

# FLAMINAL® IN THE MANAGEMENT OF A NEURO-ISCHAEMIC FOOT ULCER

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## Introduction

At any one time approximately 68,000 people in England have a diabetic foot ulcer,<sup>1</sup> with this figure projected to rise as the number of people with Diabetes increases year on year. It is estimated that 1 in 12 people across the world have diabetes, with one person with diabetes-related complications (often preventable), dying every 7 seconds across the world.<sup>2</sup> There are considerable costs; not only to the patient, associated with DFU and their sequelae, but also to the NHS. Annual costs are estimated to be between £629 million and £786 million with 46% of patients with severe ulceration accounting for 80% of the costs.<sup>3</sup>

This case study describes the management of 74 year old John; a morbidly obese male with a complex history of Type 2 diabetes, congestive heart failure and malignant neoplasm of prostate and colon, who developed a rapidly deteriorating neuro-ischaemic ulcer to his left heel.

## Method

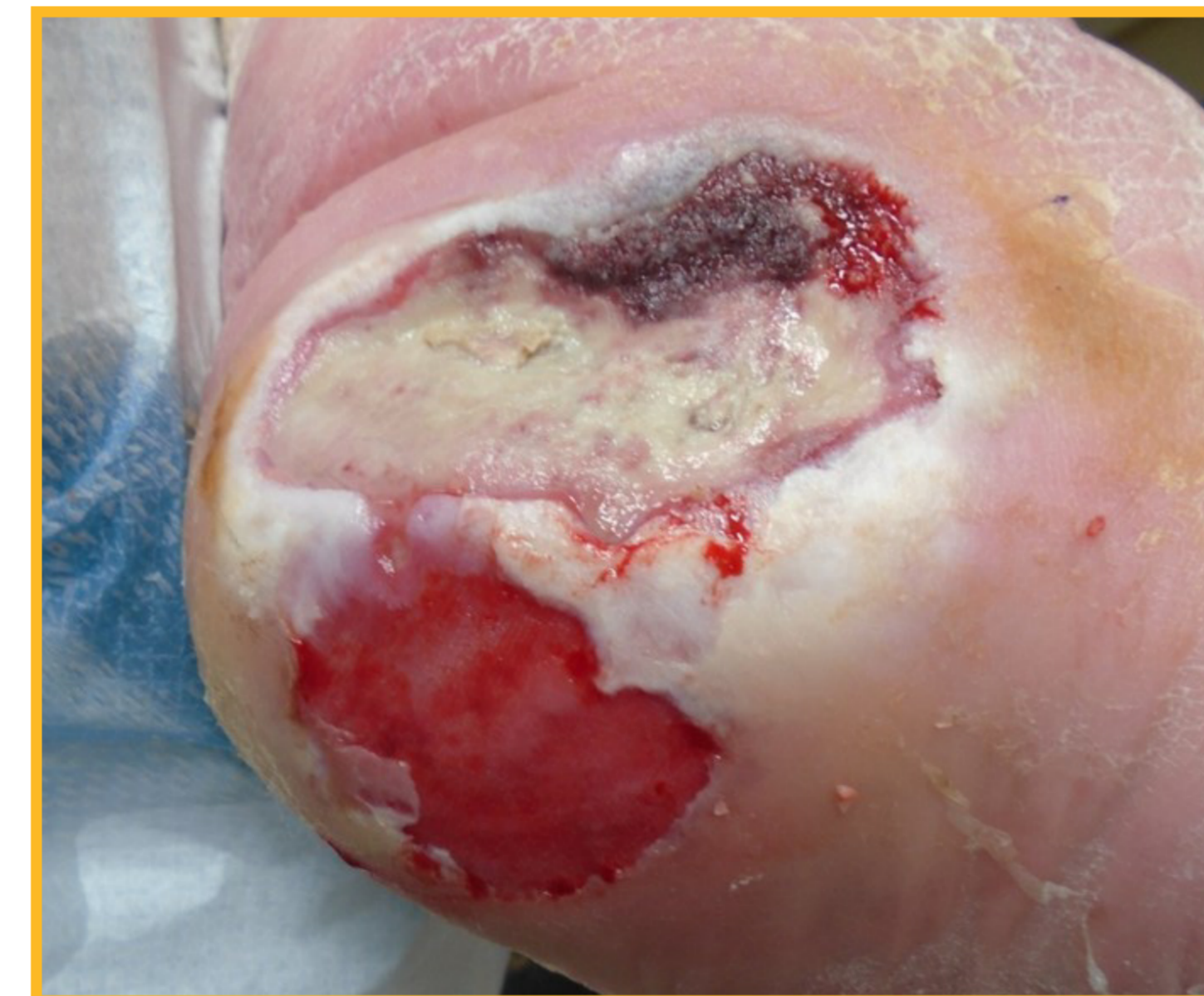
John had a heavily exuding and malodorous ulcer measuring 12cm x 8 cm (depth unknown) containing 50% slough, 20% necrosis and 30% granulation tissue. He was systemically unwell with a spreading cellulitis and oedema coupled with raised markers of an inflammatory process, namely raised CRP (C Reactive protein) and White Cell Count (WCC). He was admitted to hospital for IV antibiotics, debridement and bed rest, with members of the multi-disciplinary team involved in his care thus ensuring pressure relief and metabolic control were also addressed.

It was important that the team were able to determine the depth of ulceration by autolytically debriding the devitalised tissue which was hindering healing and providing a reservoir for bacterial growth and infection. The area was cleansed with Prontosan solution prior to the application of Flaminal® Forte (Flen Health), an Enzyme Alginogel® containing two antimicrobial enzymes (glucose oxidase and lactoperoxidase), with a higher proportion of alginate than its Hydro sister. This was selected due to the high exudate levels, with a superabsorbent pad as a secondary dressing. It was important that the wound bioburden was reduced and the exudate controlled. John's dressings were initially changed every 2 days, this gradually reduced to every 3 days.

## Results

Within two months John was discharged home under the care of the District Nurses with the area reduced to 5cm x 4cm, clean and shallow containing moderate levels of exudate. John required his dressing to be renewed every 3-4 days, the oedema and cellulite had significantly decreased and there was no longer any odour from the wound. Treatment continued with Flaminal® Forte to minimise the risk of further infection and to ensure the continuous debridement of John's chronic wound to prevent the development of biofilms. After a further 4 months John's wound had almost healed with no further episodes of infection.

Day 1



3 months



6 months



7 months



## Discussion

The lifetime risk for an individual with diabetes developing a foot ulcer is 25%, with up to 85% of all lower limb amputations in diabetes preceded by foot ulceration<sup>4</sup>. There is the ever-present risk in diabetes of a more serious deep tissue infection that can be limb-threatening or even life-threatening.<sup>5</sup> Devitalised tissue is a barrier to healing with necrotic tissue and slough acting as a reservoir for microorganisms and biofilm formation<sup>6</sup> which impedes healing.<sup>7</sup> Devitalised tissue also increases odour and exudate and can mask the true extent of a wound.<sup>8</sup>

Flaminal® with its alginate polymers and enzymes has a proven broad-spectrum antibacterial activity<sup>9</sup> with the ability to inhibit biofilm formation<sup>10</sup>, thereby helping to control bioburden whilst absorbing exudate. The emphasis in wound care for DFUs is repeated debridement, frequent inspection and bacterial control and careful moisture balance to prevent maceration.<sup>11</sup>

## Conclusion

The management of diabetic lower-extremity ulceration is a challenge for all members of the MDT especially when treatment is complicated by other factors as in John's case. Flaminal® enabled the team to address several key issues, namely devitalised tissue, bioburden and exudate in one primary dressing thus negating the need for multiple products. The team were able to utilise Flaminal® throughout the healing trajectory thus minimising potential waste of products, since Flaminal® can be utilised for up to 2 years from opening.

### References

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