

Neurogenic Bladder

What is neurogenic Bladder?

Neurogenic bladder is when a person lacks control of their bladder due to a brain, spinal cord, or nerve problems. Your brain sends signals through your spinal cord to the muscles in your bladder that start and stop urine flow. If you have a neurogenic bladder, the nerves and muscles do not work together the way they should.

What causes neurogenic bladder?

This condition may be caused by any kind of nerve damage or condition that disrupts the signals from your brain to your bladder. Most common causes in children are:

1. Spina bifida
2. Spinal cord injury
3. Central nervous system tumors/pelvic tumors

How is neurogenic bladder diagnosed?

First, the provider will evaluate:

1. Your symptoms, medical history, and physical exam.
2. Keeping a bladder diary to evaluate bladder symptoms and times that you urinate.
3. A bladder scan after you urinate to see how much urine is left in your bladder
4. Imaging of the kidneys and bladder, such as a renal bladder ultrasound

To confirm diagnosis:

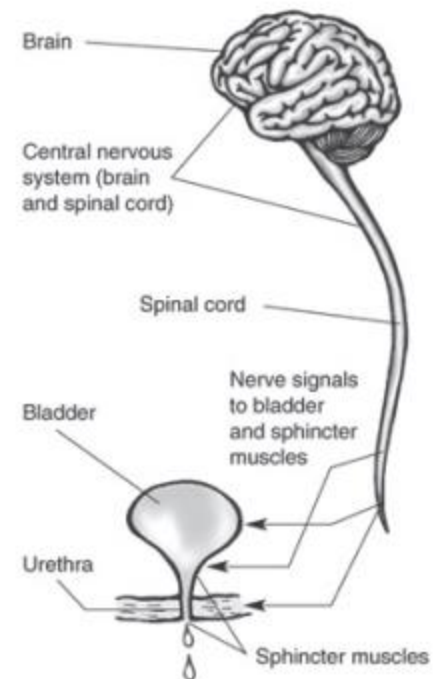
5. Urodynamic testing which evaluates how your lower urinary tract stores and releases urine.
6. Imaging of the brain or spine, such as MRI or CT.

Types of neurogenic bladder:

1. Overactive bladder when bladder muscles squeeze more often than normal. This can cause:
 - a. Urinary leaking
 - b. Sudden urge to go to the bathroom
 - c. Frequent urination
2. Underactive bladder when bladder muscles do not squeeze when needed. This can cause:
 - a. Inability to empty your bladder fully or at all
 - b. Dribbling of urine from overflow incontinence
3. Discoordinated voiding when the bladder muscles contract, but the sphincter muscles (those that keep you dry) do not relax to allow normal voiding.

Potential complications of neurogenic bladder:

1. Urinary tract infections
2. Leaking of urine



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3. Unable to empty bladder
4. Kidney Damage

Tests to monitor for complications of neurogenic bladder:

1. Urodynamic testing
2. Kidney bladder ultrasounds
3. Blood tests to check kidney function (Chem 8)
4. Urine sample tests to check for protein in the urine

Ways to prevent complications:

1. Following all recommendations given to you by your Urologist.

Treatment for neurogenic bladder:

Treatment options depend on signs or symptoms and test results.

Sometimes, treatment can include lifestyle changes including:

1. Scheduled voiding
2. Double voiding
3. Pelvic exercises
4. Delayed voiding

Sometimes, treatment includes medical management:

1. Clean intermittent catheterizations (CIC) which are done several times per day to empty your bladder
2. Medications for overactive bladder or underactive bladder
3. A combination of medications and CIC

Sometimes, treatment includes surgical management:

1. Bladder augmentation to reduce bladder pressures and increase bladder capacity.
2. Bladder neck procedure, such as, a sling or bladder neck reconstruction to help store urine in the bladder without leaking.
3. Catheterizable conduit to allow for catheterization from the abdomen rather than the urethra

Monitor for signs and symptoms of urinary tract infections and contact your Urologist if you have these symptoms:

1. Fevers
2. Blood in the urine
3. Pain with or without catheterizations
4. Nausea or vomiting
5. New urinary incontinence

Go to the Emergency Department right away if you have:

- Cannot pass urine either urinary voiding or catheterization
- Have fevers and cannot keep fluids down

Additional Information on neurogenic bladder can be found here:

Spina Bifida Association: <https://www.spinabifidaassociation.org/>

Urology Cares Foundation: <https://www.urologyhealth.org/>

AAP Healthy Children: <https://healthychildren.org>