

# Diabetes and Foot Care

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## If you have diabetes, what should you know about foot care?

When blood glucose stays high for a long time it can cause problems for your feet, heart, eyes and kidneys. The main goal for people with diabetes is to keep their blood glucose within the target range set by the doctor or healthcare team.

## How does high blood glucose damage the feet?

A combination of nerve damage and poor blood flow, both caused by high blood sugar, can result in serious sores, often called “ulcers” on your feet.

- **Nerve damage.** Diabetes damages the nerves in the legs and feet, and nerve damage makes it difficult to feel pain, heat, or cold. As a result, a small sore, blister or cut on the foot may be undetected until it becomes infected. This loss of feeling is called neuropathy (noo-ROP-uh-thee).
- **Poor blood flow.** High blood glucose levels can lead to poor blood flow in the legs and feet. Poor blood flow makes it more difficult for sores and infections to heal. This can cause the tissues and skin to die, which is known as gangrene (GANG-green). To keep gangrene from spreading the doctor may have to remove the infected area. This is called amputation (AM-pyoo-TAY-shun).
- **Dry itchy skin.** High blood glucose causes the body to lose fluids. The nerves that control the oil and moisture in the foot no longer work, which makes skin dry, itchy and more likely to get cracks and infections. It is important to keep the skin moist.

## Importance of taking care of feet

People with diabetes tend to have more problems with their feet. Checking your feet every day can prevent serious foot problems.



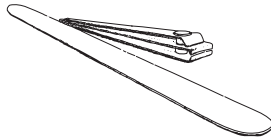
### Daily foot care

- Check for cuts, sores, red spots, swelling, infected toenails and other problems.
  - > Set a specific time that works best for you to check your feet. Try to keep that time every day, which will help you to remember to do it.
  - > Check for dry, cracked skin, blisters, cuts, scratches, sores, redness or increased warmth in any area of the feet.
  - > Use a mirror if you cannot bend over or pull your feet up to check them.
  - > If you have eye problems, have someone else check your feet.
  - > See a doctor right away if a cut, sore, blister, or bruise on the foot does not heal.
- Wash feet in warm water every day.
  - > Always make sure the temperature of the water is not too hot. It is best to use a thermometer or your elbow to test the water. If you use a thermometer, the water should be 90 to 95 degrees.
  - > Avoid soaking your feet. This makes your skin dry and more likely to get infected.
  - > Dry your feet well after washing. Pat skin dry instead of rubbing.

- > Pay attention to skin between your toes; use talcum powder to keep the area dry.
- > Use lotion to keep the skin at the top and bottom of the feet soft. Do not put cream or lotion between your toes. This could cause an infection.

### Weekly foot care

- Trim your toenails after washing your feet when they are soft.
- Trim your toenail straight across. Avoid cutting into the corners of your toenail.
- Use a nail file or emery board to smooth nail after trimming.
- Never use commercial or home-remedy corn removers because they can damage the skin.
- Have a podiatrist (foot care doctor) trim your toenails if they are thick and yellow or begin to grow into the skin.



### Yearly foot care

- Have a doctor check your feet. It's best to take off your socks and shoes before the doctor comes in. Tell the doctor if there is pain in your feet or other serious foot problems.
- If there are serious foot problems, your feet should be checked at every doctor's visit.
- Ask the doctor the following questions:
  - > Are the nerves in my feet healthy?
  - > How is the blood flow to my legs and feet?
  - > What exercises should I do?
  - > How should I trim my toenails?
  - > What lotions or creams should I use?

### Protect your feet

- Wear shoes and socks at all times even when you are indoors to prevent blisters and sores.
- Choose socks that are made of cotton, wool, or a cotton-polyester blend. These types of socks keep the feet dry.
- Avoid wearing stockings that are too tight below the knees because they may reduce blood flow to your legs and feet.
- Use socks without seams to prevent blisters.
- Protect your feet from heat (such as radiators, open fires, the sun, and hot pavements) and cold.

- Avoid using hot water bottles or heating pads on your feet.
- Wear shoes that fit well. Always check inside shoes to make sure there are no objects in them before putting them on.
- Wear comfortable shoes when exercising.

### Keep the blood flowing to your legs and feet

- Put your feet up when you are sitting.
- Wiggle your toes and move your ankles up and down for five minutes, two or three times a day.
- Avoid crossing your legs for long periods.
- Avoid wearing tight socks, elastic or rubber bands, or garters around your legs.
- Avoid smoking, which reduces blood flow to the feet.



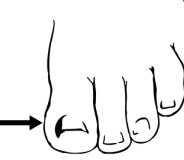
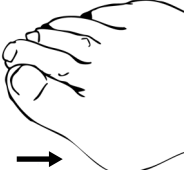
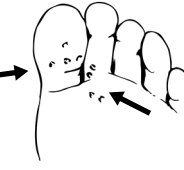


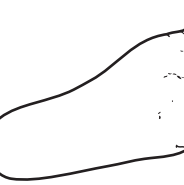
### Choose proper shoes

- Have your feet measured each time you buy shoes. The size and shape of the feet change over time.
- Buy shoes that are comfortable and that fit the length and width of your feet with plenty of room for the toes. Shoes should not be too big as this can also cause your feet to rub, which may also cause foot ulcers.
- New shoes should be comfortable when you buy them and should not need a "break-in" period. Avoid wearing new shoes for more than an hour at a time.
- Try on shoes with the type of socks you will wear.
- Avoid shoes with high heels and pointed toes because they put too much pressure on your foot and can cause foot ulcers.
- Avoid shoes such as sandals that expose your toes and heels because they increase your risk for injury and infection.

### How to tell if you have a problem

- Burning, tingling or hurting of your feet
- Changes in the shape, color or temperature of your feet
- Drying and cracking of the skin on your feet
- Ingrown or thick and yellow toenails
- Blisters, sores, or ulcers

## Common problems of the foot associated with diabetes.

 <p>Corn and callus</p>	<ul style="list-style-type: none"> <li>• Corns and calluses are tough layers of skin that have become thick and hard due to too much friction and pressure on the same spot.</li> <li>• Never cut corns or use a liquid corn or callus remover.</li> </ul>
 <p>Blister</p>	<ul style="list-style-type: none"> <li>• Blisters form if shoes always rub on the same spot.</li> <li>• Wear shoes that fit well and use socks to prevent blisters.</li> </ul>
 <p>Ingrown toenail</p>	<ul style="list-style-type: none"> <li>• Ingrown toenails happen when an edge of a nail grows into the skin.</li> <li>• To prevent an ingrown nail, cut toenails straight across and avoid shoes that are too tight.</li> </ul>
 <p>Bunion</p>	<ul style="list-style-type: none"> <li>• Bunions form when your big toe slants toward the small toes and the place between the bones near the base of your big toe grows larger.</li> <li>• Avoid wearing pointed shoes or shoes that do not fit well.</li> </ul>
 <p>Plantar warts</p>	<ul style="list-style-type: none"> <li>• Plantar warts form at the bottom of the foot and are caused by a virus.</li> <li>• Do not use over-the-counter medication to remove warts.</li> </ul>
 <p>Hammertoe</p>	<ul style="list-style-type: none"> <li>• Hammertoes form when the foot muscle gets weak, such as when diabetic nerve damage occurs. The weakened muscle makes the tendon in the foot shorter and makes the toes curl under the feet.</li> <li>• To prevent, wear proper fitting shoes.</li> </ul>
 <p>Dry and cracked skin</p>	<ul style="list-style-type: none"> <li>• Dry and cracked skin occurs because the nerves that control the oil and moisture in your foot no longer work, making skin dry, itchy and prone to cracks and infections.</li> <li>• It is important to keep skin moist.</li> </ul>
 <p>Athlete's foot</p>	<ul style="list-style-type: none"> <li>• Athlete's foot is a fungus that causes itchiness, redness, and cracking of the skin. Germs can enter through the cracks in the skin and cause an infection.</li> <li>• Ask your doctor for medicine to treat athlete's foot.</li> </ul>

Source: Adapted from the National Diabetes Information Clearinghouse.

## Ways to manage your blood glucose

Check the steps that you have taken to manage your blood glucose:

- Follow a healthy eating plan prepared by a dietitian.
- Be active for a total of 30 minutes on most days of the week. The doctor will let you know the activities that are best for you.
- Check your blood glucose every day and write the number in a book.
- Have your A1C checked at least twice a year.
- Control your blood pressure and cholesterol.
- Check feet every day for cuts, blisters, sores, swelling, redness or sore toenails.
- Cut back or quit smoking. (Smoking decreases the blood flow to the feet and makes wounds heal slowly.)

## Resources

- American Diabetes Association. <http://www.diabetes.org/>
- Medline Plus. Diabetic Diet. <http://www.nlm.nih.gov/medlineplus/diabeticdiet.html>.
- National Diabetes Education Program. <http://diabetes.niddk.nih.gov/>.

## References

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