Understanding Neuropathic Pain

What is neuropathic pain?
The International Association for the Study of Pain (IASP) defines neuropathic pain as “pain caused by a lesion or disease of the somatosensory nervous system”—the part of the nervous system associated with touch.

Damage to the various levels of the nervous system—the spinal cord, brain, and peripheral nerves—can contribute to neuropathic pain. Peripheral nerves affect the organs, arms, legs, fingers, and toes. Peripheral neuropathy refers to nerve damage outside of the brain and spinal cord.

Sometimes, chronic neuropathic pain can flare up without an obvious cause or trigger. Idiopathic neuropathy describes cases without a clear cause.

The 4 main causes of neuropathic pain

1. Disease: Many diseases can cause neuropathic pain, but 30% of neuropathic pain cases are caused by diabetes. Other diseases include multiple sclerosis, Parkinson’s disease, complex regional pain syndrome, fibromyalgia, Sjogren’s syndrome, facial nerve problems such as trigeminal neuralgia (causes severe neuropathic pain to the face), lupus, rheumatoid arthritis, Guillain–Barre syndrome, chronic inflammatory demyelinating polyneuropathy, vasculitis, kidney disease, liver disease, connective tissue disorders, an underactive thyroid (hypothyroidism), multiple myeloma, alcoholism, other forms of cancer, and more.

2. Injury: Even after a tissue, muscle, or joint injury heals, or back, hip, or leg problems improve, damage to the nervous system can remain. Spinal injuries such as herniated discs and spinal cord compression can damage nerves around the spine as well.


4. Limb loss: “Phantom limb syndrome” can take place after an arm or leg is amputated. The nerves near the amputation send incorrect signals to the brain, making it feel as though the missing limb is in pain. This can also be felt in fingers, toes, ears, or other parts of the body.

Symptoms

- Shooting, burning, or stabbing pain
- Tingling, numbness, “pins and needles”
- Spontaneous pain occurring without a trigger
- Pain caused by typically non-painful events such as brushing against something, being in cold temperatures, or brushing your hair
- Unpleasant, abnormal sensations
- Muscle weakness, lack of coordination, and falling
- Difficulty sleeping
- Emotional and mental health problems

Treatments

- Nonsteroidal anti-inflammatory drugs often are not effective
- Opioids can be effective, but aren’t always prescribed
- Topical pain relievers
- Antidepressant drugs: can treat both pain and symptoms of depression caused by chronic pain
- Anti-seizure medications and anticonvulsants
- Nerve blocks, including steroids and local anesthetics
- Implantable devices that send electrical impulses to the brain, spinal cord, or nerves
- Transcutaneous electrical nerve stimulation: using low-voltage electric currents to treat pain
- Regenerative therapies such as platelet-rich plasma (PRP), platelet growth factor epiduals, or stem cells
- Physical therapy, relaxation techniques, and massage therapy
- Acupuncture and chiropractic treatment
- Surgery, including tumor removal, nerve repair, decompression, or graft, and motor cortex stimulation

Specialists

- Orthopedic surgeons including those who specialize in hands, hips, knees, or shoulders
- Osteopathic doctors have specialized training in the musculoskeletal system, which includes nerves
- Neurologists and neurosurgeons
- Rehabilitation specialists such as physical therapists and occupational therapists
- Rheumatologists
- Physiatrists
- Pain specialists
- Acupuncturists and chiropractors
- Mental health specialists

Learn about neuropathic pain and a full range of pain management options at uspainfoundation.org.

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