

Pain

Fact Sheet

Multiple
Sclerosis
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Pain

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1. Pain in MS

Pain can be defined as "unpleasant sensory experiences"¹. For people with MS this may encompass both 'painful' feelings and also altered sensations such as pins and needles, numbness, or crawling, burning feelings. Estimates vary as to how common these symptoms are^{2,3}, with some reports suggesting that up to 80% of people with MS may experience pain at some stage⁴.

The management of pain in MS is not always easy and some types of pain will never go away entirely. In this case, the aim of treatment is to minimise the level of pain and to develop coping strategies so that the individual can carry out

normal day-to-day living. Treatment options may include drugs, non-drug treatments such as physiotherapy or a combination of the two.

As well as the direct causes of pain, a number of factors can make pain feel worse for people with MS. These include heat, cold, poor sleep, fatigue, mobility problems, feelings of low self-esteem, loneliness or isolation, and depression or anxiety. Dealing with some of these other issues can help to improve pain levels.

It also needs to be remembered that people can experience pain for reasons other than their MS.

Different types of pain are managed in different ways, so a careful assessment of the factors that may be contributing to the symptom is necessary in order to find appropriate treatments.

2. Describing pain

Pain is very subjective and is best described by the person experiencing it. No two people will experience pain in the same way.

Pain is often categorised in terms of how long it lasts. Acute pain is generally described as an intense, sharp, burning or shooting feeling. It is usually experienced intermittently, with very sudden onset and either improving or disappearing equally quickly.

Chronic pain is long-lasting or persistent pain. The intensity of chronic pain may fluctuate over a period of time without ever fully disappearing.

There are two broad types of pain that result from MS:

- neuropathic or nerve pain is caused by damage to the nerves in the brain and spinal cord
- nociceptive or musculoskeletal pain is caused by damage to muscles, tendons, ligaments and soft tissue

3. Neuropathic (nerve) pain

Neuropathic pain is caused by disruption in how the nerves carry messages within the brain and spinal cord. In MS damage occurs to the myelin sheath, a layer of fatty protein that protects the nerves and aids transmission of messages. Nerve messages can be interrupted or delayed, interfering with the body's normal ability to function. Sometimes the brain interprets these disrupted messages as pain, even though there is no physical cause of pain.

The National Institute for Health and Clinical Excellence (NICE) has issued clinical guidelines for neuropathic pain. These indicate amitriptyline or pregabalin (Lyrica) as a first line treatment. If amitriptyline is effective but side effects are a problem, oral imipramine (Tofranil) or nortriptyline (Allegron) are suggested as alternatives⁵. Other drugs that may be used to treat neuropathic pain include carbamazepine (Tegretol) and gabapentin⁶. Treatment usually starts with low doses that are built up slowly.

These drugs affect the chemical transmission of pain signals resulting in a reduction of symptoms. They often cause side effects such as drowsiness, dizziness, nausea and blurred vision although these will eventually wear off.

Should the chosen first line drug not be effective, doctors should try the other one, either on its own or in combination with the original drug. If this is also unsuccessful, the person should be referred to a pain specialist for further treatment.

Examples of neuropathic pain

- *Dysaesthesia or paraesthesia* (altered sensation)

These are common symptoms in MS, but they are experienced differently from person to person. The pain can be described in a variety of ways including:

- pins and needles
- numbness
- itching
- burning
- prickling
- crawling
- tightness
- dull ache
- nagging

Usually experienced in the extremities, these changes can occur anywhere in the body. These sensations can be uncomfortable and unsettling and may be painful and distressing.

- *Banding*, sometimes called the 'MS hug'

This is a feeling of constriction, tightness or being squeezed around the chest.

Altered sensations are generally treated with one of the standard drugs, although symptoms such as numbness and loss of sensation may not be treated unless they are causing particular distress.

- *L'hermitte's sign*

A sudden sensation resembling an electric shock, which passes down the back of the neck and into the spinal column and can radiate out to the fingers and toes. The pain is sharp but passes quickly so treatment is not usually considered.

- *Optic neuritis*

A sharp, knifelike pain behind the eyes caused by inflammation of the optic nerve, sometimes also causing disruption to vision. Optic neuritis is a common early symptom of MS, though can occur at any time. It usually responds successfully to treatment with steroids.

- *Trigeminal neuralgia*

An intense, severe stabbing and burning sensation down the side of the face that can ease to an ache or burn. Pain follows the path of the trigeminal nerve, which provides feeling in the side of the face and controls chewing and swallowing. It is thought that the pain, which normally only affects one side of the face at a time, is caused by damage where the nerve connects to the brain. The pain can be excruciating and can be set off by something as simple as eating, talking or smiling. It is usually sudden in onset and can reduce or disappear over a period of time. However it can become chronic.

Trigeminal neuralgia can be difficult to treat. First line treatment is with a standard drug for neuropathic pain. It is also useful to identify whether the pain has any triggers, for example eating ice cream, and avoiding them or reducing their likelihood. In extreme cases, surgery can be carried out to cut the nerve's connection to the brain, but this may leave the face numb.

4. Musculoskeletal (nociceptive) pain

Musculoskeletal or nociceptive pain is the type of pain experienced when someone has an injury. It results from damage to muscles, tendons, ligaments and soft tissue.

Musculoskeletal pain is generally more successfully managed than neuropathic pain. Common pain relieving drugs such as paracetamol, ibuprofen or aspirin can be used.

The NICE Clinical Guidelines for the management of multiple sclerosis state that specialist therapists should assess every person with MS who has musculoskeletal pain⁶. For instance, a physiotherapist could identify changes in posture and offer exercises to strengthen certain muscle groups to improve function and help to reduce pain. An occupational therapist could determine whether any new equipment might be required to help relieve pain, such as an appropriate walking aid or wheelchair, or equipment to make tasks in the home or workplace easier.

Examples of musculoskeletal pain

- *Pain in the hips and lower back*

Many people with MS experience lower back pain. This can be caused by alterations in the way someone walks, possibly as a result of spasticity or weakness. This puts extra stress on the back or hips, leading to pain.

Similarly, someone who spends much of the day sitting down, possibly due to mobility problems or fatigue may be prone to back pain.

- *Pain in the muscles, tendons or ligaments*

This can occur if the limbs are stiff and kept in a fixed position for long periods of time. Muscles that aren't exercised can become stiffer and shorter, known as a contracture, restricting the range of movement possible. Ligament damage can also occur in MS, for instance if changes in how someone walks causes them to over extend their knee, leading to swelling and pain.

Spasms and spasticity can also cause pain in the soft tissues. When a muscle contracts, suddenly in the case of spasms or over a longer period of time in the case of spasticity, this can cause pain in the affected limb.

The NICE Clinical Guideline recommends the drugs baclofen or gabapentin as the first line of treatment for spasticity⁶. Other treatment options include tizanidine, diazepam, clonazepam or sodium dantrolene. The cannabis based drug Sativex is licensed for use as an add-on treatment for spasticity when people have shown inadequate response to other treatments or found their side effects intolerable.

A combined approach to treating spasticity, using both drug treatment and exercise, is often employed. Physiotherapy is used alongside medication to improve muscle function through a range of exercises and thus reduce painful sensations. (More information is available in the factsheet *Spasticity and spasms*).

5. Further treatment options

Pain clinic

If pain does not respond to treatment, it is possible to get a referral from a GP or neurologist to a specialist pain clinic. Services vary in the treatments offered and not all areas will have a specific pain clinic. Usually input is from a multidisciplinary team of doctors, nurses and therapists using a combination of drugs, therapy and coping strategies to help the person with MS minimise the effects of pain and to allow them to carry on with normal day-to-day living.

TENS

TENS (transcutaneous electrical nerve stimulation) is a machine that applies a small electrical current to the area of pain, producing a slight tingling, prickling sensation. The tingling sensations are transmitted along nerves more quickly than the pain sensations, reducing the effect of pain. It has also been suggested that TENS encourages the body to produce chemicals that have a pain relieving effect^{7,8}.

TENS is included in the NICE Guideline as a treatment for musculoskeletal pain that doesn't respond to medication⁶.

Complementary therapies

There is limited scientific evidence to support the use of acupuncture⁹ and aromatherapy¹⁰ as treatments to alleviate pain, if only for short periods of time.

Some people with MS have reported benefits from the following therapies, possibly due to their relaxing effects. There may be others that are helpful:

- cognitive behavioural therapy
- distraction techniques
- magnetic therapy
- mindfulness
- reiki
- relaxation techniques
- visualisation techniques
- yoga

6. Links and references

Pain organisations

- **The British Pain Society**

The representative body for professionals involved in the management of pain in the UK.

020 7269 7840 info@britishpainsociety.org www.britishpainsociety.org

- **Pain Concern**

A charity offering information and support for people who experience pain by people who experience pain. Provides a 'listening ear' helpline.

0300 123 0789 info@painconcern.org.uk www.painconcern.org.uk

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