

## Wound Healing and Diabetes

Every patient with wounds has tests that look for conditions that affect wound healing. One of the conditions that we look for is diabetes. Diabetes affects the body in many ways and can keep a wound from healing. But if we know you have diabetes, we can work with you to control the disease and help your wound heal.

### What is diabetes?

Diabetes is a chronic disease where the body does not make enough insulin or does not use insulin properly.

If diabetes is not controlled it can cause complications such as:

**Nerve damage:** Damage to the nerves is called neuropathy. The most common symptom is loss of feeling in the feet. This can lead to diabetic foot ulcers.

**Artery problems:** Arteries carry the blood from your heart to all parts of your body. Peripheral arterial disease (PAD) occurs when the blood vessels in your legs become narrowed or blocked by fatty deposits. Blood flow to your feet and legs lessens.

**Immune system problems:** People with diabetes also have difficulty fighting infection. This can lead to severe infections, including wound infections that might take a long time to heal.

### How does diabetes affect wound healing?

There are several ways that uncontrolled diabetes can lead to poorly healing wounds.

**Skin breaks and infections:** People with uncontrolled diabetes are more likely to have certain skin problems, including bacterial infections, fungal or yeast infections, dry skin, and itching.

**Difficulty fighting infection:** The immune system helps your body to fight infection. In diabetes, the immune system does not work as well as in a person without diabetes. Even small scrapes can result in open, infected sores.

**Lack of feeling:** This is caused by nerve damage. It most common in the feet. People with poor feeling in their feet may not realize that they have cuts, or that their shoes are causing blisters or wounds. They also may walk abnormally, which puts a lot of pressure on certain points on their feet. This leads to calluses and wounds over these pressure points. They may not feel the calluses or the wounds over the pressure points. Nerve damage can also cause the joints in the foot to change shape. This change in shape makes walking more abnormal, creating pressure points that can lead to ulcers.

**Clogged arteries:** People with diabetes may get clogged arteries (called atherosclerosis) at younger ages than other people do. If the arteries in your legs are clogged, you will have poor blood flow to your legs and feet. People with clogged arteries in their legs are more likely to develop wounds, have severe wound infections, and have difficulty healing.

### What can I do to prevent complications?

Controlling your blood sugar is an important part of keeping healthy. It's also important to control other health problems that you may have, for example, high blood pressure or cholesterol.

People with diabetes need to have regular blood tests and check-ups in order to make

sure they are healthy and check for early signs of problems. It is easier to treat or control problems when they are found early.

### **How can I avoid wounds?**

**Check your feet every day:** Examine your feet every day. Some patients use a hand-held mirror to do this. Other people have a family member or visiting nurse to help them examine their feet. Look for any breaks in the skin or rashes. Remember that any break in the skin creates an opening through which bacteria (germs) can enter your body. It is important to tell your doctor as soon as you see any skin breaks, calluses or ulcers. If you see any redness, or if your cut isn't healing, call your doctor or go to the emergency room.

**Use special shoes:** Some people with diabetes may need to wear special shoes in order to avoid pressure points and help prevent wounds. We can arrange for you to get these shoes. An orthotist or podiatrist may also prescribe these for you.

**Prevent dry skin:** When you bathe, use warm or cold water. Never use hot water, which dries out your skin or can burn your skin if you have lost sensation because of neuropathy. Avoid soaking your feet for a long time. After you dry your feet, apply a non-scented moisturizer. Do not put oils or creams between your toes, because the extra moisture can lead to infection.

**Get help with calluses:** Calluses occur in high-pressure areas. They can thicken, break down, and turn into ulcers. People with diabetes are more likely to form calluses.

- Never try to cut calluses or corns yourself, because you might create a worse cut.
- Never try to remove calluses and corns with chemicals, which can burn your skin. A podiatrist (foot doctor) should cut your calluses. Sometimes there is an infection or wound that is hiding underneath the callus, and your doctor will notice this when the callus is removed.
- To prevent calluses from building up, you can use a pumice stone on your feet every day. It is best to rub the pumice stone on wet skin. Put on petroleum jelly right after you use the pumice stone. If you have bad eyesight or poor feeling in your feet, you may want to let your doctor, podiatrist or nurse do all of your foot care for you.

**Get help with foot ulcers (sores):** You can get an ulcer anywhere on the foot. Most often, they appear on the ball of the foot or the bottom of the big toe. The ulcers may not hurt. **If you develop any type of callus, blister, or ulcer, see your doctor right away.** Diabetic ulcers can worsen quickly, so it is important to treat them early.

### **What do I do if I have a question?**

If you are confused or have a question about wound healing and diabetes, please call us at 212.932.4325, at any time. You can also find information at our website: [www.ColumbiaWoundHealing.org](http://www.ColumbiaWoundHealing.org).

This information is brief and general. It should not be the only source of your information on this health care topic. It is not to be used or relied on for diagnosis or treatment. It does not take the place of instructions from your doctor. Talk to your health care providers before making a health care decision.