

Chapter 9

Surgery That Saves Feet: Preventing Ulcers Before They Start

The danger of developing a foot infection is very high once an ulcer has formed. 45% of all non-traumatic foot and leg amputations in the United States are caused by Diabetes. 30% of patients with a foot or leg amputation will return to the hospital for treatment of the other foot within three years. The five-year survival rate for diabetics with a leg amputation has been predicted as low as 30%. Therefore, it is extremely important to exhaust all efforts in keeping the foot healthy. This will allow the ambulant more easily to lessen the psychological problems that the patient experiences when having an amputation.

Throughout history, the podiatrists were called in to treat diabetic foot problems and they were proud to save many diabetics from amputation, while other surgeons planned major leg amputation. Foot carelessness in diabetics can eventually result in major amputation of the leg, once the leg develops an infected neuropathic foot or an ischemic foot (decreased amount of blood supplying a limited area of the body).

The treatment of an infected foot in the diabetic, surgery has been the rescue of destruction with the primary center at the level of amputation. However, today it focuses more on preventive foot surgery changes with an emphasis on the future needs of diabetics. The goal of preventive foot surgery in diabetics is to reduce chances in developing foot ulcers and bone infection, thereby preventing amputation crises. Preventive foot surgeries in diabetics are performed to reduce pressure areas resulting from hammer toes, bunions, and calluses, to prevent ingrown toenails, and to prevent ulcer formation. It should be emphasized again that one of the major goals of preventive foot surgery in Diabetes is to reduce and / or lessen pressured areas of the foot. If you have diabetic neuropathy, you have altered sensation or eventually your feet become numb. This means that you have lost the normal protective mechanisms of pain. Without the protective sensation of pain, diabetic corns and

calluses are not painful, therefore, they continue to put pressure on themselves until the skin breaks and ulcers form. Foot ulcers become infected, and the underlying tissue becomes necrotic and the bones become infected. This entire process of corns and calluses to infect bones can take only a few days. Of course, people with normal sensitivity have corns and calluses, but they do not develop foot ulcers, because when they feel pain in the corns and calluses, they change their gait (different way of walking) either by limping and redistributing the force that causes the pain of calluse. Pain is the most valuable sensitivity that we have. If you don't feel the pain, you don't feel the need to avoid the cause of the pain. The bones that are causing corns and calluses need to be removed to prevent ulcers.

WHO CAN HAVE PREVENTIVE FOOT SURGERY?

Not all diabetic patients can have surgery. In my private practice, people from all over the country and even from foreign countries come to me for possible foot surgery. About 50% of these patients are not candidates for foot surgery. Many of these patients are referred to vascular surgeons for evaluation of vascular surgery to increase blood flow to the foot. The vascular disease in some of these patients is too advanced to be considered vascular surgery.

In order to qualify for preventive foot surgery, the most important condition is well-controlled diabetes. Poorly controlled blood sugar levels will lead to poor recovery from surgery. A diabetic foot that is cold to the touch, does not have hair growth on the toes, does not have good pulses, and has thin, shiny skin is not considered a good candidate for surgery. These are the signs of poor circulation to the foot. Any trauma to this type of foot, whether surgical or an accident, will cause an infection and therefore gangrene of the foot.

However, a diabetic foot that is insensitive to pain, but is hot to touch, with strong pulses, has good skin coloration, and has hair on the toes can be considered a good candidate for foot surgery. These people with neuropathies, but with good blood flow to the foot, are recommended for surgery, to reduce the pressure exerted on the foot such as bunions, hammer toes, callus, calluses and buried nails. Another very important requirement for the successful outcome of foot surgery is the nutritional status during the recovery period. The role of a registered nutritionist becomes important to ensure good nutrition during the recovery period.

NAIL SURGERY

The patient in fig. 9-1 has a thick, deformed nail which is not only cosmetically undesirable but can be a threat from a gangrenous toe.



Fig 9-1



Fig 9-2

This toenail will no longer function as a one, but it becomes the source of intense pressure on the toe bone. If left untreated, eventually the ulcer develops under the thick nail without experiencing any pain from the patient. During the time that the patient notices pus coming from below the nail, the infection may be too far advanced into the bone. This nail should be reduced as soon as possible to reduce the pressure, otherwise the nail and its root should be removed surgically. This particular patient is not at risk of developing a high risk of an ulcer below the nail.

A ingrown and infected nail can be a serious problem. Chronic infection of an ingrown nail causes an infection of the bone under the nail. The inflammation and infection together promote small clots in the toe resulting in gangrene (Fig. 9-2).. For this patient, the ingrown nail should be trimmed periodically before the infection enters or remains in the buried portion of the nail and its root can be surgically removed for permanent eradication.

HAMMER TOE

The patient in (Fig. 9-3) has a hammer-shaped second toe. The top of the toe has intense pressure from the shoe that can easily cause ulcerations. Surgically, treated (Fig. 9-4), and there will be no more threats of ulceration.



Fig 9-3



Fig 9-4

The patient in (Fig. 9-5) has multiple hammer toes and a bunion. This type of foot deformity is commonly seen in diabetic patients, due to a motor neuropathy and therefore a weakness of the foot muscles. Hammer toes that are contracted are subject to excessive pressure, creating inflammation, callus formation, and often ulcerations above the toes. Unfortunately, this patient has poor foot circulation and cannot be considered a good candidate for any type of foot surgery. This patient underwent reconstructive surgery by a vascular surgeon. A few days after surgery, the patient underwent reconstructive foot surgery and healed without any complications (Fig. 9-6).



Fig 9-5



Fig 9-6

THE BUNION

The patient in (Fig. 9-7) has a bunion deformity. The pressure exerted by the shoe on the bunion can lead to an ulcer forming over the bunion. If we remove the bunion surgically and straighten the big toe, the patient will be free of any threat (Fig. 9-8).



Fig 9-7



Fig 9-8

Not all diabetic patients can be helped with foot surgeries. Podiatric surgeons with a vast amount of experience caring for diabetic feet can carefully select surgical candidates who are at high risk for developing foot ulcers. If the diabetes has been well controlled and the foot has a good blood perfusion, preventive foot surgery may be beneficial if the neuropathy threatens a foot ulcer.

TEST YOURSELF

(T F) True or false

1. T F Diabetics should not have foot surgery because of a healing problem.
2. T F Any diabetic feet with high probability of foot ulcers and infection should be considered for corrective foot surgeries before problems begin.
3. T F Poorly controlled blood sugar level leads to poor recovery from foot surgery.
4. T F It is very common that any surgery or accidental cutting on the foot can lead to gangrene.
5. T F In some diabetics, corrective surgery for bunions, hammertoe, callus and nail problems can be beneficial.

1. (F) 2. (T) 3. (T) 4. (F) 5. (T)