



## | RYGG MÄRGS | SKADA

<http://www.ryggmargsskada.se>

The following text is a selection from the website.

**Author:** Cecilia Norrbrink  
Leg Physiotherapist, Docent in rehabilitation medicine



**Translation:** funded by Allmänna Arvsfonden & project RG Integration.

<http://www.rgintegration.se/en/>

## Spinalis®

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The Spinalis Foundation is a charitable foundation with the mission to promote research and develop treatments for people with SCI.

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## Pain

Pain is a major problem for many people suffering from a spinal cord injury. Two-thirds of people experience pain, and the most common pain problems are overstraining problems and nerve pain due to the spinal cord injury. Since the pain can affect many aspects of everyday life such as independence, work, leisure activities, mood, sleep and cognitive functions such as memory and concentration, the knowledge of pain, pain management and pain treatment is important.

This section focuses on spinal cord injury-related nerve pain.

### DIFFERENT TYPES OF PAIN

In order to treat a pain condition in the best possible way, it is important to understand the type of pain involved and, as much as possible, what is causing the pain condition.

There are two main types of pain that affect persons with a spinal cord injury: **nociceptive pain** (due to tissue damage) and **neuropathic pain** (nerve pain, due to spinal cord injury or other parts of the nervous system).

Determining whether the pain is nociceptive or neuropathic can often be difficult, even for those who are knowledgeable, especially after a spinal cord injury. It is also quite common to have both nociceptive and neuropathic pain at the same time.

Of course, you can experience other types of pain problems that are not at all related to a spinal cord injury. Examples of this include fibromyalgia and irritable bowel (IBS).

In complex pain conditions, it can be beneficial to take a so-called multidisciplinary approach, that is to say to meet with a pain team consisting of, e.g., occupational therapist, physiotherapist, nurse, social worker/psychologist and physician. Specialised healthcare professionals increase the chance that the pain will be properly classified and that you will receive proper treatment for the pain. There may be a pain team at your rehab clinic or at the primary care facility. If not, you can receive a referral to a multidisciplinary pain team.



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### NOCICEPTIVE PAIN

Nociceptive pain is the pain that can occur from the skin, joints, muscles, tendons, joints and internal organs. The most common are musculoskeletal pain conditions, often due to overuse of the locomotor system. Structures that are particularly affected are those around the shoulder joint. However, pain due to a fracture, wound or with spasticity is also classified as nociceptive pain. These conditions can also temporarily aggravate existing neuropathic pain. Strain-related pain can usually be overcome, provided that you seek professional help in time.

With strain-related pain, the basic idea is to try to change the movements and/or the static muscle work that is causing the pain, while simultaneously increasing circulation in the affected muscles.

At the same time, pain may need to be alleviated, which can be done with drugs or complementary medical procedures such as TENS-stimulation, acupuncture or other techniques.

### NEUROPATHIC PAIN

Neuropathic pain or nerve pain is pain that occurs during disease and damage to the nervous system. Approximately 45% of those affected by a spinal cord injury develop neuropathic pain at or below the injury level. The pain is located in an area with a reduction/loss of sensitivity. Of those affected by nerve pain, pain is often considered to be the biggest problem. Nerve pain does not affect everyone who has a spinal cord injury or other types of nerve damage, and we do not yet know why some people develop neuropathic pain, while others do not. The extent of the spinal cord injury (complete/incomplete) has no impact on the extent and severity of the pain. Neuropathic pain at the injury level may be due to damage to the spinal cord, or damage to the peripheral nerves that run from different areas of the body to the spine, while pain below the injury level is due to a spinal cord injury. Pain at the injury level can (depending on where the injury is located) be described as a band around the torso, but can also be found on only one side of the torso or in an arm or in a leg. Pain at the injury level usually develops early after a traumatic injury and is relatively constant over time.



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Neuropathic pain below the level of the injury, however, develops over months to years and is due to the changes that occur mainly in the spinal cord, but probably also in the brain, as a result of the nerve damage inflicted. Neuropathic pain that appears later than 12 months after a spinal cord injury signals that other underlying causes may be present. It is therefore important to consider getting it investigated further.

Neuropathic pain following a spinal cord injury is often described as burning, shooting, tingling, sharp, cutting, pressing or like an electric shock, but it can be described in many different ways. The pain may be there constantly or come and go. There may also be increased sensitivity to, for example, touch, cold or painful irritations. In practice, this means that the touch of clothes or sheets that do not normally cause pain can be experienced as painful, for example. Nerve damage can also produce non-painful but unpleasant sensations such as sensations of cold and pins and needles.

### TREATMENT OF NEUROPATHIC PAIN

Unfortunately, treatment of neuropathic pain is generally quite difficult. To a large extent, this is because we have limited knowledge of what causes the pain. There is not a given treatment for spinal cord injury-related neuropathic pain, but often one has to try out various approaches to achieve the optimal pain relief. Sometimes several different types of treatment are needed at the same time. A method that works well on some people may not work at all for other people. The same is true for drug side effects; some people develop many side effects, others none at all. In the case of spinal cord injury-related neuropathic pain, we use the treatment in attempt to alleviate the pain. To be completely painless is rarely possible.

### PHARMACOTHERAPY

Common medications such as anti-inflammatory drugs and paracetamol, which are often effective for nociceptive pain, have no or very limited effect on the spinal cord injury-related neuropathic pain. In order to alleviate this, other medications are used that mainly affect the central nervous system; that is, in the brain and spinal cord.

The choice is primarily between anti-depressant and anti-epileptic drugs.



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### PHYSICAL EXERCISE

With long-term nociceptive pain conditions and also for some other long-term pain conditions, we know that physical exercise can alleviate pain and improve functioning and quality of life. However, we do not know very much about the effect of physical exercise on neuropathic pain. The available studies, along with clinical experience, suggest that intensive exercise, repeated 3 times a week, can actually alleviate even neuropathic pain.

The advantage of physical exercise is that it not only relieves pain but also has other benefits and no side effects. However, not everyone can train so hard that they get pain relief; this can be due to the level of the injury and also the fact that exercise may aggravate the pain instead of alleviate it.

### WHAT CAN I DO?

It is often a matter of learning to live with pain that cannot be alleviated. It is not easy and it does happen overnight, but over time most people can learn to accept and live with or in spite of their pain. There will still be days when the pain is overwhelming, but most days it is you who controls the pain and not the other way around. You may need help learning to live with and master your pain.

Some strategies that people with spinal cord injury-related neuropathic pain usually highlight as effective are:

- To find a balance between activity and rest
- Using heat in various forms; hot baths, exercising in a warm pool, hot buckwheat pillows, saunas, a warm fireplace, heat pad, etc. Be careful applying heat on parts of your body where you have poor or no sensation.
- Mental strategies; mindfulness, meditation and distraction by something that is experienced as pleasurable, such as a good movie, music or meeting good friends. Most people think a job that you enjoy in the right proportion is something positive to distract from the pain.
- Sex