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Four Layer VLU Compression Dressing Appears Safe for Arterial Ischemia: Moving Water from Subcutaneous Fat is Salutary for Skin Perfusion

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Purpose

Moffatt, at Charring Cross London, introduced four layer dressings for venous leg ulcers that have been widely embraced around the world. [1, 2, 3] After extensive use, initial concerns about arterial necrosis due to excessive concentric compression layers have not been realized. Initial Doppler pressure, ABI, guidelines, set up to protect from ischemic complication, stated '… compression is not usually recommended with an APBI of lower than 0.8,' are not well supported by clinical data.[4,5]

Kozeny introduced focused fuzzy wale elastic compression (FWC) stockinet in 2007 that limits compression to 20% of the skin surface and rapidly moves water out of subcutaneous fat.[6] No Doppler blood pressure guidelines were advocated. This case series, and extensive clinical use suggests that FWC is not only safe, but **may be therapeutic** for at risk ischemic skin

Methods

FWC was used as the elastic engine of a four layer dressing to treat four chronic VLUs with co-morbid profound arterial ischemia.

Results

Photos document technical details of therapy and the healing of all wounds.

Conclusion

FWC appears safe for the elastic compression of VLUs with co-morbid arterial occlusive disease. The observation of rapid VLU healing in spite of low ABI values raises the possibility that focusing fuzzy wale compression on 20% of the skin surface improves arterial perfusion.

References

1. Moffatt, Christine; Four-layer bandaging: from concept to practice Part 1: Application of the four-layer system, **http://www.worldwidewounds.com/2004/december/Moffatt/Developing-Four-Layer-Bandaging.html#summary**

2. Moffatt, Christine; Four-layer bandaging: from concept to practice Part 2: Application of the four-layer system, **http://www.worldwidewounds.com/2003/september/Thomas/New-Compression-Bandage.html**

3. Franks PJ, Moffatt CJ, Connolly M, Bosanquet N, Oldroyd MI, Greenhalgh RM, et al. Factors associated with healing leg ulceration with high compression. *Age Ageing* 1995; 24(5): 407-10.

4. RCN Institute, Centre for Evidence-Based Nursing, University of York, School of Nursing, Midwifery and Health Visiting, University of Manchester. *Clinical practice guidelines: the management of patients with venous leg ulcers*. London: RCN Institute, 1998.

5. Marston W, Vowden K. Compression therapy: a guide to safe practice. In: *Understanding compression therapy: EWMA Position document*. London: MEP Ltd, 2003; 11-17.

6. Kozeny D, Stott K, Longitudinal yarn compression textile: An innovative treatment for leg swelling**.** Journal of Vascular Nursing Volume 25, Issue 3 , Page 62, September 2007.

Product Suppliers

* EdemaWear®, EdemaWear LITE™, Compression Dynamics LLC, Omaha, NE; Staytex™, Anacapa Technologies Inc., San Dimas, CA

** Vashe®, PuriCore, Malvern, PA

*** SonicOne®, Misonix Inc., Farmingdale, NY

**** Apligraf®, Organogenesis Inc., Canton, MA

***** SilverHawk™ Plaque Excision System with Proprietary MEC Technology, Coviden, Plymouth, MN