

Post Stroke Spasticity

The information in this handout is to help you understand the general and specific aspects regarding spasticity.

Content of this handout is reliable and is extracted from national and international stroke organizations, peer reviewed scientific research articles.

If you or your family members have questions after reading this handout, please contact your doctor and or therapist in-charge.



What is Spasticity?

Spasticity is a condition which causes your muscles to be overactive or tight, without your control.

This is usually a consequence of damage to the brain or spinal cord causing disturbances to the messages of control from brain or spinal cord.

Affected muscles remain contracted or resists from being stretched affecting normal smooth movement of upper or lower limbs, speech and walking.

Spasticity can be a debilitating condition if left unmanaged. A multi disciplinary approach to managing spasticity is usually recommended.



How does spasticity affect you?

The effects of spasticity vary from mild tightness to painful spasms. Spasticity can affect muscles of either side of face, hand, leg, trunk or a combination. Common issues that may accompany spasticity includes:

- Reduced control of the affected muscles leads to less precise movements, making certain functional tasks difficult to perform
- Persistently stiff muscles may alter body alignment and, cause pain and joint stiffness or deformity
- Reduced ability to perform routine daily activities such as eating, toileting, bathing, dressing and other household chores independently
- Difficulty in walking limiting the ability to go out into the community



What makes spasticity worse?

There are triggers that may worsen your spasticity. Identifying and managing these triggers will help you ease the symptoms of spasticity.

Common triggers include:

- Infections
- Pressure ulcers
- In-grown toe nails
- Tight fitting clothes
- Extremes of temperature
- Increased physical effort
- Pain and discomfort
- Excessive fatigue
- Emotions e.g., stress and anxiety
- Bladder and bowel dysfunction/infections.



When to manage spasticity?

When the muscles involved are causing pain or when it is difficult to carry out any of your functional activities e.g. wearing clothes, eating, toileting, reaching for objects, walking.

Does reducing spasticity alone translate into functional benefit?

- The reductions in spasticity alone may not be associated with gains in functional activity.
- Please discuss with your doctor and therapist about your movement difficulty to have a comprehensive assessment.
- Spasticity is not the only contributor to the limitation of function: underlying weakness is the most significant cause of activity limitation



How to manage spasticity?

- Oral medications
 - Botulinum toxin injections
- Surgical Management
 - Intrathecal Baclofen Pump
 - Selective Dorsal Rhizotomy
- Physical Management
 - Appropriate positioning of your arms or legs
 - Stretching of your muscles
 - Usage of splints or casts
 - Appropriate exercises
 - Training your daily functional activities



How can you help yourself?

Every patient may experience spasticity differently. It will be helpful to establish how and when spasticity affects you in a 24-hour period of your day. Understanding and establishing your own pattern and what can trigger your symptoms is useful for a better management.



Helpful tips for you

Tips that can help you manage your spasticity:

- Wear clothes that doesn't restrict movement.
- Maintain appropriate postures in lying, sitting, standing and walking.
- If you are using a spasticity-reducing drug, time your exercise or activity to begin approximately one hour after taking the medication.
- Monitor the effectiveness of your medication. Discuss with your doctor if need be.
- Avoid overexertion, include rest periods
- Experiment with times of day. Some people find early morning best, some find it helpful to break exercise sessions into two parts: one in the morning and the other in the afternoon or evening.



Positioning to reduce spasticity

Lying on your stomach (prone position)

This is a good position to try if you have spastic hip and knee flexors. Give yourself a few minutes to allow your hip muscles to relax in this new position. If able, let toes and foot hang over the edge of the bed to allow a neutral ankle position. As your hips relax, so will your calf muscles.



Lying face up or in 3/4 position

If your knees tend to roll inward, try placing a rolled pillow or towel between your knees. Allow time for your legs to accommodate and relax into the new position for a few minutes. Pillows under the knees only reinforce the knee flexion and should be avoided.



Lying on your side (side-lying)

This is a great position if your hips and knees are prone to extensor spasticity. On your side, bend the knee of your top leg and let the knee of your bottom leg be straight. You can also put a rolled pillow or towel between your legs.



Positioning to reduce spasticity

Correcting hip turn out

If your hips and knees assume a “frog like” position due to spasticity, try lying on your back. Place the end of a pillow, or a large beach towel, under your upper thigh (hip to knee). Roll the towel or pillow so that your hips and knees align themselves. Knees should be pointed toward the ceiling.



Correcting foot turn down

If your ankles and feet turn in a downward position, try to position your ankles and feet in a neutral position, with your toes pointed up toward the ceiling. The easiest way to achieve this is to place your feet against a padded footboard. If your bed does not have a footboard, bracing or other orthotic measures such as an Ankle Foot Orthosis may be needed.



Correcting bent elbows

If your elbows tend to bend and your arms remain close to your body, try lying down with your arms out alongside your body, on pillows, and your hands positioned palms down.



How can a Physiotherapist help you?

A physiotherapist can help you manage spasticity, thereby improving mobility and your functions through the following ways.

Exercise-based Therapy	Muscle stretching range of motion exercises.
Cryotherapy	Effects from icing the area for 30 minutes can last from 1-2 hours. It also provide a window of opportunity to work on stretches or exercises that may provide a more long lasting effect. The most common method of prolonged icing that is used is local immersion, which is particularly useful in reducing hand flexor tone.
Splinting & Serial Casting	Thermoplastic splinting and serial plaster casting are both used to maintain your muscle length and range of movement.
Positioning	Adequate 24-hour positioning and consideration of trunk, head and limb posture can minimize spasticity.

Contributed by Physiotherapy, Rehabilitation, Allied Health Services

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