Urinary Incontinence in the Elderly

Part 1b
Several types of UI exist, and as stated earlier, the prevalence of the type of UI changes as a person ages. We will now go into detail about the various types of urinary incontinence you see listed in the slide.
To begin with, stress incontinence is the involuntary urine loss due to a rise in bladder pressure that exceeds urethral pressure in the absence of a bladder contraction. Symptoms with stress incontinence include involuntary leakage of urine on effort or exertion, or on sneezing and coughing. Basically, any activity that can increase intra-abdominal pressure can be a cause of stress urinary incontinence. Symptoms to be aware of is whether or not your patient leaks with laughing, coughing, brisk walking, etc. Stress incontinence occurs when there is weakness of the connective tissue, pelvic floor and endopelvic fascia, and usually involves a combination of these. Failure of the internal urethral closure mechanism or sphincter is also a cause of stress incontinence.
This slide shows normal female and male anatomy. With the female anatomy, you can see how the pelvic floor runs from the coccyx to the pubic bone forming a sling that supports the pelvic organs, such as the rectum, vagina, uterus, urethra and bladder and keeps them in correct anatomical position. The pelvic floor is also comprised of skeletal muscle, and since it is a postural muscle, it has a higher basal resting tone. The pelvic floor is comprised of endopelvic fascia, the pelvic diaphragm in which the levator ani is located and the urogenital diaphragm. On the right, is the male anatomy, in which you see the pelvic floor muscles located below the prostate. The prostate surrounds the urethra at the base of the bladder. Men have an internal and external urethral sphincter. The internal sphincter is not under voluntary control, whereas the external sphincter is.
This slide demonstrates what happens in women with a cystocele or bladder prolapse. Essentially, what you should notice is that the bladder neck (where the bladder meets the urethra) is not supported above the level of the levator ani because of a bladder prolapse which is called a cystocele. When the bladder has prolapsed, fascial support has weakened, causing urethral hypermobility; this predisposes a woman to stress incontinence. The arrow indicates increased intra-abdominal pressure that is being exerted upon the bladder. This is then transmitted to the urethra. Again, if the urethra is not supported by the pelvic floor musculature, the pressure in the bladder exceeds that of the urethra, which lets leakage occur.
Type III incontinence is a subtype of stress incontinence that occurs more commonly in the elderly woman (most often due to estrogen deficiency causing the intrinsic urethral closure pressure to be poor). This can also be seen in men after a radical prostatectomy. It is important to distinguish this from stress incontinence because the etiology is different, and therefore the treatment is different. With this, the intrinsic pressure of the urethra is poor AND the urethra is not hypermobile. With stress incontinence, again it is due to lack of support of the urethra above the level of the levator ani, resulting in hypermobility of the urethra. With this incontinence, the urethral is stable, but leakage still occurs because of poor intrinsic urethral function. Symptoms associated with this type of stress incontinence include leakage of urine with simple position changes or going from a sitting to standing position. Reports of “unconscious type leakage” should alert the nurse to the possibility of this type of incontinence.
Here you can see how the bladder neck “funnels”. The intrinsic function of the urethra is poor; therefore, urine can leak out continuously or with very little pressure because there is no resistance at the bladder neck. Type III stress incontinence is often thought of as a “drainpipe” urethra.
It is important to distinguish the difference between overactive bladder and urge urinary incontinence. Overactive bladder is characterized by urinary urgency, frequency of voiding more than 7x/day and nocturia of 2 or more times. Overactive bladder does not necessarily have leakage. However, urgency urinary incontinence is defined as any complaint of involuntary leakage associated or preceded by urgency. Urge urinary incontinence occurs as a result of involuntary bladder contractions during the storage phase of the micturition cycle. Urge urinary incontinence is the most common type of incontinence in the elderly. Common symptoms include what is called “Key in door syndrome”. This is when a person comes home from being out, and no matter how long it has been since they have used the restroom, certain triggers such as pulling into their driveway or using their garage door opener causes an urge to void. Other triggers include cold weather, running water, washing dishes, etc. It is not uncommon for patients with urgency urinary incontinence to know where all the restrooms are in grocery stores, malls, etc. Many times the etiology is unknown.
This slide just shows common triggers for uninhibited bladder contractions. Many patients will tell you that as soon as they see a restroom, or get into a stall, the urgency overcomes them and they have a leakage episode. This is particularly important when a patient who has difficulty with gait or dexterity as mentioned earlier in this module. Another source is running water. Common triggers include washing dishes, or getting into the shower or bath.
Neurogenic incontinence is a subtype of urgency urinary incontinence. With this subcategory, the etiology is known, as is the result of a neurological impairment. Examples include the following: Multiple sclerosis, diabetes, CVA, spinal cord injury, or Parkinson’s disease.
Mixed incontinence is the combination of both stress and urge incontinence. Not all of the therapies available to treat stress incontinence will address urge incontinence. It is important to understand what therapies will address which type of incontinence. The most important aspect is that surgical correction for stress incontinence does not treat urge incontinence, therefore, any patient who has mixed incontinence and is undergoing surgery for the stress component, should understand that the urge component will not be cured with surgery.
Overflow incontinence is the loss of urine due to overdistention of the bladder that most commonly occurs as a result from obstruction of the urethra, or as a result of an acontractile bladder. Even though it still is used clinically, the International Continence Society (ICS) recommends the use of stress urinary incontinence, urgency urinary incontinence or mixed urinary incontinence with a high post void residual to be used as an official diagnosis. What is important to know is that this type of leakage is associated with acute or chronic retention. Symptoms include dribbling small amounts of urine, a weak stream, difficulty initiating a stream, and feelings of incomplete bladder emptying. An underactive detrusor (a bladder that does not contract strongly enough to empty adequately) can be caused by many things including neurogenic causes. It can also be the result of pelvic prolapse that kinks the urethra, not allowing for bladder emptying. In men, BPH is a common etiology since the prostate impinges upon the urethra. The nurse will see a large bladder capacity on the bladder diary.
Functional incontinence is urinary leakage that is associated with either a physical or mental limitation. It merely encompasses those that experience leakage due to functional impairments. The person is aware of the need to void but is unable to get to the bathroom in time to avoid a leakage episode. There are a number of causes of functional incontinence. These include impaired mobility/dexterity, depression, poor vision, and dementia. Functional incontinence is more common in the geriatric population as many of these causes are associated with aging.
There are certain gender specific abnormalities that occur as we age. With females, pelvic organ prolapse is extremely common. Prolapses of the bladder, rectum uterus or vaginal vault can occur. It is important to assess for prolapses in women with urinary incontinence especially since prolapses can kink the urethra, masking the severity of incontinence or masking it altogether. Prolapses can cause retention and can lead to acontractility or underactivity if the bladder is forced to chronically contract against a kinked urethra.

Women also experience atrophic vaginitis, which is loss of estrogen status as they go through menopause. The trigone (or base of the bladder) and urethra are estrogen dependent, therefore lack of estrogen can cause both an increase in urge and stress incontinence.

In men, benign prostatic hyperplasia (BPH) is the benign enlargement of the prostate gland. The prostate gland lies at the base of the bladder and surrounds the urethra. Therefore, an enlargement of this gland can cause a stricture of the urinary stream. This in turn causes symptoms of urinary frequency, urgency, incomplete bladder emptying, and uninhibited bladder contractions.

Different research studies vary on the prevalence of incontinence post radical prostatectomy. Incontinence immediately after catheter removal has been reported
(Van Kampen et al, 2000 from PT book) as high as 91%, but the incidence of UI one year post-prostatectomy declines significantly. If UI continues, it is most often the result of intrinsic sphincteric deficiency or detrusor overactivity. Again, because these two types of incontinence are treated differently, it is imperative to know which type is diagnosed, and intervene accordingly.
References


References
