5 times per night to urinate.
Upon Admission to the Nursing Home:

- A physical therapy evaluation was done to assess Mrs. Martin’s transfer status. The therapist recommended assistive ambulation and the nursing staff implemented an every 2 hour toileting schedule. This resident’s MDS continence coding score after 14 days was 3 (frequently incontinent).
Mrs. Martin stated that she knew when she needed to void but could not wait until the staff could take her to the bathroom. She could feel the urine coming out but could not stop her bladder from emptying. Mrs. Martin felt embarrassed about wearing a brief but felt it was better than getting her clothing wet. Her incontinence was sudden, in large volumes and accompanied by a strong sense of urgency.
Problem Identification

- The problems identified by the staff during the first case conference included urge incontinence and impaired mobility.