

# Outpatient Varicose Vein Surgery in the Elderly; Safe and Effective



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## Background/Objectives

Endovenous laser ablation has been demonstrated to be safe in an elderly population with equal complication rates to younger patients and improved patient reported outcomes. However, a comprehensive, detailed analysis of elderly patients undergoing various forms of truncal vein ablation, phlebectomy, and sclerotherapy in the outpatient office-based setting with long term analysis has yet to be reported.

## Methods

This is a retrospective single-institution cohort study. The study sample was derived from the population of patients aged 65 years of age or greater who presented to a single community-based outpatient vascular surgery office from January 2016 to July 2019 and underwent varicose vein interventions due to complaints of symptomatic varicose veins. Patients were identified by CPT codes pertaining to sclerotherapy, truncal ablation, and phlebectomy. Pre-procedural and post-procedural CEAP classification and VCSS were recorded. Paired t-tests were performed on change in CEAP classification and VCSS scores. Local and systemic complications were recorded for each patient.

## Results

During the study interval, there were 105 legs treated with the included venous procedures in 79 patients, for a total of 136 interventions. Some interventions were performed concomitantly and some were staged. Patient demographics are displayed in Figure 1. Average follow-up was 171 days (range 3-998), median age at intervention was 75 years, and 16% of the interventions were performed on therapeutic anticoagulation. The type of vein procedure is listed in Figure 2. There were 3.6% systemic complications, all of which were a hypersensitivity reaction to cyanoacrylate glue. CEAP and VCSS scores were recorded pre and post intervention (Fig 3,4). There was a statistically significant difference in pre and post intervention CEAP (mean difference 0.77) and VCSS scores (mean difference of 4.17) ( $p < 0.05$ ).

Figure 1: Patient study demographics

Patient Demographics	(n = 105 legs)
Female	78 (74%)
Male	24
Right leg intervention	48
Left leg intervention	57 (54%)
Median BMI (range)	26.6 (16.8, 41)
Never smoker	63
Current smoker	4
Former smoker	37
Previous varicose vein intervention	38 (36%)
History of DVT/PE	5 (5%)
On therapeutic anticoagulation	17 (16%)

Figure 2: Prevalence of vein procedure types

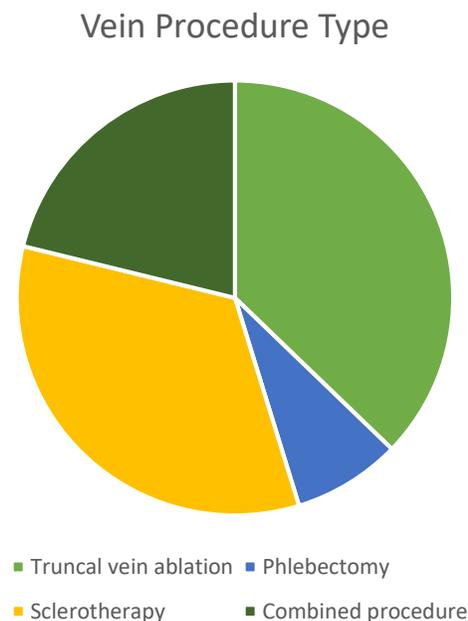


Figure 3: Comparison of CEAP pre- and post-venous intervention

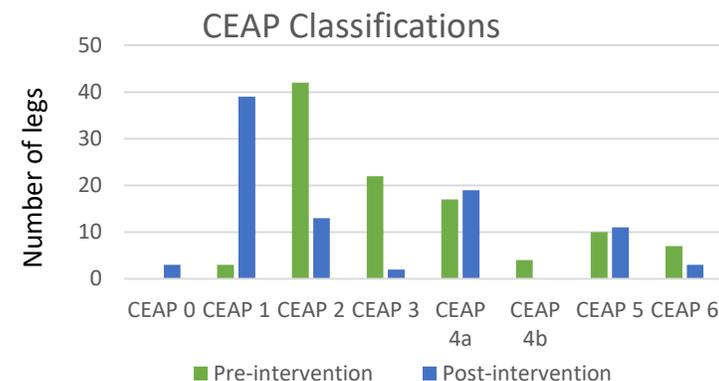
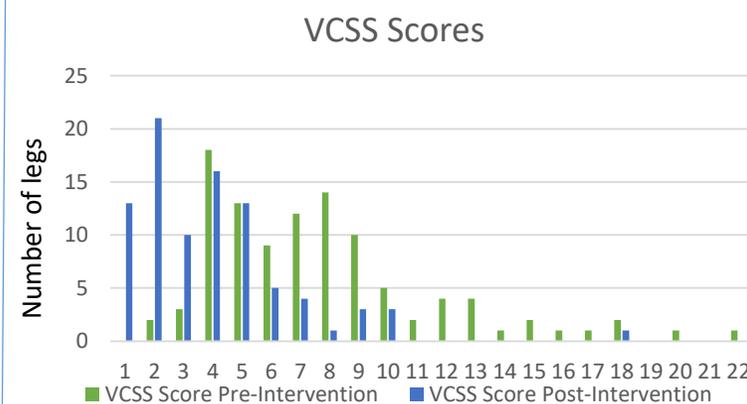


Figure 4: VCSS score pre and post-venous intervention



## Conclusions

All procedures were able to be conducted in the outpatient ambulatory setting, without significant systemic complications.