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Remedial Continence Management Essay Exam

This is a remediation final exam developed based upon your previous objective exams. This exam is developed to further enhance understanding of concepts introduced in the Urinary and Fecal Incontinence Management Course.

A score of 80% of higher is required for passing this exam. Your answers should be scholarly; including complete sentences. Should you feel the need to research the concepts, please be sure to include references and citations as appropriate utilizing APA format. The possible points awarded for each question varies and is indicated with the question. APA formatting will be considered in final score. A late exam will not be accepted. Good Luck!

1. **Mr. Sam has had a stroke. A focused neurologic exam shows normal cognitive status with post-void residual urines as follows: 650cc; 843cc; 575cc; and 667cc. How would you interpret this data? Identify and describe what, if any, the treatment approach.** (3 points)

   The inability to empty the urinary bladder completely is defined as retention (Sheldon & Santos, 2022). Mr. Sam is experiencing urinary retention. Mr. Sam had a stroke, which affects the patient neurologically. Even though his cognitive status may be good, the neurological status will still be affected in some way depending on the part of the brain that the stroke had occurred. Post-void residuals greater than 350mL is significant, and increases the risk for renal damage and upper tract dilatation (Gray, 2006; Kelly, 2004; Nelles, 2022). The patient may be experiencing the urinary retention due to having a stroke. However, medications could contribute to urinary retention. I would review what medications the patient is taking. Anticholinergics and alpha-adrenergic agonists increases the risk for acute urinary retention (Sheldon & Santos, 2022). The patient needs to be treated as soon as possible to reduce the risk for complications. The physician may need to adjust medications if medications are contributing to the urinary retention. The patient will need to have an intermittent straight catheterization be performed to empty the bladder, and record the amount emptied. A urinalysis should be performed for urinary retention to rule out infection (Sheldon & Santos, 2022). BUN, creatinine, and eGFR should be checked to rule out renal damage (Sheldon & Santos, 2022). Then, the patient will need to be taught how to self-catheterize himself if the patient is physically able to. The patient and caregiver if available and willing are taught how to perform clean intermittent catheterization technique (Gray, 2022). They will be taught to catheterize every 4-6 hours or four times a day while awake (Gray, 2022). The patient should follow up with an urologist.

2. **Define the following conditions and identify the category of urinary incontinence (emptying or storage problem and what type.** (2 points)
   a. **Detrusor hyperreflexia**

      Detrusor hyperreflexia is detrusor overactivity within the detrusor muscle causing contractions. This is a common dysfunction seen with neurogenic bladder (Gray, 2022). The

detrusor contractions cause urgency and urinary leakage (Gray, 2022). Detrusor hyperreflexia would be a failure to store urine because of the bladder type of problem.

b. **Detrusor areflexia**

Detrusor areflexia is when the detrusor muscle cannot contract. The bladder will retain urine, and the patient cannot empty the bladder on their own due to the lack of activity of the detrusor muscle. The patient may experience terminal dribble, difficulty urinating, and feeling of incomplete bladder emptying (Gray, 2022). Detrusor areflexia would be a failure to empty because of the bladder type of problem.

3. **For each category of medication, explain its role in the treatment of urinary incontinence, one brand and trade name for each category, indication/contraindication, and at least one patient teaching point.**
(2 points each)

a. **Antimuscarinic**

Antimuscarinics, also known as anticholinergics are for neurogenic detrusor overactivity (Gray, 2022). Ditropan XL (oxybutynin) is classified as an anticholinergic/antimuscarinic. Antimuscarinics may be prescribed for overactive bladder and urgency urinary incontinence. The muscarinic receptors that are in the urothelium and detrusor are blocked from activation with the use of antimuscarinics (Wooldridge, 2022). This decreases the urgency sensation. Oxybutynin is not recommended for the elderly due to causing cognitive impairment in the elderly (Gibson et al., 2014; Wooldridge, 2022). The patient should be educated on the possible side effects. Side effects may include dry mouth and constipation (Wooldridge, 2022).

b. **Beta-3 adrenergic agonist**

Beta-3 adrenergic agonist is used for overactive bladder, and in patients with neurogenic detrusor overactivity (Gray, 2022). Beta-3 agonists relax the smooth muscle by binding to the beta-3 adrenoceptors in the bladder (Robinson et al., 2022). Myrbetriq (mirabegron) is classified as a beta-3 adrenergic agonist. Mirabegron may be used as first line treatment in neurogenic detrusor overactivity, and can be used in combination with other antimuscarinics (Gray, 2022). Mirabegron may cause a side effect of high blood pressure. Mirabegron would be contraindicated for the person who has a history of hypertension. The patient should be instructed to monitor blood pressure while taking mirabegron, and when to contact the physician of BP greater than or equal to 140/90.

c. **Antifungal powder**

Antifungal powders are helpful to treat fungal rashes. Moisture on the skin from incontinence can create incontinence associated dermatitis (IAD). IAD breaks down the skin, and allows for pathogens to enter the skin. This increases the risk for a fungal infection to occur, such as candidiasis. Micro-Guard® (miconazole) is a common use powder to treat fungal infections. Miconazole is contraindicated if a patient is allergic to miconazole. Instruct patient to stop use of powder and notify physician if rash is more painful, burning, or worsens. Educate patient on keeping skin clean, dry, and dusting on the miconazole powder in a thin coat to cover the entire affected area (Thayer & Nix, 2022).

4. **For each diagnostic test listed, provide an explanation of what the test includes and what it is telling you**
about bowel or bladder function. When would the test be used? (2 points each)

a. **Post void residual**

A post-void residual is the measurement of the amount of urine that remains in the bladder after voiding. The test can either be performed by a bladder scanner (ultrasound), or by

intermittent straight catheterization. The post void residual would let the clinician know if the patient is retaining urine. This test should be performed anytime that there are signs and symptoms of urinary retention, such as difficulty voiding, feeling of incomplete bladder emptying, urgency, and small amounts of urine voided. Urinary retention could be caused from enlarged prostate, medication side effects, narrow urethra, and neurogenic bladder (Cleveland Clinic, 2021).

b. **Uroflowmetry**

Uroflowmetry is the measurement rate of urine flow overtime, and it is noninvasive (Dickinson, 2022). The patient urinates into a commode with a funnel that has a sensing transducer that measures the rate of the urine flow in milliters/second (Dickinson, 2022). Uroflowmetry assesses for bladder emptying problems. Uroflowmetry can be used for the patient that is experiencing incomplete bladder emptying (Gray, 2022).

c. **Bladder / bowel diary**

A bladder or bowel diary allows the patient to write down/record when a void or bowel movement happens, when incontinence episodes occur, description of episodes, description of urine or stool, the time of day, the activity the patient was doing at that time, and outcome effects after the void/defecation or incontinence happened. The diaries include the type of fluids or food that was consumed by the patient. The diary length may be up to 14 days, but valuable information can still be produced within 1-3 days (Gray, 2006; Nelles, 2022). The written report may be more reliable than verbal reporting (Callan & Francis, 2022). The patient or caregiver must be willing to comply. The diary is a simple tool that can be first line of treatment/assessment to help the clinician with a diagnosis. The diary can assist the clinician to evaluate a patient for toilet program readiness. The diaries can be done for anyone experiencing bladder and/or bowel symptoms or incontinence.

5. **Pelvic floor muscle training is utilized as a first line treatment for what two types of urinary incontinence? Describe the underlying pathophysiology of each and how diagnosed.** (4 points)

Pelvic floor muscle training and exercises can be utilized as a first line treatment for stress incontinence for both men and women, stress incontinence from post-op radical prostatectomy in men, and for treatment of urge urinary incontinence. Disease or malignancy of the prostate can create lower urinary tract symptoms. The prostate is removed for cancer or mass. A radical prostatectomy could lead to trauma to the external urethral sphincter (rhabdosphincter) (Robinson et al., 2022). The patient will experience incontinence after prostate treatment. The prostatic urethra and its smooth muscle fibers are removed from the radical prostatectomy, and the rhabdosphincter must take on the burden of bladder control (Robinson et al., 2022). The rhabdosphincter is surrounded by the levator ani muscle in the pelvis. Pelvic floor muscle training (PFMT) could help strengthen the area to reduce stress incontinence symptoms after a prostatectomy. Building strength and endurance in the levator ani muscle can be achieved by PFMT (Robinson et al., 2022).

Stress incontinence can be caused from damage to the pelvic floor muscles from vaginal births, prostatectomies, radiation treatments, and other surgical procedures. Intra-abdominal pressure can be caused from activities. Stress incontinence is due to a sphincter dysfunction (Engberg, 2022). Stress incontinence may happen when a person coughs, sneezes, laughs, lifts an object, or performing exercises. The person experiences urinary leakage during those activities. Stress incontinence can be diagnosed by assessing the patient's health history, performing an assessment of the pelvic floor muscles, obtaining a urinalysis to rule out urinary infection, and having the patient create a bladder voiding diary.

Urge incontinence creates a sensation of sudden urgency and frequency to void. People with urge incontinency report not being able to hold their urine or leak urine on the way to the bathroom (Nelles, 2022). Urge incontinence could be caused by urinary infections, pelvic floor weakness after vaginal delivery, medications, or overactive bladder. If overactive bladder is causing the urge incontinence, then reducing intake of some bladder irritants, such as caffeine, dark carbonated beverages, and alcohol could reduce the urgency (Thompson, 2022). Caffeine is a common trigger for urinary urgency (Thompson,

2022). Some people experience the urge sensation with environmental cues, such as cooking dinner, walking past the bathroom, or hearing running water (Thompson, 2022). If the person is used to environmental cues, then changing the routine may help decrease urgency sensation. PFMT is the first line of treatment for urge urinary incontinence. The urge urinary incontinence can be diagnosed by assessing the patient's health history, performing an assessment of the pelvic floor muscles, obtaining a urinalysis to rule out urinary infection, and having the patient create a bladder voiding diary.

6. **Debbie has been diagnosed with stress urinary incontinence and is highly motivated to learn pelvic muscle exercises. She is able to correctly identify the pelvic floor muscles, although her contraction strength is weak. Describe and outline the steps to be included in the pelvic floor muscle exercise teaching plan for this patient**. (3 points)

Stress incontinence is leakage of urine due to sphincter dysfunction that is caused by an increase of intra-abdominal pressure from activities (Engberg, 2022). The patient should keep a bladder diary while performing exercises for at least 3 days, which could be valuable information on urinary storage and voiding (Engberg, 2022). The pelvic floor muscle exercise teaching plan should first include reviewing the anatomy and pelvic floor muscles with the patient. Have patient empty bladder prior to exercises. Visual aides are usually helpful, such as diagrams and charts. Next, educate the patient on the goal is to perform pelvic floor muscle exercises correctly. The patient needs to focus on pelvic floor muscle contraction when performing the exercises. Instructions for the exercises can be verbal, written, or taught during the pelvic examination (Engberg, 2022). It is recommended to perform 10-15 exercises per set 3-4 times a day (Engberg, 2022). Instruct the patient to perform the exercises while supine, sitting, and standing (Engberg, 2022). Avoid use of abdominal and buttocks muscles during pelvic floor muscle contraction exercises (Engberg, 2022). Instruct patient to increase contraction and relaxation time gradually for 10 seconds with each exercise (Engberg, 2022). Inform the patient that these exercises can be performed while doing other activities like brushing teeth, driving in the car, or standing in line. The patient's pelvic floor muscles can be reassess for strength at the next clinical visit. Each person varies on strength of pelvic floor muscles, which could determine the frequency and duration of the exercises.

7. **There are multiple containment devices available for the management of urinary incontinence. For each one identified below, provide a brief description and the indications for use.** (2 points each)

   a. **Briefs /Pull-ups**

   Briefs may have tabs on them like diapers. Some briefs have indicators on them, such as a line that changes color to let someone know when the brief is soiled. Most disposable briefs and pull up undergarments has elastic waists (Kent & Holderbaum, 2022). The construction of the pull up undergarment is similar to a toddler's training pants (Kent & Holderbaum, 2022). The pull up undergarment is made to fit snug like regular underwear. Briefs or Pull-ups® are absorbent products that are used for moderate to heavy urinary incontinence, fecal incontinence, or both urine and fecal incontinence.

   b. **External catheters**

   The external catheters are devices that adhere to the external genitalia that collect urine (Kent & Holderbaum, 2022). These devices are designed for either males or females. The male external catheter is also known as a condom catheter. A condom sheath is placed onto the penis, and the end

of the condom catheter is connected to a drainage tube to allow urine to flow into a drainage bag. The condom catheter may be appropriate for men with moderate to heavy urine incontinence, and for men with limited mobility with frequency and urgency, to monitor urinary output, or not able to engage with a toileting program (Gray et al., 2020; Kent & Holderbaum, 2022).
The female external catheter, PureWick™, is a hotdog shape device that is placed between the labia. The device will be connected to a drainage tube that is connected to the wall suction at low continuous pressure. When the woman urinates, the urine from the urethra will absorb into a cloth material on the PureWick™ device. Then, the urine is sucked up through the tubing into a canister connected to the wall suction. The female external catheter can be used for inability to get to the toilet or bedside commode, urine diversion/containment where other options are not suitable, urine measurement, urine leakage from post-indwelling catheter, and to keep skin dry from low to moderate incontinence when wounds are present (Beeson & Davis, 2018; Kent & Holderbaum, 2022).

c. Indwelling catheter

Indwelling urinary catheters are usually made from latex or silicone. It is a tube that is inserted into the urethra and into the bladder. The balloon towards the end of the catheter is inflated with sterile water. The balloon is inflated while in the urinary bladder, and acts as an anchor to hold the catheter in the bladder. The external/distal end of the catheter is connected to a drainage tube and drainage bag. Suprapubic catheters are also indwelling catheters. The indwelling catheter is used for patients with urinary retention from non-neurogenic or neurogenic lower urinary tract dysfunction (Newman, 2022). The catheter may be used as short-term or long-term depending on the medical status and diagnosis of the patient. The indwelling urinary catheter may need to be used for the following: accurate intake and output in critically ill patients, prolonged immobilization due to surgery, assist in healing of perineal and sacral wounds in incontinent patients, continuous bladder irrigation, drugs administered directly into the bladder, end of life care, for urologic/gynecologic/perineal procedures, large volume of IV fluids and diuretics expected to be given during surgery, length of surgery, incontinence during surgery, and intraoperative hemodynamic monitoring of fluids (Gould et al., 2009, 2010; Meddings et al., 2015; Newman, 2022).

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Note: There are references dated more than within the past 5 years. These references were referenced in another reference.

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