

**WINNER OF THE ROBERT B. SMITH, III, MD AWARD  
FOR BEST RESIDENT PAPER - 2020**

**Contemporary Outcomes of Popliteal Vein Banding in the United States**

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**Introduction and Objective:**

Chronic venous insufficiency (CVI) encompasses a myriad of clinical manifestations including lower extremity swelling and pain, ulcerations, and chronic skin changes such as stasis dermatitis, and lipodermatosclerosis. CVI affects greater than 25 million Americans and has a significant socioeconomic and psychosocial impact. Treatment of CVI varies depending on the etiology. For those patients with deep venous reflux, restoration of the deep venous valvular system is critical. Popliteal vein external banding is a novel technique to treat deep venous reflux. Our study aims to retrospectively review the outcomes for the largest U.S. series of patients undergoing popliteal vein external banding.

**Methods:**

Patients with C4, C5, and C6 disease with underlying deep venous reflux were treated with external banding of the popliteal vein. Basic demographic, ultrasound, and procedural data were collected. Procedure-specific complications were also assessed. The primary outcome was improvement of symptoms or wound healing.

**Results:**

Twelve patients were identified. Seventy-five percent of patients had a history of DVT on the ipsilateral extremity and 66.7% (n=6) of those patients had previous common or external iliac vein stenting for post-phlebotic syndrome. 58.3% of patients had active ulcerations (C6) at the time of popliteal vein banding and the mean VCSS score was 12.7, consistent with advanced venous disease. Patients were followed for a mean 8.62 months. Of the 8 patients that had active ulcers (C6), 75% completely healed with a mean time to healing of 3.3 months. 91.6% of patients reported clinical improvement in their symptoms (i.e. reduction in edema/swelling, pain, or improvement in size of ulcer). Three patients had post-operative wound complications and one required oral antibiotic for associated cellulitis.

**Conclusion:**

Popliteal vein external banding represents a durable treatment modality for patients with venous insufficiency secondary to deep venous reflux. It is technically easier than most deep venous reconstructive options and may have an important role in the multimodal treatment of patients with advanced chronic venous insufficiency.