3 Steps to Save Feet – Assess, Screen, Report

People with diabetes are at increased risk of foot complications. Basic foot care education can reduce the risk of amputation by over 50 percent. Using a 5.07 monofilament (delivers 10gms of linear pressure) diabetes health care professionals can immediately identify high-risk feet and take steps to protect lower extremities.

We have included instructions on how to assess and inspect feet, along with risk assessment and action steps. We enhanced the teaching tools and forms from the Lower Extremity Prevention Program (LEAP) and are excited to share them with our community of diabetes advocates.

Single-use monofilaments are intended for use with one client only. We suggest that after completing the lower extremity assessment, place the monofilament in an envelope with a screening form. Then ask the person to assess their feet weekly and report any changes in appearance or sensation. Studies show that individuals who use a monofilament to self-assess their feet on a regular basis have fewer foot complications and report foot problems earlier. Store used and unused monofilaments in a dry, clean environment. For re-use with the same client, the monofilament must remain straight and unbent.

Diabetes Foot Screen Instructions and Documentation

Step 1 – Visual Inspection with history and physical assessment

The twelve questions can be answered in the 'R' (right foot) or 'L' (left foot) blank with a 'Y' or 'N' to indicate a positive or negative finding. Fill in all blanks.

Question 1: Is there a history of foot ulcers?

Question 2: Is there a foot ulcer now?

The purpose of these questions is to determine if there is a current or past foot ulcer. History of a foot ulcer increases the risk of developing another foot ulcer and increases the potential of future amputation. A person with a past or present foot ulcer is considered permanently in Risk Category 3.

Question 3: Is there toe deformity?

Question 4: Is there an abnormal shape of the foot?

This is determined by inspecting the general shape of the foot. Conditions to consider include: prominent bony areas, partial or complete amputations of the foot or toes, clawed toes, bunions, or "Charcot Foot". A Charcot Foot is a neuropathic foot that may present with swelling, increased temperature, and little or no pain. Advanced cases show progressive signs of deformity into what is referred to as a "rocker bottom" or "boat-shaped" foot. A person with a Charcot Foot is permanently in Risk Category 3.

Question 5: Are the toenails thick or ingrown? Identify Mycotic, significantly hypertrophic, or ingrown nails. Ask how they are cutting their nails and identify problem areas. Suggest trimming nails straight

across after a bath or shower when the nail is softer. People can also apply petroleum jelly to the top of nails, to soften and make trimming easier. Use a nail file to shape and file off sharp and rough edges.

Question 6: Is there callus buildup? Identify focal and/or heavy callous. Determine cause and provide coaching on using diabetes socks without seams and shoes that are not too tight (look for red areas on the foot when taking off shoes). Assess if the person is self-treating calluses (with a razor or other tools) and encourage them to see a foot specialist to prevent complications.

Question 7: Is there swelling? Swelling may stem from a variety of causes such as a Charcot fracture, infection, or "venous stasis". Assess for potential causes and encourage the person to elevate extremities and receive treatment.

Question 8: Is there elevated skin temperature? Elevated, localized skin temperature can indicate excessive mechanical stress, bone fracture, or infection and requires further evaluation. Skin temperature can be measured by a commercially available thermometer or by touch. A temperature elevation of greater than 2 degrees centigrade on the thermometer or a noticeable difference by touch when compared with the contralateral foot is considered clinically significant and requires follow-up.

Question 9: Is there muscle weakness? A manual muscle test of foot and great toe dorsi and plantar flexion. Weakness or inflexibility is associated with diabetes neuropathy and increases the risk of injury.

Question 10: Can the person see the bottom of his/her feet? Extra weight and/or lack of flexibility can make it difficult for people to visually assess their feet. Self-inspection and foot care are also difficult. Encourage the use of a handheld mirror to evaluate the bottom of their feet and encourage them to report any unusual odor or drainage. Assess if there are family members or other support people who can help with foot care.

Question 11: Are they wearing improperly fitted shoes? An improperly fitted shoe may create foot pressures that lead to further complications. Sensory loss often results in wearing shoes that are too short and/or narrow resulting in ischemic ulcers on the medial or lateral metatarsal heads or the toes of a foot with claw toe deformity. Properly sized added depth shoes with soft custom molded insoles are usually indicated for those with loss of sensation and deformity to prevent ulceration.

Question 12: Is the footwear appropriate for their category? See risk and management categories.

Tight shoes are a leading cause of foot ulcerations. Make sure the person can wiggle their toes and check for red marks on feet after taking shoes off. Red marks indicate areas of friction or tightness. Shoes that can be adjusted with ties or Velcro are preferred. Medicare covers annual custom shoes and inserts for people with diabetes and high-risk feet with a MD order.

Checking for Pulses and Peripheral Arterial Disease (PAD)

In addition to the steps listed, it is important to assess for diminished blood flow to the lower extremities.

People with diabetes over the age of 60 with hypertension, hyperlipidemia, who smoke, are at higher risk for PAD. In addition, African Americans have 3-4 times increased risk of PAD, so careful screening and appropriate intervention for these higher risk groups is imperative.

What are the signs and symptoms of PAD? The classic symptom of PAD is pain in the legs with physical activity, such as walking, that gets better after rest. However, up to 4 in 10 people with PAD have no leg pain. Symptoms of pain, aches, or cramps with walking (claudication) can happen in the buttock, hip, thigh, or calf.

Physical signs that may indicate PAD include leg muscle atrophy (weakness); hair loss; smooth, shiny skin; skin that is cool to the touch, especially if accompanied by pain while walking (that is relieved by stopping walking); decreased or absent pulses in the feet; sores or ulcers in the legs or feet that don't heal; and cold or numb toes.

If you suspect Peripheral Arterial Disease, please refer individual to a specialist to evaluate their Ankle Brachial Index (ABI) and determine if vascular surgery or other intervention is needed.

It could save a limb or life.

Step 2 – Use the Screening Form to document findings

Examine the foot and record findings on the Foot Screen form. Draw calluses, pre-ulcerative lesions (a closed lesion i.e., blister or hematoma), or open ulcers as accurately as possible using the appropriate "pattern" to indicate what type of condition is present.

Label areas that are red "R", warm "W" (warmer than the other parts of the foot or the opposite foot), dry "D" or macerated "M" (friable, moist, soft tissue) on the corresponding location of the foot drawing provided on the screen form.

Using the 5.07/ 10gm Monofilament

A sensory exam using the 10-gram monofilament is performed at the indicated sites on the foot drawing.

Responses are recorded in the appropriate circles. First, touch the monofilament to the person's wrist, bending it to a "C" shape to let them know the feeling of the monofilament and reassure them it is not painful.

Ask the person to close their eyes and say "yes" when they feel the monofilament touching their foot. Then, randomly touch the monofilament to the locations indicated on the screening form, going above or below calluses, since they impede sensing the monofilament. Repeat this twice on each foot.

- If they can feel the monofilament, a positive response is recorded in the corresponding circle with a "+"
- If they are not able to feel the filament and a negative response is recorded with a "-"

After completing the assessment, place the monofilament in an envelope with a screening form, and ask the person to screen their feet weekly and report any changes in foot appearance or sensation.

LEAP FOOT SCREEN	Date:
Patient's Name (Last, First, Middle)	ID No.:

Fill in the following blanks with a "Y" or "N" to indicate findings on the right or left foot.

	R	L
Is there a history of a foot ulcer?	_____	_____
Is there a foot ulcer now?	_____	_____
Is there a claw toe deformity?	_____	_____
Is there swelling or an abnormal shape in the foot?	_____	_____
Is there elevated skin temperature?	_____	_____
Is there limited ankle dorsiflexion?	_____	_____
Are the toenails thick or ingrown?	_____	_____
Is there heavy callus build-up?	_____	_____
Is there foot or ankle muscle weakness?	_____	_____
Is there an absent pedal pulse?	_____	_____
Can the patient see the bottom of their feet?	_____	_____
Are the shoes appropriate in style and fit?	_____	_____

Indicate the level of sensation in circles:

+ = Can feel the 10 gram nylon filament
−= Can't feel the 10 gram nylon filament

Draw in: Callus Preulcer Ulcer (note length/width/depth in cm.)
and Label: Skin condition with R - Redness, D - Discoloration, M - Maceration, T - Tinea

RISK CATEGORY:

_____ 0 No loss of protective sensation.
_____ 1 Loss of protective sensation.
_____ 2 Loss of protective sensation with either high pressure (callus/deformity), or poor circulation.
_____ 3 History of plantar ulceration, neuropathic fracture (Charcot foot) or amputation.

Performed by: _____

Step 3: Report Risk Category and Needed Follow-Up

Determining a person's Risk Category is a key element in the Foot Screen. The higher the Risk Category, the higher the risk there is of recurrent foot ulceration, progressive deformity, and ultimately, amputation of the foot. Everyone, regardless of category, needs rescreening annually along with basic foot care education.

Risk Category Description - Categories for the Foot

0 - Diabetes, but no loss of protective sensation in feet

1 - Diabetes, loss of protective sensation in feet (doesn't feel 5.07 monofilament in one or more locations)

2 - Diabetes, loss of protective sensation in feet with high pressure (callous/deformity), or poor circulation.

3 - Diabetes, history of plantar ulceration, or neuropathic fracture.

Risk Category and Management

0 – Provide Education emphasizing disease control, and proper shoe fit/design.
Follow-up yearly for foot screen. Follow as needed for skin/callus/nail care or orthotics

1 - Education emphasizing diabetes management, proper shoe fit/design, daily self-inspection, skin/nail care, and early reporting of foot injuries. Proper fitting/design footwear with soft inserts/soles.
Routine follow-up 3 – 6 months for foot/shoe examination & nail care

2 - Education emphasizing diabetes management, proper shoe fit/design, self-inspection, skin/nail/callus care, and early reporting of foot injuries. Depth-inlay footwear, molded/modified orthotics; modified shoes as needed.
Routine follow-up 1 – 3 months for foot/activity/footwear evaluation and callus/nail care.

3 - Education emphasizing diabetes management, proper fitting footwear, self-inspection, skin/nail/callus care, and early reporting of foot injuries. Depth-inlay footwear, molded/modified orthoses; modified/custom footwear, ankle-foot orthoses as needed.
Routine follow-up 1 – 12 weeks for foot/activity/footwear evaluation and callus/nail care. Diabetic Foot Clinic visit frequency may vary based on individual needs.