

# Peripheral Neuropathy

Peripheral nerves carry messages from the brain and spinal cord to muscles, organs, and other body tissues. Damage or disease of these nerves is called **peripheral neuropathy**. Sometimes one nerve or a group of related nerves is involved in neuropathy; in **polyneuropathy**, multiple nerves are affected in different areas of the body. Because nerves are made up of several different types of nerve fibers affecting sensation, movement, pain transmission, or balance, symptoms and signs are based on the involved type of nerve fiber. The April 21, 2010, issue of *JAMA* includes an article about diabetic neuropathy. This Patient Page is based on one previously published in the March 5, 2008, issue of *JAMA*.

## TYPES AND CAUSES OF NEUROPATHY

- Diabetic neuropathy
- **Trigeminal neuralgia** involves a nerve that brings sensation to the face, jaw, and eye area
- Inherited neuropathy (present from birth)
- **Autonomic** neuropathy (involving involuntary body functions, such as breathing, intestinal function, and regulation of blood pressure)
- Vitamin deficiency
- Medication effects
- Traumatic injury
- Excessive alcohol use
- Infections, including human immunodeficiency virus (HIV)
- Immune system diseases

Diabetic neuropathy is the most common type of neuropathy and affects up to two-thirds of patients with type 1 and type 2 diabetes. Diabetic neuropathy often involves the feet and legs and is responsible for lack of sensation, foot ulcers, and infections.

## SIGNS AND SYMPTOMS

- Pain
- Numbness
- Burning sensation
- Tingling
- Lancing (shooting) pain
- Hypersensitive areas of the skin
- Hair loss on the affected part
- Shiny skin
- Weakness
- Muscle atrophy (loss of muscle tissue)

## DIAGNOSIS AND TESTING

A detailed medical history and physical examination can identify causes of neuropathy. Blood testing, measurement of glucose levels, an **electromyogram** (EMG, an electrical test of muscle function), nerve conduction studies, and lumbar puncture may all be part of the evaluation of neuropathy.

## TREATMENT

Most neuropathies are not curable but can be improved with treatment. Vitamin deficiencies, often present in patients with alcoholism, can be corrected with a healthy diet and vitamin supplementation. Treatment for alcohol-related neuropathy also includes stopping alcohol consumption. Control of blood glucose levels can slow progression of diabetic neuropathy, in addition to other benefits for individuals with diabetes. Medications may be prescribed, including some medications originally developed for treating seizures or depression, that may improve pain and other sensory symptoms in persons with neuropathies.

Sources: National Institute of Neurological Disorders and Stroke, Neuropathy Association, American Diabetes Association

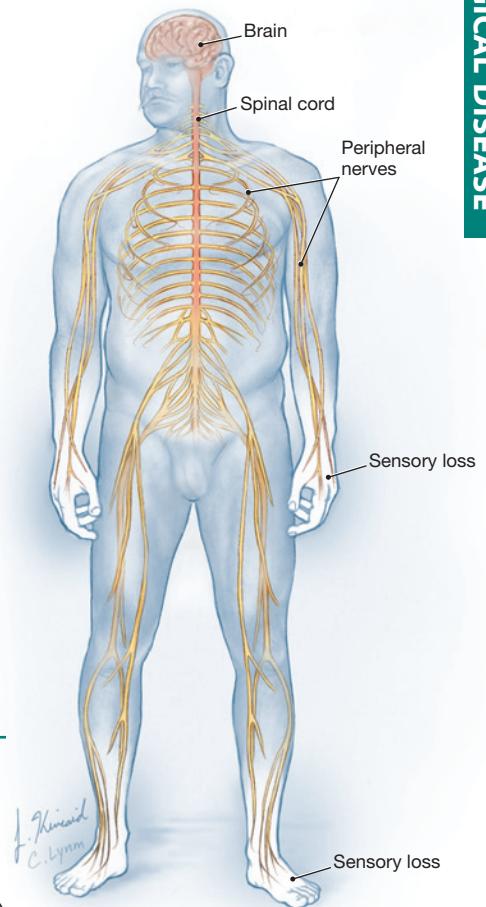
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Pattern of sensory loss (white areas) in peripheral neuropathy



## FOR MORE INFORMATION

- National Institute of Neurological Disorders and Stroke  
[www.ninds.nih.gov](http://www.ninds.nih.gov)
- Neuropathy Association  
[www.neuropathy.org](http://www.neuropathy.org)
- American Diabetes Association  
[www.diabetes.org](http://www.diabetes.org)

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