Debridement of a Heel Ulcer Using the VERSAJET Hydrosurgery System

Summary
This case describes the use of the VERSAJET in the debridement of an ulcer on the heel of a diabetic patient. This technique is presented as an effective alternative in the treatment and cleaning of necrotic wounds.

Case History
An elderly diabetic woman suffered a heating pad burn on the heel of her right foot. The area affected was 6 by 8 cm. Surgery had been performed to remove the osteomyelitis of the heel and the patient had been treated for 3 months with enzymatic debriding agents and sharp debridement. These techniques had not been able to safely remove all the eschar without potentially deepening the ulcer to a point that may have caused a loss of the limb. It was felt that, continuing the use of these techniques, it may have taken an additional 3-6 months to achieve a clean, granulated wound bed. The novel VERSAJET surgical wound debridement system from HydroCision was used to debride the eschar and chronic wound. The complete debridement of the area took approximately 20 minutes, and left a granular wound bed.

Upon completion of the debridement of the wound, antibiotics and a dressing were applied to cover the affected area. The condition of the ulcer was verified with a follow-up visit 1 week after the procedure. The follow-up revealed a clean, granular, uninfected wound bed with an increased likelihood of closure. The cleaned wound bed enabled the use of synthetic skin graft products which allowed the depth of the wound to be resolved. This resulted in a reduction in wound diameter.

Discussion
The VERSAJET produced a clean, consistent wound bed, selectively removing only the tissue to be debrided. The suction action of the fluid jet has advantages in cases of infected wounds in that the infected tissue is removed from the site of the wound. Additionally, this mode of cutting does not result in driving infected material further into the wound, nor leaving swollen tissue, as can be the case in the use of pulsed lavage. This results in a cleaner and more thoroughly debrided wound bed that has the potential to heal far more expeditiously than a bed prepared using conventional treatments. This case highlights the short-comings of using traditional sharp instrumentation and enzymatic debridement. These techniques were unable to adequately prepare the wound for effective healing, and this may have eventually contributed to the loss of the affected limb. Whereas one procedure with the VERSAJET not only effectively cleaned the wound, but also kept the wound-size as small as possible, with less loss of viable tissue, leading to the successful application of a skin graft.

Conclusion
With the VERSAJET system, wounds can be debrided in a more controlled manner, resulting in a fast and clean procedure that, in this case, may have saved the patient’s limb. The VERSAJET is an effective addition to the toolkit of medical professionals dealing with a variety of challenging wound types.