

Measurement of involuntary muscle contraction in adults with spasticity

ACTRN12623001135606

Status	RECRUITING
Sponsor	A/Prof Ian Baguley
Enrollment	90 participants

Plain Language Summary

This study is looking at abnormal muscle co-contraction — where muscles that are supposed to relax actually tighten at the wrong time — in adults with upper motor neuron (UMN) syndrome. This occurs in conditions like stroke, traumatic brain injury, or multiple sclerosis, where damage to the nervous system leads to spasticity. Co-contraction can make everyday tasks like grasping objects very difficult, but it is poorly understood and hard to measure objectively.

Researchers will use specialised equipment to measure muscle activity during a grasping and releasing task before and after participants receive Botulinum Toxin-A (Botox) injections, which are commonly used to treat spasticity. The goal is to better understand how co-contraction affects hand function and whether the injections change these patterns.

You may be eligible if you are an adult with spasticity from a neurological condition lasting more than three months, mainly affecting one side, and you are already receiving Botulinum Toxin-A injections as part of your regular clinical care. A healthy control group (adults without neurological conditions) is also being recruited for comparison. People with other causes of upper limb weakness or who have contraindications to Botulinum Toxin-A are not eligible.

Key Eligibility Criteria

Inclusion (10)

- Clinical Group:
- Ability to understand verbal instructions in English
- Motor overactivity resulting from an UMN syndrome of greater than 3 months duration
- Predominately unilateral disability.
- Presence of active grip strength in the most affected upper limb (a minimum of 0.75kg of force)

... and 5 more (see full listing online)

Exclusion (7)

- Other causes of upper limb weakness including non-neurological pain, rheumatological conditions, lower motor neuron lesions, etc.
- Inadequate ability to understand and follow instructions, such as language barriers or inadequate voluntary motor control.
- People with spasticity who are not being offered OnabotulinumtoxinA injections as a clinical treatment.
- People with a known contraindication to OnabotulinumtoxinA e.g., Eaton-Lambert syndrome, pregnancy, hypersensitivity etc.
- Control group

... and 2 more (see full listing online)

Locations (1 total)

NSW, Australia

<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?ACTRN=ACTRN12623001135606>

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