

# Favorable Treatment Outcomes of Painful Chronic Leg Ulcers with the Use of a New Active *Leptospermum* Honey Impregnated Calcium Alginate Dressing\*

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## INTRODUCTION

Active *Leptospermum* honey was cleared by the Food and Drug Administration in July of 2007 for use in wound and burn dressings. There is a growing body of evidence which supports the use of medical grade honey for the unique challenges of healing patients with chronic, non-healing wounds.<sup>1</sup> This prompted a trial of Active *Leptospermum* Honey Impregnated Calcium Alginate Dressings (HICADs)\* for a group of patients with non-healing leg ulcers in our wound center.

## OBJECTIVE

The goal of this trial was to determine the efficacy of Active *Leptospermum* HICAD on four patients with venous insufficiency and chronic, non-healing ulcers of the lower extremities.

## MECHANISMS OF ACTION

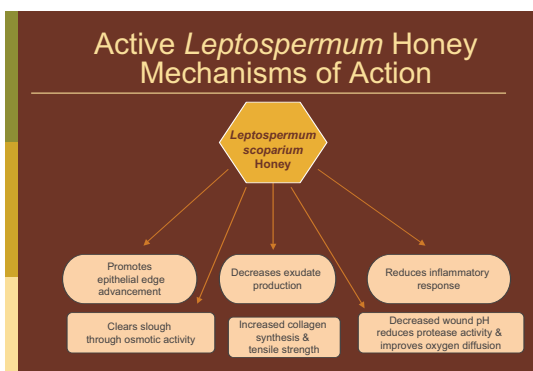
Active *Leptospermum* honey has unique plant derived components as well as a low pH and high osmolarity. The plant derived components contribute an immuno-modulatory effect and contribute strong ant-oxidant activity.<sup>2</sup> Lowered wound pH has been associated with a reduction in wound size.<sup>3</sup> High osmolarity draws fluid from surrounding tissue and from deep within the lymph system, decreasing edema and breaking down necrotic tissue.

## METHODS

Four patients were enrolled in this case series. Each patient received application of an Active *Leptospermum* HICAD with an appropriate secondary dressing three to five times weekly as exudate dictated. Each patient also received tubular compression bandaging for edema management. The wounds were assessed at each dressing change. The following data was collected weekly: wound measurements, amount of exudate, report of pain, and wound bed status.

### References:

- Molan, P. (2006). The evidence supporting the use of honey as a wound dressing. *International Journal of Lower Extremity Wounds*, 50(1), 40-54.
- Tonks, A.J., Dudley, E., Porter, N.G., Parton, J., Brazier, J., Smith, E.L. et al. (2007). A 5.8 kDa component of manuka honey stimulates immune cells via TLR4. *Journal of Leukocyte Biology*, 82, 1-10
- Gethin, G. T., Cowman, S., & Cowman, R.M. (2008). The impact of Manuka honey dressings on the surface pH of chronic wounds. *International Wound Journal*, 5 (2), 185-194.



### Body of Evidence

Use of honey in wound management

| RCTs           | 17 | 1965 patients |
|----------------|----|---------------|
| Cohort studies | 5  | 97 patients   |
| Animal studies | 16 | 533 wounds    |

Molan (2006) Lower Extremity Wounds 5: 40-54

## CONCLUSION

All four patients in this case series demonstrated positive outcomes with the use of this dressing for leg ulcers. Active *Leptospermum* HICAD fit well into our practice standards for this population. Further investigation to enhance the evidence base for this new topical wound care dressing must be done at all levels (randomized controlled trials, cohort studies, case studies) to support ongoing product use for leg ulcers and a wide variety of wound types.



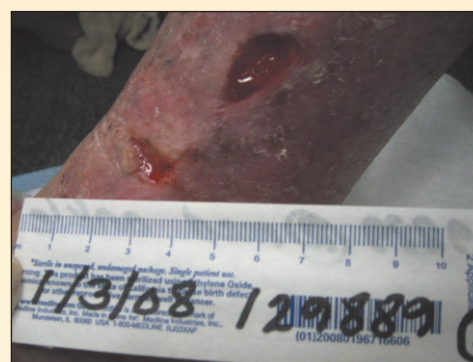
1.5cm x 0.7cm x 0.3cm  
1.0cm x 0.3cm x 0.1cm



Healed

### Patient #1:

86 y/o female with CVI presented with two open venous ulcers of two months duration. The ulcers were covered with 100% eschar and scant serous exudate was noted. The patient reported 10/10 on the visual analog pain scale. Active *Leptospermum* HICADs were initiated. The eschar was rapidly debrided, exudate decreased and pain gradually diminished. By week 4 the pain was eradicated. By week 5 the wound was completely healed.



2cm x 2.4cm x 0.2cm



0.4cm x 0.4cm x 0.1cm

### Patient #3:

A patient with CVI presented with a 6 month old traumatic wound. No overt signs of infection were noted however the wound bed was deep red and friable, suggesting critical colonization. Active *Leptospermum* HICADs were initiated. The wound bed improved rapidly and a 94% reduction in wound size was noted by week 3.



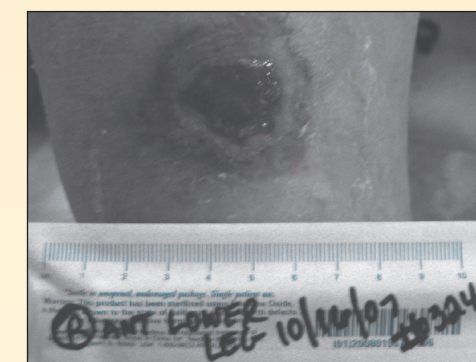
1.7cm x 2.7cm x 0.6cm



Healed

### Patient #2:

A patient with CVI presented with a 3 month old, exquisitely painful medial leg ulcer. Pain was 11/10 on a visual analog scale. 100% adherent slough, moderate amount of yellow exudate and bright red periwound skin were noted. Active *Leptospermum* HICADs were initiated. The slough was rapidly debrided, the exudate decreased and pain was diminished to 4/10 on a visual analog scale. The wound was completely re-epithelialized in 9 weeks.



1.9cm x 1.0cm x 0.3cm



Healed

### Patient #4:

A 85 y/o With CVI presented with a painful one year old venous ulcer. The patient reported pain to be 10/10 on a visual analog scale. The patient verbalized frustration with lack of healing over the past year. The wound was debrided, Active *Leptospermum* HICADs were initiated. The patient reported being pain free after 24 hrs. As she was healing, her plan of care was augmented to include electrical stimulation. Complete healing was achieved by week 8.