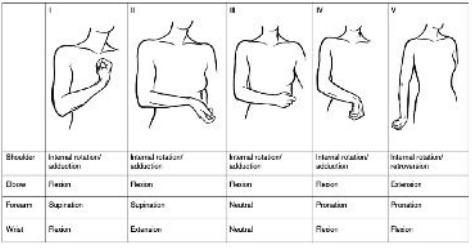
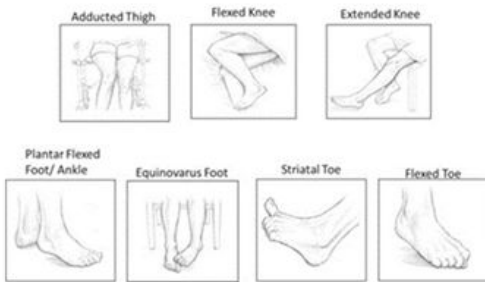


Management of Spasticity After Stroke: Checklist for people with lived experience

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The Management of Spasticity After Stroke Checklist has been developed to assist patients and their caregivers in managing spasticity. Spasticity is a condition in which there is an abnormal increase in muscle tone or stiffness of muscle, which might interfere with movement, speech, or be associated with discomfort or pain. Some spasticity may also be useful in certain muscle groups as an alternative to muscle voluntary activation to provide support in transfers or standing, for example. Spasticity is usually caused by damage to the central nervous system, within the brain or spinal cord. It is frequent amongst stroke survivors and usually manifests itself a few weeks to a few months after the stroke. There is effective treatment for this condition, therefore it is important to get patients referred to a spasticity specialist once symptoms are noticed.

This activity is part of the World Stroke Academy Life After Stroke project, that aims to improve the quality of support and educational material available globally on the topic of Life After Stroke.

	Question	Answer selection
1	<p>Do you have spasticity in your shoulders, arms or hands?</p>  <p><small>Upper limb spasticity patterns. Note: All the upper limb patterns could be combined with any specific hand and finger posture (big, claw, spastic flexion, etc.).</small></p>	<p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>
2	<p>Do you have spasticity in your legs, ankles or feet?</p> 	<p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>
3	<p>How long has it been since the onset of your spasticity?</p>	<p><input type="text"/> years</p> <p><input type="text"/> months</p> <p><input type="text"/> weeks</p>

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Which part of your body is affected by spasticity? Check all that apply:

Left side

Right side

- | | |
|--|--|
| <input type="checkbox"/> Face | <input type="checkbox"/> Face |
| <input type="checkbox"/> Shoulder | <input type="checkbox"/> Shoulder |
| <input type="checkbox"/> Elbow | <input type="checkbox"/> Elbow |
| <input type="checkbox"/> Arm | <input type="checkbox"/> Arm |
| <input type="checkbox"/> Forearm | <input type="checkbox"/> Forearm |
| <input type="checkbox"/> Wrist | <input type="checkbox"/> Wrist |
| <input type="checkbox"/> Fingers | <input type="checkbox"/> Fingers |
| <input type="checkbox"/> Upper leg/thigh | <input type="checkbox"/> Upper leg/thigh |
| <input type="checkbox"/> Knee | <input type="checkbox"/> Knee |
| <input type="checkbox"/> Ankle | <input type="checkbox"/> Ankle |
| <input type="checkbox"/> Toes | <input type="checkbox"/> Toes |

5

Do you feel pain due to spasticity? Other type of discomfort?

Yes

- Painful segment (lengthy period of pain >1min)
 - Pain at rest
 - Pain when passively mobilized
 - Pain with active movement
 - Painful spasms
 - Burning pain
 - Freezing pain
 - Numb pain
 - Tightness
 - Heaviness

No

6	Do you feel fatigue due to spasticity?	<input type="radio"/> Yes
		<input type="radio"/> No
7	Do you have spasms because of spasticity?	<input type="radio"/> Yes
		<input type="radio"/> No
8	Do you have contractures in the spastic limb, even when using another limb, or when someone else slowly moves your affected limb? (eg. restricted range of movement even when mobilizing your limb passively and slowly)	<input type="radio"/> Yes
		<input type="radio"/> No
9	<p>Does spasticity limit your ability to care for yourself or to perform other activities of daily living?</p> <ul style="list-style-type: none"> - Hygiene - Grooming - Dressing - Feeding - Using the toilet - Using splints 	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No
10	<p>Does spasticity limit your mobility ?</p> <ul style="list-style-type: none"> - Walking - Transfer (from one flat surface to another) - Standing - Falls 	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No
11	<p>Does spasticity limit any other activity or participation?</p> <ul style="list-style-type: none"> - Sleeping - Leisure activities - Driving - Employment 	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No

- Social participation
- Family participation
- Professional participation
- Sexual activity

<input type="radio"/> Yes	<input type="radio"/> No
<input type="radio"/> Yes	<input type="radio"/> No
<input type="radio"/> Yes	<input type="radio"/> No
<input type="radio"/> Yes	<input type="radio"/> No

What are your treatments for spasticity?
 How many days weekly? ...

Stretching -
 self / by a carer / by a professional

Range of motion exercises -
 self / by a carer / by a professional

Task training exercises -
 self / by a carer / by a professional

Grab/release

Reaching

Manual/bimanual tasks

Transfers

Balance

Walking

Strength training exercises -
 self / by a carer / by a professional

Physical modalities -
 self / by a carer / by a professional

Heat

Cold

Electrical stimulation

Magnetic stimulation

What are your treatments for spasticity?

How many days weekly? ...

Oral medication

Baclofen Yes No

Tizanidin Yes No

Benzodiazepins Yes No

Gabapentin/pregabalin Yes No

Botulinum toxin injection Yes No

Every how many months ?

Splinting /orthotics Yes No

Casting Yes No

Intrathecal baclofen Yes No

Surgery Yes No

Neurosurgery Yes No

Orthopaedic surgery Yes No

How many days weekly? ...

Stretching -
self / by a carer / by a professional

Range of motion exercises -
self / by a carer / by a professional

Task training exercises -
self / by a carer / by a professional

Grab/release

Reaching

Manual/bimanual tasks

Tranfers

Balance

Walking

13

How many days weekly? ...

Stretching

Strength training exercises -
self / by a carer / by a professional

Physical modalities -
self / by a carer / by a professional

Heat

Cold

Electrical stimulation

Magnetic stimulation

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How compliant are you to the spasticity
treatments?

STRETCHING

- Fully compliant
- Mostly compliant
- Fairly non-compliant
- Completely non-compliant

EXERCISING

- Fully compliant
- Mostly compliant
- Fairly non-compliant
- Completely non-compliant

TASK TRAINING

- Fully compliant
- Mostly compliant
- Fairly non-compliant
- Completely non-compliant

MEDICATIONS

- Fully compliant
- Mostly compliant
- Fairly non-compliant
- Completely non-compliant

ORTHOSIS USAGE

- Fully compliant
- Mostly compliant
- Fairly non-compliant
- Completely non-compliant

Are you considering, or have you ever considered discontinuing your current spasticity medication?

- A. I am currently considering discontinuing it.
- B. I have considered discontinuing it in the past.
- C. I have never considered discontinuing it.

If the answer to Q14 is A or B:
 How important were the following factors in your considering discontinuing your spasticity medication?
 [score 0 (unimportant) – 3 (important) for each]

	0 (Unimportant)	1 (Somewhat important)	2 (Important)	3 (Very Important)
Unable to easily attend the treatment clinic	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Financial costs of treatment are too great	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other logistical reason [please specify]	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
I experienced side effects from the treatment	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
I feel the treatment has never been effective enough	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
I feel the treatment was effective at first, but now it is not effective enough	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
I feel the treatment is painful/unpleasant to administer	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
My doctor feels the treatment is not working	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
My doctor feels the treatment has worked and now I no longer need it	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
I am going to receive a different medicine instead	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
I am going to receive a surgical treatment instead	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
I am going to receive a physiotherapy alone instead (ie. no medicine)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Another reason for considering discontinuing your spasticity medication [Please specify]	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

What barriers to spasticity management have you faced, if any?

Difficulty to access a spasticity specialist

Yes

No

Difficulty to perform positioning/exercises

Yes

No

Lack of access to occupational or physical therapy

Yes

No

Others, please state:

Treatment options for spasticity:

1. NONPHARMACOLOGIC TREATMENT OF SPASTICITY

- Stretching
- Fitting of splints/braces and serial casting
- Thermotherapy
- Neuromuscular electrical stimulation (NEMS)
- Functional electrical stimulation of upper and lower extremity
- Kinesiotherapy (PT/OT)
- Muscle strengthening
- Task training
- Aerobic training
- Use of robotics
- Use of virtual reality

2. PHARMACOLOGIC TREATMENT OF SPASTICITY

- Oral medications (Baclofen, Tizanidine, Dantrolene, Diazepam)
- Phenol/alcohol neurolysis
- Botulinum toxin
- Intrathecal baclofen
- Cryoneurolysis

3. SURGICAL TREATMENT OF SPASTICITY

- Orthopedic procedures
- Neurosurgical procedures

References

- Bickenbach, J., Cieza, A., Rauch, A., & Stucki, G. (Eds.). (2020). *ICF core sets: Manual for clinical practice (2nd ed.)*. Hogrefe Publishing.
- Platz, T. (Ed.) (2020). *Clinical pathways in stroke rehabilitation: Evidence-based clinical practice recommendations*. Springer.
- Doussoulin A, Rivas C, Bacco J, Sepúlveda P, Carvallo G, Gajardo C, Rivas R. (2020). Prevalence of Spasticity and Postural Patterns in the Upper Extremity Post Stroke. *Journal of Stroke and Cerebrovascular Diseases*, 29(11), 105253. doi:10.1016/j.jstrokecerebrovasd
- Bethoux F. (2015) Spasticity Management After Stroke. *Physical Medicine and Rehabilitation Clinics of North America*; 26(4), 625–639.
- Esquenazi A, Alfaro A, Ayyoub Z, Charles D, Dashtipour K, Graham GD, McGuire JR, Odderson IR, Patel AT, Simpson DM. (2017). OnabotulinumtoxinA for Lower Limb Spasticity: Guidance From a Delphi Panel Approach. *PM R*. 9(10):960-968. doi: 10.1016/j.pmrj.2017.02.014.