

Diabetes and your feet

Key Points

- Although we take them for granted our feet are a very important part of our body
- If you have diabetes you are more likely to develop foot problems
- Foot problems in diabetes are often caused by nerve damage and/or damage to the blood vessels
- Serious foot problems can often be prevented
- Prevention depends on you maintaining healthy blood glucose and blood pressure levels, taking good care of your feet every day, and keeping in close contact with your doctor or foot specialist if you have a foot problem

It's easy to take our feet for granted. Unless we have a problem with them or they are sore we mostly don't notice them. But they are a very important part of our body; after all, they take us everywhere. In doing this they sustain an enormous amount of daily wear and tear. But if they are healthy and have a good blood supply they recover quickly and with sensible care they usually last a lifetime.

If you have diabetes your feet are more likely to develop problems. So you need to take extra care of them. The good news is that, of all the problems that can arise from diabetes, serious foot problems that result in amputation are the easiest to prevent.

How can diabetes cause foot problems?

Some people with diabetes develop what are called the 'complications' of diabetes. Complications are the negative effects of having a condition or illness. Two of the common complications of diabetes are:

- [Damage to nerves \(neuropathy\)](#)
- [Damage to blood vessels \(vascular disease\)](#)

Both of these problems can cause damage to your feet.

How can damage to my nerves cause foot problems?

Your nerves perform many jobs in your body, some of which are quite complicated. One of the most important things your nerves do is to give you feeling (or sensation). Being able to feel things protects us from getting injured. We feel pain and therefore take action to protect ourselves.

For example, if you put your hand onto a hot element on the stove you will instantly be able to feel the pain and pull your hand away. If you cannot feel pain (because the nerves in your hand are damaged) then you could lean on the element for a long time and probably have to rely on your sense of smell to tell you your hand was burning!

People with diabetes sometimes develop nerve damage to the feet. This can result in a range of different problems but one of the most serious is that either the whole, or part, of your feet can become numb or insensitive to pain.

If your foot is numb you can walk all day with a very bad blister, or something in your shoe that is injuring you, and never know it. You could burn your foot badly on a heater and not know to pull your foot away. And you wouldn't know if you needed help for the burn either.

This means that if you have neuropathy in your feet you are:

- more likely to get an injury
- your injury is likely to be worse
- you are less likely to know to get help for the injury early on

What are some of the common signs of foot or lower limb neuropathy?

- Numbness
- Tingling
- Pain or burning sensation (some forms of neuropathy can cause pain)

Is there any treatment for foot or lower limb neuropathy?

Currently there aren't many treatments available. If your neuropathy is of a painful type there are a number of drugs that may help, including amitriptyline and tegretol. There is some evidence from research that improving your blood glucose levels may go some way towards reversing nerve damage.

How can damage to my blood vessels cause foot problems?

Damaged blood vessels will not transport as much blood as undamaged ones. If the blood supply is either reduced or cut off from any part of our body it can cause damage or death to that part. An everyday example of this is when farmers dock their lambs. Farmers cut off the blood supply to the tail with a tight rubber ring. Quite quickly the tail will die and drop off.

How does diabetes damage my blood vessels?

Diabetes can cause the lining of your blood vessels to become thickened. This means not as much blood can get through them. It's a bit like rusty pipes in your laundry. Not much water comes out of the tap when you turn it on because of the rust blocking the inside of the pipes. It is the same if your blood vessels are clogged up; less blood can get to where it is meant to be.

If the blood vessels to your feet are either clogged up or completely blocked the skin and flesh of your feet will suffer. This can mean that your feet are:

- less able to fight off infection
- less able to heal up if injured
- likely to develop gangrene (or areas of completely dead flesh) if the blood supply becomes completely blocked

What are some of the signs of damage to the blood vessels supplying my feet?

- Pain in your calves when walking
- Change in the normal colour or temperature of your feet or legs
- Pain in your legs and feet at night or when resting

If nerve damage is combined with a poor supply of blood then your feet are doubly at risk. You are more likely to get an injury (because you cannot feel pain) and if you do, that injury is more likely to lead to infection, ulceration and sometimes gangrene (because your blood supply is poor).

Is there any treatment for a poor blood supply to the feet?

Surgery can sometimes be done, depending on the sort of blood vessel damage you have. Some of the larger arteries to the lower limbs can be very successfully reconstructed. This type of surgery is done by vascular surgeons.

How can I avoid nerve or blood vessel damage in the first place?

The following actions can reduce your chance of developing damage to either your nerves or blood vessels:

- Maintaining healthy blood glucose levels
- Maintaining a healthy blood pressure

- Stopping or reducing smoking
- Staying active and getting regular exercise
- Maintaining healthy blood lipid levels (cholesterol)
- Maintaining a healthy body weight

[Read more about managing diabetes . . .](#)

Is there any special care I should take of my feet?

If you have no existing nerve or blood vessel damage you should still take sensible care of your feet. You should:

- Wash and carefully dry your feet every day. Take special care to dry well but gently between your toes
- Very lightly moisturise your feet every day. Vaseline Intensive Care lotion is good for this.
- Wear well fitting and sensible shoes. Broad and deep sports shoes are often a good option. A podiatrist or diabetes nurse educator can give you tips on choosing shoes
- Look at your feet every day to check they look healthy and normal. Report any changes immediately to your podiatrist or doctor
- Have regular foot checks by your doctor, podiatrist or diabetes nurse educator. These checks should pick up any developing numbness or signs of poor circulation

If you have existing nerve or blood vessel damage to your feet you should:

- Make an appointment with a podiatrist. Take the shoes you commonly wear to this appointment so the podiatrist can see them
- Before buying any new shoes take them to your podiatrist for their opinion (most shoe shops are quite happy for you to do this)
- Ask your podiatrist for advice on how to manage cutting your toenails long term. Many serious foot problems develop from accidents when cutting nails.
- If the feeling in your feet is reduced it is wise to get someone else who is properly trained to cut your toenails for you
- Always check inside your shoes before you put them on to make sure there are no objects inside them
- Avoid going barefoot even in the house. Many serious problems start with injuries such as standing on a pin
- Thoroughly examine your feet every day. If you have difficulty seeing underneath your feet put a mirror on the floor in good light and examine the reflection of the underneath of your feet. Make sure you check between your toes, around the nails, and soles. Look for redness, cracks, swelling, bruising or blisters. Get immediate help from your doctor or podiatrist if you notice any problems
- Gently wash and thoroughly dry your feet every day
- Wear thick socks. It is best to choose socks without seams. Seams can cause pressure on your feet that can result in blisters or ulcers forming
- Always check the temperature of baths with your elbow before getting in to avoid accidentally burning your feet
- Lightly moisturise your feet every day. Only use enough moisturiser to cover the top of a five cent coin on each foot and don't use between your toes. BK Lotion, Eulactol, Heel Balm or Vaseline Intensive Care Lotion are good
- Have your feet checked by your doctor or nurse on every visit, even if you are visiting for a different reason
- Try to keep your body weight healthy
- Ask your podiatrist to fit shock absorption to your shoes
- If you smoke try to quit. Ask your GP to recommend a good Quit-Smoking program if you need help. [Read more about smoking . . .](#)

All this will seem like a lot of care for your feet. But if you have nerve or blood vessel damage in your feet these steps can avoid serious problems developing. These problems, if not treated properly, could even end up being serious enough for you to lose a limb.

Common foot problems associated with diabetes

Even common foot problems can be dangerous for people with diabetes, as they may lead to more serious foot problems.

Corns and Calluses

Corns and calluses are basically a thickening of the skin. They are caused by repeated pressure or rubbing on the same area of the foot. Corns are often round, raised areas on your feet at points where your feet rub against your shoes. Calluses are often larger areas of thickened yellowish skin around your heels or underneath your feet.

If not treated, corns and calluses can act like stones in the shoe, putting pressure on the tissue underneath them. This pressure can lead to bruising, infection or an ulcer. This damage is often hard to see because it is underneath the corn or callus. If you also have nerve damage you may not feel any pain. Your best bet is to show any corns or calluses to a podiatrist to get them treated. Never try to cut or cure corns yourself.

Foot Ulcers

Ulcers are an area of skin that is broken and is taking longer than normal to heal. Often the inside of an ulcer looks white.

Ulcers occur most often over the ball of the foot or on the bottom of the big toe. Ulcers on the sides of the foot are sometimes due to poorly fitting shoes. Remember, even though some ulcers do not hurt, every ulcer should be seen by your health care provider right away. Not getting treatment for your ulcer can result in infection or gangrene, which in turn can lead to you losing a limb (amputation).

What your health care provider will do varies with your ulcer. Your foot may be x-rayed to make sure the bone is not infected. Any dead or infected tissue may need to be removed (this may have to be done in hospital). Your health care provider may send a small sample from your ulcer to the laboratory so it can be checked for any infection. The laboratory will also be able to tell what antibiotic will work best if you do have an infection.

Keeping off your feet is very important if you have an ulcer. Walking on an ulcer can make it get larger and force the infection deeper into your foot. Your health care provider may put a special cast (or splint) on your foot to protect it.

Getting your blood glucose levels into a healthy range is important. High blood glucose levels make it hard to fight infection.

After the foot ulcer heals, you should still treat your foot carefully. Scar tissue under the healed wound will break down easily. You may need to wear special shoes after the ulcer is healed to protect this area and to prevent the ulcer from coming back.

If your ulcer is not healing and your circulation is poor, your health care provider may need to refer you to a vascular surgeon.

You are more likely to get foot ulcers if:

- you are more than 40 years old
- you have had a foot ulcer before
- you have had diabetes-related changes in your eyes or kidneys
- you have nerve damage in your feet (neuropathy)
- you have poor circulation in your feet
- you have had diabetes for a long time

This section on foot ulcers was adapted from American Diabetes Association. Their web site can be found at www.diabetes.org.

Problem Nails

Problem nails can be caused by injury, fungal infection, curved nails and badly fitting shoes. An in-grown nail may be painful, red and swollen, or have a fluid discharge. It can get infected very quickly. Get any problem nails seen by a podiatrist.

Cracked Skin or Fissuring

Neuropathy, excessive weight and poor footwear can lead to cracking of the skin. Cracks allow bacteria to enter the foot and can cause infection which can be serious. It is important to keep the skin on your feet soft and supple. Regularly moisturising your skin will help prevent cracks or fissures.

Footwear

Shoes that fit well can help prevent foot problems. Pamper your feet - go for comfort, not style. Sports shoes, especially broad-fitting, or those designed for walking, are a good choice.

Wear clean, well-fitting, cotton or woollen socks. They cushion and protect feet from pressure and also allow the feet to breathe. Avoid socks with seams, creases or tight elastic which may reduce circulation or cause rubbing.

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