



What is it?

Diabetes is a chronic, often debilitating disease in which the body either cannot produce insulin or cannot properly use the insulin that it produces.

Insulin is a hormone that regulates sugar in the bloodstream. Diabetes leads to high blood sugar levels, which can damage various systems in the body including the organs, blood vessels and nerves. The body needs insulin to properly break down sugar to use as an energy source.

Diabetes can cause nerve damage and blood flow problems in the feet and lower limbs. As a result, people with diabetes are at a higher risk for developing complications from minor injuries such as blisters or cuts. Nerve damage reduces sensations in the feet, making it difficult to feel when an injury has occurred. Poor blood flow makes it difficult for the body to heal from small cuts or wounds.

These impairments in combination can cause a small injury to become a much larger problem.

What do people experience?

Over time, people with diabetes may experience various changes or symptoms in their feet:

- Numbness, tingling or unusual sensations
- Heavy, spongy feeling in the feet
- Dry, peeling, or cracking skin
- Development of calluses, corns, or other skin issues
- Change in shape, flexibility, or movement
- Delays in healing, including chronic foot wounds

Risk factors

- History of gestational diabetes
- Family history of diabetes
- High blood pressure
- High cholesterol
- History of high or inconsistent blood glucose levels
- Smoking

What can you do to feel better today?

- **Check your footwear regularly.** Wear shoes that fit well and support your foot. Shoes should be supportive, low-heeled, and wide enough to accommodate your foot. Shoes should not rub or pinch in any area and, ideally, should be lined with a soft, seamless interior. Shoes that are either worn out or do not fit properly often contribute to foot complications.
- **Protect your feet,** both inside and outside the home. Wear a hard-soled slipper or sandal inside to protect against injury. Always wear socks for added protection.
- **Inspect your feet and toes daily.** Look for any changes to the skin: redness, blisters, cracks, dry patches, etc. Check toenails for sharp edges, cracks or other changes.
- **Maintain a healthy lifestyle.** Healthy eating, blood glucose management, and weight control are essential to successful diabetes management. Consult your family doctor, dietician, or diabetes care team for more information.

What are my options for treatment? Who can help?

There are a wide variety of resources and treatment options for people living with diabetes. Diabetes may be medically managed by your family physician, nurse practitioner, or diabetologist. Many communities have diabetes care teams that incorporate dietitians, nurses, kinesiologists, physical therapists, and other healthcare providers to provide a variety of treatments and management strategies, including exercise prescription, physical therapy, diet plans, and lifestyle modifications.

Foot care for people with diabetes starts with prevention. Your podiatrist can help you reduce your risk for diabetes-related foot complications with footwear advice, modifications to your footwear, custom or off-the-shelf foot orthoses, stretching and range of motion exercises, and most importantly, annual foot exams.

Prevention/Prehabilitation

Always:

- Wear well-fitting shoes
- See a professional for corn and callous treatment
- Wear shoes (outside) or slippers (inside)
- Wear socks (regular or special diabetic socks), or use an extra blanket if your feet are cold.
- Exercise regularly to maintain circulation
- Maintain a healthy diet and lifestyle
- See a professional for the right off-loading insole for you

Avoid:

- Shoes that are too tight, worn out or otherwise ill-fitting.
- Using over-the-counter treatments for callouses, corns, or warts.
- Going barefoot (even indoors!).
- Using heating pads or hot water bottles on your feet.
- Sitting with your legs or ankles crossed for long periods of time.
- Smoking—cigarettes can impair circulation.
- Wearing OTS insoles.

Staying active

Everyone can benefit from regular physical activity. The Canadian Diabetes Association recommends 150 minutes of aerobic exercise per week for people living with diabetes. That amounts to 30 minutes, five times per week. Aerobic exercise is any continuous exercise that increases heart and breathing rates. Examples include walking, bicycling, and jogging. Getting your recommended physical activity can be as simple as a 30-minute walk with the dog after dinner each weeknight!

Regular physical activity helps your body manage blood glucose levels by using the glucose as fuel for your activity. Physical activity also helps to maintain circulation and cardiovascular fitness.

Using appropriate footwear is extremely important when engaging in any physical activity. Talk to your pedorthist about which shoes are right for you and your chosen activity.

Always consult your family doctor or primary healthcare provider before starting or making changes to your physical activity levels.

DIABETES

To feel better, read on!

How can SoleScience help you feel better?

Your SoleScience Pedorthist will create an individualized treatment plan that suits your specific needs, goals, and symptoms. We will work with you to determine not only what we need to do to address your current concerns, but also to prevent future problems.

Your pedorthist will complete a thorough and comprehensive foot examination at your initial appointment. A comprehensive follow-up exam will ensure that you are meeting your goals and allow your pedorthist to reassess your treatment plan (as necessary). During these appointments we will:

- Assess joint and muscle function, including range of motion and gait assessment
- Assess your footwear for both fit and function

- Identify any risk factors that can be modified and make recommendations for change
- Identify areas of risk with specialized tools such as pressure mapping (F-Scan or Pedograph)
- Discuss a treatment plan, which may include a change in footwear, activity modification, or custom foot orthoses and/or a complementary treatment referral (such as physiotherapy)
- Assess neurological (nerve) and vascular (blood flow) status of your feet

In addition to your individual treatment plan, your SoleScience Pedorthist will provide you with educational resources to help you best maintain your foot health.

Our take on the need for custom foot orthoses

Custom foot orthoses are made using a mold (cast) of your foot. This type of insole is made specifically for your foot and needs. Your pedorthist will not only take a cast of your foot in a specific position, but will also choose the materials and construction details tailored specifically to you.

Off-the-shelf (OTS) devices are pre-fabricated for an “average” foot and are designed to slip into most footwear. This type of insole may be heat moldable, or modifiable for a degree of customization, but is not entirely custom made to your foot. There are dozens of insoles available at your local pharmacy or drugstore that may provide support and relief for various foot conditions. When dealing with diabetes, it is best to exercise caution when choosing an OTS device; if it does not fit properly, an OTS device might increase risk of injury.

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Footwear recommendations

Appropriate footwear is important when living with diabetes. Ill-fitting footwear is associated with an increased risk for complications. While there is no single shoe recommended for people with diabetes, there are several key points to consider (1):

- Shoes should be fit by a professional, and should consider not only length of your foot, but also width and volume
- Shoes should have a broad and square toe box
- Laced closure for secure fit
- Padded tongue, collar and interior
- Seamless or smooth-seamed interior

Your pedorthist may have specific recommendations for your individual needs in addition to those listed above.

References

(1) Hingorani A et al, (2016).