

## Key Points

1. 120 people with Spinal Cord Injury responded to a mail survey
2. Survey collected demographic information, pain characteristics, pain impact on activity, and treatments used
3. 59% of respondents had used some type of pain treatment during the prior 18 months
4. Most common treatments were massage, opioids, and non-steroidal anti-inflammatory drugs (NSAIDs)
5. Most effective treatment category was Physical Therapies, with 50% of respondents reporting considerably reduced or no pain
6. Opioids and anticonvulsants were perceived to be the most effective drug treatments

## Definitions

**allodynia** - pain in response to something that should not cause pain, like a light touch

**analgesia** - absence of pain in response to something that should be painful

**cerebellar tonsils** - portion of the cerebellum located at the bottom, so named because of their shape

**cerebellum** - part of the brain located at the bottom of the skull, near the opening to the spinal area; important for muscle control, movement, and balance

**Chiari malformation** - condition where the cerebellar tonsils are displaced out of the skull area into the spinal area, causing compression of brain tissue and disruption of CSF flow

**dysesthesia** - unpleasant abnormal sensation

**hyperalgesia** - an increased response to something that is normally painful

**hyperesthesia** - increased

## Looking At How People Combat Chronic Pain

Pain and syringomyelia (and Chiari) go hand in hand. Despite the prevalence of pain among syringomyelia patients - and the frequent, long-term, chronic suffering - there is very little research specific to syringomyelia associated pain. There is however, a significant amount of research into the pain associated with spinal cord injury (SCI). Like syringomyelia, people with spinal cord injuries suffer a high incidence of pain, and the pain is oftentimes complex in nature and difficult to treat. While there are a wide variety of available treatments, anyone who suffers from syringomyelia or SCI pain will tell you that it can be difficult to find true relief.

Dr. Widerstrom-Noga and Dr. Turk, researchers with the Miami Project to Cure Paralysis, confirmed this unfortunate fact in a comprehensive study of the factors surrounding pain and pain treatments for people with SCI. The researchers used an extensive postal survey to collect demographic information, pain characteristics, pain impact on daily life, and the type and effectiveness of pain treatments used from 120 people with SCI related pain. They published their results in the November, 2003 issue of the journal Spinal Cord.

The survey they used collected the following information:

- **Demographics** - Age, Sex, Age at time of injury, time postinjury, level of injury, marital status, education level, employment status
- **Intensity of Pain** - rated on a scale from 0-10
- **Location of Pain** - participants indicated on body maps areas where they were currently experiencing pain
- **Quality of Pain** - participants were asked to choose from a list 24 adjectives (burning, aching, etc.) those that best described their current pain
- **Allodynia** - self report
- **MPI** - questionnaire designed to assess impact of pain on daily life
- **Difficulty in dealing with pain** - rated on a scale from 0-10
- **Pain Treatments** - participants were asked what treatments - a suggestive list was provided (see Figure 1) - they had used in the previous 18 months

The results confirmed what many patients already know, "The most significant finding was that many years after an injury, and despite the availability of many types of treatments, people continue to have significant chronic pain," notes Dr. Widerstrom-Noga. Perhaps one consequence of the inadequacy of available treatments is that people essentially give up, "We were surprised to find that such a large group of people [40%] did not use treatments despite experiencing significant chronic pain. We do not know why this is the case. It may be that people who have had pain for a long time and have previously tried a number of treatments and not found them helpful and therefore assume that nothing will help," said Dr. Widerstrom-Noga.

Overall, close to 60% of the respondents had tried some type of pain treatment in the previous 18 months, with massage being the most common treatment (see Figure 2). Ten percent had used some type of medication, with opioids and NSAID's being the most commonly used (see Figure 3). Interestingly, none of the factors surveyed were statistically related to who would use either the non-drug treatments, or over the counter medications.

In contrast, people who chose prescription medication as their pain treatment stood out in a number of ways. The prescription medication users reported more intense pain, used more adjectives to describe their pain, more pain locations, more allodynia, and greater difficulty in dealing with pain than people who used other types of treatments. Based on this, the researchers performed a sophisticated statistical analysis to see if they could identify a set of predictors for who is most likely to use prescription medications. They found that a combination of more intense pain, presence of evoked pain, greater difficulty in dealing with pain, perceived support from a significant other, and being married predicted prescription medication use.

As for the perceived effectiveness of the different treatments, overall the physical therapies were perceived to be the most effective with 50% of the respondents reporting their pain to be considerably better or to even being pain free. Among the medications used, opioids were somewhat effective with 33% reporting considerably better or pain free. For the other common type of drug, NSAID's, only 21% reported their pain considerably better - and no on reported pain free - but, 50% did report their pain to be slightly better.

With the most successful treatments only scoring a 50% or less effective rate, there is clearly still a problem in dealing with, and treating, many types of chronic pain. The researchers believe this is because the mechanisms that underlay these complex types of pain are not well understood. In addition, people often suffer from more

sensitivity to stimulation

**hypoalgesia** - a diminished - or low - response to something that is normally painful

**hypoesthesia** - decreased sensitivity to sensation

**neuropathic pain** - pain due to nerve damage, often severe and often described as burning

**nociceptive** - pain associated with a painful stimulus, such as a joint problem

**NSAID's** - non-steroidal anti-inflammatory drugs, such as ibuprofen or naproxen

**opioid** - drug derived from opium, also used to refer to synthetic narcotics

**syringomyelia** - neurological condition where a fluid filled cyst forms in the spinal cord

than one distinct type of pain at the same time, and no matter what the initial cause of the pain, over time, pain can be amplified by psychological mechanisms as well.

So can these results be applied to syringomyelia? Dr. Widerstrom-Noga believes so, "Syringomyelia is somewhat different and no published studies have compared the pains associated with syringomyelia with spinal cord injury in great detail. However, it is likely that the mechanisms that cause pain in these two conditions are similar and therefore one would expect the effects of various treatments to be similar. This is an important area for research." To back this up, Dr. Widerstrom-Noga is currently planning a pain study involving syringomyelia.

Despite the current situation, Dr. Widerstrom-Noga sees hope in the future, "I believe that a tailored approach to pain management, i.e. a treatment tailored to a particular person's pain and psychosocial profile, in combination with new, emerging treatment options is a way to greatly improve the management of neuropathic pain."

**Figure 1**  
**Chronic Pain Treatments**

**Drugs -**

*Prescription:* Opioids, anticonvulsants, antidepressants, antispasticity, sedatives

*Non-prescription:* Aspirin, acetaminophen, NSAIDs

**Non-drug -**

*Physical Therapy:* Heat, ice, massage, ultrasound, TENS, acupuncture, occupational therapy

*Medical Procedures:* Nerve blocks, trigger point injections

*Psychological:* Psychotherapy, hypnosis, meditation

*Other:* Chiropractics, herbal remedies

**Source**

**Source for Figures:** Widerstrom-Noga EG, Turk DC, Types and effectiveness of treatments used by people with chronic pain associated with SCI: influence of pain and psychosocial characteristics. Spinal Cord. Nov, 2003, 41(11) 600-9.

**Figure 2**  
**Frequency Of Most Common Treatments Used**

Treatment	%
Massage	26.7
Heat	16.7
Other Physiotherapy	15.0
Ice	13.3
Medication	10.0

**Figure 3**  
**Frequency Of Most Common Medications Used**

Medication	%
Opioids	22.5
NSAID's	20.0
Acetaminophen	18.3
Anticonvulsants	17.5
Antispasticity	16.7
Sedatives	15.0
Antidepressants	12.5

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