Summary: This is a prospective study of both healthy volunteers (n = 32) and patients with C3-C4 chronic venous insufficiency (n = 32) who were randomized to graduated (22-32 mm Hg) or inverse graduated (15-20 Hg) compression stockings for 1 week. Volume metrics, leg symptoms, and patient satisfaction with the two stocking types were assessed. Both water plethysmography and three-dimensional imaging were used to evaluate volume reduction before and after the study wearing period. Both types of stocking were effective in reducing the leg volume when worn 8 hours per day for at least 7 consecutive days. Symptoms were more improved in graduated stocking patients, but these stockings were more constrictive. Graduated stockings were regarded as tighter, painful, and difficult to don.

Comments: To be efficacious, compression hose have to be worn. Thus, adherence is critical in reducing edema, healing ulcers, and improving symptoms. It is well known that some patients, perhaps some with hand arthritis, have difficulty in bending over and putting on and pulling up the hose. Does anyone know where to get these inverse stockings?

The front line of health care—Photographic estimation of chronic venous insufficiency

Quantification of Early Cutaneous Manifestations of Chronic Venous Insufficiency by Automated Analysis of Photographic Images: Feasibility and Technical Considerations

Becker F, Fourgeau P, Carpentier PH, Ouchène A. Phlebology 2018;33:309-14.

Conclusions: Through the use of automated photographic analysis, early manifestations of chronic venous insufficiency (CVI), such as hemosiderin staining and corona phlebectatica, may be able to be assessed and quantified.

Summary: This study evaluated the utility and reproducibility of digital photographic analysis for early indicators of CVI—brownish pigmentation, hemosiderin staining and blue telangiectasia, intradermal venules—at ankle level. The photo acquisition protocol and image analysis are described. All 10 patients (9 female) were white and undergoing treatment for CVI. Quantification of blue venules had better reproducibility than brown staining.

Comments: This is an interesting methodology that if further studied and developed may provide an indicator for early detection of CVI as well as for evaluation of its progression. Perhaps this methodology could be used at vein centers, by primary care physicians, and by physicians in rural areas. I could envision this as a tool that could improve referral timing or counseling of patients.

Beyond the bends: Utility of hyperbaric oxygen therapy

The Effectiveness of Hyperbaric Oxygen Therapy for Healing Chronic Venous Leg Ulcers: A Randomized, Double-Blind, Placebo-Controlled Trial

Thistlethwaite KR, Finlayson KJ, Cooper PD, Brown B, Bennett MH, Kay G, et al. Wound Repair Regen 2018;26:324-31.

Conclusions: In this small cohort of patients with venous ulcerations who were randomized to hyperbaric oxygen therapy (HBOT) or placebo, there was no difference in healing between groups.

Summary: Of 133 patients with leg ulcerations who were screened for this prospective double-blind randomized trial, ultimately only 26 patients completed the study (11 in the HBOT group and 15 patients in the placebo group). All participants spent up to 120 minutes in the hyperbaric chamber for 30 treatments; the placebo group received some pressurization at a level that has previously been validated as adequate blinding. At 12 weeks, there was no difference in the percentage of healed ulcerations. The percentage area reduction of the ulcer was significantly greater in the HBOT group. The authors concluded that HBOT, when used in select patients, is an effective adjunct for venous ulcer healing.

Comments: I am still very much in the dark as well as skeptical about the benefit of HBOT, except for treatment of decompression sickness, the "bends." For now, the data are conflicting, and it should be reserved for refractory wounds in which there is some reasonable chance of recovery and healing.

Implementation science: From guidelines to clinical practice

A Multicentre Controlled Pre-Post Trial of an Implementation Science Intervention to Improve Venous Thromboembolism Prophylaxis in Critically Ill Patients

Stelfox HT, Brundin-Mather R, Soo A, Parsons Leigh J, Niven DJ, Fiest KM, et al. Intensive Care Med 2019;45:211-22.

Conclusions: Despite a targeted and successful multicomponent approach to increasing low-molecular-weight heparin (LMWH) use for venous thromboembolism (VTE) prophylaxis, no significant improvement in clinical outcomes or cost in terms of health care utilization was seen.