

# 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 cases are due to diabetes. Other diseases include complex regional pain syndrome, central pain syndrome, facial nerve problems (such as trigeminal neuralgia), Parkinson’s disease, multiple sclerosis, various autoimmune diseases, kidney disease, liver disease, multiple myeloma, alcoholism, and more.

**2. Injury:** Even after an injury heals or back, hip, or leg problems improve, damage to the nervous system can remain. In addition, spinal injuries such as herniated discs and spinal cord compression can damage nerves around the spine as well, while iatrogenic injuries—which occur when nerves are cut during surgical procedures either intentionally or unintentionally—are one of the leading causes of chronic neuropathic pain. Postoperative neuropathic pain (PONP) is another form of injury that can develop if nerves were damaged during a surgery.

**3. Infection:** Shingles, Lyme disease, syphilis, Epstein-Barr virus, hepatitis B and C, leprosy, diphtheria, and HIV or AIDS can trigger neuropathic pain.

**4. Limb loss:** “Phantom limb syndrome” can take place after a limb or appendage is amputated. The nerves near the amputation send incorrect signals to the brain, making it feel as though the missing limb is in pain.

## 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
- **Muscle weakness**, **lack of coordination**, and falling

## Treatments

- **Nonsteroidal** anti-inflammatory drugs
- **Physical therapy**, **relaxation techniques**, and **massage therapy**
- **Heat and cold** therapy
- **Acupuncture** and **chiropractic** treatment
- **Antidepressant** drugs
- **Anti-seizure** medications and **anticonvulsants**
- **Transcutaneous electrical nerve stimulation** (TENS unit) uses low-voltage electric currents to treat pain
- **Nerve blocks**, including steroids and local anesthetics
- **Topical** pain relievers
- **Opioids** (can be effective, but aren’t always prescribed)
- **Neuromodulation**, including external and implantable devices that send electrical impulses to the brain, spinal cord, or nerves
- **Surgery**, including tumor removal, nerve repair, decompression, or graft, and motor cortex stimulation
- **Regenerative therapies** such as platelet-rich plasma (PRP), platelet growth factor epidurals, or stem cells

## Specialists

who treat various aspects of neuropathic pain

- **Neurologists** and **neurosurgeons**
- **Pain specialists**
- **Orthopedic** and **plastic hand surgeons** that are trained in microscopic surgery
- **Osteopathic doctors**—have specialized training in the musculoskeletal system, which includes nerves
- **Rheumatologists**
- **Rehabilitation specialists** such as physical therapists and occupational therapists
- **Physiatrists**
- **Acupuncturists** and **chiropractors**
- **Mental health specialists**



Learn about neuropathic pain and a full range of pain management options at [uspainfoundation.org](https://uspainfoundation.org).

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