

## Multiple Sclerosis: Pain

Some people tend to think MS is a disease that causes muscle weakness and motor problems and focus **primary** treatment on these impairments. Pain, however, is another important impairment in MS. In fact, pain can cause serious disability in its own right. About 65% of MS patients experience a broad range of painful syndromes.

### Pain

#### I. Neuropathic Pain

- neuropathic pain occurs when the nervous system does not function properly and becomes the cause of pain (pt can experience these disorders during either early or middle stages)

**1. Trigeminal neuralgia:** is a stabbing pain in the face. It can occur as an initial symptom of MS. While it can be confused with dental pain, this pain is neuropathic in origin, in which there is damage to the trigeminal nerve. This pain is a direct result of MS. The pain tends to be unilateral, and is common on the maxillary and mandibular divisions. The pain can be triggered with sensory stimulus, such as brushing teeth or simply touching the face. This pain has been described as excruciating that only last for a few seconds to a minute. A patient can experience up to 100 attacks a day and as the disease progresses, the frequency of attacks increase.

**2. Lhermitte's sign** is a brief, stabbing, electric-shock-like sensation that runs from the back of the head down the spine. Its resulted from a cervical cord lesion. Onset is sudden brought on by bending the neck forward.

**3. Optic Neuritis:** is an inflammation of the optic nerve. Optic neuritis is often an takes place during early stage of MS. Patients experience pain in the orbital region along with unilateral loss of vision

**4. Burning or aching around the body:** These symptoms are all neurologic in origin.

#### II. Musculoskeletal Pain

- musculoskeletal pain is actual tissue damage caused by the symptoms. (pt may experience these pain during middle into late stages)

**1. Pain from spasticity** may take place. Spasticity can include muscle spasms, stiffness, or contractures. Pain from spasms can lead to lack of sleep.

**2. Secondary pain or musculoskeletal pain.** This pain can originate from low back, pressure sores on the body from immobility, incorrect use of assistant devices, a compensated gait with balance problems, pain from muscle weakness, joint pain, and urinary tract infection. All these contribute to secondary pain presented in MS.

## How to measure pain and what to ask?

Testing: Visual Analog Scale

Administer the Health-Related Quality of Life questionnaire to determine the pain's impact on the patient's daily events.

Type: Continuous, Intermittent, Sharp, Dull, numbness, tingling, 24 hr. pattern, aggravating/easing factors

Distinguish between CNS nerve pain and musculoskeletal pain.

Paresthesia: (Pins and Needles)- Test light touch DCML

## Conservative treatments for nerve and musculoskeletal pain

After learning the kinds of pain MS patients encounter, an evaluation to pinpoint the source of the pain is important. Treatments will vary depending of the source of pain.

### Neuropathic Pain

- Treatments typically include medications
- **Transcutaneous electric nerve stimulation (TENS)**: using mild electrical currents in order to stimulate certain nerve endings that block pain transmissions.
- **Hydrotherapy** in water less than 85 degrees 3x a week for 30 min.
  - Caution: extreme temperature may cause exacerbations)
- **Soft collar**- to treat Lhermitte's sign: shooting pain from cervical flexion. This collar reduces neck flexion.
- **Stocking or gloves** give the sensation of pressure to alleviate pain.

### Musculoskeletal Pain

- Low to Mild **cardiovascular exercise**, to strengthen weak musculature. The exercises be low in frequency: 3x a week for 30 min.
  - Caution: be sure not to push the patient too hard and provoke an exacerbation. Be sure to note their stage.
- **Stretch** tight musculature to help reduce the loss in ROM. Pt can stretch on a daily basis when possible. A slow, gentle, prolonged stretches to the point where you feel a gentle pulling, but **not** pain. Holding between 20-60 seconds.
- **Orthotics** for malignment. Some patients may exhibit over pronation in gait and ultimately lead to knee, hip, or low back problems.
- **Patient education** with Postural training. It is important to have the patient reminded themselves in maintaining good posture.

## CAM- Complimentary and Alternative Medicine

Complementary and alternative medicine are non-traditional interventions that try to reduce pain. About 50-75% of MS patients use some form of CAM either exclusively or alongside a

traditional treatment. Interesting enough, CAM was used not because a dissatisfaction with traditional medicine, but a desire for a more holistic approach.

- **Yoga**
- **Hypnosis**
- **Relaxation techniques**
- **Herbal supplements**
- **Acupuncture**
- **Macrobiotics**
- **Naturopathy**
- **Marijuana (Cannabis)**

### Medications

- **Anticonvulsants**- Neurontin (gabapentin), Dilantin (phenytoin), Tegretol (carbamazepine), and Lyrica (pregabalin) may be most helpful in combating trigeminal neuralgia.
- **Antidepressants** (tricyclic): Elavil (amitriptyline), Pamelor (nortriptyline), and Tofranil (imipramine) are helpful in treating burning and aching sensations that are neurologic in origin.
- **SSNRI's**- selective serotonin and norepinephrine reuptake inhibitor; Cymbalta (duloxetine hydrochloride). Approved for diabetic peripheral neuropathy, but often used to treat pain in patients with MS.
- **Anti-anxiety**- Klonopin (clonazepam) and Valium (diazepam) are used to treat tremor, spasticity, and pain.
- **Spasticity**- Baclofen (Lioresa) may be administered orally, by injection, or intrathecally. Tizanidine (Zanaflex), botulinum toxin, and dantrolene have also been shown, to a lesser extent, to reduce spasticity and improve function
- **Narcotic analgesics**- Morphine, Fortalgescic (pentazocin), Levo-Dromoran (levorphanol), Tramal (tramadol)- all act as “false” neurotransmitters in the dorsal horn of the spinal cord and brainstem. Although helpful, opioids produce many side effects including restlessness and depression.
- **Cannabinoids**- marijuana or chemical derivatives of marijuana plants, for neuropathic pain relief.
  - \***Marinol** (dronabinol): synthetic THC has been shown to reduce pain and improve quality of life measures, but with high frequency of side effects.
  - \***THC/cannabidiol mixture**: reduced pain, improved sleep quality, and was reasonably well tolerated.
  - \* **Nabilone**: synthetic cannabinoid has been shown to reduce spasticity-related pain

Because long-term safety concerns have not yet been addressed through research, a recent consensus guideline for the treatment of symptoms associated with MS also does not recommend cannabinoids.

It might take considerable time and effort to find a medication or combination of medications that works best for a particular patient. Ultimately, patients with MS who are unable to reduce persistent pain should consult with MS and pain medicine specialists to resolve pain issues and find the most effective balance of therapies.

## References

Adapted from Andrew Schweitzer and Aivaras Sajus

Kasirer, Marilyn. Multiple Sclerosis and Pain: A Medical Focus. *International Journal of MS care*. 2000 May 2(3): 30-34.

O'Connor, Schwid, Herrmann, Markman, & Dworkin (2008). Pain associated with multiple sclerosis: systematic review and proposed classification. *Pain* 137: 96–111.

Olsen, Sherri A. A review of complementary and alternative medicine (CAM) by people with multiple sclerosis (2009). *Occupational Therapy International*. 16(1): 57-70.

“Pain.” National MS Society. Retrieved on Sept. 8, 2009, from <http://www.nationalmssociety.org/about-multiple-sclerosis/symptoms/pain/index.aspx>