Management of Bladder and Bowel Dysfunction

2024 RNDS

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Disclosures

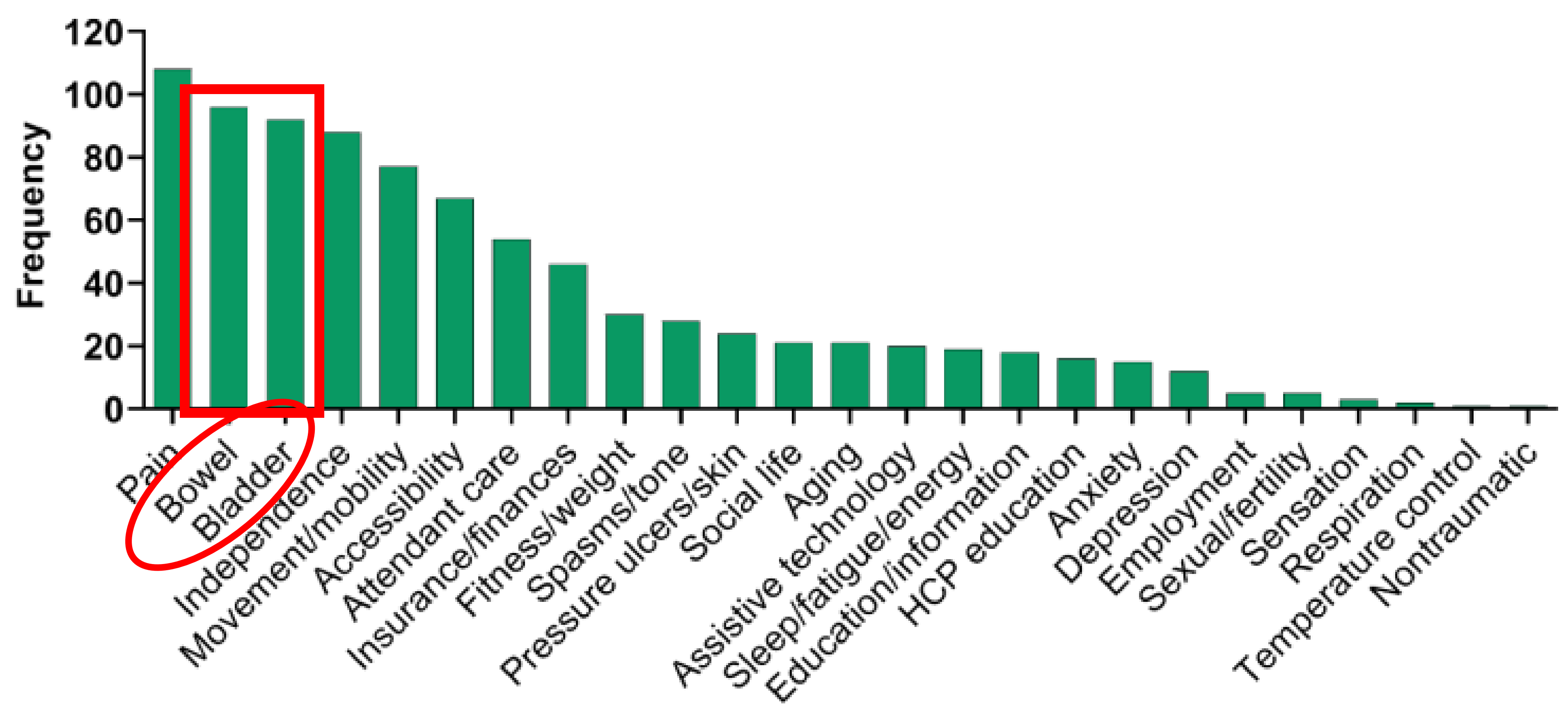
- Neither I, nor any immediate family members have had in the last 24 months, or expect to have in the coming 24 months, any financial relationship or gift-in-kind with industry that is relevant to the subject matter of this presentation.

Objectives

- Discuss changes in bowel and bladder function after spinal cord disease/dysfunction
- Differentiate spastic versus flaccid bladder/bowel
- Provide overview of treatment options for bladder and bowel dysfunction

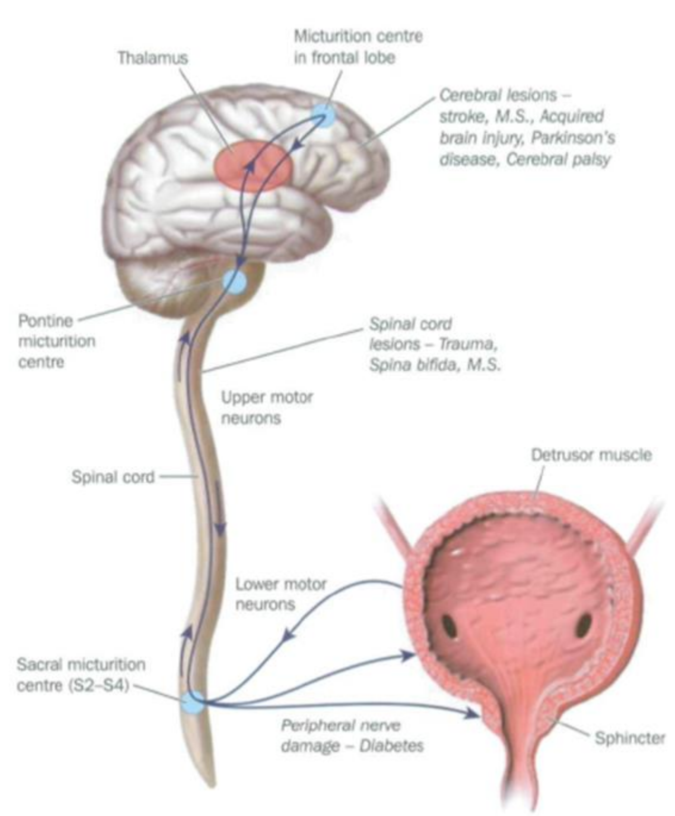
Challenges Faced by the SCI Community

North American SCI Consortium 2019

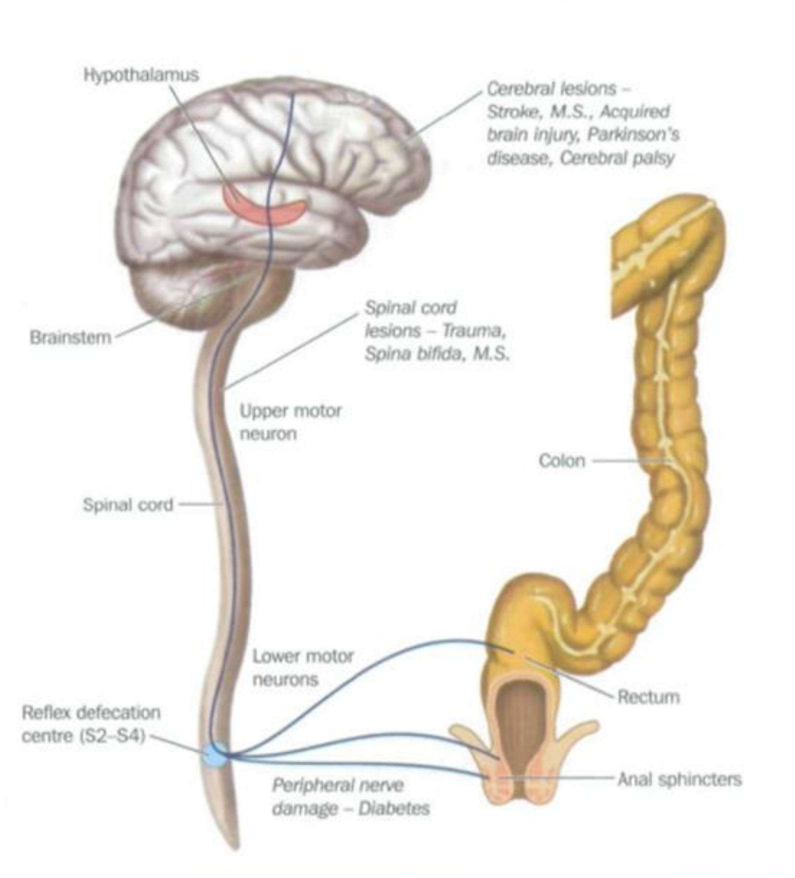


North American Spinal Cord Injury Consortium, Needs of the Community Living with SCI in North America. Niagara Falls, NY. 2019.

Bladder and Bowel Function

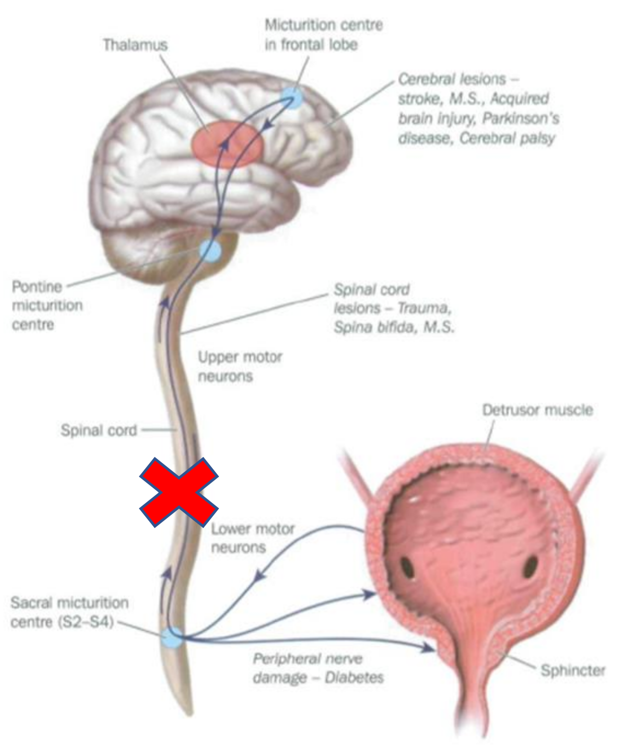


- Functions:
  - Store waste
  - Release waste at the appropriate times
- System has:
  - Muscular storage area
  - Outlet valve or sphincter
- Control:
  - Voluntary
  - Involuntary

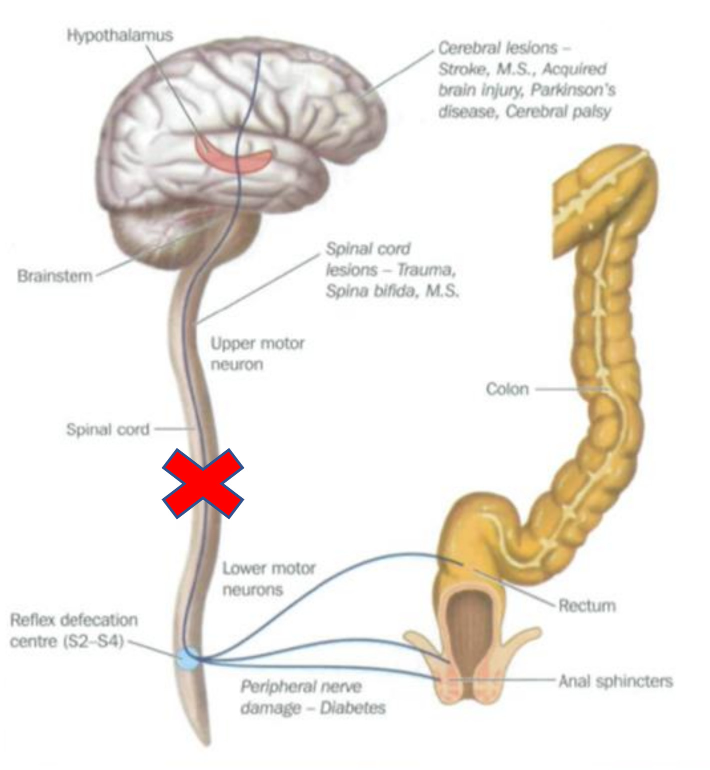


Bladder and Bowel Dysfunction

NEUROGENIC BLADDER

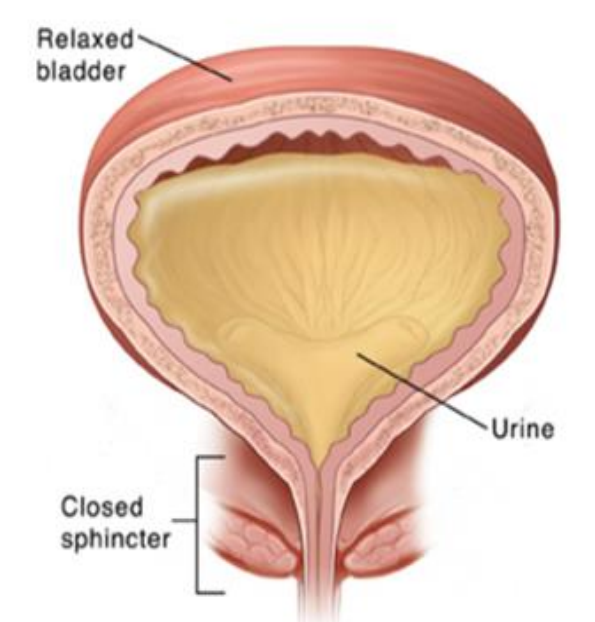


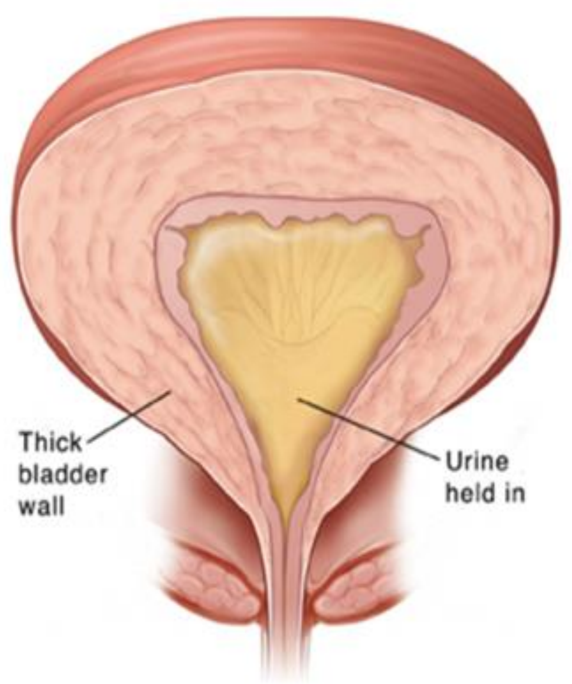
NEUROGENIC BOWEL



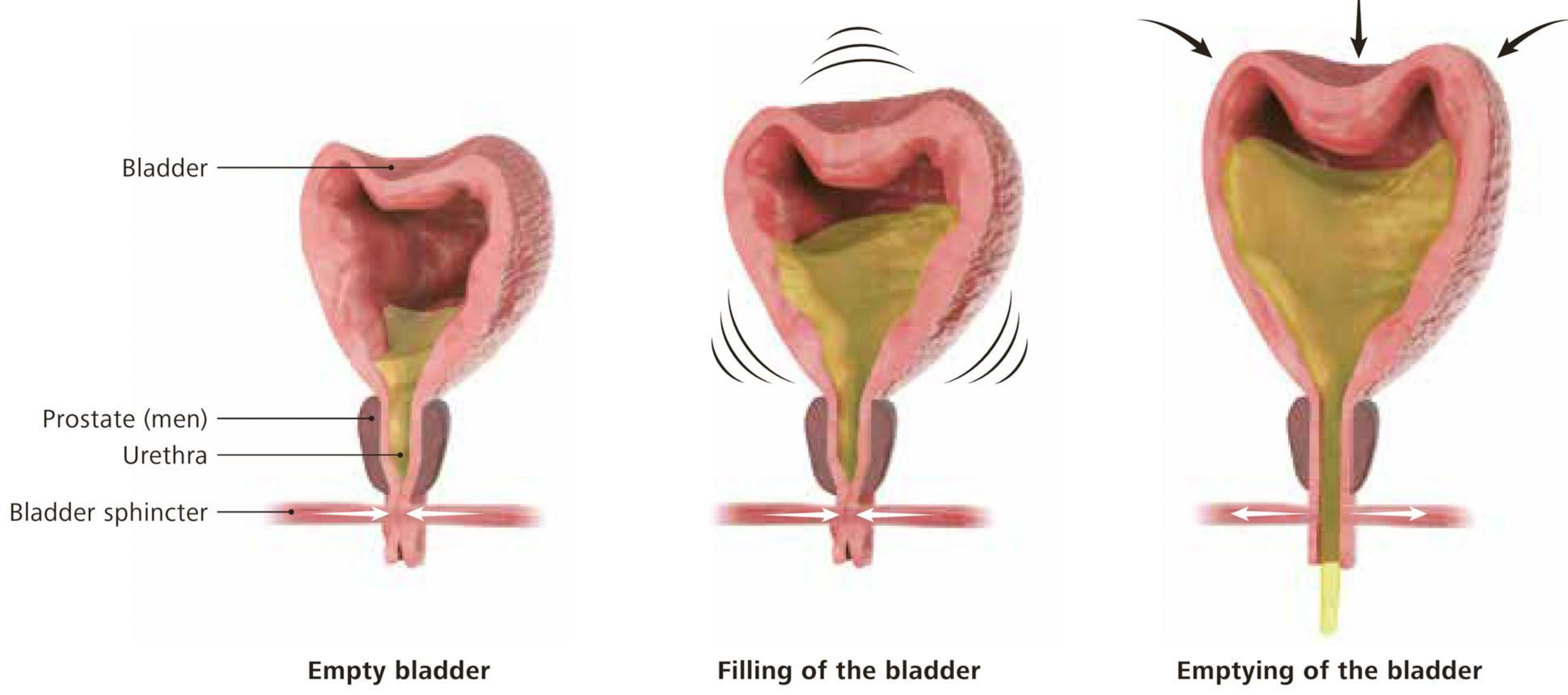
Importance of Bladder / Bowel Program

- Prevent incontinence and accidents
- Empty bladder / bowel at predictable times
- Maintain health and prevent complications
  - Bladder: Frequent UTIs, thick inelastic bladder, kidney damage
  - Bowel: severe constipation, fecal impaction, rectal prolapse
  - Skin breakdown, pressure injuries, autonomic dysreflexia



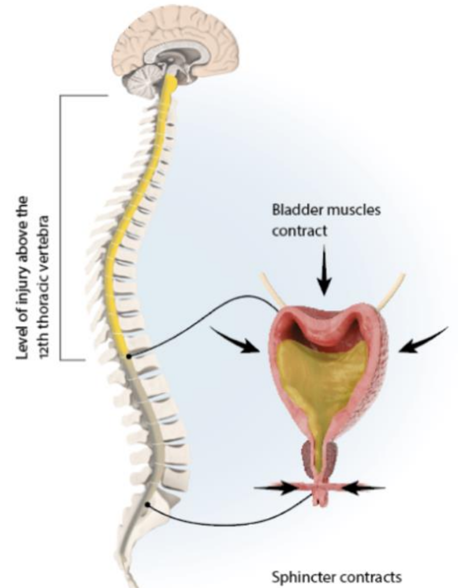


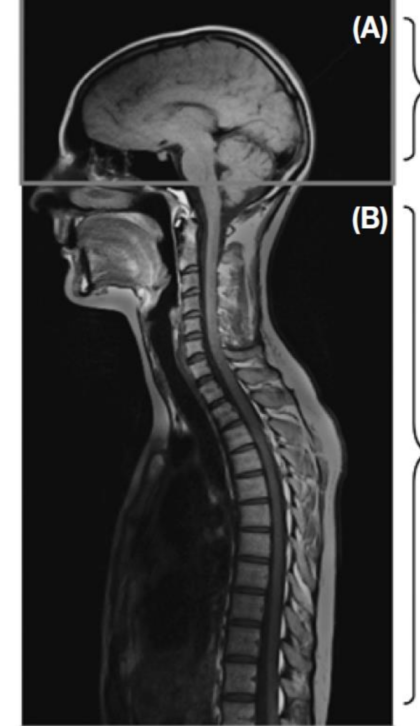
Normal Bladder Function



https://community.paraplegie.ch/en/wiki-en/bladder-bowel/bladder-paralysis

Neurogenic Bladder





SPASTIC (REFLEXIC)

Incontinence, accidents
Urgency and/or frequency
Incomplete emptying
Reflex emptying
Reduced/loss of bladder sensation
Difficulty in storing and releasing urine

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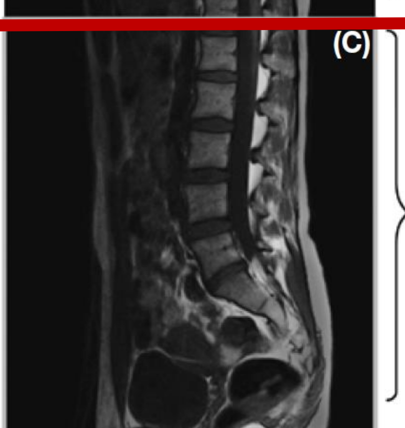


FLACCID (AREFLEXIC)

Cannot empty bladder (no reflex emptying)
Incomplete emptying – urinary retention
Incontinence, accidents
Risk of urine reflux
Reduced/loss of bladder sensation
Difficulty in releasing urine

Bladder muscles are flaccid
Sphincter is flaccid
Level of injury below the 12th thoracic vertebra

Panicker, J.N., *et al.* Lower urinary tract dysfunction in the neurological patient: clinical assessment and management. Lancet Neurol, 2015.

https://community.paraplegie.ch/en/wiki-en/bladder-bowel/bladder-paralysis

Bladder Program (Bladder Routine)

- Fluids: timing and amount
- Limit caffeine and alcohol consumption
- Scheduling of bladder emptying
  - timed voiding or catheterization
- Activity
- Good hygiene
- Do it yourself
  - Assistive devices
  - Positioning equipment
- **Establish a good routine**

Neurogenic Bladder: Management

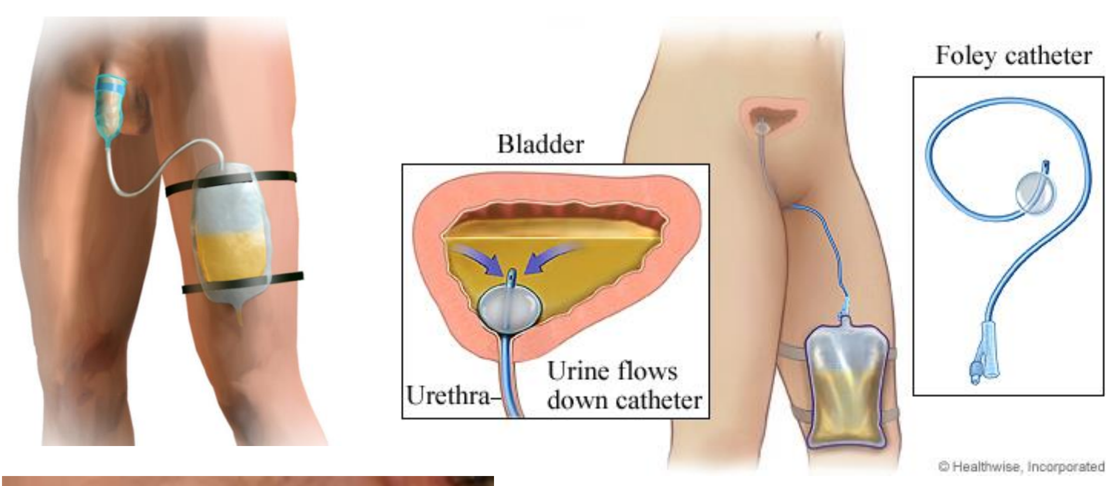
SPASTIC

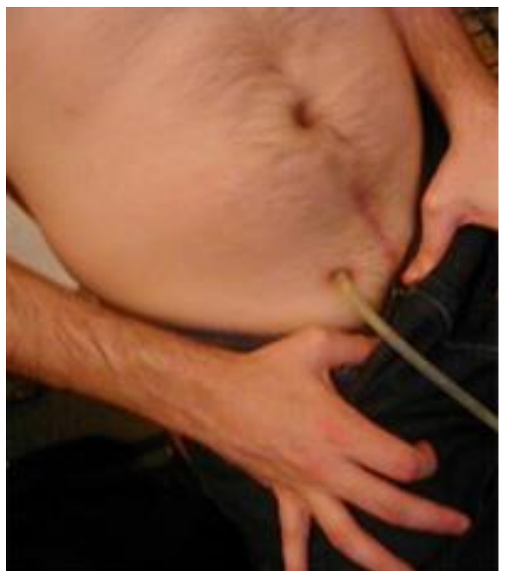
- Catheterization
- Medications
- Botulinum toxin injections
- Surgery

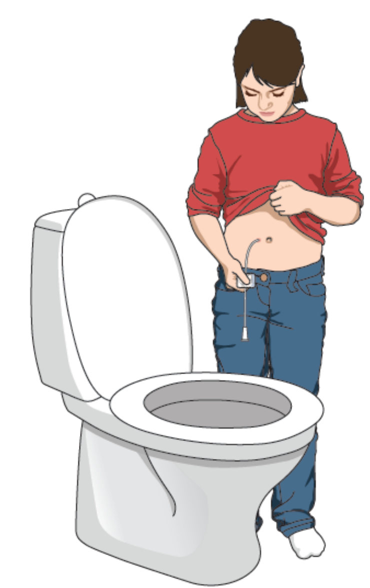
FLACCID

- Catheterization
- Surgery

Bladder Emptying Methods

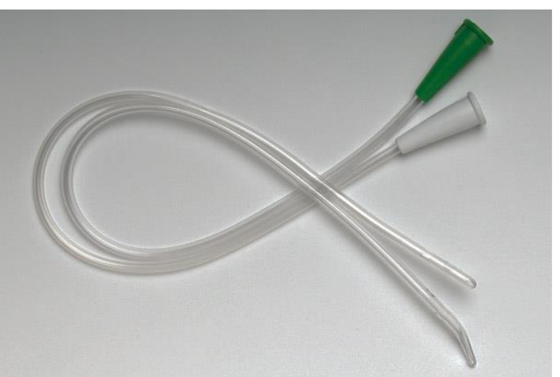


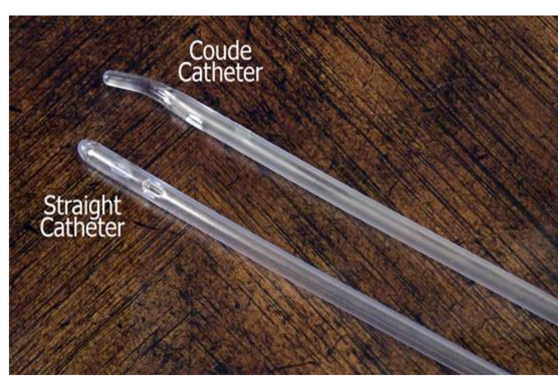




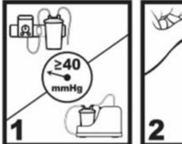
- External catheter
  - condom
- Indwelling catheter
  - Foley
  - Suprapubic tube
- Catheterizable stoma

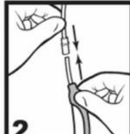
Catheters

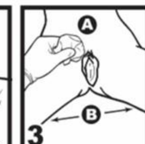


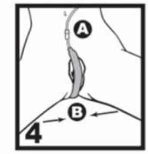


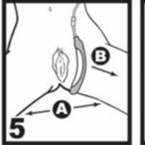
External Female Catheter





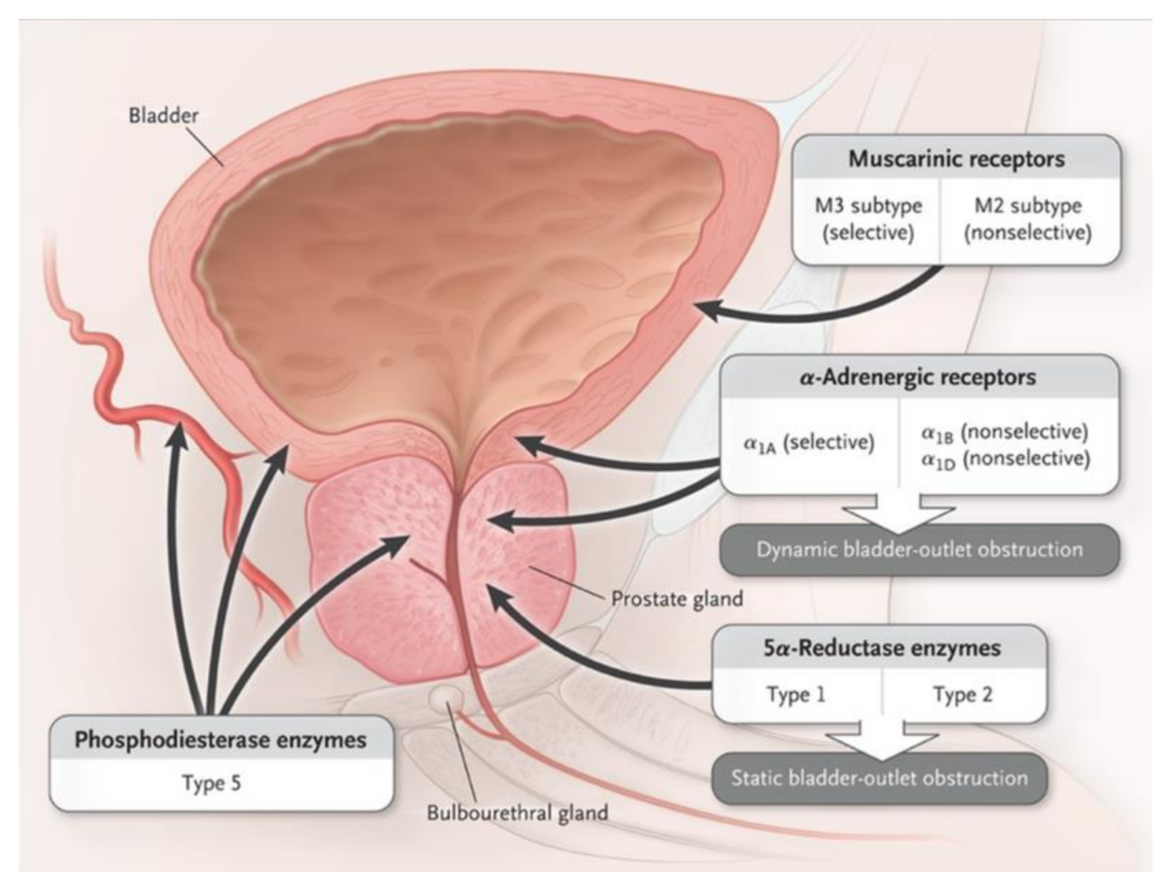






Bladder Medications (Spastic)

- Oxybutynin (Ditropan XL)
- Oxybutynin as a skin patch (Oxytrol)
- Tolterodine (Detrol, Detrol LA)
- Oxybutynin gel (Gelnique)
- Trospium (Sanctura)
- Solifenacin (Vesicare)
- Darifenacin (Enablex)
- Fesoteridine (Toviaz)
- Mirabegron (Myrbetriq)
- Vibegron (Gemtesa)
- Tamsulosin (Flomax)

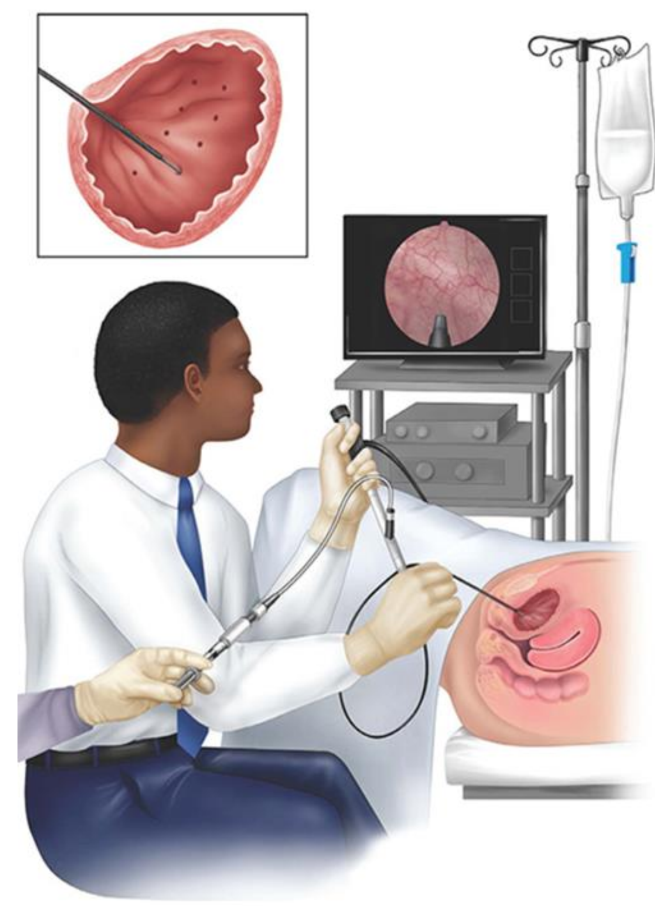


Bladder Botox

Can improve incontinence, decrease UTIs, decrease use or anticholinergics

Lasts 6 months

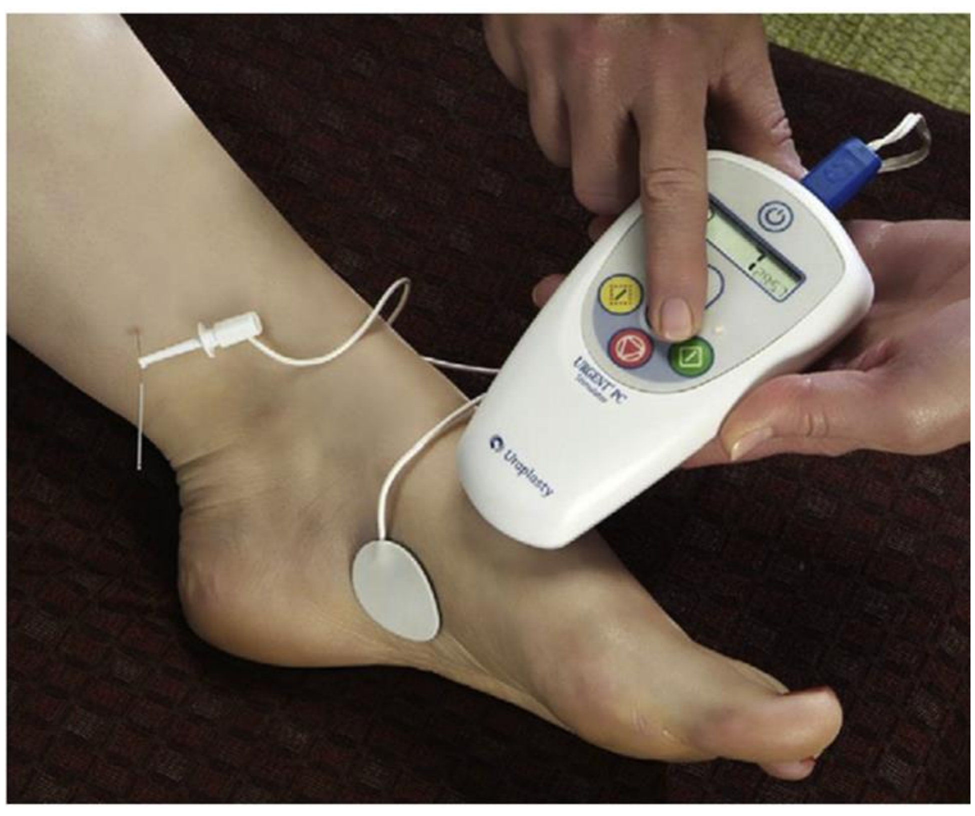
Side effects: bleeding, infections, distal spread



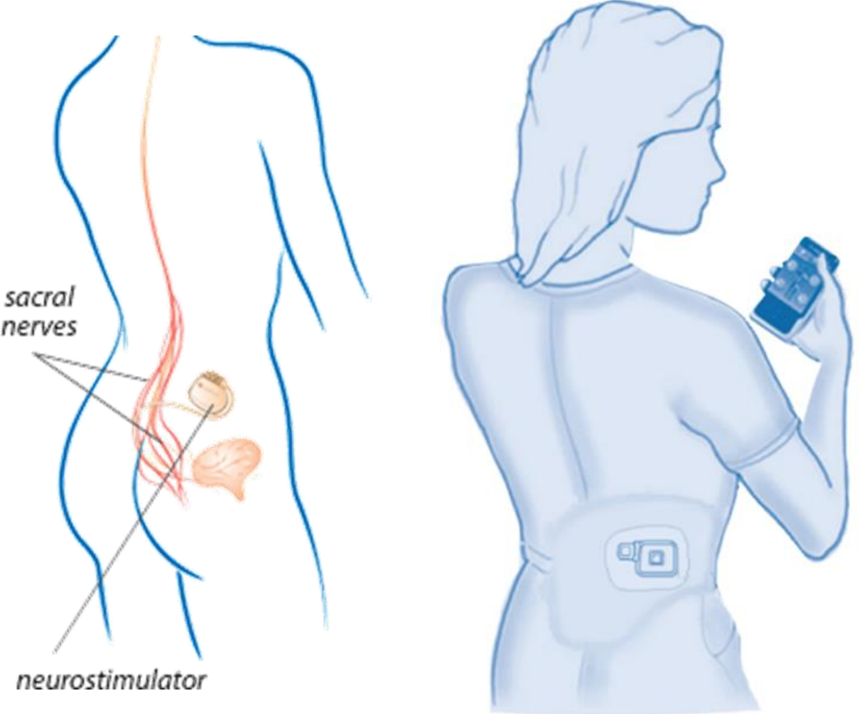
https://www.iowaclinic.com/treatments-and-conditions/botox-injections/

Neuromodulation

Posterior Tibial Nerve Stimulation

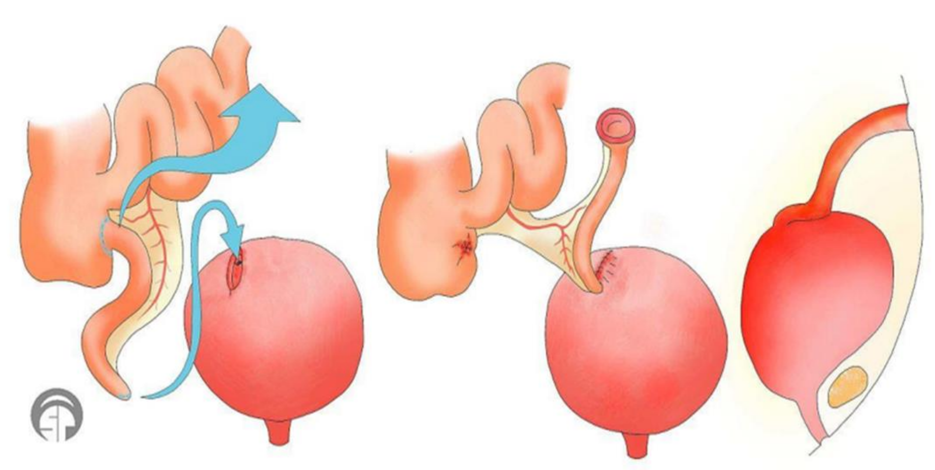


Interstim Device

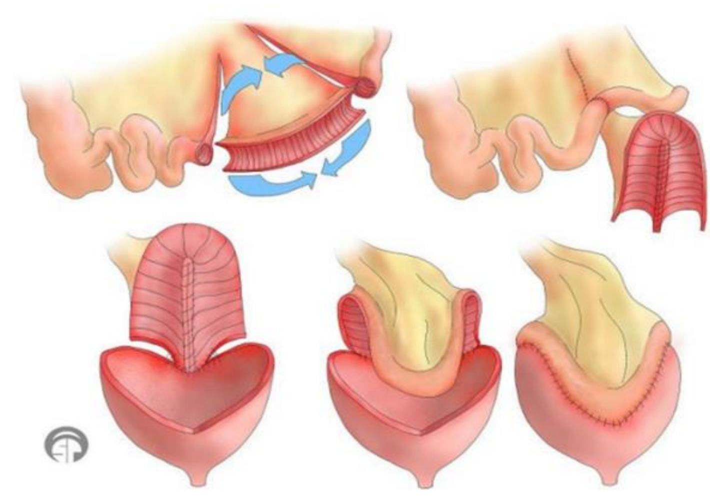


Surgical Management

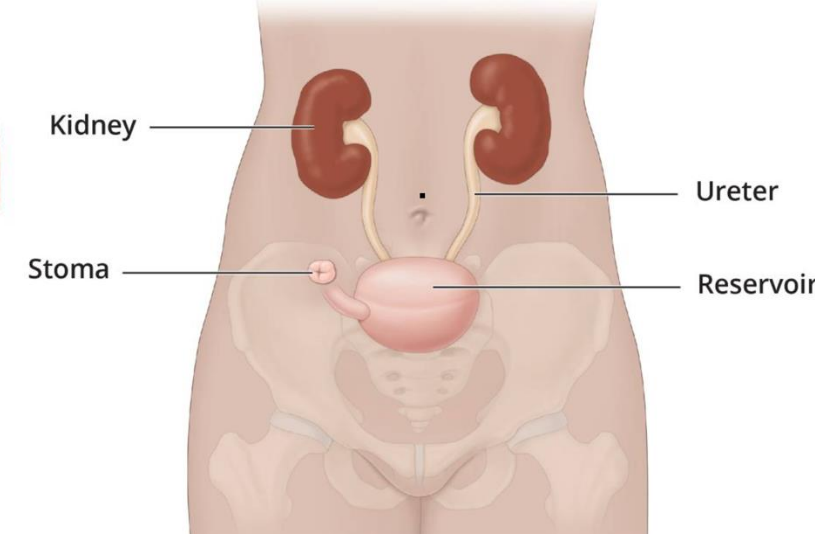
Mitrofanoff



Bladder Augmentation



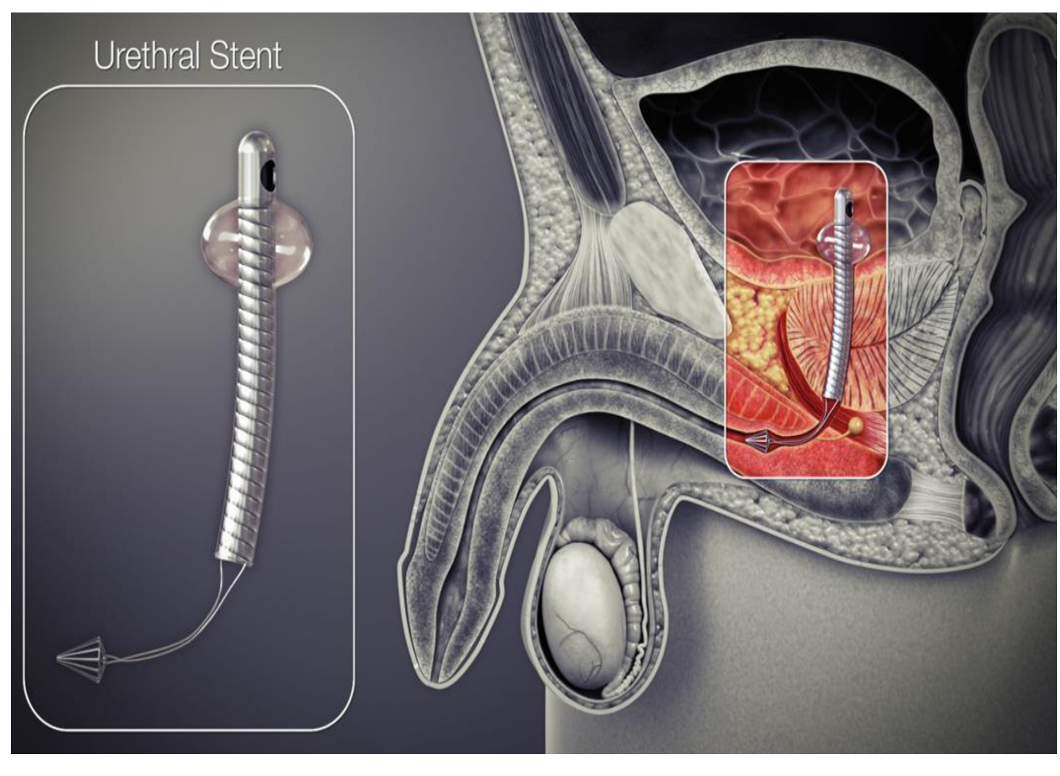
Urinary Diversion



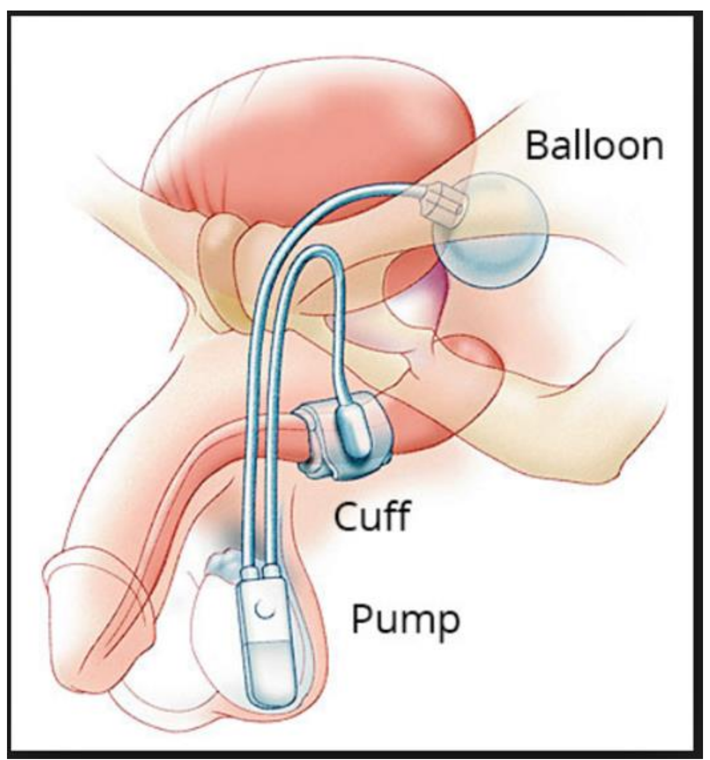
http://scireproject.com/community/topic/bladder/

Surgical Management

Urethral Stent



Artificial Sphincter

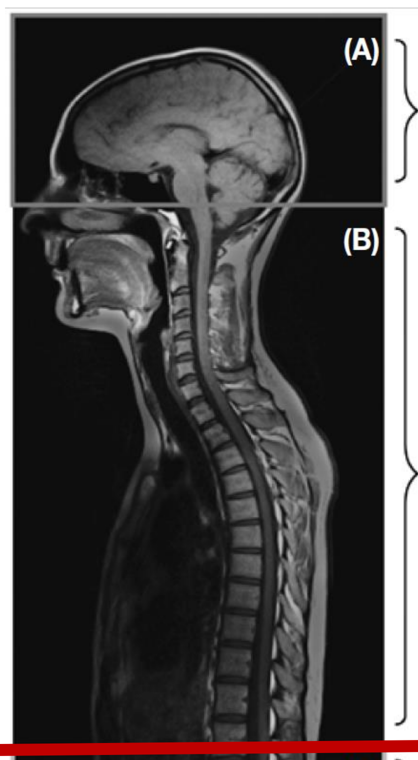


Neurogenic Bowel

Spastic bowel can lead to constipation because of tightened sphincter muscles.[3]

SPASTIC (REFLEXIC)

Uncontrolled reflex emptying
Constipation
Inability to pass stool
Stool retention



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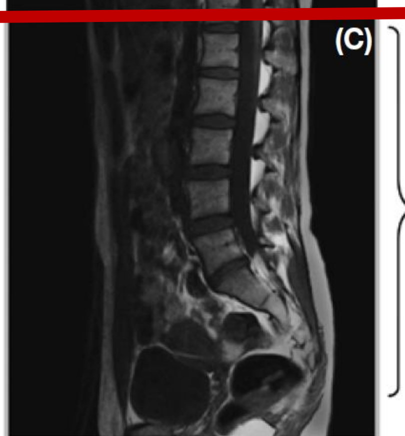
Flaccid bowel leads to a loss of muscle tension, and incontinence can be experienced.[4]

FLACCID (AREFLEXIC)

Loss of bowel reflex activity
Constipation
Involuntary leaking of stool
Incontinence

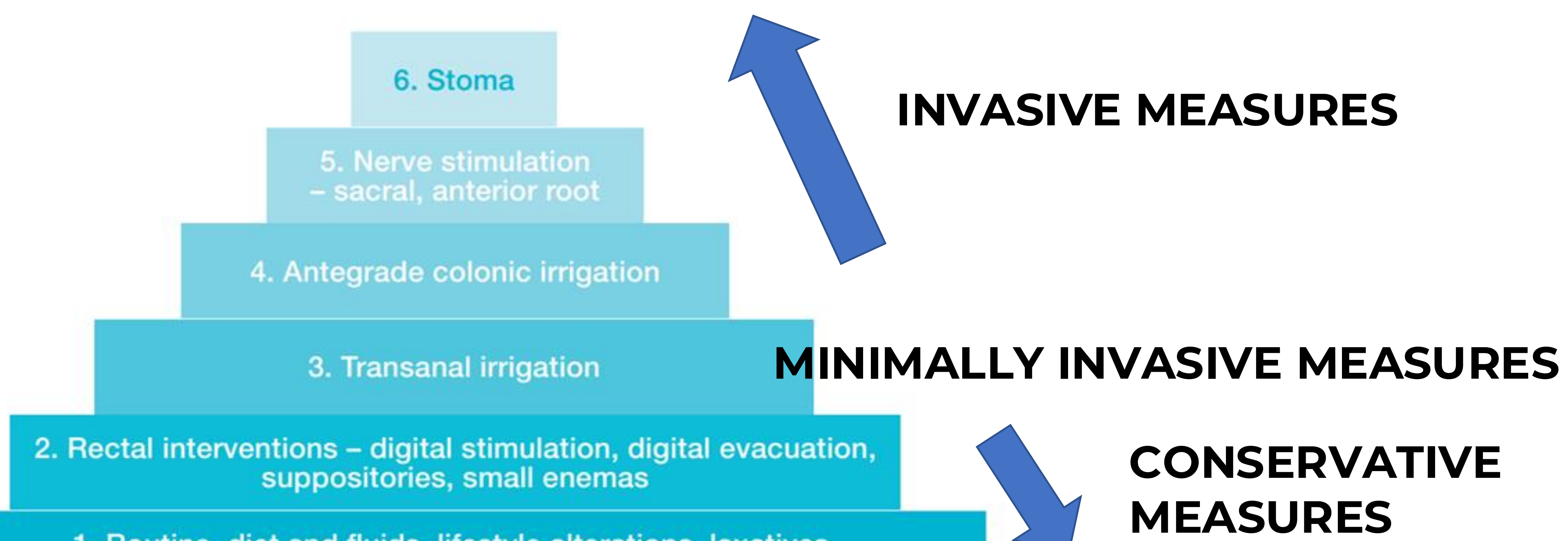


Panicker, J.N., *et al.* Lower urinary tract dysfunction in the neurological patient: clinical assessment and management. Lancet Neurol, 2015.

Bowel Program: Bowel Routine

- Manage stool consistency
  - Diet: fiber
  - Fluid
  - Medications
    - Stool softeners
    - Laxatives
- Physical activity

HEIRARACHY OF INTERVENTIONS FOR NEUROGENIC BOWEL MANAGEMENT



https://www.rnoh.nhs.uk/sites/default/files/sia-mascip-bowelguidenew2012.pdf

Kennedy Krieger
International Center for Spinal Cord Injury

Neurogenic Bowel: Management

Spastic

- Routine Bowel Program
  - Every 1-3 days
  - Goal: Soft formed stool
  - Trigger reflex evacuation
    - Suppository
    - Digital stimulation

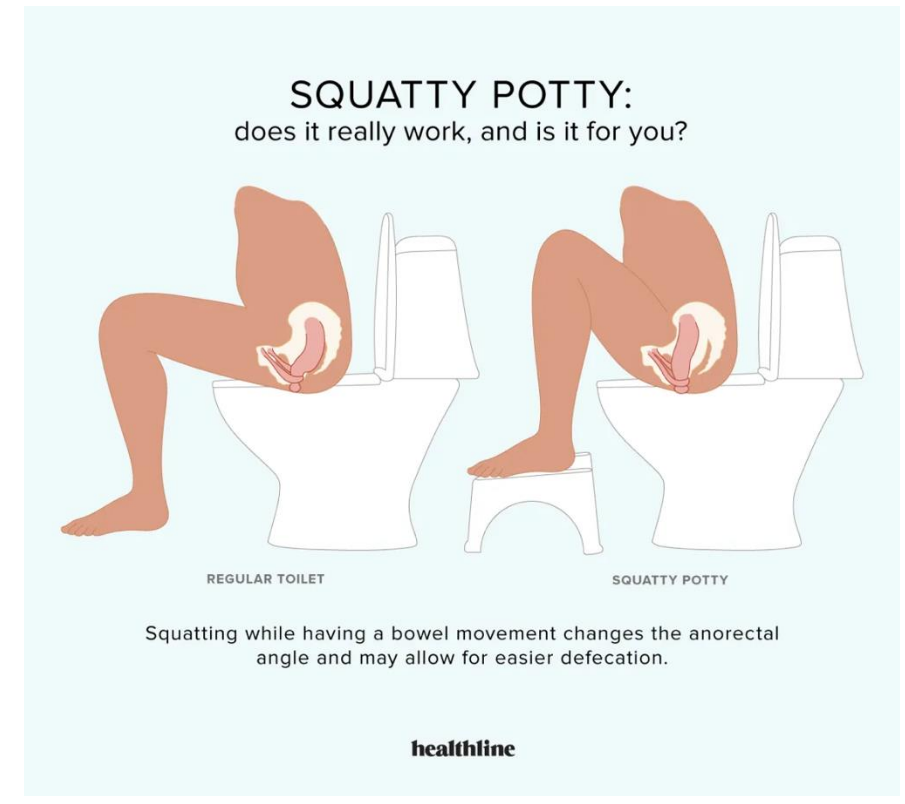
Flaccid

- Routine Bowel Program
  - 1-2 x/day
  - Goal: Firm formed stool
  - Suppositories generally do not work
  - Manual disimpaction
    - 1-2 times per day
    - prior to activities that cause valsalva

Kennedy Krieger

BOWEL MANAGEMENT

- Positioning
  - Sit up on the toilet or bedside commode
  - Lay on left side if you can not sit up
- Children
  - Be sure feet are supported on a foot stool and they are comfortable



Transanal Irrigation System

http://www.coloplast.us/peristeen-anal-irrigation-system-en-us.aspx

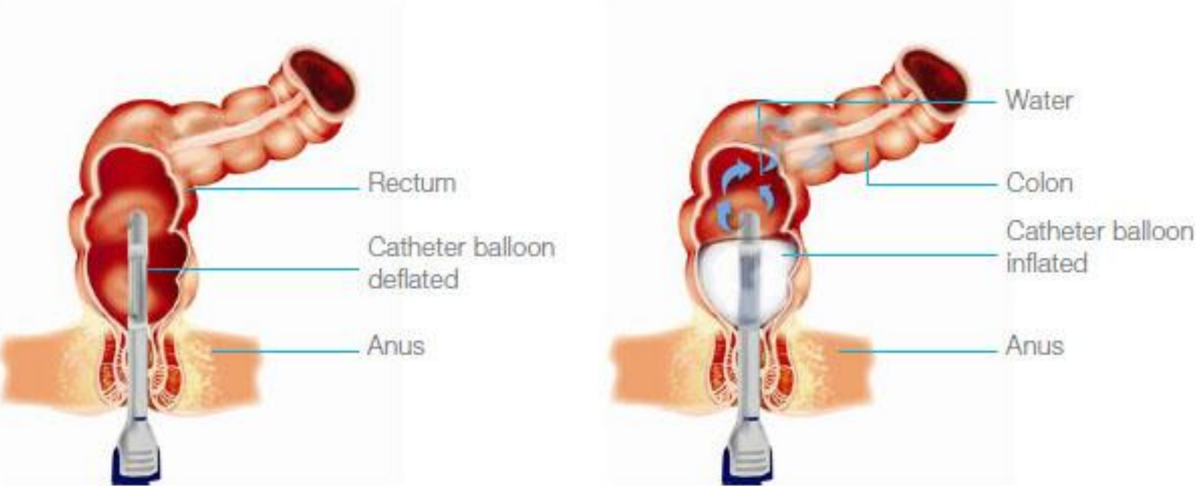
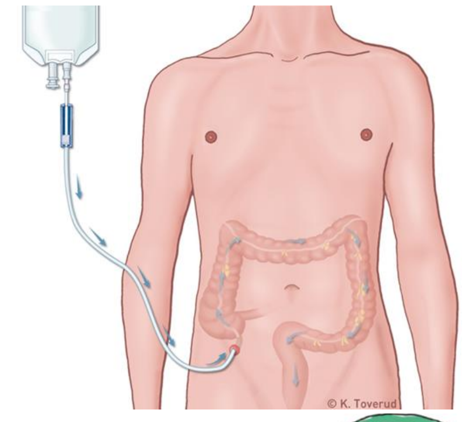


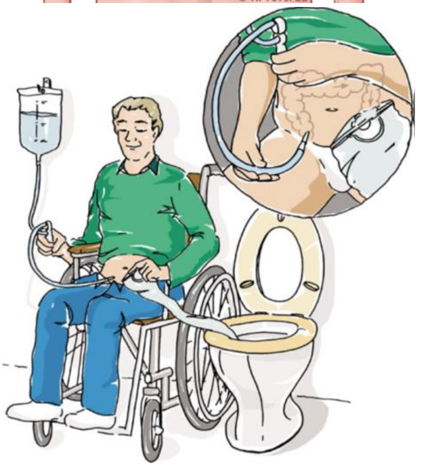
Figure 2. The position of the Peristeen in the rectum. The inflated balloon keeps the catheter in place.

http://my-bowel.co.uk/for-healthcare-professionals/trans-anal-irrigation-tai-pai/

Surgical Management

Antegrade Continence Enema

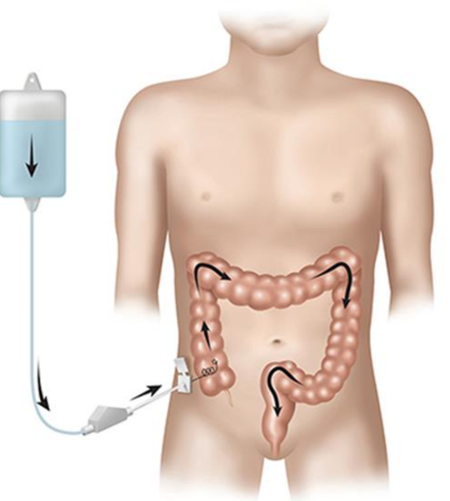




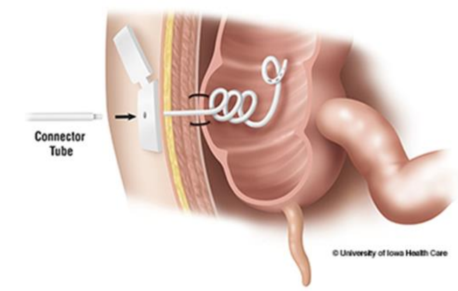
http://tidsskriftet.no/article/2264473

http://plasticsurgerykey.com/the-malone-procedure-and-its-variants/

Cecostomy

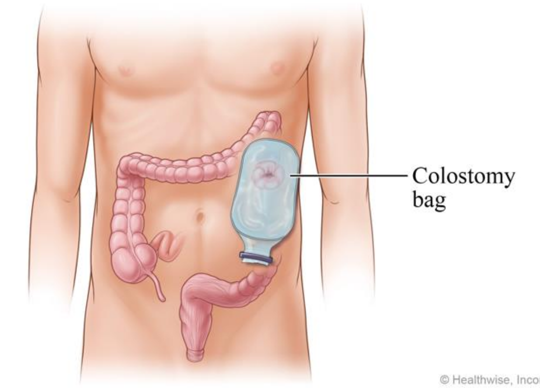


© University of Iowa Health Care



https://uichildrens.org/health-library/cecostomy-tube-care-pediatrics

Colostomy



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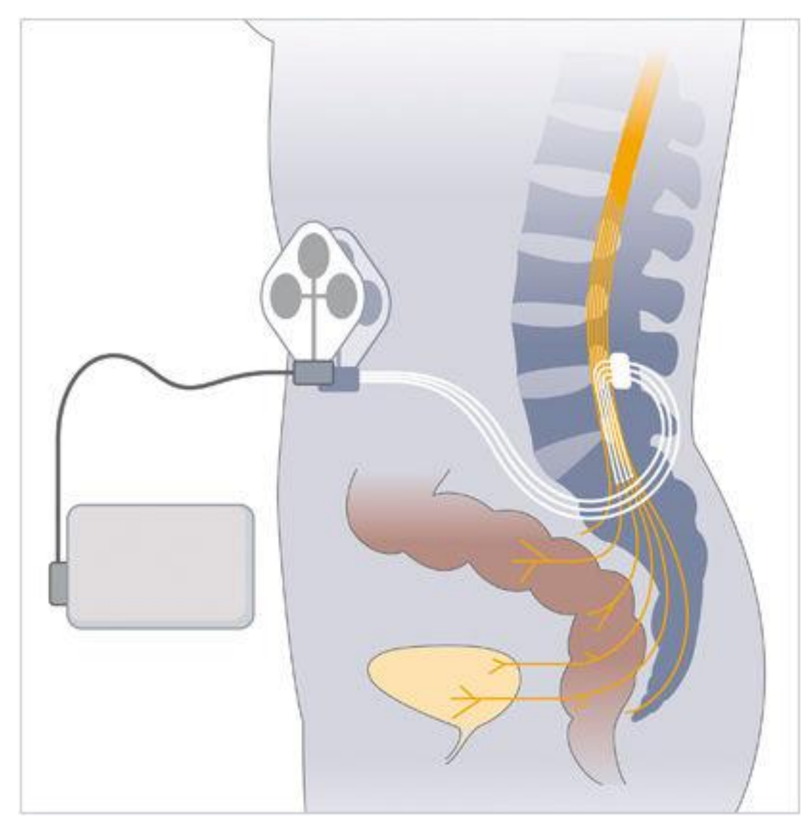
Neuromodulation:
Sacral Root Anterior Stimulator



The Checklists

Bladder

- ❑ Review bladder management at least yearly
  - Is it adequate?
  - Are your meds working?
- ❑ Check creatinine and electrolytes yearly
- ❑ Ultrasound every 1-2 years
- ❑ Keep track of UTIs (is it a true UTI?)
- ❑ Consider establishing care with a urologist
  - ❑ May need a cystoscopy
- ❑ Males: Consider PSA testing after age 50 years

Bowel

- ❑ Review bowel management at least yearly
- ❑ Is it adequate?
- ❑ Are your meds working?
- ❑ Are you taking too long?
- ❑ Schedule bowel emptying
- ❑ Colon Cancer Screening

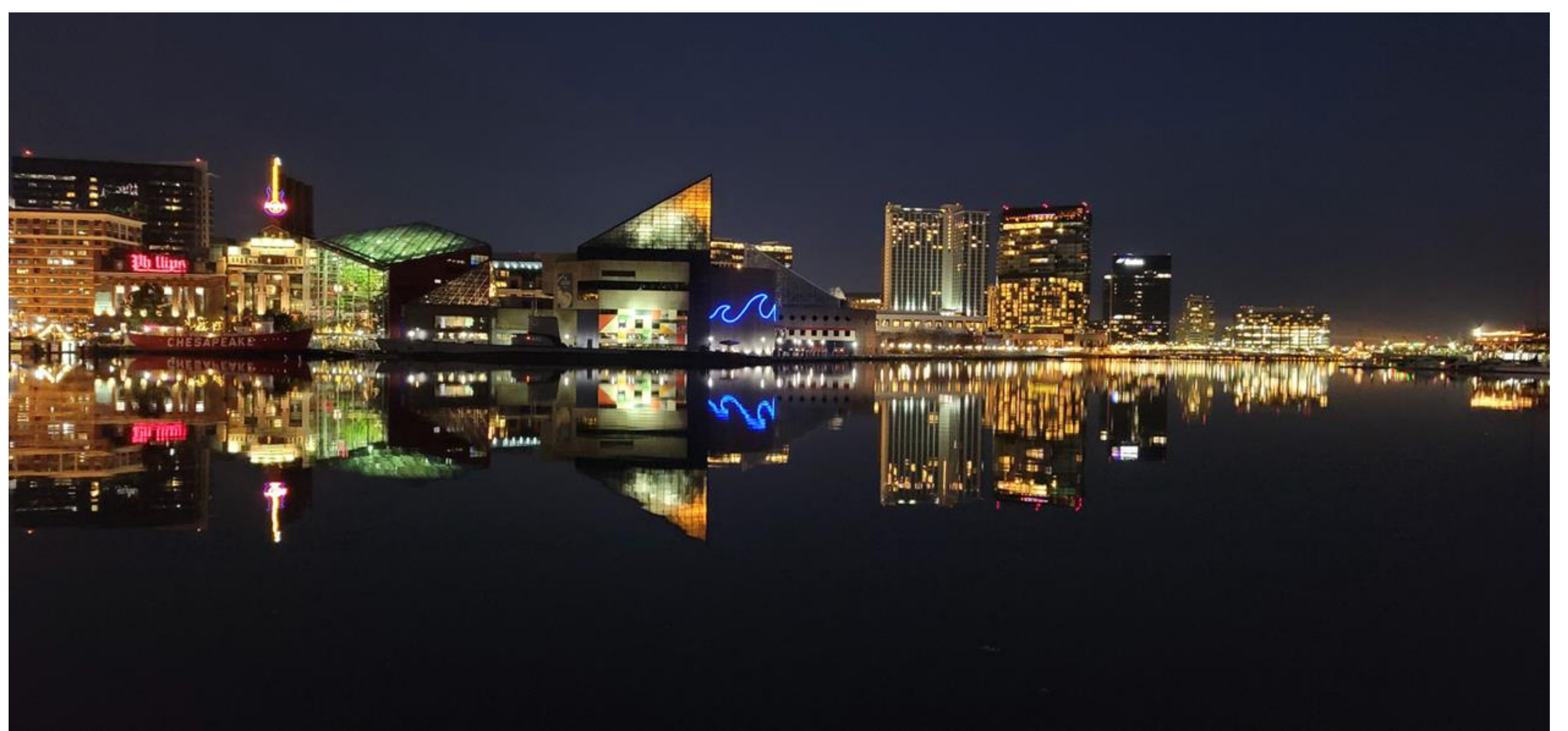
Take Home Points

- Many people experience changes in bladder and bowel following spinal cord disease/dysfunction
- Bladder and bowel management will differ, depending if you have a spastic or a flaccid bladder/bowel
- Regular follow-up with your provider is recommended

RESOURCES: Bladder and Bowel

- https://www.christopherreeve.org/community/about-us/publications/
- SCIRE Community. Bladder Changes after Spinal Cord Injury. Available from: https://community.scireproject.com/topic/bladder/
- SCIRE Community. Bladder Changes after Spinal Cord Injury. https://community.scireproject.com/topic/bowel/

QUESTIONS?



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