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Diabetic neuropathy

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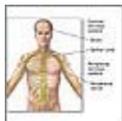
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Illustrations



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Nerve damage - diabetic

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Diabetic neuropathy is a common complication of [diabetes](#), in which nerves are damaged as a result of hyperglycemia (high blood sugar levels).

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People with diabetes commonly develop temporary or permanent damage to nerve tissue. Nerve injuries are caused by decreased blood flow and high [blood-sugar levels](#), and are more likely to develop if blood-sugar levels are not controlled well.

Some people with diabetes will not develop nerve damage, while others may develop this condition relatively early. On average, the beginning of symptoms occurs 10 to 20 years after diabetes has been diagnosed. Approximately 50% of people with diabetes will eventually develop nerve damage.

[Peripheral](#) nerve injuries may affect cranial nerves or nerves from the spinal column and their branches. This type of neuropathy (nerve injury) tends to develop in stages. Early on, intermittent pain and [tingling](#) is noted in the extremities, particularly the feet. In later stages, the pain is more intense and constant. Finally, a painless neuropathy develops when pain sensation is lost to an area. This greatly increases the risk of severe tissue injury because pain no longer alerts the person to injury.

Autonomic neuropathies affect the nerves that regulate vital functions, including the heart muscle and smooth muscles. Low blood pressure, diarrhea, constipation, sexual [impotence](#), and other symptoms can be caused by autonomic neuropathies.

Symptoms [Return to top](#)

- Numbness (decreased or lost sensation to a body part)
- Tingling
- Diarrhea
- Constipation
- [Loss of bladder control](#)
- Impotence
- [Facial drooping](#)
- [Drooping eyelid](#)
- Drooping mouth
- Vision changes
- [Dizziness](#)
- [Weakness](#)
- [Swallowing difficulty](#)
- [Speech impairment](#)
- [Muscle cramps](#)

Note: Symptoms vary depending on the nerve(s) affected and may include symptoms other than those listed. Symptoms usually develop gradually over years.

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[Physical examination](#), including neurological and sensory tests, may reveal many neuropathies. A common early finding is the absence of ankle reflexes. Health care providers often test for loss of sensation in the feet with a brush-like instrument called a monofilament.

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The goals of treating diabetic neuropathy are to prevent progression and reduce the symptoms of the disease.

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Tight control of glucose is important to prevent progression. To reduce the symptoms, topical treatment with Capsaicin or oral medication like amitriptyline, gabapentin, pregabalin, and carbamazepine have been used successfully. Analgesics (pain medications) may work for some patients on a short-term basis. But, in most cases, they usually do not provide much benefit.

Regular foot exams are important to identify small infections and prevent progression. If foot injuries go unnoticed for too long, amputation may be required.

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It is not clear how diabetic neuropathy develops. At present, treatment relieves pain and can control some symptoms, but the process is generally continues to get worse.

Possible Complications [Return to top](#)

There is an increased risk of injury to the feet because of loss of sensation. Small infections can progress to ulceration (skin and soft tissue breakdown) and require amputation. In addition, motor nerve damage can lead to muscle breakdown and imbalance.

When to Contact a Medical Professional [Return to top](#)

Call your health care provider if signs and symptoms of diabetic neuropathy develop.

Prevention [Return to top](#)

It is clear now that tight control of blood sugar level (Hemoglobin A1C < 7.0) prevents the development of neuropathy in 60% of type 1 diabetics and decreases the severity of symptoms. In addition, regular foot care can prevent a small infection from progressing. This is why no appointment for diabetes care is complete without a thorough foot examination.

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Vinik AI. Diabetic neuropathies. *Med Clin North Am.* 2004; 88(4): 947-99.

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