

## **Patient education: Nerve damage caused by diabetes (The Basics)**

Written by the doctors and editors at UpToDate

**Can diabetes cause nerve damage?** — Yes. People with diabetes (sometimes called "diabetes mellitus") can get nerve damage if they have high blood sugar levels for a long time. Another word for nerve damage is "neuropathy."

People with diabetes can get different types of nerve damage. This article covers the most common type of nerve damage caused by diabetes.

**What are the symptoms of nerve damage caused by diabetes?** — Nerve damage usually affects the toes and feet first. Some people do not feel any symptoms, but other people can have symptoms that include:

- Numbness or loss of feeling
- Burning or pain, which is often worse at rest or at night
- Tingling
- Feeling light touches as bothersome or painful

As nerve damage gets worse, symptoms can move from the feet up the legs. Some people might also start to feel symptoms in their hands.

**Is there a test for nerve damage caused by diabetes?** — Yes. Your doctor can usually tell if you have nerve damage by talking with you and doing an exam. Sometimes, a doctor will do a test to check how well a person's nerves are working. This test is called "electromyography."

**How does nerve damage lead to problems?** — Nerve damage can lead to problems because it can make people unable to feel pain in their feet.

Normally, people feel pain when they get a cut on their foot. The pain tells them that they need to treat their cut so that it can heal. But people with nerve damage might not feel any pain when their feet get hurt. They might not even know that they have a cut, so they might not treat it. Problems that aren't treated right away can get much worse. For example, an untreated cut can get infected and turn into an open sore.

Nerve damage can also lead to problems with the bones, muscles, and joints in the feet. Over time, this can cause a person's foot to have an abnormal shape.

**What can I do to protect my feet and manage my condition?** — You can:

- Control your blood sugar levels – Symptoms of pain and burning sometimes get better when blood sugar levels are under control. To better control your blood sugar, your doctor might prescribe another diabetes medicine or recommend that you take your diabetes medicine more often.

- Take special care of your feet – Taking care of your feet can prevent future problems. It can also prevent a mild problem from turning into a serious one. To protect and take care of your feet, you can:
  - Wear shoes or slippers all the time. Never go barefoot.
  - Trim your toe nails carefully. Cut straight across and file the nail ([figure 1](#)). Do not cut cuticles or pop blisters. Ask your doctor to do any procedures that could involve cutting the skin, such as removing an ingrown toenail.
  - Wash your feet with warm water and soap every day and pat them dry. Put a moisturizing cream or lotion on the tops and bottoms of your feet.
  - Check both feet every day ([figure 2](#)). Look for cuts, blisters, swelling, or redness. Make sure to check all over your feet, including in between your toes. If you cannot see the bottoms of your feet, use a mirror or ask another person to check.
  - Wear socks that are not too tight, and change them every day. Wear shoes that fit well, but are not too tight ([figure 3](#)).
  - Check inside your shoes before you put them on. Make sure there is nothing sharp inside.

**What other treatment might I have?** — Some people might have other treatment for symptoms or problems caused by nerve damage. They might have treatment for:

- Pain – Doctors can prescribe different medicines to treat pain that is caused by nerve damage.
- Foot problems – Doctors can treat foot problems that occur. There are different treatments, depending on how serious the problem is. For example, a doctor might do one or more of the following to treat an open sore:
  - Clean the sore and remove any dead skin around it
  - Prescribe antibiotic medicines
  - Do surgery to remove a toe or part of the foot

**How often should my doctor check my feet?** — Your doctor should do a complete check of your feet once a year. He or she should also do a quick check of your feet at every visit.

**Can nerve damage be prevented?** — Maybe, but doctors don't know for sure. If you have diabetes, some studies suggest you can reduce your risk of getting nerve damage by:

- Keeping your blood sugar levels as close to normal as possible
- Not smoking
- Losing weight, if you are overweight
- Making sure that your high blood pressure and heart disease are treated (if you have these conditions)

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## GRAPHICS

### Trim your toenails

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Graphic 80053 Version 1.0

## Foot check for people with diabetes

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People with diabetes should check both of their feet every day. It is important to check your feet all over, including in between your toes. If you can't see the bottom of your foot, use a mirror or ask another person to check for you. Let your doctor or nurse know if you find any:

- Redness
- Cuts or cracks in the skin
- Blisters
- Swelling

## Shoe shape must match foot shape

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