

Spasticity and SCI

What is spasticity?

- Spasticity is the involuntary tightening or movement of muscles caused by your SCI.
- Spasticity can happen for no reason or be triggered by touch, changes in position, stretching, or movement.
- People with SCI have spasticity because the damaged spinal cord interrupts nerve signals from the brain that normally regulate the nerve and muscle activity below the injury. This loss of control causes these muscles to be overactive. The complex details remain unclear, and other contributing mechanisms for spasticity have been proposed.
- Spasticity is very common after spinal cord injury. It usually starts a few weeks or months after injury and can continue to change or increase during the first year.

Symptoms of spasticity

- A feeling of tightness in the muscles that can make it hard to move
- Uncontrolled muscle jerking or spasms
- Rapidly repeating muscle contractions that cause the leg or other body parts to shake

What can make spasticity worse?

- Urinary tract infection (UTI) or stones
- Constipation
- Skin breakdown or irritation
- Bone fracture

When should I treat my spasticity?

Spasticity is not necessarily harmful and therefore does not always need to be eliminated with treatment. Sometimes, spasticity can even be helpful.

- Possible benefits:
 - Leg stiffness or spasms can help during transfers.
 - Spasticity can help maintain muscle mass and reduce leg swelling by pushing fluid out of the legs.
 - An increase in spasticity can warn you that you have a medical condition such as a urinary tract infection or stone, a pressure ulcer, or a fracture.
- Possible drawbacks—spasms can:
 - Be painful.
 - Disturb your sleep.
 - Cause pressure or friction that injures your skin.
 - Make your arms or legs tight and inflexible.
 - Make it hard for you to perform transfers, bathe, dress, push your wheelchair or drive a car.
 - Get in the way of enjoying life.

**Everybody's spasticity, injury and lifestyle are different.
Talk to your health care provider about the pros and cons of your spasticity
and what kind of treatment you may need.**

What treatments can help manage spasticity?

- **Home treatment and self-care options**
 - Stretching program, including standing.
 - Braces, casts, or splints.
 - Daily exercise, including use of an electrical stimulation program.
 - Avoid spasticity triggers. For example, if going over bumps in your wheelchair causes leg spasms, speak to your therapist about wheelchair modifications.
 - Applying heat or cold to spastic muscles may help reduce spasticity. However, you must be careful to check your skin if you use heat or cold on areas that you cannot feel.
- **Medical options**
 - Oral medications, either one or a combination, can be helpful, but discuss side effects and considerations with your Rehab provider. Avoid suddenly starting, increasing, or stopping these medications.
 - Baclofen
 - Tizanidine
 - Diazepam or other benzodiazepines
 - Dantrolene
 - Botulinum toxin or phenol injections of spastic muscles can control spasms temporarily. The effect of these injections wears off with time so you will need to get repeated injections on a regular basis.
 - An intrathecal baclofen pump is an implanted device that sends baclofen directly to your spinal cord to control spasticity without causing as much sleepiness as taking baclofen by mouth. But there are risks involved with surgery, and the pump needs to be regularly checked and refilled by medical professionals to prevent dangerous complications.
 - Surgery: Procedures such as cutting a section of the spinal cord or nerves, or lengthening or moving tendons can be helpful, but are rarely performed as they cannot be reversed.

Resources for patients:

- Model Systems Knowledge Translation Center factsheet about spasticity. (2015). *Autonomic Dysreflexia*. Retrieved from http://sci.washington.edu/info/pamphlets/spasticity_msktc.pdf
 - Video about Spasticity and SCI: Reyes, MR, Icarangal, A and Bertellotti, G. (2015, January 13). *Spasticity and Spinal Cord Injury Parts 1 and 2*. Retrieved from <http://sci.washington.edu/spasticity/>
 - SCI Forum Video about Intrathecal Baclofen at http://sci.washington.edu/info/forums/reports/intrathecal_baclofen.asp
- Reyes, MR (2010, January 12). *Intrathecal Baclofen*. Retrieved from http://sci.washington.edu/info/forums/reports/intrathecal_baclofen.asp

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Disclaimer: This information is not meant to replace the advice from a medical professional. You should consult your health care provider regarding specific medical concerns or treatment.

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