Central London Community Healthcare NHS
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Evaluation of a new debridement method for sloughy wounds and hyperkeratotic skin for a non-specialist setting.

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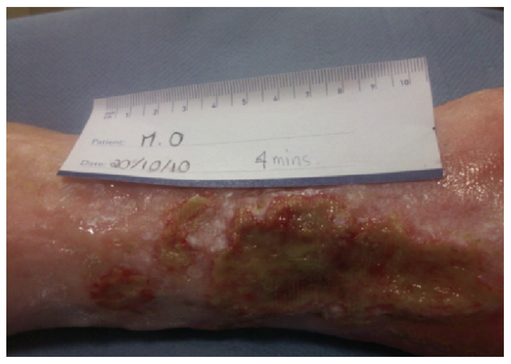
Picture 1- Before treatment with the active debridement system



Picture 2 - Four minutes after treatment with the active debridement system

Picture 3 – Hyperkeratosis before the active debridement system treatment

Picture 4 – Five minutes after treatment with the active debridement system

Introduction

Devitalised tissue may present as slough or necrotic tissue within a wound or it may form dead, scaly tissue as hyperkeratosis in the periwound area of chronic wounds.

It is well recognised that removing this tissue is the first step to preparing a wound to heal, but there is a lack of standardised guidance on debridement practice in the UK (Gray et al, 2011).

There are several reasons why debridement should be undertaken as soon as possible, for example it can mask or mimic the signs of infection, it can serve as a nutrient for bacteria, it acts as a physical barrier to healing and it can be malodorous.

There are many different techniques available to achieve debridement but few are able to be undertaken by the non-specialist nurse.

Aim

The aim of this study was to evaluate a new method of debridement for the non-specialist setting. It follows on from a European pilot study demonstrating that a new monofilament fibre technology was easy, fast, highly efficient, well tolerated and cost effective (Haemmerle et al, 2011).

This active debridement system* is a soft, fleecy 10cm x 10cm pad containing 18 million fibres, or monofilaments, and is composed of 100% polyester. The tip of each fibre is cut at an angle and is a special length and density to enable it to actively loosen debris e.g. slough, necrosis and hyperkeratosis, binding it to the fibres within the pad.

Method

An evaluation study compared the new intervention with standard best practice in the clinic. This was a variety of debridement methods, for example, autolytic debridement. Autolytic debridement is also a debridement method that can be used in the non-specialist setting. One of the disadvantages of autolytic debridement, however, is the length of time needed to achieve the desired result (Benbow, 2011).

Patient consent was obtained and treatment was measured on standardised case report forms.

Results

Ten patients completed the study. The debriding product was easy to use, removing devitalised tissue and hyperkeratosis more quickly than standard treatment.

Time to treat was decreased and patients found the treatment comfortable, as the case studies demonstrate.

Case Study 1

This is a lady with a history of a venous leg ulcer for 3 years. She had previously had compression therapy but had developed a pressure ulcer whilst being treated, and the leg ulcer was thought to have developed an arterial component. Therefore, compression therapy was discontinued and is currently not in use (Picture 1).

For 2 years the nurses had attempted to debride the wound with various types of debridement, including autolytic debridement, and larvae therapy, but with limited success. Larvae therapy had worked, but the slough returned after treatment. The GP was reluctant to prescribe larvae again because of the cost of the therapy.

The lady's ulcer was very painful most of the time and she was very anxious about the prospect of further debridement. The nurse allowed the patient to see and touch the new soft fleecy pad that was hopefully going to be used, and she was happy for the nurse to go ahead and evaluate the new debridement system.

The new active debridement system achieved debridement in 4 minutes with a Visual Analogue Score of 0, no pain or discomfort while the wound was being cleansed (Picture 2).

Case Study 2

This lady suffered from very thick hyperkeratosis and also had a small ulcer (Picture 3). She applied her own emollients on a daily basis but did not wash them off thoroughly enough. As a result there was a build-up of skin and emollients and when she removed her compression hosiery at night she suffered severe itching. Because the hyperkeratosis was so thick, the emollients were not getting through.

Following consent, the new active debridement system was used to try and remove the hyperkeratosis and this was very successful (Picture 4) causing no pain or discomfort whilst the skin and wounds were cleansed (Visual Analogue Score of 0).

Conclusion

Periwound skin and wound bed preparation are essential components of wound management. This needs to be undertaken as soon as possible by the assessing health care professional, without the delay of referral to a specialist team. This new debridement system can be applied to many sloughy and necrotic wounds and hyperkaratotic skin which is ideal for use in the non-specialist area and has been shown to be fast, safe and effective at wound and periwound skin debridement.

References

Gray D, et al (2011) Consensus guidance for the use of debridement techniques in the UK. Wounds UK 7(1) 77-84.
Haemmerle G, Duelli H, Abel M, Strohal R (2011) The wound debrider: a new monofilament fibre technology. British Journal of Nursing (Tissue Viability Supplement). 20(6) S35-42.
Benbow M (2011) Debridement: wound bed preparation. Journal of Community Nursing. 25(3) 18-23

* Debrisoft - The Active Debridement System from Activa Healthcare.

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