

Management of Spasticity After Stroke Checklist

Dr. SalmahAnim Abu Hassan, Dr. Thanalactchumy Chandra Bose,
Assoc. Prof. Anwar Suhaimi and Prof. Lydia Abdul Latif

The Management of Spasticity After Stroke Checklist has been developed to assist the healthcare team, doctors and allied health professionals, in managing spasticity for post-stroke patients. The checklist is meant for usage both in the inpatient and outpatient setting. 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																																											
<p style="text-align: center;">Is spasticity present?</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 20%;"></td> <td style="width: 20%;">I</td> <td style="width: 20%;">II</td> <td style="width: 20%;">III</td> <td style="width: 20%;">IV</td> <td style="width: 20%;">V</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Shoulder</td> <td>Internal rotation/adduction</td> <td>Internal rotation/adduction</td> <td>Internal rotation/adduction</td> <td>Internal rotation/adduction</td> <td>Internal rotation/retroversion</td> </tr> <tr> <td>Elbow</td> <td>Flexion</td> <td>Flexion</td> <td>Flexion</td> <td>Flexion</td> <td>Extension</td> </tr> <tr> <td>Forearm</td> <td>Supination</td> <td>Supination</td> <td>Neutral</td> <td>Pronation</td> <td>Pronation</td> </tr> <tr> <td>Wrist</td> <td>Flexion</td> <td>Extension</td> <td>Neutral</td> <td>Flexion</td> <td>Flexion</td> </tr> </table> <p style="font-size: small;">Upper limb spasticity patterns. Note: All five upper limb patterns could be combined with any spastic hand and finger position (e.g. claw, spastic flexed, intrinsic lumbrical).</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>		I	II	III	IV	V							Shoulder	Internal rotation/adduction	Internal rotation/adduction	Internal rotation/adduction	Internal rotation/adduction	Internal rotation/retroversion	Elbow	Flexion	Flexion	Flexion	Flexion	Extension	Forearm	Supination	Supination	Neutral	Pronation	Pronation	Wrist	Flexion	Extension	Neutral	Flexion	Flexion								<p>Yes</p> <p>No</p>
	I	II	III	IV	V																																							
Shoulder	Internal rotation/adduction	Internal rotation/adduction	Internal rotation/adduction	Internal rotation/adduction	Internal rotation/retroversion																																							
Elbow	Flexion	Flexion	Flexion	Flexion	Extension																																							
Forearm	Supination	Supination	Neutral	Pronation	Pronation																																							
Wrist	Flexion	Extension	Neutral	Flexion	Flexion																																							
<p style="text-align: center;">Time since onset of spasticity</p>	<p>years</p> <p>months</p> <p>weeks</p> <p>days</p>																																											

1

2

3	<p>Which part of the body is affected by spasticity? Check all that apply:</p>	<p>Orofacial</p>
		<p>Upper limb Either one region or a mixture of locations:</p> <p>Shoulder Elbow Arm Forearm Wrists Fingers</p>
		<p>Lower Limb Either one region or a mixture of locations:</p> <p>Hip Knee Ankle Toes</p>
4	<p>Distribution of spasticity?</p>	<p>Bilateral</p>
		<p>Unilateral Which side? Left Right</p>
5	<p>Does the spasticity cause pain?</p>	<p>Yes</p>
		<p>No</p>
6	<p>Is the spasticity associated with fatigue?</p>	<p>Yes</p>
		<p>No</p>
7	<p>Is the spasticity associated with spasms?</p>	<p>Yes</p>
		<p>No</p>
8	<p>Does the spastic limb have contractures?</p>	<p>Yes</p>
		<p>No</p>

9	Does spasticity limit patient care or activities of daily living ?(Examples are hygiene, grooming, dressing and feeding)	<p style="text-align: center;">Yes</p> <p style="text-align: center;">No</p>	
10	Does spasticity limit mobility ?(Examples are transfer, gait, standing)	<p style="text-align: center;">Yes</p> <p style="text-align: center;">No</p>	
11	Does spasticity limit the patient's participation in any other activities? Examples are leisure activities, driving, employment, social, family and professional participation)	<p style="text-align: center;">Yes</p> <p style="text-align: center;">No</p>	
12	What are the treatments given for spasticity?	<p style="text-align: center;">Stretching</p> <p style="text-align: center;">Range of motion exercises</p> <p style="text-align: center;">Physical modalities</p> <p style="text-align: center;">Oral medication</p> <p style="text-align: center;">Botulinum toxin injection</p> <p style="text-align: center;">Casting</p> <p style="text-align: center;">Intrathecal baclofen</p> <p style="text-align: center;">Surgery</p>	
13	<p style="text-align: center;">Is the patient compliant to spasticity treatment?</p> <p style="text-align: center;">Stretching</p> <p style="text-align: center;">Medications</p> <p style="text-align: center;">Orthosis usage</p>	<p style="text-align: center;">Yes No</p> <p style="text-align: center;">Yes No</p> <p style="text-align: center;">Yes No</p>	

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.