Neurogenic Bladder

BIRTH DEFECT RESEARCH FOR CHILDREN

What is Neurogenic Bladder?

Neurogenic Bladder is a bladder dysfunction resulting from improper functioning of the nerves which carry messages between the brain and the bladder muscles to facilitate urination. Proper bladder function depends on these nerves to sense the fullness of the bladder and to retain or release urine.

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How do you know if your child has Neurogenic Bladder?

A Neurogenic Bladder can be overactive or underactive. An overactive bladder is also called a spastic, contracted, or hyper-reflexive bladder. It is characterized by uncontrolled, frequent expulsion of urine, reduced bladder capacity, and incomplete emptying of urine. An underactive bladder is also called a flaccid or hypotonic bladder. It is characterized by a large capacity but an inability to contract and empty well (due to loss of the sensation of the bladder filling). Other symptoms include dribbling urine and frequent urinary tract infections.

If a Neurogenic Bladder is suspected, your doctor may need to test both your child's bladder and nervous system (including the brain). Procedures usually include a complete medical history, physical examination, and diagnostic procedures. Diagnostics may include:

- x-rays and imaging of the spine, skull, bladder, and ureters (tubes leading from kidneys to bladder)
- lab tests of the blood and urine to determine kidney function
- electroencephalogram (EEG) to test for brain dysfunction
- tests of the nerves and muscles of the bladder
- recording fluid intake and output to determine the bladder's
- capacity and its ability to empty completely

What causes Neurogenic Bladder?

Some children are born with Neurogenic Bladders and others develop bladders that do not function properly. Congenital causes of Neurogenic Bladder include defects in the spine such as spina bifida (incompletely formed vertebrae), myelomeningocele (a form of spina bifida in which the spinal cord protrudes through the vertebrae), filum terminale syndrome, and other lesions of the spinal cord. Congenital bladder obstruction and bladder exstrophy (where the bladder is open at the skin) can also cause Neurogenic Bladder. Disease processes causing Neurogenic Bladder include brain and spinal cord tumors, diabetes, heavy metal poisoning, ruptured vertebrae, and degenerative diseases such as multiple sclerosis. Neurogenic Bladder can also be caused by injuries to the spinal cord.

An underactive Neurogenic Bladder can result from congenital defects, complications from diabetes, and spinal cord tumors. An overactive Nneurogenic Bladder can result from spinal cord injuries and degenerative diseases such as multiple sclerosis.

How can you help a child with Neurogenic Bladder?

Treatment for your child will depend on his age, overall health and medical history, cause of the nerve damage, and the type of voiding dysfunction. Underactive Neurogenic Bladder treatment can include clean intermittent catheterization (CIC) to reduce bladder stretching and to empty the bladder at regular times or continuous catheterization. Catheterization is the insertion of a slender, flexible tube into the bladder to drain urine. This procedure helps to avoid infection and stops the build up of pressure which can cause kidney damage. Medication can also be used to stimulate the bladder to contract. If catheterization and medication do not achieve the desired results for your child, surgery may be necessary to divert urine away from your child's bladder to an external opening (ostomy) in his abdominal wall.

Overactive Neurogenic Bladder treatment can include catheterization as well as medication to relax your child's bladder and help it store urine at a higher volume and lower pressure. These medications can help stop uncontrolled bladder contractions. Surgery may also be necessary to insert an artificial urinary sphincter (AUS) to help hold urine in.

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What's in the future for a child with Neurogenic Bladder?

Treatment plans are individualized for your child usually starting with the most conservative measures and advancing as necessary to achieve the desired results. Many successful options are available to preserve kidney function and gain urinary continence. Kidney function is often monitored to prevent infection and kidney stones. Doctors often recommend drinking plenty of fluids and prescribe antibiotics preventatively to reduce urinary tract infections. Complete recovery from Neurogenic Bladder is uncommon; however, many children recover considerably with treatment.

Fact Sheet by:

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