

# LEAP Program

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A comprehensive prevention program has been developed at the Bureau of Primary Health Care that can dramatically reduce lower extremity amputations in individuals with diabetes mellitus, Hansen's disease, or any condition that results in loss of protective sensation in the feet.

The LEAP Program consists of five relatively simple activities:

- Annual foot screening
- Patient education
- Daily self inspection of the foot
- Appropriate footwear selection
- Management of simple foot problems

## Annual Foot Screening

The foundation of this prevention program is a [foot screen](#) that identifies those patients who have lost protective sensation. While it is well known that patients with diabetes frequently have vascular insufficiency in their extremities, the initial plantar ulcer usually results from an injury to a foot that has lost sensation. In the absence of protective sensation, even normal walking can result in such injuries.

The LEAP Diabetic Foot Screen uses a 5.07 monofilament, which delivers 10 grams of force, to identify patients with a foot AT RISK of developing problems. An initial foot screen should be performed on all patients with diabetes and at least annually thereafter. Patients who are AT RISK should be seen at least four times a year to check their feet and shoes to help prevent foot problems from occurring.

## Patient Education

Teaching the patient self-management skills is the second component of the LEAP Program. Once taught simple self-management techniques, the patient assumes personal responsibility and becomes a full partner with the health care team in preventing foot problems.

## Daily Self Inspection

Daily self-inspection is an integral part of the self-management program. Every individual who has lost protective sensation must regularly and properly examine his/her feet on a daily basis. Studies have shown that daily self-inspection is the single most effective way to protect feet in the absence of the pain warning system.

Early detection of foot injuries (blister, redness, or swelling), callus, or toe nail problems (thick, tender, long, or discolored) is necessary to prevent potentially more serious problems. Some problems should be reported immediately to a health care provider while

the patient can manage others if he/she has been taught simple, basic self-management techniques.

### Footwear Selection

Shoes, like feet, come in a variety of styles and shapes. A person with normal sensation in his/her feet can wear almost any shoe style with little risk of injury. But with diabetes, if the patient has lost protective sensation, poorly designed or improperly fitting shoes can seriously complicate the condition of the feet.

Once a patient has lost protective sensation, he/she should never walk barefoot, even around the house. The patient should never wear narrow toe shoes or boots, heeled shoes, shoes with vinyl tops, thongs, or any shoe that is too loose or too tight. This person will need special assistance in selecting the appropriate style and fit of shoes.

The shoe should fit the shape of the foot. There should be at least ½ inch between the longest toe and the end of the shoe. In a properly fitting shoe, a small amount of leather can be pinched up. The patient, the family, and the health care team need to recognize that wearing appropriately styled shoes that fit can prevent most foot problems.

### Management of Simple Foot Problems

In addition to causing loss of protective sensation, diabetes can also affect the autonomic nerves in the foot and lead to dry cracked skin, increasing the probability of foot injuries and wounds.

This prevention program emphasizes the importance of reporting all injuries to the health care provider.