Diabetic Foot Health: It Starts With the Right Footwear

For patients with diabetes, proper foot health starts with the right type of shoe with the right fit, along with assistance in selecting proper footwear. This is because of several factors:

- High-risk diabetic patients suffer from neuropathy, rendering them incapable of selecting shoes “by feel.”
- Consistently wearing the same shoe size can mean shoes that are too tight or too small. There are gradual increases in foot size as an individual ages, as well as deviations in brand sizing.
- Wearing shoes that are too small or too tight can result in multiple ulcerations. This is an easily preventable cause of ulcerations that goes unnoticed.
- Diabetic patients may not know to follow this rule—make sure to have a “thumbs-width” of space between the end of the toe and the end of the shoe. Also shoe fit can be checked while in the doctor’s office, via a gait analysis, to reduce the risk of footwear-induced ulcerations.
- Diabetic patients with at-risk foot conditions may not be aware that they qualify for a free pair of diabetic shoes with custom-molded inserts every year. Custom insoles can help to decrease abnormal pedal pressures and abnormal shock/shear forces, accommodate bony deformities, and make ambulation more comfortable.
Diabetic patients often won’t wear their diabetic shoes every day, and don’t take advantage of a much overlooked resource, shoe-store clerks. Many times, they will size and fit shoes for free, showing patients various styles and colors of shoes.

FOOT INSPECTION

Daily visual inspection of the feet is a task much easier than it sounds. Patients will spend too much time and effort inspecting their feet every day only for a week after their visit but not maintain the habit over the long-term.

Checking your feet for cuts, blisters, or excessive redness can be expedited using either a hand-held mirror or an angled foot mirror placed by the bed. The entire process can take less than 15 seconds a day and can prevent infection-related injuries that can lead to amputation. Patients are also encouraged to touch their feet and palpate any bony prominences to make sure there are no areas of skin breakdown forming.
SOCKS

Socks are often a commonly neglected component of foot health. The paucity of research does not give doctors much information for the appropriate recommendation for diabetic patients, and many of the recommendations are based on anecdotal evidence.

The term “diabetic socks” is commonly given to an all-cotton, heavily woven, minimally compressed pair of socks. But there is little evidence that these actually prevent diabetic ulceration or infection. New research is emerging on off-loading socks to prevent ulceration, and on antibiotic-impregnated, fabric socks that can prevent both bacterial and fungal infections.

One of the reasons for the deficiency of research is the inability to measure shearing forces. Plantar pressures, which are well-documented using plantar pressure plates in gait study facilities, can contribute to the amount of shear that occurs in the skin but are not a true measure of shear:

- Blisters and diabetic ulcerations are commonly caused by shear.
- One of the goals of podiatrists in an effort to reduce ulcerations is to reduce shear. This can be accomplished in two ways: reducing the cause of the shear, which is typically over-pronation or other foot dysfunctions; and dispersal of shear into mediums other than the layers of the skin.
- Over-pronation and other foot dysfunction issues can typically be treated with footwear and custom orthoses, but occasionally surgical intervention is required.
Dispersal of shear can be accomplished with multi-layered socks, which absorb the shear into the sock.

It is important for diabetic patients to become educated about proper shoe-gear and pedal health in order to prevent foot ulcers and complications. Becoming actively involved in your own health-care and decision-making is an integral part of forming a good medical partnership with favorable outcomes for both the patient and the provider. –Sabrina Minhas, DPM, Philadelphia, PA

Sources Cited: