

# The Management of Highly Exuding Diabetic Foot Ulcers Using ActiveHeal®

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## INTRODUCTION

Diabetes Mellitus occurs "...when there is an inadequate uptake of glucose by the cells of body resulting in raised blood glucose levels"<sup>1</sup>. Type 2 diabetes affects approximately 85% of all people living with diabetes in England<sup>2</sup>, and imposes additional clinical constraints when selecting appropriate treatment of the resulting wounds.

Diabetes mellitus Type 1 and 2 are associated with a markedly increased risk of developing atherosclerosis. Atherosclerosis is the commonest cause of arterial disease and is responsible for nearly 90% of all western world arterial disease<sup>3</sup>. Although the link between diabetes and the development of atherosclerosis is not fully understood it is thought that hyperglycaemia plays a direct role in the acceleration of atheroma formation<sup>4</sup>.

This poster presents a retrospective review of two case studies of two diabetic patients who had toes amputated. Both patients developed highly exuding wounds at the amputation site post operatively, thus the choice of an appropriate dressing was a major consideration to prevent further complications. This review was conducted to show that ActiveHeal® Alginate and ActiveHeal® Foam work together effectively to manage highly exuding wounds.

## METHOD & RESULTS

The wounds were treated with ActiveHeal® Alginate and ActiveHeal® Foam. Such use of an alginate, as a wound contact layer, backed by an absorbent foam has been shown to be one of the best dressing combinations for the management of exuding wounds.

### PATIENT A

Mr A was a 78yr old Type 2 diabetic, with a history of congestive cardiac failure, atrial fibrillation, peripheral vascular disease. He had previous lower limb stenting for his lower limb ischaemia. Mr A had also undergone an amputation of his greater, second and third toe for tissue necrosis secondary to his diabetes and associated PVD.

Mr A was admitted to hospital with a non-healing amputation site on his left foot, this had been problematic for over 6 months. He was investigated for his underlying vascular disease, commenced on bed rest to reduce his lower limb oedema, antibiotics to reduce secondary infection and dressing therapy to try to manage the exudate and promote healing.

**22.5.06:** Mr A's treatment with ActiveHeal® Alginate and ActiveHeal® Foam commenced (Photo 1).

**25.5.06:** The wound was reviewed 3 days later, and was showing signs of improvement. The wound bed was narrower and shallower (Photo 2).

**31.5.06:** The wound was reviewed on day 9 and the wound continued to show signs of healing. However there were signs of maceration in the distal aspect of the wound, this was as a result of the patient having his limb dependant to relieve his ischaemic pain (Photo 3).

**8.6.06:** The patient underwent an angioplasty which improved the perfusion of his limb. This reduced his pain and facilitated wound healing as he was now able to tolerate his leg being elevated to reduce dependency oedema.

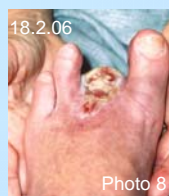
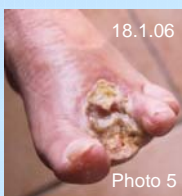
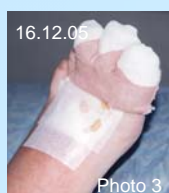
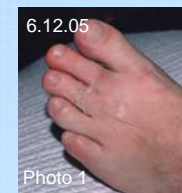
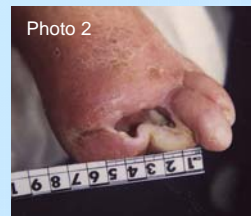
The wound continued to be managed with ActiveHeal® Alginate and ActiveHeal® Foam. There are no photographs of the wound at this time as he was transferred to CCU as he had developed heart failure.

His condition gradually improved and he was transferred back to the surgical setting.

**4.7.06:** Continued improvement of wound which had reduced in size dramatically and healing was almost complete (Photo 4).

Mr A continued to improve and was subsequently transferred to a tertiary care setting prior to complete healing.

Unfortunately Mr A has since died and we do not have any further photographs of the wound.



### PATIENT B

Mr B is a 55yr old Type 2 diabetic with peripheral neuropathy, he was on honeymoon on a cruise ship when he accidentally scalded his foot in the bath (Photo 1). Unfortunately due to the location (cruise ship), he did not receive the most appropriate care to reduce his risk of infection (Photo 2).

Mr B presented to hospital 20 days after the initial injury, he had been treated with low dose oral antibiotics and non-adherent dressings (Photo 3).

However he had unfortunately developed a gangrenous toe with associated osteomyelitis (Photo 4). Mr B subsequently underwent surgical amputation of his second and third toes on his left foot.

Post surgery Mr B's wound at the amputation site was assessed by the vascular nurse specialist and found to be highly exuding. The decision was taken to dress the wound with ActiveHeal® Alginate and ActiveHeal® Foam to manage the exudate (Photo 5)

Mr B's wounds healed after 9 months, but due to wound infection and subsequent increase in exudate it was necessary to use Total Negative Pressure Therapy at times during the course of the treatment, in order to achieve this outcome.



## CONCLUSION

ActiveHeal® products are intended as a "First-Line"<sup>5</sup> clinical choice in that, whilst applicable to the majority of wounds, they are not intended to replace all other wound care products. Changing to Total Negative Pressure Therapy to manage increased exudate when patients' needs dictated is a clear example of the need to continually reassess the condition of both the wound and patient, and willingness to change to a more specialist treatment, if so indicated, to achieve a positive outcome.

This review of 2 case studies has shown that the combination of an ActiveHeal® Alginate and ActiveHeal® Foam was found to manage the wounds adequately, without any discernable increase in dressing change frequency. The use of the alginate and foam in combination was found to be effective.

<sup>1</sup> Pocock G, Richards, C D, 2004 "Human Physiology. The basics of medicine" 2<sup>nd</sup> Ed. OUP: Oxford 206-8

<sup>2</sup> Dept of Health, 2001, National Service Framework for Diabetes: Standards.

[www.de.gov.uk/publicationsAndstatistics/](http://www.de.gov.uk/publicationsAndstatistics/)

<sup>3</sup> Robertson W B 1967, International atherosclerosis project. Pathologia Microbiologia 30 (5): 810-16

<sup>4</sup> Wood D et al 1998 Prevention of Coronary Artery Disease in Clinical practice: Recommendations of the second JSFESCP. European Heart Journal. 19: 1434-1503

<sup>5</sup> Timmons J., "Third Line Therapies", Wounds UK Woundcare E Newsletter July 2006