

Hypertonicity

Hypertonicity is muscle tightness (increased tone), which makes moving body parts more difficult (resistance to movement). It is caused when parts of the brain find it hard to send the right signals to muscles. For example, the brain may not be able to 'turn on' a muscle or may 'turn on' a muscle too much. Muscles can become weak and/or overactive (work harder). These muscle changes can result in a lack of movement, changed movement, general stiffness and pain. The changes can also be affected by a person's position, emotional state or overall health.

How do changes to muscle function impact on a person?

- Prolonged changes in muscle tone can cause muscle shortening (contracture). Muscle contractures can occur when the muscle lies in a shortened position for a long period of time. Immobility can also contribute to muscle contractures.
- Increased muscle tone can cause discomfort or pain; this can slow a person's recovery.
- The person may have unusual limb positions at rest and when trying to move.
- Each person will be affected differently, depending on the type of brain injury.
- It may be difficult to do everyday activities such as self-care tasks and activities which involve moving the limb in a controlled way, e.g. bringing the hand to mouth, pouring a drink.

What treatment options are available?

- Moving a limb slowly and carefully through a full range of movement is known as passive range of motion (PROM) exercises. Immobility can contribute to muscle contractures, therefore it is important to complete PROM exercises of the affected limb.
- Positioning the affected limbs with the tight muscles in a lengthened position can help.
- Splinting aims to keep muscles and joints in a good position at rest, and to avoid contracture.
- Other treatment options for more complex cases may involve medications and other positioning options. For more information on these types of treatments ask your Occupational Therapist and treating Medical Team.

What is the role of the Occupational Therapist?

Occupational therapists contribute to the management of hypertonicity through a variety of methods:

- Assessment of upper limb muscle function.
- Therapy planning to promote function.
- Providing therapy e.g. prescribing positioning, demonstrating and conducting exercises, splinting, casting, recommending assistive devices and working with other members of the team.
- Providing information about ongoing management and treatment.

Please contact your therapist if you have any queries or concerns.