

## FIVE THINGS TO KNOW ABOUT ...

## Spasticity

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**Spasticity is common in upper motor neuron disorders<sup>1</sup>**

After a stroke, almost 5% of patients are affected by spasticity within 10 days of the event; about 10% of patients are affected after 6 months.<sup>2</sup> About one-third of patients with multiple sclerosis have spasticity that limits their ability to perform daily activities.<sup>3</sup> Almost 80% of children with cerebral palsy have spasticity.<sup>4</sup>

**Although not all spasticity is problematic, symptoms can be disabling**

Resultant clonus can prevent the use of affected limbs, cause pain or falls and impair gait. In addition, bladder spasticity causes incontinence.<sup>1,3</sup> Untreated, spasticity can cause contractures, which can be treated with either orthoses or surgery.

**Spasticity is a velocity-dependent increase in tone**

Spasticity is evoked with quick passive movement of the affected limb. A “spastic catch” is felt and can be overcome with continued force. The effect is diminished at slower speeds.<sup>2</sup> The degree of spasticity is quantified by using the Ashworth scale (Appendices 1 and 2, [www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.140405/-/DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.140405/-/DC1)). Hyperreflexia is also present in the affected limb.

**Spasticity can be treated with focal or generalized therapy**

Focal treatment includes stretching, bracing and injection of botulinum toxin.<sup>5</sup> Generalized treatment includes proper seating and positioning, medications administered orally or intrathecal injection of baclofen.<sup>6</sup> Clinical trials have shown no consistent improvement in objective measures of spasticity among patients with spinal cord injury, cerebral palsy or stroke who received baclofen, tizanidine or benzodiazepines orally.<sup>7</sup> Evidence supporting the use of such agents for patients with multiple sclerosis is mixed.<sup>8</sup>

**If spasticity worsens, the cause of the change should be sought**

Neurologic lesions such as a syrinx or disc compression should be considered in patients with worsening symptoms. In addition, a systematic review suggested that pregnancy, infection, heterotopic ossification and sources of pain such as pressure sores, fractures or ingrown toenails can cause spasticity to worsen.<sup>9</sup>

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Appendix 2: Spasticity  
[www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.140405/-/DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.140405/-/DC1)