



# Diabetes and the Foot

**Diabetes affects 15.7 million people in the United States, which represents 5.9% of the population. There are 798,000 new cases of diabetes diagnoses each year. Each day approximately 2,200 people are diagnosed with diabetes. Diabetes is the seventh leading cause of death in the United States.**

When you have diabetes, daily wear and tear can take its toll on your feet, especially in the areas that absorb the most pressure. Because of poor blood circulation, or loss of feeling in your feet, even a minor problem such as a tiny crack in your skin, may develop into a serious infection.

People with diabetes have an abnormal elevation of sugar in their blood and a lack of adequate metabolism of the blood sugar. As a consequence, the blood glucose (sugar) abnormally enters certain nerve tissue and damages the nerve. As the nerve damage occurs, the protective sensations are affected. These include a person's ability to determine the difference between sharp and dull, hot and cold, pressure differences, and vibration. These sensations become dulled and/or altered. The progression of the condition can be slowed or halted by maintaining normal blood glucose levels.

## Complications of Diabetes and Nerve Disease

About 60-70% of people with diabetes have mild to severe forms of diabetic nerve damage. The nerve damage is referred medically as diabetic neuropathy. With diabetic neuropathy there is impaired sensation of the hands and feet. When there is limited sensation in the foot, sores or blisters develop without the diabetic patient realizing the problem. This blister, in turn, typically develops into an ulcer. An ulcer is a breakdown of the skin layers, which is prone to infection. During their lifetime, 15% of people with diabetes will experience a foot ulcer and between 14 –24% of those with a foot ulcer will require an amputation. Diabetes is the leading cause of lower extremity amputations in the United States occurring among people with diabetes. Each year, more than 86,000 amputations are performed among people with diabetes.

As the patient develops diabetic neuropathy, they have a greater risk of developing skin ulcerations and infections. Areas of corn and calluses on the feet represent areas of excessive friction or pressure. These areas, if not properly medically cared for will often break down and cause ulcerations. These calluses areas may not be painful. As a result, they can progress to ulceration

without being noticed. Ingrown toenails can progress to severe infections in people with neuropathy.

Additionally, diabetic patients may develop weakened bones, that can slowly shift causing your feet to become deformed, changing the way your foot distributes pressure.

A very sad fact is that after an amputation, the chance of another amputation within 3 to 5 years is as high as 50%. The five year mortality rate after amputation ranges from 39 to 68%.

## Early Prevention of Diabetic Foot Problems is the Key

Often the best treatment for our diabetic patients is prevention. This may be accomplished by the education of our patients in the care and treatment of their feet. We train all our diabetic patients to examine their feet on a regular basis, with a regular schedule of podiatric care to help identify and prevent problems that can become long term. Dr. Lyon will examine your feet regularly, teach you about self-care, provide foot maintenance and recommend special footwear.

For our Medicare age patient, Medicare provides coverage for therapeutic footwear such as, depth-inlay shoes, custom-molded shoes, and shoe inserts for people with diabetes who qualify under Medicare. Proper footgear with accommodative foot orthotics have been shown to decrease the complication rate by 80%. This benefit provides you with one of the best tools you can use to protect your feet day in and day out.

As many as half the lower extremity amputations might be prevented through simple but effective foot care practices. These practices include:

- early identification of the high risk diabetic foot
- early diagnosis of foot problems
- early intervention to prevent further deterioration that may lead to amputation
- patient education for proper care of the foot and footwear

Diabetic patients should not soak their feet in hot water or use heating pads to warm their feet. This can result in accidental burns to the skin. Barefoot walking should be avoided because of the risk of stepping on something sharp and not being aware of it. The inside of shoes should be inspected prior to putting the shoes on to insure that no foreign object is inside the shoe.

## The Office Visit

A thorough podiatric evaluation including: a detailed medical history, foot examination, evaluation of the skin and blood supply, diagnostic testing, which can be very important. X-rays and Doppler to determine blood flow to the feet may be utilized to make an assessment.