



Multiple
Sclerosis
Foundation

Spasticity

What is spasticity?

Spasticity is a symptom that occurs when opposing groups of muscles contract and relax at the same time. This can result in muscle stiffness and tightness, cramps, spasms, involuntary shaking (called clonus), pain, and difficulty controlling the muscles. When spasticity is present, the increased stiffness in the muscles means that a great deal of energy is required to perform daily activities.

What causes spasticity in MS?

Spasticity is the result of impaired signals from the brain to the muscles. In MS, this is caused by demyelination in the areas of the brain and/or spinal cord that control voluntary movement.

Who is affected by spasticity?

It is estimated that 80 percent of people with MS will experience spasticity at some time. As with all MS symptoms, not everyone is affected, and those who are may not be affected in the same way. For some, spasms may be painful or impair function. For others, a certain degree of spasticity may prove beneficial, increasing muscle tone in a way that may improve walking.

MS-related spasticity seems to affect the legs more than the arms and hands. Spasms may disrupt sleep, increasing fatigue and weakness during the day.

How is spasticity treated?

Lifestyle changes can be helpful – for example, minimizing stress, practicing stretching, and exercising regularly. Braces or walking aids may increase mobility.

Treatment for spasticity typically begins with oral medications such as baclofen, tizanidine, gabapentin, benzodiazepines, or dantrolene. The most common side effects with these medications are drowsiness, dizziness, and weakness. When spasticity is limited to a few muscles, or when it is preferable to limit the treatment to a few muscles, then local injections can be given to selectively relax these muscles with treatments such as botulinum toxin.

People with severe MS spasticity who failed other treatments may be candidates for intrathecal baclofen therapy (ITB therapy). This treatment involves surgically implanting a baclofen pump under the skin.