Optimising Wound Bed Conditions in Diabetic Foot Ulcers Using Hydroconductive Debridement Dressings

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Introduction:
- Diabetic Foot Ulcers (DFU) are complex, often chronic, wounds which can have potential long-term effects on morbidity, mortality and life quality.
- DFUs are multi-factorial and particular one to non-healing and episodes of infection which are difficult to diagnose due to a poor presentation.
- Provision of wound dressing is an essential tool to achieve rapid wound closure and minimize complications.
- Debridement is a key component of optimising wound bed conditions, and excess matrix metalloproteinases (MMPs) and management of moisture levels to achieve effective wound bed preparation (WBP) and promote healing.
- Alternative methods to sharp debridement for maintenance debridement and WBP need to be utilized between specialist appointments by non-trained clinicians.
- Drawtex Hydroconductive Debridement dressings utilize LeaFiber technology which allows the dressing to absorb many times its own weight in fluid, wicking exudate, microbes and cells into and across the dressing and loosening denatured tissue to remove all the barriers to healing.

Method: Four patients with sloughy, moderate to highly exuding DFU whose signs of delayed wound healing were included from specialist podiatry clinics.
- Drawtex was cut to the size of the wound and applied in 2-3 years with a suitable secondary dressing or bandage used to secure.
- Patients received appropriate pressure relief and offloading as indicated.
- Wound assessment, measurements and photographs were taken weekly for up to 15 weeks or until the wound bed was adequately prepared and showing signs of healing.

Case Study 1 - Week 6
- Wound Duration: 24-Weeks
- Wound Size: 4 x 3 x 0.4 cm
- 20% Slough
- Highly Exuding

Case Study 2 - Week 6
- Wound Duration: 18-Weeks
- Wound Size: 3.5 x 1.7 x 0.3 cm
- 80% Granulation
- Moderately Exuding

Case Study 1 - Week 7
- Wound bed now 100% Granulation with evidence of good epithelisation

Case Study 2 - Week 15
- Complete epithelisation

Results:
- All four wounds showed evidence of increasing granulation tissue and epithelialisation, demonstrating removal of devitalized tissue and reduction in wound size and depth.
- Exudate levels were well-controlled and integrity of the surrounding skin was improved and maintained.
- There were no reported incidences of infection.
- Patients found the dressing comfortable when in situ.

Discussion and Conclusion:
- Drawtex Hydroconductive Debridement dressings exhibited effective WBP of DFU through debridement of devitalized tissue, achievement of good moisture balance and control of bioburden.
- Necrotic, cellular and bacterial burden affect wound healing — the multiple modes of action of Drawtex Hydroconductive Debridement dressings provide a straightforward way of addressing these burdens which can be utilised by any clinician caring for DFU.
- Hydroconductive debridement can potentially reduce the negative effects on patients and hence on the health service and the economy through availability of a probable cost-saving method of managing difficult and challenging wounds like DFU, although this would require formal cost-effectiveness studies.

This different dressing technology can be used as a first line treatment strategy for efficient and simple maintenance debridement of DFU, removing the barriers to healing and minimising the risk of infection, allowing the wound to begin to progress through the normal stages of healing.