Module 3: Evaluation of urinary incontinence in the older adult

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CHAPTER 1 - OBJECTIVES

The purpose of the initial evaluation is to:

1. Confirm the presence of UI

2. Identify reversible factors

3. Identify a presumptive diagnosis if possible.

4. Identify patients requiring further evaluation before therapeutic intervention is attempted.

CHAPTER 2 - HISTORY:

As you begin the evaluation of urinary incontinence it is important to determine the impact incontinence has on the patient's life. Some patients may have one or two episodes of involuntary urine loss with dramatic effect on their function and quality of life. Others may experience more frequent symptoms and may not be particularly bothered. Simple questions to assess the effect of UI can be elicited but over 40 validated quality of life questionnaires are available to measure the impact of incontinence on daily life. Some are linked here and include the Incontinence Impact Questionnaire (IIQ-7), the American Urologic Association Symptom Index, the Urogenital Distress Inventory Score (UDI-6) and the International Consultation for Incontinence Questionnaire (ICI-Q).

The basic evaluation of Urinary Incontinence should include a history, physical examination, a cough test in women with a reasonably fully bladder should be performed, post void residual volume determination by a bladder scan or in and out catherization, routine chemistries (specifically BUN, creatinine, glucose, calcium and potassium) and urinalysis and a culture if urinalysis is suggestive of infection.

The past medical history should take special note for conditions such as recurrent urinary tract infections, renal disease, diabetes, congestive heart failure and venous insufficiency. Neurologic history for multiple sclerosis, Parkinson's disease, stroke, Alzheimer's disease or dementia is important to note. Any conditions which impair mobility and dexterity are also key to document. Bowel habits such as constipation, fecal incontinence or vaginal splinting are recorded. Symptoms of depression should be assessed.

The history should include questions about incontinence: onset, timing (leakage day and/or night), duration, evolution in severity over time, response to prior therapies;- as well as associated lower urinary tract symptoms like frequency, urgency, dysuria, or nocturia Are there inciting events? For instance, does the loss of urine occur during coughing, sneezing, or laughing such as occurs with stress incontinence? Does the patient have a sudden urge to void and make comments such as "I just can't get to the bathroom on time." This history is consistent with urge incontinence but could also occur in patients with overflow incontinence. Is the patient unaware of urine loss? Complaints of reduced or interrupted stream or straining to urinate, hesitancy, dribbling and incomplete emptying suggest voiding dysfunction, and possibly overflow incontinence. Hematuria without evidence of a urinary tract infection raises concerns for an underlying bladder or renal pathology and always requires further evaluation.

Questions regarding fluid intake, the amount, type and timing are important. This includes caffeinated products such as soft drinks, coffee and tea and their timing (especially before bedtime) and alcohol consumption. Careful scrutiny of all prescribed and over the counter medications is essential. In particular, use of diuretics, sedative agents, anticholinergics, hormones and psychotropic drugs are important to note. Many drugs have anticholinergic effects which may impair detrusor contractility. Cholinesterase inhibitors may cause urgency and alpha blockers may impair sphincter function.

In women, the number and types of deliveries, any symptoms of prolapse or prior procedures to correct incontinence or prolapse, as well as a history of urinary retention or radiation therapy should be ascertained.

A 3 day voiding diary can be helpful in patients or caregivers able to complete one. Diaries can document the voiding pattern, frequency of incontinent events, their timing and can be helpful in establishing a diagnosis as illustrated in the link above.

The history should also include information about the patient's environment. Are there physical obstacles? Are there unobstructed pathways to get to the bathroom? Can the walker fit in the restroom? Is the toilet too low? Is there adequate lighting? These are all important to review with patients and their caregivers.

CHAPTER 3 -PHYSICAL EXAM:

A complete physical exam should be performed with particular attention to the abdominal, genital, pelvic, and neurologic exam. In addition it is important to assess mobility and cognition.

Assessing the patient's cognition is important and use of a cognitive screening test may be useful. Evaluate the patient's hand dexterity, ability to open buttons and garment and ability to ambulate. Can they disrobe for toileting and ambulate to the toilet in sufficient time? The abdomen is examined for scars, tenderness, masses, and in particular for a palpable bladder.

In men the genital exam should assess the penile shaft and glans, testes and the overall condition of the skin. The rectal exam is perhaps most important to assess for fecal impaction and masses. Prostate size is predictably large in aged men and an unreliable determinant of the etiology of urinary incontinence.

Because the same nerve roots (S2-S4) innervate both the anal and urethral sphincters a number of maneuvers can be performed to assess the neuronal integrity to the lower urinary tract. Testing sensation in the saddle and perianal area investigates the afferent loop of the reflex arc and having the patient voluntarily contract their anal sphincter around the examining finger assesses the motor components of S2-S4. Another maneuver to assess neurologic innervation is done by eliciting the anocutaneous reflex or anal wink. The perianal skin is gently pricked with the rough edge of a broken cotton swab and anal closure should be observed.

The bulbocavernosus reflex assesses the sensory loop by squeezing the glans penis in men or clitoris in women while assessing the motor loop by noting anal sphincter contraction at the same time.

A patulous anus suggests paralysis of the anal sphincter but chronic over distention from constipation or prior rectal surgery may also result in these findings.

The vagina should be examined for signs of atrophy such as loss of rugae and a thin shiny vaginal wall. In older women use of a pediatric size speculum should be used to look for cystocele, uterine descent, vault prolapse, enterocele or rectocele. The presence or absence of a cystocele should be noted but does not indicate the cause of UI.

As part of the pelvic exam a provoked full bladder test should be performed. The patient with a full bladder is asked to strain or cough first in a supine position and if there is no leakage noted, repeat the stress test in the standing position. Leakage noted at the time of the cough during this maneuver confirms stress incontinence, whereas delayed leakage suggests a cough-induced bladder contraction typical of urge incontinence.

After a measured void, a post-void residual volume determination by bladder scan or an in-and-out catheterization is performed to assess degree of bladder emptying. Volumes over 100-150cc, and certainly above200 cc confirm the presence of urinary retention.

CHAPTER 4 Testing:

All patients should have routine chemistries (specifically BUN, creatinine, glucose, calcium and potassium) and a urinalysis. If there is evidence of infection, a urine culture should be obtained to direct therapy.

Urodynamic testing is reserved for patients in whom a diagnosis remains uncertain after initial evaluation, have failed initial empiric therapy or when surgery is being considered. Urodynamic testing is not a single procedure but includes five different maneuvers that can be selected depending on the clinical situation. These include filling and voiding cystometry, non-invasive and invasive uroflowmetry, and concomitant sphincter electromyography, urethral pressure profilometry, and/or radiographic visualization of the lower urinary tract when indicated. Urodynamic testing should be performed by a health care provider well-trained in administering these tests and knowledgeable in the physiology and pathophysiology of lower urinary tract function, and tailored to the patient's presenting symptoms. Cystoscopy may also provide important information, especially in evaluating patients presenting with hematuria or recurrent urinary tract infections.

In summary, after completing the above evaluation the primary care physician will be able to confirm the presence of UI and identify reversible causes. Once reversible causes have been excluded a presumptive diagnosis of the underlying cause of chronic UI can be made for most patients.

Lastly, the initial evaluation also identifies patients who will require further evaluation by a urologist or uro-gynecologist, also known as a Female Pelvic Medicine and Reconstructive Surgeon (FPMRS). This includes patients , (1) when diagnostic uncertainty remains even after the above assessment, (2) with evidence of inadequate bladder emptying, (3) that have not responded satisfactorily to initial empiric interventions and (4) when invasive interventions are under consideration such as surgery, including those who have had prior surgical procedures and ,(5) with hematuria in the absence of infection.