Quality of life and ulcer healing: The role of orthotics

Syd Brown is a Senior Orthotist, Halo Healthcare Ltd, Oldham.

Orthotists have a key role to play in the multidisciplinary footcare team. They are responsible for providing the footwear that will offload pressure from an ulcer, allowing dressings to work as effectively as possible in promoting healing. Their role is to assess and realign musculoskeletal deformities externally with devices such as insoles, shoes, calipers and knee braces. These are all individually measured and manufactured by the orthotist. As a part of the role, the orthotist gets to know the daily routine of the affected individual in order to enable the most effective method of offloading, 24 hours a day. Since the author became contracted as part of the team at Walton Diabetes Centre, Liverpool, (headed by Professor Geoff Gill and Dr Sue Benbow) there has been a marked improvement in terms of ulcer healing rates due to the use of orthoses.

The case study presented below illustrates the key role an orthotist can play in the multidisciplinary team.

Case study

Mr H (see *Box 1*) was referred to the author for footwear assessment when he developed a neuropathic ulcer on the fifth metatarsal head that became infected. The wound was being debrided three times a week and various dressings were used over the duration of the ulceration.

Previously, Mr H had been wearing shoes with a 6mm Poron 94 inlay (Algeos, Liverpool) to allow him to keep active. His feet were cast for offloading total contact insoles, and footwear was made for him to incorporate these. An offloading section was created to ensure that the pressure was removed from the ulcer region.

Mr H, as with many people, liked to wear his own shoes. The author explained that doing so could apply more pressure to the ulcer and so prevent healing, or cause the wound to enlarge. After several months of wearing the custom shoes and total contact insoles, and continued encouragement to stop wearing his own trainers, Mr H's ulcer was healing gradually. At this point the author discussed with him what footwear he wore at home if he removed his custom shoes, and what type of flooring he had throughout his house. It is important for the orthotist to know what activities are carried out around the clock in order to completely eliminate the pressure on the ulcer. Following this discussion it was agreed that Mr H would benefit from a Darco Wound Care Shoe (Mobilis Healthcare, Oldham) when not wearing his custom shoes and this was supplied.

One week later, Mr H returned to the clinic and explained that while the pressure relief was good, his gait was unstable due to the rocker unit on the base of the shoe being too high for him. However, this was easily rectified due to the flexible nature of the shoe. Mr H was advised to wear the shoe indoors whenever he was moving around (for example, while cooking or getting up in the night to use the toilet) in order to help the ulcer fully heal.

Over the next 6 months the ulcer reduced considerably in size and Mr H was very pleased that he could get about indoors and outdoors. However, he still wished to wear his own shoes on some occasions. He brought his trainers to the clinic for a full assessment in order to ensure that wearing them would not set back the improvement in the ulcer.

The trainers were much more shallow than the usual customised shoes and, using his knowledge of diabetic footwear, the author was able to make them suitable for occasional use. He carved a 4–5mm sinking point into the base sole of the trainer, applied a 2mm Poron insole and fitted a 2mm offloading pad from the first to the fourth metatarsal heads. The author informed Mr H that he could only wear these for short periods and that he would need to use the total contact insoles and custom shoes or the Darco Wound Care Shoe the rest of the time. Having had some success with this, the author also customised some of Mr H's other non-specialist footwear.

Mr H has the opportunity to attend the clinic whenever he needs to for any orthoses and every effort will be made to accommodate him; cases of this type should be urgently addressed due to the possibility of re-ulceration. In the author's experience, this is a level of service that more clinics in the UK should provide.

Mr H's ulcer has now healed and, in the author's view, the increased interaction between the orthotist and the rest of the multidisciplinary team has enabled this, along with an improvement in Mr H's quality of life.

Conclusion

In order to be able to provide optimal management for people with diabetes, it is essential to know their daily habits and be able to accommodate them. This is done in other areas of diabetes management, such as education and diet, but appears to be lacking in ulcer management. In the author's view, by helping provide a solution when an individual refuses to wear specialist shoes, the orthotist has a key role in the multidisciplinary team. ■

Box 1. Mr H's baseline characteristics.

Age: 59 years
HbA_{1c}: 5.8%
BMI: > 25kg/m^2

Complications
Sensory motor neuropathy
Proliferative retinopathy
Proteinuria
Erectile dysfunction
Atrial fibrillation
Previous renal failure
Asthma