

NEUROGENIC BLADDER

What happens under normal conditions?

The urinary bladder, a spherical organ, has a soft inner lining & an outer muscle layer. Urethral sphincter muscle pinches the urinary passage below the bladder preventing the urine from leaking.

The normal function of the bladder is to store urine till a socially acceptable place & time can be found. It then expels urine in a coordinated, controlled fashion.

Normally the bladder muscle is kept relaxed & the sphincter muscle kept contracted. This aids in urinary storage. The bladder slowly expands in capacity as more & more urine gets added. The contracted sphincter ensures that no urine leaks out. After collecting around 350-400 ml of urine the bladder sends a message to brain saying it is full. This is when the person feels the urge to go & void. The brain then sends back a message & the opposite happens. Now the bladder muscle contracts to push out the urine & the sphincter muscle relaxes allowing the urine to pass out.

What is neurogenic bladder?

Neurogenic bladder is the loss of normal bladder function caused by damage to a part of the nervous system. The damage can cause the bladder to be:

- **Underactive:** unable to contract & unable to empty.
- **Overactive:** contracts too quickly / frequently.
- **Dyssynergic:** no coordination between the bladder & sphincter muscles causing both muscles to contract at the same time.

What are the risk factors for neurogenic bladder?

Neurogenic Bladder is a manifestation of damage to the nerves. This can be in the brain e.g. following paralysis stroke, or in the spinal cord e.g. following injury or spina bifida or tumors of the spinal cord. .

NEUROGENIC BLADDER—SYMPTOMS

What are the symptoms of neurogenic bladder?

Inability to control urination, is perhaps the most common symptom associated with the neurogenic bladder. Other symptoms including a dribbling urinary stream, straining during urination or inability to urinate may also be associated with neurogenic bladder.

Urinary retention may result either from loss of contraction bladder muscle or loss of appropriate coordination between the bladder muscle and the sphincter muscle.

Symptoms such as urinary frequency and urgency, may also occur in Neurogenic bladder.

What are other urinary problems associated with Neurogenic Bladder?

People with Neurogenic bladder are a risk to have

Urinary tract Infection: This because the urine is held too long in the bladder. Moreover, the risk of infection ascending into the kidneys is also more. UTI with fever is a sign of potential severe kidney infection (pyelonephritis) and is a more worrisome situation as it may result in permanent damage of the kidney(s).

Bladder Stones: because of stoppage of urine flow and/or infection.

Reflux: Abnormal back flow of the urine from the bladder to up into the kidney may develop. If such a person develops urine infection it is very easy for the infection to reach the kidney. Even otherwise, high pressure in the urinary bladder may get transmitted up to the kidney causing it gradually lose its function.

What is the aim in treating neurogenic bladder?

Neurogenic bladder can slowly damage the kidneys. The primary aim is to prevent this kidney damage. The secondary aim is improve the bladder function so that patient is socially continent. & socially active.

NEUROGENIC BLADDER—TREATMENT

How is neurogenic bladder treated?

Medication for treatment of overactive bladder may improve or relieve symptoms urgency frequency and incontinence. Antibiotics are important for treatment and prevention of urinary tract infections (UTIs), especially in patients with vesicoureteral reflux.

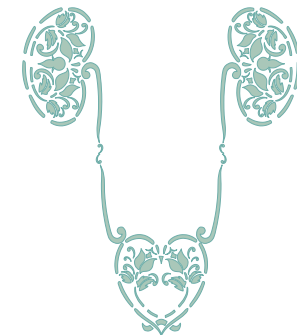
Clean intermittent catheterization (CIC) is an effective means of emptying the bladder in the case of a bladder muscle that is unable to contract or in patients with loss of appropriate coordination between the bladder muscle and the external urethral sphincter muscle.

What can be expected after treatment for neurogenic bladder?

A close & regular follow-up evaluation of bladder & kidney function is needed. This may involve repeated X-rays, ultrasound, blood tests and bladder function tests.

What are expected limitations for a patient with neurogenic bladder?

Neurogenic bladder in itself generally does not impose any restriction or limit. It is the actual nerve damage that causes the restriction in limits for the patient.



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