

Neuropathic Pain

What is neuropathic pain?

Neuropathic pain is caused by an injury or lesion in the nervous system.

Nerve injury can occur at the level of the brain, spinal cord or peripheral nerves. Damage can be caused by trauma, surgery or disease processes including infection and cancer. Common examples include phantom pain (felt in the absent body part after an amputation), painful diabetic neuropathy (where nerves are damaged by diabetes) and the pain that persists after shingles infection (post-herpetic neuralgia).

Why does nerve injury cause pain?

Nerves are part of the body's communication system. Messages are transmitted from one part of the body to another. The nerves carry messages via electrical impulses and also chemical transmitters.

Nerves are different to the electrical wiring that connects a switch to a light bulb. If the electrical wiring is cut, the system goes down and the light does not work. Generally when human nerves are damaged the system does not go down. Injured nerves often become hyper-excitability with increased transmission of electrical and chemical messages. The amplified and distorted messages are then read by the brain as pain.

Humans are complex beings. Some have no pain after a nerve injury while others have severe pain. Many have early neuropathic pain that settles with time. There are a number of factors that influence whether chronic pain develops after nerve injury. Some people have nerves that are genetically prone to develop persisting hyper-excitability after injury. Overall though it is the environmental factors that play the bigger role. Physical activity is important. Ongoing problems are more likely if a person with neuropathic pain avoids using the affected part. Mindbody factors often play a role. The mind influences pain pathways through sensitisation of the nervous system and hormonal and immune system effects.

Features suggestive of neuropathic pain

1. History of nerve injury
2. Pain in the absence of ongoing tissue damage
3. Pain within an area of numbness
4. Description of pain as burning, shooting, stabbing or pulsing
5. Light touch that triggers pain in the affected area
6. Amplified pain from a pin prick.
7. Unpleasant sensations like pins and needles, numbness, insects crawling, water running over the skin and the sensation of walking on glass.

What treatment strategies are available?

As with all types of pain a broad approach to treatment is recommended with the aim of retraining the nervous system to reduce pain. Medical treatments such as medication and nerve blocks help only a minority of people with neuropathic pain. The pain reduction is modest and lasts for a limited time. Therefore the usual approach is to continue the medication for several months to help you get going with active self-management strategies. After that medication is weaned and ceased. Generally it is the active strategies (outlined below) that are more effective in winding down the nervous system to achieve gradual pain reduction over time.

Mindbody

Our thoughts and emotions have an immediate impact on the body. Unhelpful thought patterns (beliefs and expectations) and associated emotions (anxiety for example) can contribute to pain and other problems via the nervous, immune and hormonal systems. In the reverse direction it is also true that physical health problems can produce changes in thoughts and emotions. The exercise of charting a *timeline* is one way of looking for important links between stressful periods of life and the onset of problems such as chronic pain. Learning to be more aware or mindful of mind and body and the links between the two is a key aspect of treating pain.

Connection

Many people with chronic pain have a sense of disconnection or isolation relating to people (social), place (environment) or purpose. Therefore one component of treating pain involves re-establishing lost connections. For some this is about spending more time in nature, for others volunteering or joining a group. In whatever form it takes, re-connecting can help to reduce nervous system sensitisation and pain.

Activity

Our actions, like our thoughts and emotions, can easily become stuck in unhelpful patterns. Learning to “reprogram” activity is an important part of the overall brain retraining strategy. “Pacing” means finding the right balance and avoiding doing too little or too much. Gradually building activity helps to overcome the fear that there may be something dangerous and structurally wrong with the body. A comfortable daily walk is a commonly used treatment strategy in this area.

Nutrition

Mind and body are nourished by good quality air, water and food. Addressing these issues directly improves health. Avoiding smoking and minimising intake of caffeine and other recreational drugs is helpful. Eating more vegetables and protein and less starchy carbohydrate (particularly high glycaemic index carbohydrate) reduces inflammation and nervous system sensitisation. Nutritional supplements such as omega 3 fish oil can bring benefit in certain situations. We have the capacity to adapt and renew as we improve our nutrition. We are not inevitably condemned to degeneration and disease.