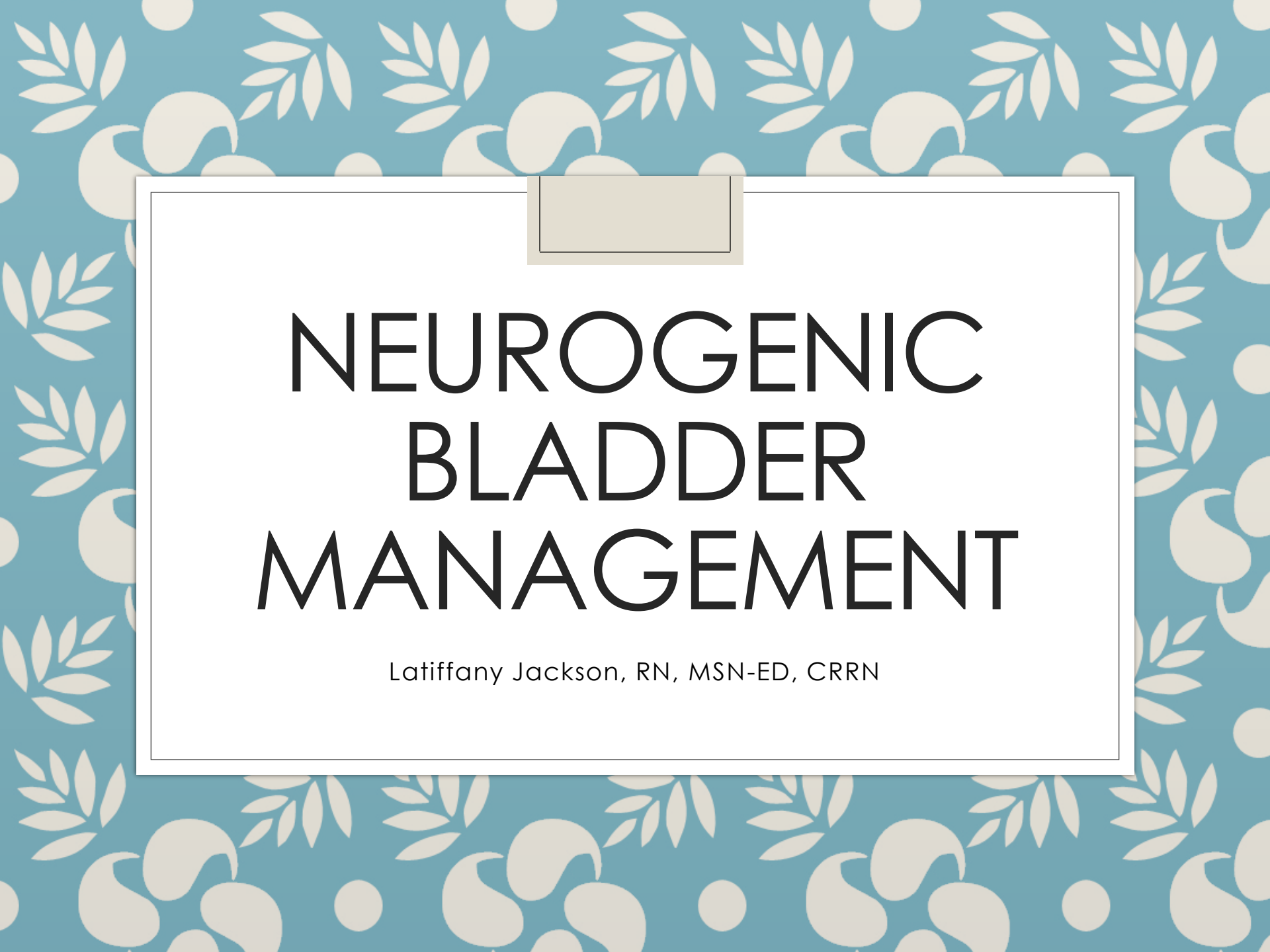




NEUROGENIC BLADDER MANAGEMENT

Latiffany Jackson, RN, MSN-ED, CRRN

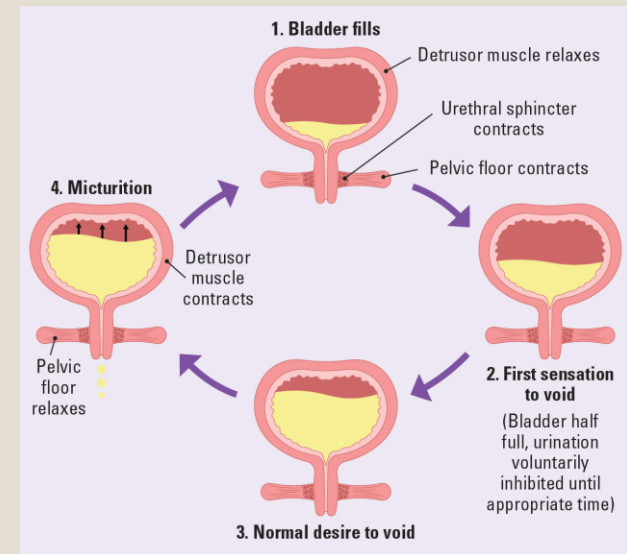
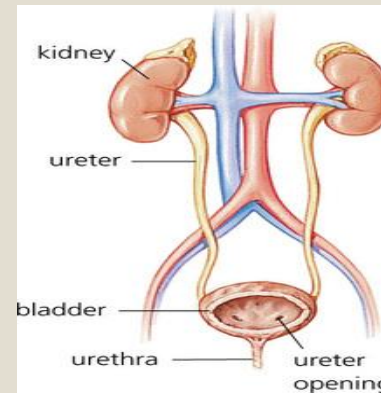
Objectives

- Define, describe, or identify the following regarding neurogenic bladder:
 - Normal Micturition
 - Neurogenic Bladder
 - Causes
 - Management Strategies
 - Medication
 - Urinary Tract Infections (UTI)
 - Diagnostic Studies

The Normal Urinary Tract and Urination (How we make urine?)

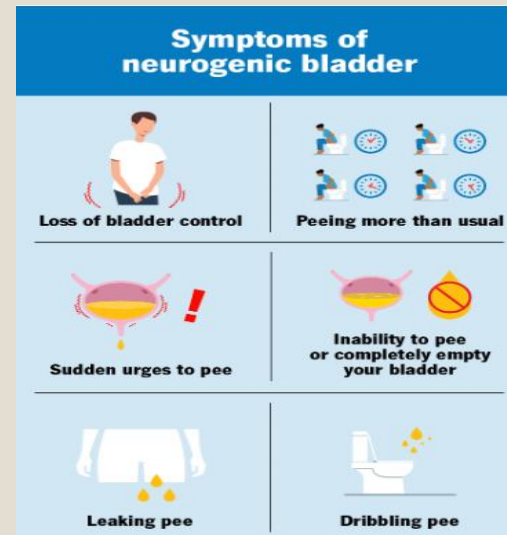
The 5 major parts of the urinary tract:

- **Kidneys**
 - Filters blood throughout the body to remove toxic wastes
- **Ureters**
 - Urine flows down the ureters from the kidneys and empties into the bladder.
- **Bladder**
 - Serves as a reservoir for urine.
- **Sphincter Muscles**
 - The internal and external sphincter muscles form a ring around the urethra to keep urine in the bladder.
- **Urethra**
 - Tube through which urine leaves the bladder and is discharged outside the body.

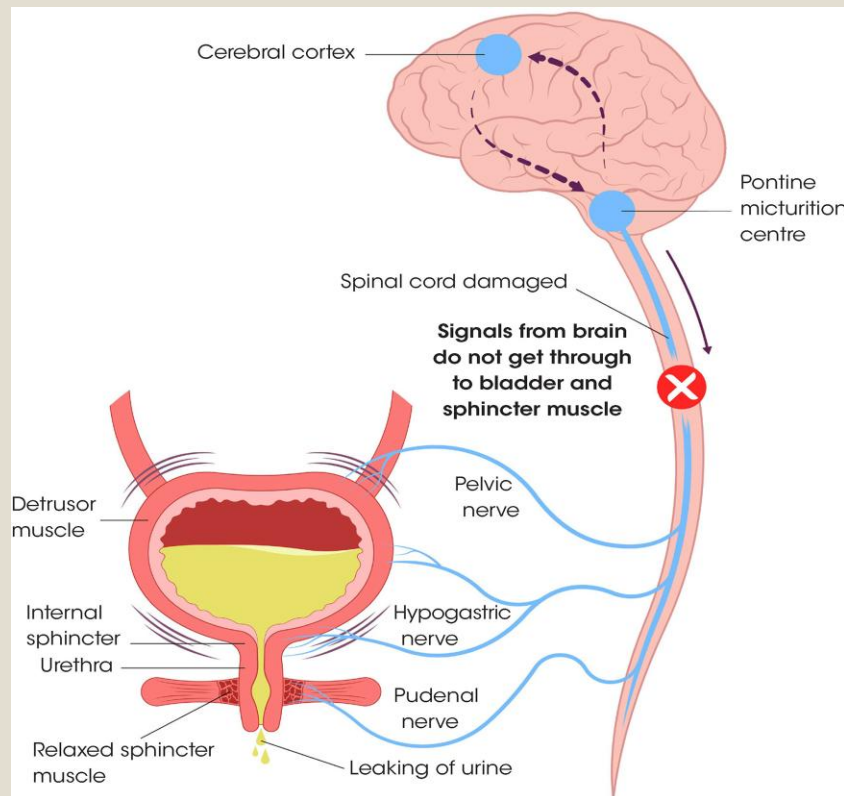


What is Neurogenic Bladder?

- A condition resulting from a nervous system issue that disrupts the complex nerve signals between the brain, spinal cord, and bladder.
- Can't be cured
- Symptoms can be managed with lifestyle changes, catheters and medications
- Two major types of bladder control problems:
 - Overactive (spastic or hyper-reflexive) bladder
 - Underactive (flaccid or hypotonic) bladder



Neurogenic Bladder Causes



- Interruption in neuropathway with subsequent urinary retention and expulsion impairment
 - Brain Injury (CVA, Parkinson's Disease, Trauma, Mass/Tumor)
 - Spinal Cord Injury or Disorder (Trauma, Mass, Multiple Sclerosis)
 - Advanced Diabetes
 - <https://www.youtube.com/watch?v=JUk2m0Qa21g>

Management Strategies

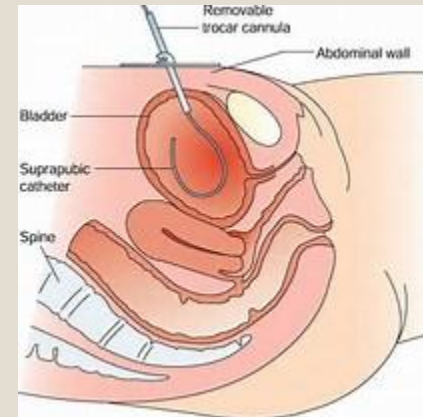
- Identify a bladder program:
 - Indwelling Catheter
 - Intermittent Catheterization
 - External Catheter/Devices
- Hygiene/Adequate Fluid & Food Intake
- Medications
- Surgical Interventions

Indwelling Catheter

- Any catheter which is inserted into the bladder and allowed to remain in the bladder is called an indwelling catheter.
- Two types of indwelling catheters:
 - Urethral catheter
 - Inserted through the urethra
 - Suprapubic catheter
 - Requires surgical insertion to place the first catheter
 - Inserted through the abdominal wall into the bladder between the pubic bone and the navel



Urethral



Suprapubic

Intermittent Catheterization Program

- Gold standard to manage long-term bladder dysfunction
- Individuals considered for IC:
 - Have sufficient hand skills
 - A willing caregiver to perform the IC
- Consider avoiding IC for SCI patients: (to name a few)
 - Bladder capacity less than 200 ml
 - Poor cognition, inability or unwillingness to adhere to IC time schedule
 - Tendency to develop AD with bladder filling despite treatment



Bladder Training with IC

If a patient can void:

- Offer toileting opportunities every 2 hours during daytime while patient is awake and every 3-4 hours at night
- Bladder scan patient to check proper emptying of bladder (within 20 minutes of voiding); Collect PVRs from 2 consecutive voids.
 - If bladder volume consistently exceed 500 ml, adjust fluid intake, increase frequency of IC that does exceed more than 4 hours between IC or consider an alternative bladder management method
- Encourage double voids for PVRs >150cc
- Monitor fluid intake
- Instruct patient on pelvic floor muscle strengthening
- Utilize IC if volumes >150 (or per MD orders)

Catheter Free Voiding Program with External Collection

Catheter free voiding program with external collection

- **External catheters:**
 - **Condom catheters**
 - Made of latex or silicone, covers the penis
 - To apply, may use elastic tape or some types with built in adhesive
 - Change daily
 - **External continence device**
 - Attaches to the tip of the penis with hydrocolloid
 - Urine does not come in contact with skin
 - Change every 48 hours



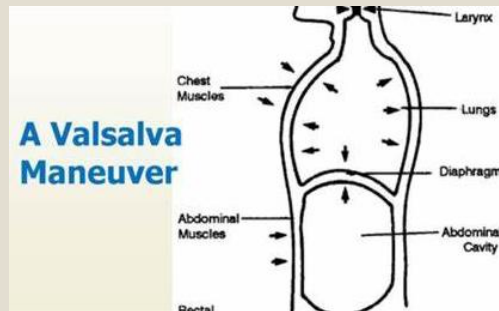
Stimulated Voiding

Voiding is encouraged in one of several ways:

- **Anal or Rectal Stretch**
 - This method for relaxing the urinary sphincter is usually used along with an abdominal corset and Valsalva (see below).
- **Crede**
 - This method involves manually pressing down on the bladder.
 - Usually discouraged because it can increase intra-bladder pressure and cause reflux back into the kidneys, increase the risk of UTI
- **Tapping**
 - The area over the bladder is tapped with the fingertips or the side of the hand, lightly and repeatedly, to stimulate detrusor muscle contractions and voiding.
 - Stimulating bladder spasms to cause the bladder to contract and release urine
- **Valsalva**
 - This method involves increasing pressure inside the abdomen by bearing down as if you were going to have a bowel movement.
 - Not recommended but can be used in addition to other types of bladder management

Crede's Maneuver

Place your palms flat on the patient's abdomen just below the navel. Then apply gentle firm pressure and move downwards towards the symphysis pubis.



Hygiene/Food & Fluid Intake

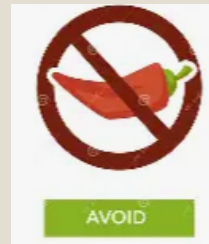
1st line of treatment

- Absorbent underwear
- Bed pans and rubber sheets



Food & Fluid Intake

- Manage fluid intake
- Limit Foods that can irritate the bladder



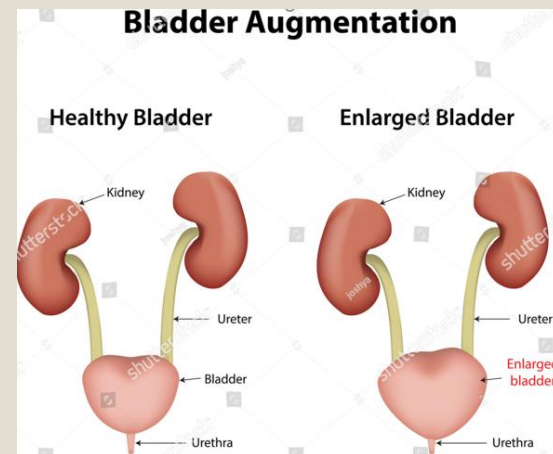
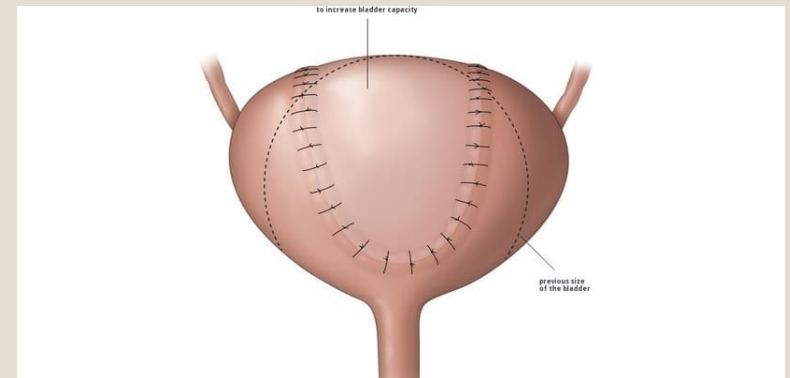
Medications

- Anticholinergics
- Botulinum toxin (Botox)
- Alpha Blockers
- Antibacterial agent



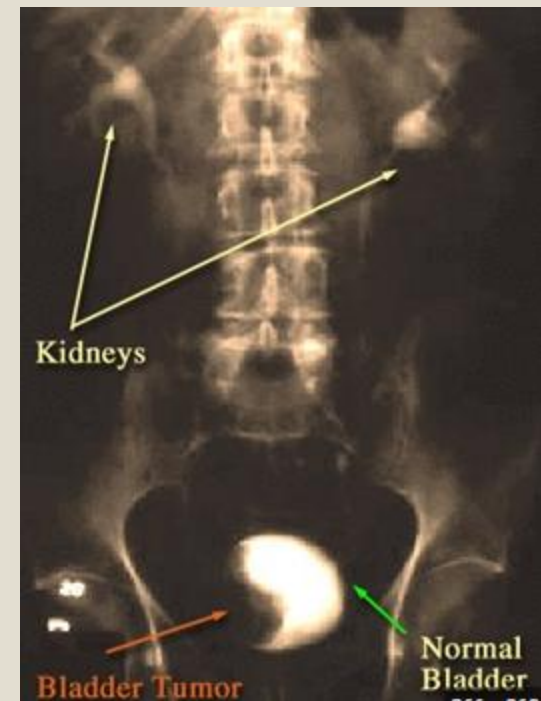
Surgical Interventions

- Artificial Urinary Sphincter
- Cystoplasty (Bladder Augmentation)
- Urethral Injectable Implant (AKA bulking material)
- Mitrofanoff (continent stoma)
- Ileal Conduit



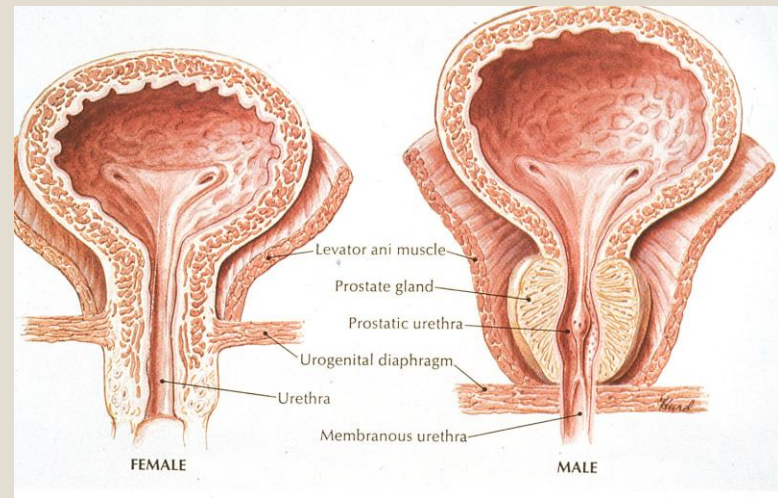
Diagnostic Studies

- Laboratory tests
 - Urine cultures
 - Urinalysis
- Radiology/Nuclear Medicine Studies
 - Renal ultrasound
 - Renal scan
 - KUB x-ray
- Cystoscopy
- Urodynamic Study



Complications of Neurogenic Bladder

- Urinary Tract Infection (UTI)
 - In SCI population, increases risk of Autonomic Dysreflexia (AD)
- Pyelonephritis
- Urosepsis
- Renal/Bladder Calculi
- Renal Failure/Dialysis



CRRN Neurogenic Bladder Sample Questions

A client is admitted to a hospital with a diagnosis of spastic, neurogenic bladder. The nurse is aware that the pathophysiology of this condition is primarily due to which of the following occurrences?

- A. bladder distended until overflow incontinence occurs
- B. Inability of the bladder muscle to contract forcefully
- C. Client's inability to exert motor control
- D. Presence of a lower motor neuron lesion

Answer: C. Client's
inability to exert
motor control

Which are required for micturition to take place?

- A. Relaxation of internal urethral sphincter
- B. Relaxation of external urethral sphincter
- C. Contraction of detrusor muscle
- D. A, B, and C
- E. B and C

Answer: A, B, and C

For which client will the nurse plan interventions addressing a neurogenic bladder?

- A. A 4-yr old child who has not successfully been toilet trained
- B. A client with weak pelvic floor muscles
- C. A client recovering from a stroke
- D. A client being treated for pyelonephritis

Answer: C. A client
recovering from a
stroke

Explain how neurogenic bladder dysfunction can arise from spinal cord injuries and its implications for patient care.

- A. It occurs due to muscle weakness in the bladder, requiring surgery
- B. It results from nerve damage affecting bladder control, necessitating specialized management
- C. It is caused by urinary tract infections, which can be treated with antibiotics
- D. It is a psychological condition that can be resolved with counseling

Answer: B. It results from nerve damage affecting bladder control, necessitating specialized management

A nurse is caring for a client who has urinary incontinence associated with a flaccid neurogenic bladder.

The nurse will implement a ? because the client has ____ urinary incontinence?

- A. In-and-out catheterization
- B. Pelvic floor muscle (kegel) exercises
- C. Excellent skin care
- D. Routine toileting

Answer: A. In-and-out catheterization

A nurse is caring for a client who has urinary incontinence associated with a flaccid neurogenic bladder.

The nurse will implement a ____ because the client has ? urinary incontinence?

- A. Stress
- B. Urge
- C. Reflex
- D. Functional

Answer: C. Reflex

Explain how neurogenic bladder disorders affect the normal micturition process.

- A. They enhance bladder control
- B. They disrupt nerve signals that control bladder function
- C. They increase bladder storage capacity
- D. They have no effect on micturition

Answer: B. They
disrupt nerve signals
that control bladder
function

If a patient with a neurogenic bladder disorder is only excreting 0.5 liters of urine per day, what could be a potential consequence of this reduced urine output?

- A. Increase risk of urinary tract infections
- B. Improved kidney function
- C. Decreased risk of dehydration
- D. No impact on kidney health

Answer: A. Increase
risk of urinary tract
infections

A nurse is informing a client diagnosed with a neurogenic bladder about treatment options. Which options should be included in client teaching? Select the 4 that apply.

- A. Catheterization
- B. Bladder training
- C. Surgery
- D. Pharmacologic interventions

Answer: A, B, C,
and D

A client who has a history of neurogenic bladder presents with fever, burning on urination, and suprapubic pain. What would the nurse suspect is the problem?

- A. Catheter Associated Urinary Tract Infection (CAUTI)
- B. Autonomic Dysreflexia
- C. Urinary Tract Infection
- D. Urosepsis

Answer: C. Urinary
Tract Infection

A male client has been a paraplegic for 5 years. The client reports increased incontinence, and the health care provider orders anticholinergic medication. What is the reason for this decision?

- A. To increase bladder capacity
- B. To decrease fever
- C. To decrease bladder spasms
- D. To decrease bladder capacity

Answer: A. To
increase bladder
capacity

A client diagnosed with flaccid neurogenic bladder is taught to apply pressure with the hand above the symphysis pubis while in the sitting position. What is the expected outcome of this technique?

- A. Increase bladder capacity
- B. Decrease bladder spasms
- C. Efficient emptying of the bladder
- D. Decrease pain

Answer: C. Efficient
emptying of the
bladder

The nurse is instructing a client with neurogenic bladder to perform intermittent self-catheterization. What teaching point(s) should the nurse include? Select the 2 that apply.

- A. How to maintain sterile technique
- B. Scheduling catheterization for every 4 hours
- C. Signs and symptoms of autonomic dysreflexia
- D. Using sterile water to inflate the catheter balloon

Answer: B and C

ANY QUESTIONS

