

A GUIDE TO DIABETIC FOOT CARE AND ULCERATIONS

OVERVIEW

According to the American Diabetes Association there are currently 20.8 million Americans with diabetes. About 20% of these people will develop a serious foot infection during the course of their lives. Some will develop a chronic, non-healing wound that may lead to infection, loss of limb, or even loss of life. Diabetic patients are 15 times more likely to require an amputation than non-diabetic patients. In addition, diabetic patients who have undergone lower-extremity amputation have a mortality rate of 13-14% at year one, 35-65% at two years, and 39-80% at five years. The key to amputation prevention is early recognition and treatment of open wounds, regular foot examinations, and patient education. A team approach to the management and care of the patient is often cited as the most effective and ideal type of treatment.

APPEARANCE

- A normal foot appearance is no guarantee that there are not underlying problems (Fig. 1).
- The foot may exhibit deformities ranging from hammertoes and bunions, to more severe deformities such as those caused by Charcot neuroarthropathy (Fig.2). These deformities alter the normal structure and function of the foot, creating areas of increased pressure that are prone to developing ulcerations.
- The integument may be excessively dry or cracked due, in part, to the effects of peripheral neuropathy on the autonomic system regulating the sweat glands.
- The lower leg may exhibit rubor with dependency and pallor with elevation; this is usually a sign of PVD.

SYMPTOMS

- Injuries resulting from seemingly trivial trauma may be slow to heal, become worse, or become infected
- Signs of peripheral neuropathy including numbness, tingling, or pain in the toes and feet
- Claudication pain, non-palpable pedal pulses, and slow capillary refill time if the patient has PVD
- Patients may develop hyperkeratotic lesions overlying areas of deformity or increased pressure.

DIAGNOSIS

- Physical examination to assess vascular status, neurological sensation, deformity at risk integument.
- X-rays may be used to evaluate the bone structure if deformity is present or osteomyelitis is suspected.
- Peripheral vascular studies may be ordered if PVD is present or suspected.
- MRI may be used to evaluate for deep-space abscess, osteomyelitis, or Charcot neuroarthropathy.
- Ultrasound may be used to examine soft tissue structures and the depth and extent of open wounds.

TREATMENT

Treatment should start with the prevention of ulceration through regular examination of the lower extremity and patient education

- Poorly fitting shoes have been cited as the cause of up to 50% of problems leading to amputation. Custom made or extra depth shoes with pressure reducing insoles may be prescribed.
- Wound care should be directed at infection control, elimination of pressure, assessing vascular perfusion, and improving nutritional and metabolic status. Wound debridement and local wound care is vital. Many advanced wound care treatments are available ranging from topical medications to skin graft substitutes.
- Different products may be used at various stages of the healing process.
- Correction of a deformity at risk of ulceration is advised if the patient exhibits adequate healing potential.
- Although limb preservation is always the goal in treatment, when faced with poor vascular perfusion, osteomyelitis, or severe infection an amputation may be inevitable.



Figure 1: A Plantar Ulcer is revealed after the debridement of a callus.



Figure 1: A Plantar Ulcer is revealed after the debridement of a callus.



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Chicago Podiatric Surgeons is dedicated to providing the best possible podiatric care for your patients. This care includes answering patient questions and ensuring they understand their treatment options. Of course, the understanding of treatment options starts with you, the primary care physician. We hope that you find this overview of common podiatric disorders to be helpful in the care of your patients, and that you look forward to receiving future topics from us.