

CIUSSS de l'Estrie – CHUS

YOU'RE DIABETIC?

Preventing Diabetic Foot Ulcers



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INTRODUCTION

Are you diabetic? If so, you run the risk of developing foot ulcers.

About 2 million Canadians are diabetic and 15% of them have foot wounds.

The purpose of this brochure is to advise you on how to avoid foot ulcers.

Avoid foot ulcers. Opt for prevention!

CAUSES OF DIABETIC ULCERS

Poorly controlled diabetes results in complications such as:

- neuropathy (nerve damage);
- arteriopathy (reduced arterial circulation in the legs and feet).

Sensory neuropathy is a reduction or loss of foot sensation.

- Some of its early symptoms can be a sensation of burning, tingling, or numbness.
- If the situation worsens, your feet will lose the ability to feel heat, cold, or pain.



As a result, a slight injury caused by a shoe could go unnoticed, worsen, and turn into an ulcer.

Source : CIUSSS de l'Estrie - CHUS

Motor neuropathy is the poor functioning of nerves controlling foot and ankle movement.

- Your gait (way of walking) changes.
- Your feet become deformed.
- Calluses or corns develop on the bottom of your feet.
- An ulcer appears.

Autonomic neuropathy affects glands.

- Your skin will become very dry or moist.
- Cracks will start to appear in the skin of your heels.
- Your feet will become redder.

Arteriopathy causes high blood pressure and reduced blood circulation in the legs and feet.

- It increases the risk of the slightest injury turning into an ulcer.
- The ulcer will heal slower and could become infected more easily.



So, daily foot care can prevent ulcers from appearing.

THE IMPORTANCE OF CONTROLLING BLOOD SUGAR

Adequately controlling blood sugar reduces the risk of complications in diabetic individuals.

For this purpose:

- Regularly test your capillary blood glucose.
- Stick to your diabetic diet.
- Limit your alcohol consumption.
- Exercise 150 minutes a week.
- Stop smoking.
- Improve your stress management.
- Take your medication as prescribed.

If your blood sugar is often high, you are at greater risk of:

- neuropathy
- arteriopathy
- ulcers
- difficulty healing and fighting off infections

THE IMPORTANCE OF PHYSICAL ACTIVITY

Even minimal amounts of exercise can help in controlling your diabetes. It also reduces your risk of developing cardiovascular (heart) disease.

When to exercise

- Exercise every day rather than training strenuously once a week. Start off slowly and gradually.
- Talk it over with your doctor because a sudden increase in exercise could lead to low blood-sugar levels or another health problem.

How to exercise

- Check your blood sugar before and after exercising.
- Try to find a walking partner.
- Set up a regular schedule.

Types of activities

- Walking, cycling, and swimming
- Exercises during breaks and lunch at work
- Walking the dog, etc.

These are all good choices for you.

CARING FOR YOUR FEET

A. CHECKING YOUR FEET

When

- After showering or bathing before putting on your shoes and socks.

How

- Check your feet in a well-lighted area.
- Check the insteps and soles of your feet as well as the space between your toes every day.
- If you can't see the soles of your feet, use a mirror.
- If you have trouble seeing, ask for help.
- Touch the skin to see if it is usually warm.



Source : Smith & Nephew

What to check for

- Blisters, cuts, scratches, calluses and corns, ingrown nails, and injuries.
- Areas of skin that are white, moist, and wrinkled, especially between the toes (due to excessive moisture).
- Areas of heat or redness that could indicate infection.

If you observe any of the above, immediately see your doctor or a nurse!

B. FOOT HYGIENE

- Wash your feet daily with warm water, paying particular attention to the skin between your toes.
- Test the water temperature with your wrist or elbow to avoid burns.
- Use unscented liquid soap.
- Use a soft towel to clean and thoroughly dry the skin between and under your toes. If you have a fungal infection, use a new towel every day.
- Avoid foot baths.
- Do not use a hair dryer to dry your feet (risk of burns).
- Apply unscented moisturizer to your feet after bathing or showering. Let it penetrate and then remove any excess.
- **Never put moisturizer between your toes** or on broken skin due to the risk of infection and of developing a fungal infection if these areas are overly moist.



Source : Smith & Nephew



Source : Smith & Nephew

Inform anyone providing foot care (e.g., pedicurist) that you are diabetic.

C. CALLUSES AND CORNS

Calluses

- A callus or corn is a thickening or a hardened thickening of the skin on the bottom of the foot or toes.

Causes

- Wearing sandals or poorly fitting shoes
- Changing your gait (way of walking)
- Misshapen feet

Solutions



- When showering or bathing, use a wet pumice stone to reduce the corn.
- Then, apply moisturizer to your feet in order to prevent the skin from cracking.



- Do not use over-the-counter foot-care products available in pharmacies to eliminate corns (risk of burning and breaking healthy skin around the corn).



- Never use a blade to pare down a corn.
- Ask a foot-care nurse or podiatrist for help if you can't provide this care yourself.
- If the corn persists, consider consulting an orthotist, who can advise you on buying shoes or wearing an orthosis.

D. TOENAIL CARE

- Refrain from using a nail clipper or any other cutting instrument. Use scissors instead.
- Avoid cutting your nails too short. They should extend about 1.5 to 3 mm (about 1/8") beyond the tip of your toes.
- Trim them straight and round off the corners with an emery board.
- Trim them after bathing or showering because they will be softer and easier to clip.
- See your doctor if you have an ingrown toenail.
- Ask a foot-care nurse or podiatrist for help if you can't provide this care yourself.

E. STOCKINGS

- Wear clean stockings and change them every day.
- Buy stockings that are seamless and not too tight. Avoid stockings with thick seams and tight elastic that impedes blood circulation and applies pressure to the skin.
- Do not wear stockings with holes or that have been mended.
- Opt for stockings that keep your feet dry (cotton or wool). Avoid nylon stockings that hold moisture.

Never wear shoes for more than 6 hours at a stretch.

Stop wearing shoes that hurt your feet.



F. FOOTWEAR

- Use your hand to determine if there is a foreign body in your shoes (e.g., a pebble).
- Buy shoes at the end of the day because your feet are a little bit swollen then. Have the length and width of your feet measured.
- Opt for shoes that are soft, comfortable, and that fit you.
- Make sure that there is 1.2 cm (1/2") between the toe of the shoe and the tip of your foot.
- When buying shoes, wear the stockings you plan on wearing with them.
- There shouldn't be a seam on the shoe upper (from your instep to the end of your toes).
- The soles must be nonslip and flexible.
- Avoid shoes with pointed toes and excessively high heels (2.5 cm or 1" at the most) because they put pressure on your toes.
- Opt for shoes with deep, wide toe caps.
- Opt for shoes with Velcro fasteners or laces for more support.
- Both the heel and toe should be closed.
- Wear new shoes for an hour the first day and then gradually add more time. Check your feet regularly.
- Your doctor, podiatrist, or orthotist might suggest that you wear deep and wide orthopaedic shoes, orthotic insoles, or other specialized footwear to prevent ulcers. That could prevent an injury from reoccurring.

WHAT TO AVOID

- To avoid injuries, never walk barefoot or wear sandals, whether indoors or outdoors. Wear sandals with stiff soles.
- Do not use a hot-water bottle, heating pad, radiator, or baseboard heater to warm your feet. The risk of burns due to a loss of sensation in your feet is too great.

DEALING WITH INJURY

Check for injury if you trip or stub your foot.

If you are hurt:

- Avoid walking on the injury to prevent it from worsening.
- Wash it with soap and water.
- Apply a dry dressing.

Watch for signs of infection:

- Foot or part of a foot warmer or redder than normal
- Discharge, unusual odour
- Swelling, pain (pain may not be present)
- General discomfort with nausea, vomiting, and fever
- Difficulty controlling your blood glucose level

If you have any of these symptoms, consult your doctor immediately or go to an emergency clinic. You can also call Info-santé at 8-1-1.

REMEMBER

- Ask your doctor to examine your feet when you go in for an appointment.
- If you do not have any wounds, your feet must be examined by your doctor at least once a year.
- Advise your doctor or nurse at the first sign of a problem.

Don't wait!

REFERENCES

Centre de jour du diabète de l'Estrie. (2011). Programme d'enseignement pour la clientèle diabétique. Acidocétose : Complications à long terme, sexualité, soins des pieds. http://www.chus.qc.ca/fileadmin/doc_chus/Soins_et_services/Enseignement/diabete/08-2011__Brochure_-_Chapitre_5_-_Fr_CJDE.pdf

Laferrière, S. and Morin, J. (2018). Cadre de référence en soins de plaies chroniques. Sherbrooke, Québec : Centre intégré universitaire de santé et de services sociaux de l'Estrie - Centre hospitalier universitaire de Sherbrooke.

Ordre des infirmières et infirmiers du Québec (OIIQ). (2007). Les soins de plaies au cœur du savoir infirmier. De l'évaluation à l'intervention pour mieux prévenir et traiter. Westmount, Québec : Ordre des infirmières et infirmiers du Québec.

Orsted, H.L., Searles, G., Trowell, H., Shapera, L., Miller, P., and Rahman, J. (2006). Recommandations des pratiques exemplaires pour la prévention, le diagnostic et le traitement des ulcères du pied diabétique : Updated in 2006. *Wound Care Canada*, 4(1), 108-121. Viewed at <https://www.woundscanada.ca/docman/public/wound-care-canada-magazine/2006-vol-4-no-1/264-wcc2006-vol4n1-bpr-for-prevention-diagnosis-and-treatment-of-diabetic-footulcers-french/file> Pothier, D. (2006). Plan d'intervention préventif et thérapeutique en regard des problèmes podologiques. Conference presentation. Unpublished.

Pothier, D. (2006). Plan d'intervention préventif et thérapeutique en regard des problèmes podologiques. Communication présentée lors d'une conférence. Document inédit.

Registered Nurses' Association of Ontario (RNAO). (2005). Clinical best practice guidelines: Assessment and management of foot ulcers for people with diabetes (2nd ed.). http://rnao.ca/sites/rnao-ca/files/Assessment_and_Management_of_Foot_Ulcers_for_People_with_Diabetes_Second_Edition1.pdf

Web sites:

Diabetes Canada : www.diabetes.ca

Juvenile Diabetes Research Foundation: www.frdj.ca

Victorian Order of Nurses Canada: <http://www.von.ca/en>

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