

Compression Therapy for Post Leg Vein Procedures

by Terri Morrison RN, BS, CEO, Morrison Vein Institute

Do we have evidence-based studies on compression therapy post-venous procedures? Do we have guidelines? Yes and yes. Let's take a brief look at the literature for support.

For compression therapy to be effective for CVI, chronic vein disease or post procedures, there must be an understanding of the venous system as well as graduated medical support stockings. Simply put, misdirected blood cannot get out of the legs unless we elevate them or wear 30 mmHg graduated support hose. Compression limits or prevents leakage of blood into the surface venous system during calf muscle contraction, so it will not leak out to the superficial system. The compression pressure or mmHg must exceed ambulatory venous pressure so blood will go up in the deep system to the heart. This improves calf muscle pump function and reduces excess venous and interstitial fluid volume capacity, increasing absorption of tissue fluid by the capillaries and lymphatic vessels.

“Compression stockings help prevent swelling from CVI and the post-procedure inflammatory process. Why do we care? Post-treatment inflammation may be the cause of matting and angiogenesis. How do we control the inflammatory response? Compression has an anti-inflammatory action at the perivenous space.”

Partsch H, editor: Evidence Based Compression Therapy. An Initiative, of the International Union of Phlebology, Vasa34, 2004; Goldman MP, Bergan JJ, Guex JJ: Sclerotherapy Treatment of Varicose and Telangiectatic Leg Veins, ed 4, Philadelphia, 2007, Mosby/Elsevier.

“Daily experiences have taught us that strong compression after surgery and after endovenous procedures of large veins reduces pain, inflammation and hematoma formation more effectively than low compression.”

Sclerotherapy is meant to cause endothelial destruction, resulting in inflammation and then closing down of the vein. Staining, thought to develop as endothelial destruction depending on its degree, allows for extravasation of RBCs through the damaged vessel wall. Resulting inflammation contributes to the ineffective digestion or hemolysis of iron blood products such as hemosiderin and ferritin. These are thought to be insoluble or indigestible residues of hemoglobin. The extravasation of the blood and blood products is most likely in those vessels under significant gravitational pressure or injection pressure. We need to take a look at what causes staining and then the possible methods to avoid or minimize it.”

Sclerotherapy Treatment of Varicose and Telangiectatic Leg Veins by Dr. S.M. Goldman, J. Bergan and J.J. Guex, and Vein Diagnosis and Treatment, A Comprehensive Approach by Drs R. Weiss, M. Weiss and C. Feied.

“The causes of staining, then, are thought to be both in the technique of the sclerotherapy and the intrinsic qualities of the patient. The factors related to the sclerotherapist are: vessel chosen, the solution, the concentration of the solution, the injection pressure exerted and the immediate post-injection compression (both manually and then with support hose). The factors related to the patient are: vessel depth, diameter, wall fragility, total body iron stores, altered iron transport mechanisms, histamine sensitivity or release, post-treatment compression compliance and concurrent medicines.”

Post Sclerotherapy Hyperpigmentation: Can It Be Prevented? Kathy Melfy, BSN, RN Co-Chair ACP Nursing Section and Nick Morrison MD: ACP Vein line

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