

Introduction:

Graduated compression therapy is an essential component in decreasing recurrence of venous ulcers. Noncompliance is a problem due to garments becoming hot and uncomfortable during use. Therapeutic doses of silver can effectively reduce bio-burden, and in theory, aid wound healing. By combining silver with compression, stockings could be cooler to wear, increasing compliance and leading to edema prevention and a decrease in wound recurrence. It is also possible that reduction in bacterial load on intact skin might protect against future skin breakdown and ulceration as it is well established that *Staphylococcus aureus* colonization is increased in patients with atopic dermatitis. Evidence supporting the use of silver-thread compression garments (STCG) is limited to a single study addressing cutaneous microcirculation. This information report describes three patients' experiences when using STCG. Patients were identified following a retrospective chart review indicating multiple episodes of ulcer recurrence despite prescribed compression. Patients were asked to try a STCG and provide feedback on application, comfort, and ulcer recurrence.

Case #1

An 89-year-old Caucasian female. Chief complaint was pain, swelling and weeping fluid in the right lower extremity starting three months earlier with coincident cracks in the skin surface. History included hypertension, peripheral vascular disease, coronary artery disease, chronic venous stasis leg ulcers, lymphedema, pain in the legs, frequent skin tears, dryness and episodes of memory loss related to a previous CVA. The patient lived in a long-term care facility. Several small wounds were treated with a silver alginate dressing, topical corticosteroid and four-layer compression. Though these wounds subsequently healed, skin changes including scaling, weeping, hemosiderin pigmentation and moderate pain developed. At that time the patient was placed in the STCG. After seven days of use the scaling resolved, weeping decreased significantly, skin color changes returned to baseline and the edema remained unchanged. Additionally, the patient reported an absence of pain.



Case #2

A 52-year-old Caucasian female. Chief complaint was severe pain, swelling and a non-healing wound to her left lower extremity. History included multiple DVTs, recurrent venous stasis leg ulcers of 6 years duration, factor V deficiency, plantar warts, and skin dryness. Her primary leg ulcer opened approximately four months prior to this presentation and measured 1.3cmX2.0cmX0.1cm. Patient was treated with hydrating cream to the intact skin, foam dressing with a non-adherent contact layer to the wound and a four-layer compression wrap. Two weeks after beginning treatment, the patient was placed in the STCG. Three weeks after initiation of STCG therapy, wound is pinpoint, resolving after 11 weeks of therapy.



Case #3

A 48-year-old Caucasian male. History included morbid obesity and venous stasis ulcers of three years duration without periods of healing. The primary leg ulcer measured 2.1cmX1.4cmX0.1cm and was treated with a silver alginate dressing and short stretch compression. After two months of treatment he was placed in the STCG (40-50 mmHg). Wounds resolved after 18 weeks of treatment and remained closed for two months. At that time the patient stopped using the STCG and new wounds developed within three weeks. Primary ulcer measured 2.5cmX2.0cmX0.1cm. There were three additional wounds, swelling, dryness and hyperpigmentation of the skin. The wound progressed to healing after 10 months of treatment. The patient was counseled and placed in the STCG at the time of healing.



Outcomes:

Case#1: Remained ulcer free for 38 weeks (average recurrence 12 weeks). Statements from the patient and her family included: "The stockings are comfortable to wear." and "My mother's legs are doing great." The STCG was effective in healing the patient's skin, controlling episodes of lymphedema, and preventing recurrent venous stasis ulcers, skin tears and pain. Factors contributing to success of this therapeutic regimen could be attributed to: The use of silver in the compression garment, compliance with wearing the garment, comfort of the garment and assistance with application by staff at the long term care facility.

Case#2: Remained ulcer free for 3 years (average recurrence 6 – 9 months) with STCG. Patient states: "I don't go without my stockings. I can even wear them in the summer when we go to the beach. They are much more comfortable than the ones I used to use."

Case#3: Remained ulcer free for 11 months. Previously had only been ulcer free for < 1 month (without the use of STCG) in a 5-year venous ulcer history. Patient states: "I learned my lesson. I tried going without my stockings because my legs are so large, I had trouble getting them on. My wounds came back right away. I asked my wife to help me and now I have been wearing them everyday. I don't get as hot in these stockings (STCG) and they helped my legs not to swell up all the time."

Product Notation: *Juzo® Silver compression stocking made with X-Static® silver fiber

@Juzo is a registered trademark of Julius Zorn, Inc • X-STATIC is a registered trademark of Noble Fiber Technologies, Inc

© 2009 Julius Zorn Inc.