ABSTRACT: Presented at The Symposium on Advanced Wound Care (SAWC), Kissimmee, FL April 2014, WOCN, Nashville, TN June 2014, The Symposium on Advanced Wound Care (SAWC), Las Vegas, NV September 2014, and the Clinical Symposium on Advances In Skin & Wound Care (ASWC), Las Vegas, NV October 2014.

Longitudinal Elastic Textile Compression Appears to Prevent Skin Tears in Patients with Senile Skin at Risk for Shear Injury; Control of Edema is the Probable Mechanism

Martin J. Winkler Sr., MD, FACS
Creighton University Department of Surgery (Contributed Service), Omaha, NE
University of Nebraska Department of Surgery (Contributed Service), Omaha, NE

Karla A. Manzel, BSN, MS, CWON, FCN
Nebraska Medical Center, Bellevue, NE

Sara M. Winkler
Stanford University Bio Engineering Department, Palo Alto, CA

Clinical Problem
Skin tears, due to shear, in institutionalized octogenarians with senile skin occur in 1.5 million Americans annually.¹ ² We are testing preliminary protocols to prevent skin shear injury using an inexpensive longitudinal elastic compression stockinet* to replace past management protocols calling for expensive skin protection textiles including gauntlets, TED hose and ACE wraps.³
Current Approach
Fuzzy wale longitudinal elastic compression stockinet, developed at the University of Nebraska, has been extensively studied for control of edema in subcutaneous fat, the treatment of venous leg ulcers, and to stabilize and compress split thickness skin grafts and large skin flaps after shear injury.\textsuperscript{4,5} Experience with elastic compression led us to ask, Does fuzzy wale elastic compression, by protocol, prevent shear injury in at risk senile skin?

Results
Preliminary observations to date with ad hoc elastic compression protocols for inpatient, rehab and chronic care patients appear promising to prevent shear injury in at risk senile skin. Photographs document: 1. the effectiveness of compression stockinet in treating skin flaps created by shear injury, 2. improvement in the appearance and ‘strength’ of senile skin after months of elastic fuzzy wale compression, and 3. control of skin edema by fuzzy wale compression.

Conclusion
Fuzzy wale longitudinal elastic compression protocols for inpatient, rehab and chronic care patients appear promising and inexpensive to prevent shear injury in at risk senile skin. Control of edema and patient compliance may be important. Formal research is indicated.

References:
5. Karla A. Manzel, BSN, MS, CWON, FCN, Lindsey Manzel, BS, RN, Laura A. Wisnieski, RN, CWS, \textit{Longitudinal Fuzzy Wale Compression Stockinet May Improve Senile Skin Tensile Strength}, Symposium of Advanced Wound Care,
April 2010, Science Poster Orlando,
http://www.compressiondynamics.com/compress_links/
Abstract_EdemaWear_Prevents_Skin_Shear_Injury_in_Elderly_Patients_2010.pdf

* EdemaWear® and EdemaWear LITE™, Compression Dynamics LLC, Omaha, Nebraska 68102