



Neurogenic Bladder

FSARN: Rehabilitation
Nursing Core Review
Course (CRRN)
28-29 October 2024

Susan Pejoro, MSN, RN, GNP-BC

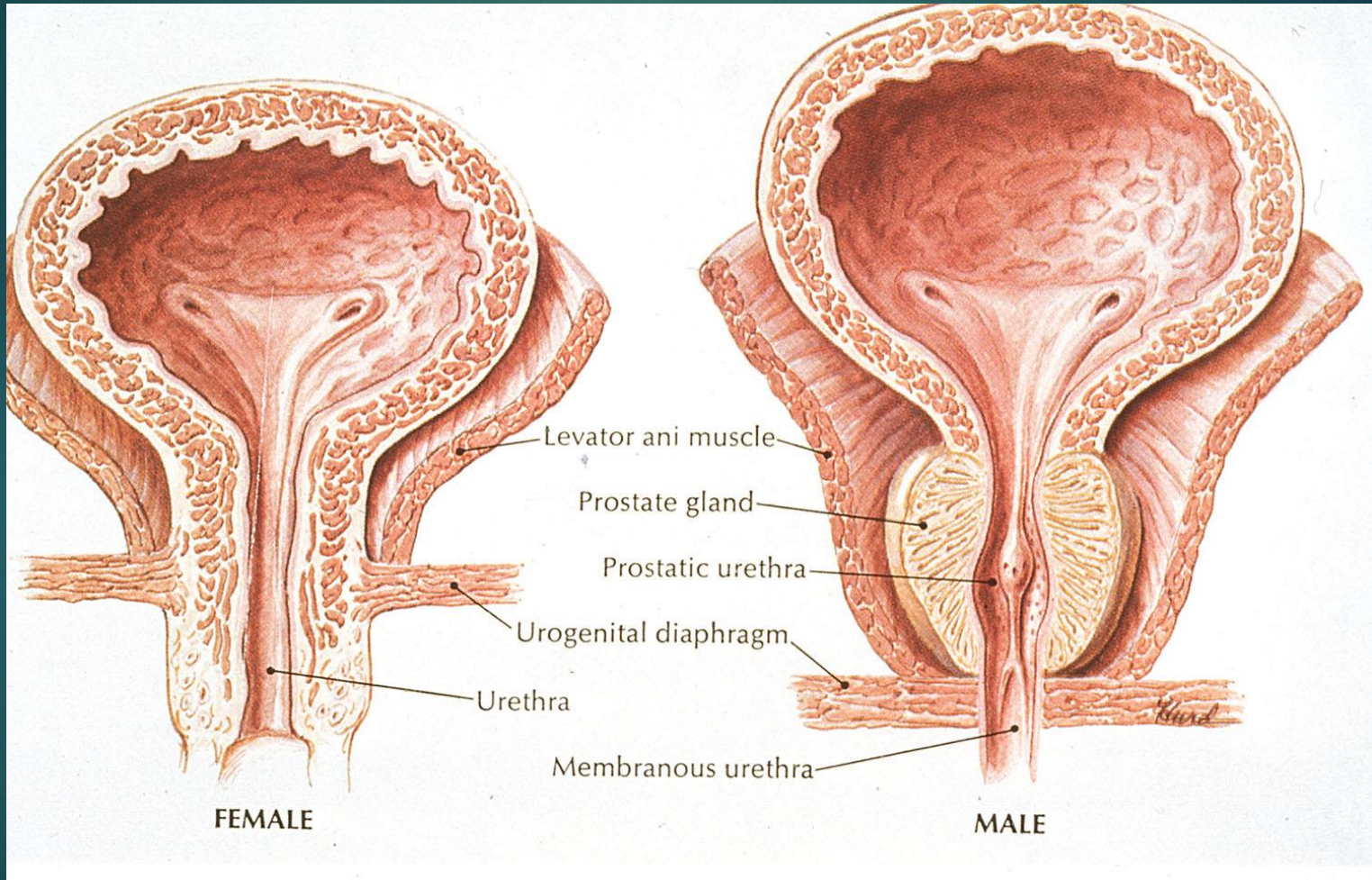
Disclosure

No conflict of interest and/or financial disclosure to report.

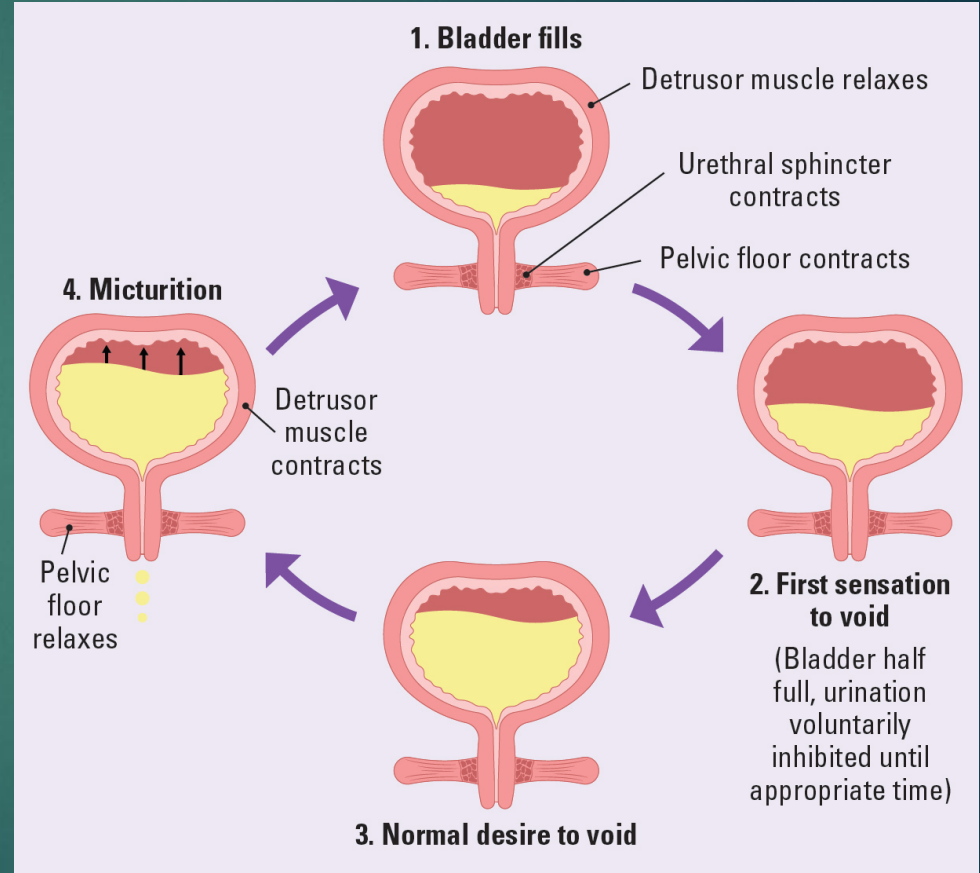
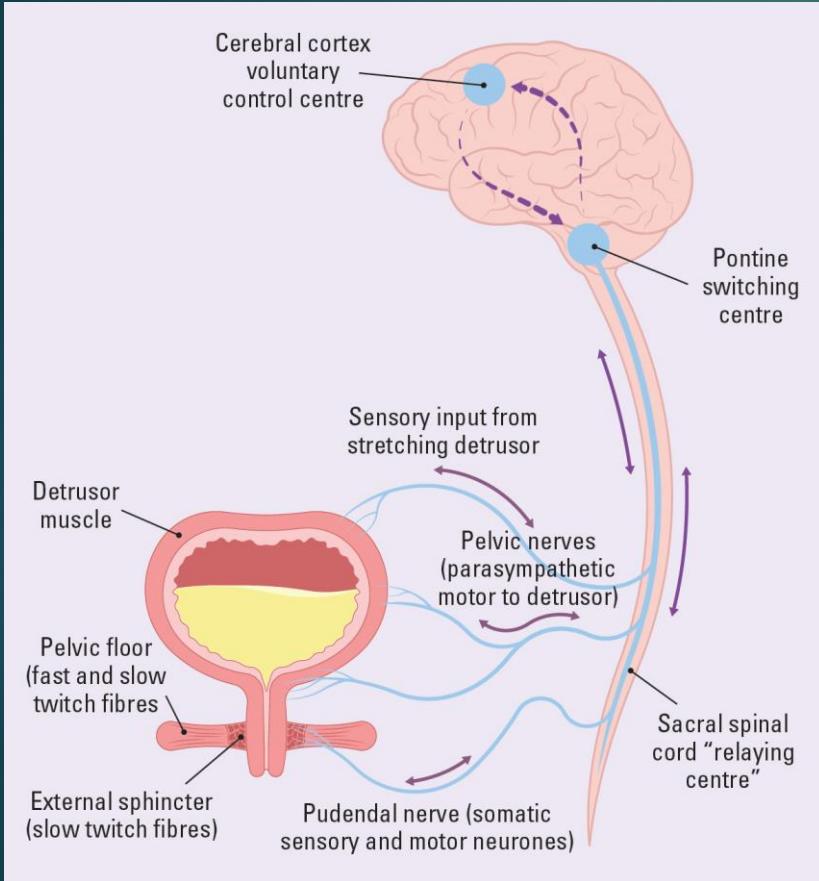
Objectives

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

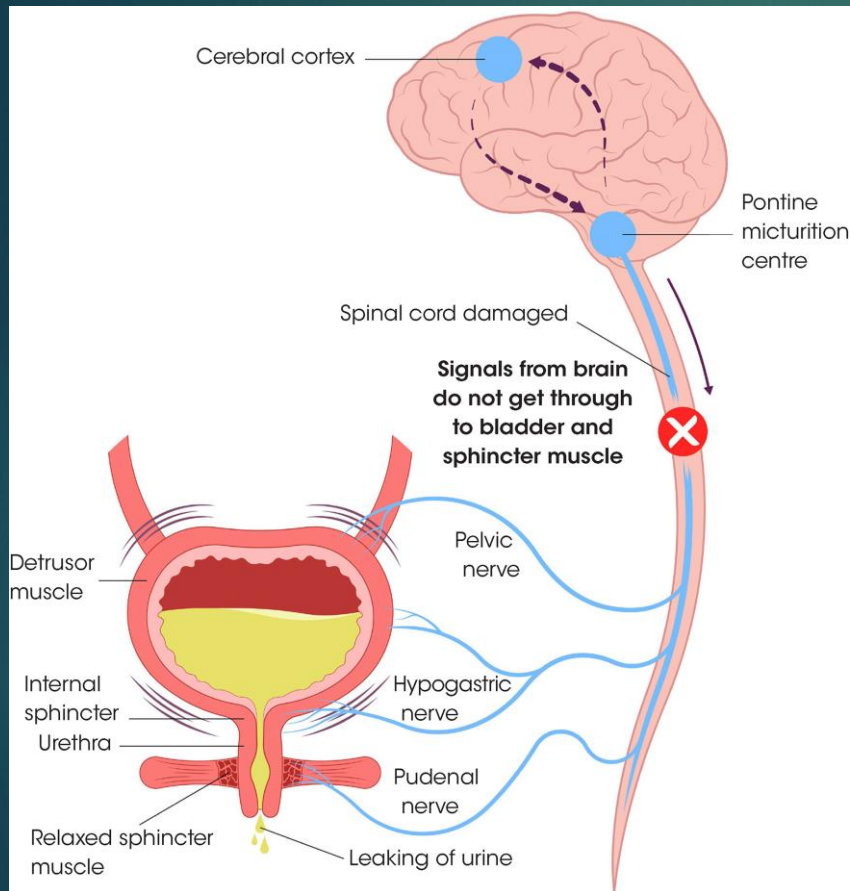
Bladder Anatomy



Normal Micturition



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

Management Aim

- ▶ Maintain Fluid Balance (Intake/Output)
- ▶ Prevent:
 - ▶ Bladder Over Distention
 - ▶ Urinary Tract Infections
 - ▶ Renal Reflux (Hydronephrosis)
 - ▶ Renal Failure

Management Strategies



- ▶ Indwelling Catheter
- ▶ Intermittent Catheterization
- ▶ External Catheter/Devices
- ▶ Hygiene
- ▶ Medications
- ▶ Surgical Interventions

Indwelling Catheter

- ▶ Encourage fluids- at least 2000cc/day
- ▶ Catheter size generally 14 to 16 Fr.
- ▶ Proper securement of catheter- thigh or abdomen
- ▶ Urinary Tract Infection Prevention (CAUTI)
- ▶ Antibiotics generally not needed
- ▶ Transition to Intermittent Catheterization as needed

Intermittent Catheterization (IC)

- ▶ Sterile technique in hospital
- ▶ Use of clean technique in home setting
- ▶ Size 14 Fr. catheter, use 12 Fr. for patients with penile implants
- ▶ Regular, timed catheterization schedule
- ▶ Limit fluids to 2000cc/day

Incontinence Devices/Products

- ▶ Incontinence:
 - ▶ Pads
 - ▶ Pouches
 - ▶ Underwear
 - ▶ Female external catheter
 - ▶ Male external condom catheter

Medications/Surgery

- ▶ Medications
 - ▶ Anticholinergics
 - ▶ Botulinum toxin
 - ▶ Alpha Blockers
- ▶ Surgery
 - ▶ Artificial Urinary Sphincter (AUS)
 - ▶ Urethral injectable implant (bulking material)
 - ▶ Mitrofanoff (continent stoma)
 - ▶ Cystoplasty (bladder augmentation)

Diagnostic Studies

- ▶ Laboratory tests
 - ▶ urine cultures
 - ▶ Urinalysis

Radiology/Nuclear Medicine studies

- ▶ Renal ultrasound
- ▶ Renal scan
- ▶ KUB Xray

- ▶ Urodynamics/Transrectal ultrasound

Sequela

- ▶ Urinary Tract Infection (UTI)
- ▶ Pyelonephritis
- ▶ Urosepsis
- ▶ Renal/Bladder Calculi
- ▶ Renal Failure/Dialysis

Urinary Tract Infections- Causes

- ▶ Inadequate emptying of bladder
- ▶ Poor hygiene, not washing hands
- ▶ Contamination from hands, bowel, and urinary appliances
- ▶ Inadequate fluid intake

Urinary Tract Infections- Common Symptoms

- ▶ Cloudy urine/sediment in urine*
- ▶ Foul odor
- ▶ Increase in spasms
- ▶ Autonomic Dysreflexia
- ▶ Sweating
- ▶ Fever/chills
- ▶ No observable symptoms

Urinary Tract Infections- Prevention

- ▶ Adequate fluid intake- at least 2000cc/day
- ▶ Scheduled bladder emptying
- ▶ Sterile technique for foley catheter/IC (in hospital)
- ▶ Change external catheter daily
- ▶ Daily groin hygiene with soap and water
- ▶ Clean leg bag and bedside bag daily with antibacterial solution
- ▶ Wash wheelchair cushion and cushion cover weekly or as needed
- ▶ Clean pants/underwear daily

References

- ▶ [Clinical Practice Guidelines - Paralyzed Veterans Of America \(pva.org\)](#)
- ▶ [Polytrauma/TBI System of Care Home \(va.gov\)](#)
- ▶ [Spinal Cord Injuries and Disorders System of Care Home \(va.gov\)](#)
- ▶ [Neurogenic bladder and bowel management - Mayo Clinic](#)
- ▶ [Urinary incontinence - injectable implant Information | Mount Sinai - New York](#)
- ▶ [Artificial Urinary Sphincter: Placement & Success Rate \(clevelandclinic.org\)](#)
- ▶ [Bladder Augmentation \(Cystoplasty\): Procedure & Recovery \(clevelandclinic.org\)](#)
- ▶ [Urinary tract infections in patients with neurogenic bladder - ScienceDirect](#)

Thank you/Questions

