



AUSTRALIA

# Ataxia and Tremor

**Around four out of five people with multiple sclerosis (MS) experience ataxia. For most, it's relatively mild.**

**About a third of people with MS experience tremor. Relatively mild for some, for others it can be quite severe.**

**Ataxia and tremor may be accompanied by other symptoms, such as fatigue, dizziness, spasticity, reduced strength, sensory or visual input. Identifying ataxia and tremor and seeking early treatment is key. With the right information and support, they can be managed effectively to maintain a healthy and active lifestyle.**

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## Ataxia – what is it and what causes it?

### What is ataxia?

Ataxia is a lack of coordination of muscle movements which can appear as clumsiness, unsteady gait, impaired eye and limb movements, speech problems and sometimes dizziness.

Its impact varies and depends on which part, and how much, of the nervous system has been damaged by MS.

### What causes ataxia?

Smooth, coordinated movements involve many body parts such as our eyes, inner ear structures for balance, the sensory nerves that tell the brain where our limbs are in space and also a part of the brain called the cerebellum.

Movements such as walking and speaking involve complex messages from the brain and feedback from the nerves. If MS causes nerve fibre damage that delays or interrupts the matching of these messages, ataxia results.

The types of Ataxia relate to the location of the nerve damage and these types can occur in isolation or together.

- Sensory Ataxia occurs when there is damage to the sensory pathways that control the messaging between the spinal cord and the limbs. This interferes with the person's ability to know where the parts of the body are in relation to each other and to their surroundings. This is known as proprioception. For example, this can cause the person to have a 'stomping walk' as they cannot judge where their legs are in relation to the ground.
- Vestibular Ataxia occurs when there is damage to the cranial nerve and the person may experience dizziness or unsteadiness.
- Cerebellar Ataxia occurs when there is a damage to the part of the brain that looks after coordination and motor control. This can cause floppiness, lack of coordination and an inability to control power and speed of movement.

### Tremor – what is it and what causes it?

#### What is tremor?

Tremor is small or large involuntary, uncontrolled movements, often in the upper limbs.

The most common is **intention** or **action tremor** which gets worse as you use the affected limb e.g. your arm shakes as you reach for something, try to touch your nose, or move your foot to a precise spot.

Others may experience **postural tremor** which, as the name suggests, means that the person experiences a tremor when maintaining a posture against gravity, such as sitting or standing, but it does not occur when lying down.

Associated symptoms may include speaking or swallowing issues.

#### What causes tremor?

It's thought tremor is due to damage in the cerebellum (which coordinates your movement). Stress and anxiety can make it worse.

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### What should I do if I experience ataxia or tremor?

If you have ataxia or tremor concerns, talk to your GP or MS Nurse or ask to be referred to the appropriate specialist.

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### What else can I do to manage these symptoms?

There are some things you can do or learn to help with ataxia or tremor, and manage changes effectively. It's important that this is done with advice from a health professional to ensure you use the best option for your specific need.

#### How is ataxia treated?

Treatment for ataxia usually involves a combination of rehabilitation and compensatory strategies but currently, not medications. It's important to work with a physiotherapist with expertise in MS in developing a plan to manage ataxia.

- **Rehabilitation**

As many people with ataxia have poor balance they may sit for long hours which can lead to muscle weakness. Core stability and muscle strength building exercises can be a very effective strategy in managing these symptoms.

- **Compensatory strategies**

This involves finding ways to reduce the effect of ataxia by making tasks and situations easier to manage. For example, if ataxia affects your arms, weighted cuffs may help. Some people find tight fitting lycra clothing useful and walking aids can be helpful with balance.

**How is tremor treated?**

Adaptation is a key method in helping tremor. In some cases limb cooling is useful and in others, limb weights can diminish the tremor. A discussion with an occupational therapist can assist in identifying the best option.

Whilst drug therapy has limited benefits, beta-blockers may have some effect. In a recent clinical trial, botulinum toxin injections have been shown to improve intrusive hand tremor in people with MS. Physiotherapy treatment may also show some improvement.

A potential new surgical approach is deep brain stimulation or thalamic stimulation, which has been used successfully for Parkinson's disease. A thin wire is implanted into the brain with a battery-operated pulse generator implanted near the collarbone, and sends continuous electrical pulses to the brain blocking brain signals.

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**Information and assistance:**

**General**

There is support available to help you manage your MS:

- **Your GP** should be the first contact for any new and/or persistent ataxia or tremor concerns. MS nurses and other healthcare advisers can also help you to manage these symptoms on an ongoing basis.
- **Contact your state MS society** (details below) to access services such as MS nurses, peer support and other resources.
- Speak to your neurologist and other healthcare providers about the best approach to treatment management for your individual circumstances.
- For information about MS and MS treatments visit [www.msaustralia.org.au](http://www.msaustralia.org.au)
- **Contact details for your state MS organisations:**

MS Connect (Victoria, NSW, ACT and Tasmania)	1800 042 138	msconnect@ms.org.au	www.ms.org.au
MSWA (Western Australia)	1800 287 367	enquiries@mswa.org.au	www.mswa.org.au
MS Assist (South Australia and NT)	1800 812 311	msassist@ms.asn.au	www.ms.asn.au
MS Queensland	1800 287 367	mssociety@msqld.org.au	www.msqld.org.au

### Ataxia/Tremor-related and other organisations

The following support services may be able to provide lifestyle, wellbeing, or other advice:

- **Carers Australia 1800 242 636** [www.carersaustralia.com.au](http://www.carersaustralia.com.au) provides information and advice to carers, their friends and families about carer support and services.
- **Independent Living Centres Australia 1300 885 886** [www.ilcaustralia.org.au](http://www.ilcaustralia.org.au) provides information about products (including aids useful for ataxia and tremor), services and funding options to help people remain independent and improve quality of life.
- **SCA Australia** [www.scars.org.au](http://www.scars.org.au) is a local support group for people with ataxia issues, in particular cerebellar ataxias.
- **The National Ataxia Foundation** website (US-based, not-for-profit organisation) has useful general information [www.ataxia.org](http://www.ataxia.org)

#### Sources

This fact sheet comprises material from previously published Australian MS Society leaflets plus Multiple Sclerosis (MS) UK Trust online resources (and associated references), and has been approved by both a medical expert and a person living with MS.

**Disclaimer:** Information prepared by MS Australia. It is intended to provide useful and accurate information of a general nature and is not a substitute for medical advice.