

Patients Foot Care and Diabetes

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What is diabetes foot care?

People with diabetes have special issues with their feet. Diabetes can cause [nerve damage](#) that reduces sensation in the feet and blood flow to the feet and legs. This can make it harder for cuts or sores to heal. For these reasons, foot care is an essential element of a diabetes program.

Why is diabetes foot care important?

Foot ulcers and amputations are a major cause of complications and disability for people with diabetes. However, they are among the most common *preventable* complications from diabetes. Consider these facts:

- Approximately 40% of patients with diabetes will develop peripheral neuropathy.
- Approximately 20% of patients with diabetes have acute foot problems when they come in for a routine clinical exam.
- Nearly 15% of patients with diabetes will develop foot ulcers during their lifetime.
- Most foot and lower limb amputations begin with foot ulcers. Between 5% and 10% of patients who develop diabetes foot ulcers will experience an amputation in their lifetime.

The good news is that more than half of diabetes foot complications are preventable through primary care interventions.

Best practices for diabetes foot care

The best practices for diabetes foot care describe the best methods for:

- Conducting annual foot exams in all patients with diabetes regardless of risk status.
- Conducting patient education.
- Providing podiatry care.
- Providing expertise in footwear modifications.
- Recognizing when to refer patients for vascular assessment and augmentation procedures.
- Assessing, classifying, and managing foot ulcers.

Table 1 summarizes the best practices for people *at risk* for diabetes-related foot complications. Table 2 summarizes the best practices for people with diabetes-related foot ulcers.

Table 1. Best practices for people *at risk* for diabetes-related foot complications.

Provider Recommendations	Best Practices
<p>1. Conduct annual foot exams in all patients with diabetes regardless of risk status</p>	<p>Who? A podiatrist or health professional experienced in foot care should conduct annual foot exams.</p> <p>Why? Early recognition and management of independent risk factors for ulcers and amputations can prevent or delay the onset of adverse outcomes.</p> <p>How?</p> <ul style="list-style-type: none"> – Use a monofilament exam to test sensation on the plantar aspect of the first, third, and fifth digits and metatarsal heads of each foot. If the patient has no sensation on one or more of the tested sites, he or she is at high risk of developing an ulcer. – Inspect the foot for deformities and altered biomechanics including hammer or claw toe deformities, bunions, Charcot foot, any bony prominence, and excessive pronation. The patient is at high risk of developing an ulcer if he or she has any of these. – Conduct a vascular assessment by feeling for dorsalis pedis and posterior tibial pulses on each foot. If there are no pulses in either foot, the patient is at high risk of developing an ulcer. Alternatively, assess vascular status with an ankle brachial index (ABI). An ABI ratio of <0.9 indicates high risk. – Review the chart and ask the patient about prior ulceration or non-traumatic amputations. A history of either event confers high risk of developing an ulcer.

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Table 1. Best practices for people *at risk* for diabetes-related foot complications. (continued)

Provider Recommendations	Best Practices
<p>2. Conduct patient education</p>	<p>Who? A podiatrist or health professional experienced in foot care education should provide patient education.</p> <p>Why? Foot care education has been associated with a 40–80% reduction in ulceration and amputations.</p> <p>How?</p> <ul style="list-style-type: none"> – Offer foot care self-management education annually, and reinforce this education during follow-up visits. – Base the goal and content of the education on the patient’s risk status: <ul style="list-style-type: none"> • The goal and content of the education for low-risk patients is: <ul style="list-style-type: none"> – To prevent neuropathy and peripheral vascular disease by directing patient education at controlling blood sugar, blood pressure, and lipids. – To encourage patients who use tobacco to quit. • The goal and content for high-risk patients should address: <ul style="list-style-type: none"> – Washing and inspecting feet on a daily basis. – Clearing walking areas of dangerous objects. – Selecting and using appropriate and properly fitted footwear. – Using slippers indoors (i.e., no bare feet). – Providing proper nail and callus care (e.g., no bathroom surgery). – Avoiding extreme temperatures. – Avoiding soaking feet. – Promptly reporting problems, such as infections, ulcers, and cuts that do not heal. Advise the patient who and when to call.

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Table 1. Best practices for people *at risk* for diabetes-related foot complications. (continued)

Provider Recommendations	Best Practices
<p>3. Provide podiatry care</p>	<p>Who? A podiatrist or health professional experienced in foot care can provide care.</p> <p>Why? Podiatry care in patients with diabetes and high risk feet has been associated with increased self-care knowledge, a 54% reduction in ulceration rates, and a 75% reduction in lower extremity amputation rates.</p> <p>How?</p> <ul style="list-style-type: none"> – Include nail trimming, callus reduction, skin care, and reinforcement of education principles in basic podiatry care. – Provide a baseline podiatry assessment, with follow-up care directed by clinical findings, for all high-risk patients. – See patients with sensory loss, but otherwise normal feet, every six months. Follow-up with patients with callus and nail deformities every one to three months.
<p>4. Provide expertise in footwear modifications</p>	<p>Who? A podiatrist or health professional experienced in footwear can assist patients.</p> <p>Why? The use of protective footwear in patients with diabetes and high-risk feet has been associated with reduced planter pressures, reduced callus formation, and reduced ulceration and amputation rates.</p> <p>How?</p> <ul style="list-style-type: none"> – Match choice of footwear to risk status and identified problems: <ul style="list-style-type: none"> • Low-risk patients may use standard, commercially available footwear. • Patients with sensory loss and normal shaped feet may use standard shoes with a stable heel counter and padded insert. • Patients with moderate deformities should use extra-depth shoes with a custom molded insert. • Patients with advanced deformity may require custom molded shoes and inserts. – Instruct all high-risk patients on footwear selection, fitting, and break-in. Reassess shoes for excessive internal and external wear every three to six months and replace as needed.

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Table 1. Best practices for people *at risk* for diabetes-related foot complications. (continued)

Provider Recommendations	Best Practices
<p>5. Recognize when to refer patients for vascular assessment and augmentation procedures</p>	<p>Who? A podiatrist or health professional with experience in foot care can refer patients for vascular assessment and augmentation procedures.</p> <p>Why? There is insufficient evidence supporting the use of vascular surgery for ulcer prevention in patients with diabetes.</p> <p>How? Generally limit referral for definitive vascular assessment and augmentation procedures in the non-ulcerated diabetic foot to patients with rest pain, night pain, or claudication that limits the quality of life.</p>

Reference

www.ihs.gov/medicalprograms/diabetes