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Compression Therapy with Textile Dressings: Evolution of fuzzy dressings for treatment venous leg ulcers.

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Background: Current treatment of venous stasis dermatitis and venous leg ulcers (VLU) with three and four layer dressings has historical roots in Robert Jones' dressings. (1) Jones dressings immobilized limbs after fractures and after surgery during World War One. Thick cotton batting compressed with tight wrapping was salutorius for healing. After WW2, cotton batting based compression dressings stabilized skin grafts but fell from favor for orthopedic use. For skin reconstruction, the Jones dressing established the fundamental of a soft, fuzzy textile interface with healing skin surface.

Kozeny reported a novel textile delivering elastic compression with fuzzy yarn, Longitudinal Yarn Compression* (LYC) in 2006.(2)

This first human use study asks two questions: *Is LYC safe as the compression generating first layer of a four layer dressing? Is LYC textile a superior elastic compression generating engine in a four layer dressing?*

Methods: Four patients with VLU's were treated with four layer dressings. Layer #1: LYC elastic textile, Layer #2: "therapeutic" foam, alginate, powders, etc. above layer #1 but still in contact with the wound surface, Layer #3: cast padding, Layer #4: Cobam.

Results: Photos document treatment technique. All wounds healed.

Conclusions: Longitudinal Yarn Compression textile appears safe as an elastic first layer of a four layer dressing. LYC stockinet may be a superior engine to generate elastic compression for multi-layered dressings to treat venous leg ulcers.

References:

1. Nicky Cullum, Trevor A Sheldon. A systematic review of compression treatment for venous leg ulcers. *BMJ* 1997, 315:576-580.
 2. D. Kozeny, K. Stott. Longitudinal yarn compression textile: An innovative treatment for leg swelling. *Journal of Vascular Nursing*, Volume 25, Issue 3, Pages 62-62, 2006.
- * EdemaWear®, Compression Dynamics LLC, Omaha, Nebraska