REDUCED TISSUE FIBROSIS WITH ADDITION OF TEXTURED COMPRESSION GARMENTS TO EDEMA MANAGEMENT PROGRAM

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Aim
Chronic edema is associated with significant trophic changes including not only increased volume but also trophic changes.\(^5\) Compression has been shown to have a positive impact on trophic changes including reduced tissue fibrosis.\(^6\) It has been observed that textured compression, utilizing chipped foam or channelled foam, has a significant improvement on tissue fibrosis.\(^6\) Aim of this study was to objectively measure the change in tissue fibrosis following the use of a textured compression product.

Methodology
Observational study tracking outcomes of four patients (n=4) utilizing a textured compression garment at night. Garments were chosen as best fit for patient by therapist and were not the same across the subjects. Measurements included: volume of the limb, tissue density, and subject self-reported quality of life. Measurements were taken at three different intervals over a two month period. Tissue fibrosis was taken as a tissue density measurement using a tissue tonometer.\(^6\) The Lymphedema Quality of Life (LYM-QOL) questionnaire was used to capture patient's self-reported improvement in quality of life.\(^9\)

Results
In all subjects, both volume and tissue fibrosis were reduced. Two out of four subjects were recorded with at least a 5% reduction in volume and three out of four subjects recorded a 5% or greater tissue density improvement.

Conclusion
This study was limited by several variables. Such as, garments were chosen as best fit for patient by therapist and were not from same manufacturer or style across the subjects. Generally, these patients had previous lymphedema treatment and had nearly stable volumes, but significant fibrosis limiting their concordance with regimen. There are other tools, such as, an indurrometer which may allow more accurate measurement of fibrosis.

The use of textured compression garments as part of a night time regimen reduced tissue fibrosis for patients with chronic edema. Patients in this study demonstrated improved concordance as evidenced by stable volume and reports of compliance, with improved quality of life in all subjects. Additional study is warranted to assess further impact on overall compliance and concordance in garment regimen with reduction in fibrosis of the limb.

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Subject #1
66 year old male, secondary lymphedema due bladder and prostate cancer with subsequent adrenal gland removal, bladder surgery, prostate removal, iliofemoral

"It’s comfortable at night and can’t realize I’m sleeping in it.”

Subject #2
47 year old male secondary phlebolymphedema following extensive deep vein thrombosis after elective orthopedic procedure.

Reported Quality of Life Rating improvement from 7/10 to 8/10.

Subject #3
61 year old female, secondary lymphedema status post right mastectomy.

“This is my best friend”

Subject #4
69 year old female secondary lymphedema status post mastectomy and axillary lymph node dissection.

“I can see my elbow.” “I can see my hand again.”

References