

25yr old male Sickle Cell disease. Static leg ulcer. Increased pain. Unable to tolerate compression.

Reduced pain after first dressing change with HRWD®. Able to tolerate compression.

Quality of Life: Able to return to university life.

# Improving pain and promoting wound healing using a Hydro-Responsive Wound Dressing in a sickle cell patient with chronic venous leg ulceration

By Millicent Laryea, Deputy Team Manager, Leg Ulcer Clinic, Islington and Haringey, Whittington Health

## Introduction

When devitalised tissue is not removed from a wound bed it has a deleterious effect on the healing process by stalling the wound in the inflammatory phase.<sup>1</sup> This case study shows the rapid debridement of a wound using a Hydro-Responsive Wound Dressing (HRWD®), which moved what was a complex wound forward towards healing and improve the patient's outcomes and quality of life.

## Patient background

The patient is a 25 year old gentleman and attends the local university on a regular basis. His past medical history includes sickle cell disease and a previous occipital stroke. Current medication includes codeine, paracetamol, gabapentin and folic acid. Leg ulceration can be a chronic complication of sickle cell disease<sup>2,4</sup> and this gentleman had suffered with a leg ulcer in the past which took 6 months to heal with compression therapy. Prior to attending his local leg ulcer clinic, he had a recent admission to hospital for cellulitis. His wound was stuck on the inflammatory phase, despite using Honey, Iodine and Paste bandage dressings for more than 6 weeks. Slough was not lifting and there was no new granulation tissue evident.

## Treatment challenges

Reduce patient pain allowing the application of full compression to treat his venous leg ulcer. Encourage wound healing progression whilst also preparing the wound bed to facilitate same.

## Treatment

The gentleman was first seen 12.1.18 and full assessment was completed. His doppler results indicated his ulcer was venous in aetiology with ankle brachial pressure index (ABPI) of 1 to both legs. Pain was an issue as the patient was not able to tolerate full compression which is the ideal treatment for a venous ulcer. Pain is a major concern with wound care and can impact a patient's quality of life, effect treatment compliance and delay treatment.<sup>3</sup> A treatment plan was commenced using a polyhexamethylene biguanide (PHMB) wound gel, non-adhesive wound contact layer and a super absorbent dressing secured with reduced compression bandages due to patient's pain levels. Dressing changes were 3 times a week in clinic. On the 15.6.18 the ulcer to right lateral malleolus extending up into gaiter measured 9.8cm x 5cm and the wound bed consisted of 80% unhealthy granulation, 10% slough and 10% epithelial tissue. A HRWD® was applied to the ulcer to debride, reduce pain and maintain a moist environment to encourage re-epithelialisation. A super absorbent dressing was applied as a secondary with reduced compression bandages.



15.06.2018 9.8cm X 5cm



27.07.2018 9.7cm X 4.8cm



20.08.18 8cm X 4.5cm



21.09.18 7.8cm X 4.2cm



01.10.18 6cm X 2cm

## Results

Pain had reduced by the patients next dressing change which was 3 days after the first application of HRWD®, and full compression was commenced 2 weeks after starting the treatment. Dressing changes reduced to twice weekly as exudate levels declined. At the dressing change on the 24.8.18 the wound had reduced in size to 8cm x 4.2cm with 100% granulation tissue and the patient had experienced no infections or episodes cellulitis during treatment. He had been able to resume normal university life wearing less obtrusive foot wear improving his QoL. Although the dressing debrided the wound rapidly the decision was made to continue with the dressing as the wound continued to improve and pain was reduced.

## References

1. Barrett S. Wound bed preparation: a vital step in the healing process. BJN 2017;26(12)
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  3. Mudge E., Spanou C and Price P. A focus group study into patients perception of chronic wound pain. Wounds UK 2008; vol 4, No 2
  4. Ware R, Montalembert M et al (2017) Sickle cell disease. The Lancet, 390 (10091): 311-323
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