

ABSTRACT: Presented at The Symposium on Advanced Wound Care (SAWC), Atlanta, GA May 2016, and Las Vegas, NV October 2016

Leva Fiber Skin Contact Layer, Fuzzy Wale Elastic Textile & Short Stretch Cohesive Wrap Enhances Venous Leg Ulcer Healing; healing stasis dermatitis decreases skin pain and enables delivery of robust compression

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Problems

Improvements in elastic compression dressing therapy for venous leg ulcers (VLUs) follow advances in textile engineering. Christine Moffatt utilized soft polyester batting, like the cotton batting of Robert Jones dressings, in contact with painful dermatitis in peri-wound skin to decrease pain and improve tolerance of elastic compression.¹ We observed that Leva fiber*, as a replacement for batting, appears to have a direct salutary effect on painful peri wound stasis dermatitis often with troublesome maceration and bacterial colonization.²

In 2006, Kozeny observed longitudinal fuzzy wale elastic compression stockinet**, the second layer in this dressing, to be effective for moving water out of subcutaneous fat, reversing the pathophysiology of venous insufficiency and healing refractory VLUs.³ Treadwell observed ulcer healing benefits of short stretch therapy to increase dressing working pressure during ambulation and to reduce resting pressure.⁴ The third layer of this dressing is a short stretch random open weave cohesive wrap that facilitates water evaporation and heat disbursement to improve patient comfort.

Methods

A thin Leva fiber skin contact layer* and a tapered fuzzy wale stockinet** were used to treat two patients with refractory VLU's over a 4 week period. Photos document details of therapy, improvement of stasis dermatitis, and ulcer healing.

Results

Levels of skin pain, clearing of peri-wound stasis dermatitis, and wound bed preparation was documented in photographs.⁵ Results are compared to standard of care controls.

Conclusions

A thin Leva fiber* skin contact layer appears to: 1. improve peri-wound stasis dermatitis decreasing pain in the limb under fuzzy wale elastic compression therapy for VLU's, 2. control skin maceration by wound exudate, perhaps by evaporation, and 3. speed wound bed preparation in compression dressings in place for 3 to 7 days.

References

1. Christine J. Moffatt, *Randomized trial of four-layer and two-layer bandage systems in the management of chronic venous ulceration*. Wound Repair and Regeneration Volume 11, Issue 3, pages 166–171, May 2003.
2. Wisnieski L., Winkler M., *Refractory Wound Lymphorrhea responds to Longitudinal Yarn Elastic Compression: yarn focused compression preserves patent subdermal lymphangions to decrease lymphatic hypertension*. The Symposium on Advanced Wound Care (SAWC), Dallas, TX, April 2011
http://www.compressiondynamics.com/compress_links/Poster_SAWC_ObesePtwithDifficultWounds_090109.pdf.
3. Debra Kozeny, K Stott, *Longitudinal yarn compression textile: An innovative treatment for leg swelling*, J of Vascular Nursing, September 2007, Volume 25, Issue 3, Page 62.
4. Treadwell, TA, *A randomized controlled 8-week crossover clinical evaluation of the 3M™ Coban™ 2 Layer Compression System versus Profore™ to evaluate*

the product performance in patients with venous leg ulcers. International Wound Journal. Volume 5, Issue 2, pages 267–279, May 2008.

5. Gary Sibbald, Liza Ovington, *Wound Bed Preparation 2014 Update*, Advances in Skin & Wound Care, March 2014 V27, Supplement, 1-13.

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