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Title:

**Yarn Focused Compression Controls Lymphedema in Massively
Obese Patients with Difficult Wounds**

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Introduction:

Lymphedema results from "lymphatic insufficiency" in limbs with massive subcutaneous fat burden. Lymphedema accompanies extreme obesity and compromises wound healing. Additionally the burden of subcutaneous fat renders standard compression garments ineffective to control edema. Kozeny and Stott reported a dramatic edema reducing effect, produced by Longitudinal Yarn Compression (LYC)* textiles in 2006. (1) The Kozeny Effect results from "Cornrow Furrows" beneath fuzzy yarns under tension leaving noncompressed skin between yarns. Said another way, Kozeny Effect is the result of "Yarn Focused Compression" (YFC).** The irregular surface of the obese limbs is impossible to compress with Jobst type stockings or elastic wraps. YFC stockinet "conforms comfortably" to the obese "difficult contour" lower extremity as a result of Cornrow fixation of the textile yarn on the skin surface of the obese limb. Spandex fibers accommodate the flabby folds in the obese extremity. Wound bed lymphorrhea often accompanies edema. Lymphorrhea inhibits all healing. Control of lymphedema is necessary for effective healing.

This study answers two questions: Is YFC stockinet practical for clinical use in morbid obesity? Does LYC effectively control lymphedema and enhance wound healing?

Methods:

Lymphedema in four morbidly obese adults with lower extremity wounds or stasis dermatitis weeping lymph fluid was managed using LYC textile. Photographs document results.

Results:

Limb circumference decreased in all patients. All wounds healed. LYC was well tolerated. Cost is discussed. Stockinet rolling is a problem.

Conclusions:

LYC is a novel, well tolerated, therapy for the treatment of lymph edema in massive obesity. LYC is promising as an adjunct therapy in morbidly obese patients with wounds complicated by lymphedema.

References:

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

*, ** EdemaWear® Compression Dynamics, LLC, Omaha, Nebraska