

How MS Affects Bladder Function

MS can affect the bladder in a number of ways. MS plaques, which are lesions in the fibers of the central nervous system, interrupt the transmission of messages to and from the brain. Messages to and from the brain are slowed because the MS plaques break down the insulation

, or myelin, around the nerves, and a portion of the message may be lost

. MS affects those muscles that contain the most myelin. Interrupted messages due to the effects of MS can cause organs to respond erratically and/or more slowly. This occurs because MS is a demyelinating disease; MS attacks the myelin sheath around the nerves. Since MS can affect different nerves within the body, symptoms may vary from person to person.

MS impacts how the bladder sphincter coordinates with the bladder. For example, instead of relaxing when the bladder contracts, the sphincter also contracts. This is also seen in the anal sphincter, creating problems in moving bowels successfully. While this phenomenon is usually due to nerve



damage in the lower spine as opposed to the brain or upper spinal cord, and it creates problems with eliminating urine and passing stools.

Furthermore, nerve damage sustained from the disease process can weaken the bladder. Impaired by nerve damage, the bladder muscle may not be strong enough to contract and empty as it normally would. For similar reasons, bowels may be sluggish, contributing to chronic constipation.

In sum, nerve damage interrupts the nerve transmission required for normal voiding. In order for the bladder to function effectively, nerve signals must travel from the bladder, through the spinal cord to the brain, and then back down the cord to the bladder. More than 80% of people who have MS report symptoms of voiding dysfunction. Symptoms can include urgency, frequency, urine leakage, hesitancy, slowed stream, incomplete emptying, and inability to void after feeling the urge.

There are three primary bladder control problems that occur as a result of MS: overactive bladder (OAB), sphincter dyssynergia (SD), and underactive bladder (UB).

Overactive Bladder (OAB)

This is the most common bladder problem experienced by people with MS. Normally, the bladder expands as urine enters, and when it is full, the bladder will begin to contract, sending

a message to the brain that it is time to empty. The MS-affected bladder, instead, begins to contract when only a small amount of urine has collected, and the feeling of urgency becomes more frequent over time. Nocturia (getting up more than twice to urinate during the night) may also occur. Sudden, uncontrollable urgency and the loss of urine, called urge incontinence, may even occur. Treatment focuses on relaxing the bladder and minimizing contractions so that the bladder may hold more urine for a longer period of time between intended voiding.

Sphincter Dyssynergia

Another common problem seen in a bladder affected by MS is sphincter dyssynergia (SD). This occurs when there is both a storage dysfunction and an emptying dysfunction. The bladder is trying to contract and empty, and the urethra is contracting instead of relaxing, therefore allowing little or no urine to pass. This phenomenon may be usually due to nerve damage in the spine as opposed to the brain. Treatment is twofold. First, the focus is to ensure emptying of the bladder, as high pressure in the bladder over time can cause bladder or kidney damage. The second goal is to relax the bladder so that it can hold more urine.

Underactive Bladder

The nerve damage occurring from MS can cause the bladder to weaken, and as a result, the bladder may not contract to release the urine. Likewise,

if nerve signals from the bladder cannot tell the brain to empty, the bladder continues to fill and expand. Eventually, it overflows, with leakage of urine (i.e., overflow incontinence). Even if urination occurs, the bladder usually does not empty completely, resulting in urinary retention. In essence, what is occurring in the person with MS is the feeling of urgency without bladder contraction. Early screening and proper diagnosis of any and all bladder health problems are important in this chronic and progressive disease.

Infections

Because the bladder and entire lower urinary tract system may not be functioning as efficiently as they normally should, people with MS are more susceptible to urinary tract infections. Should you experience the sudden onset of symptoms such as painful urination, frequency, and urgency, especially if accompanied by fever, it is important to disclose these promptly to your primary care provider because an antibiotic to combat the bacterial infection will need to be prescribed. Due to the nerve damage, people with MS may not sense the symptoms of burning and pain upon urination that normally accompany a urinary tract infection.

Pelvic Discomfort

Sensory disturbances in the pelvic region may also be symptoms of bladder dysfunction in people with MS. Some discomfort naturally occurs when you suddenly feel urgency to urinate, but when pelvic discomfort becomes overwhelming, it must be discussed during your healthcare visits.