

Endovenous Laser Ablation

an advanced approach to an old problem

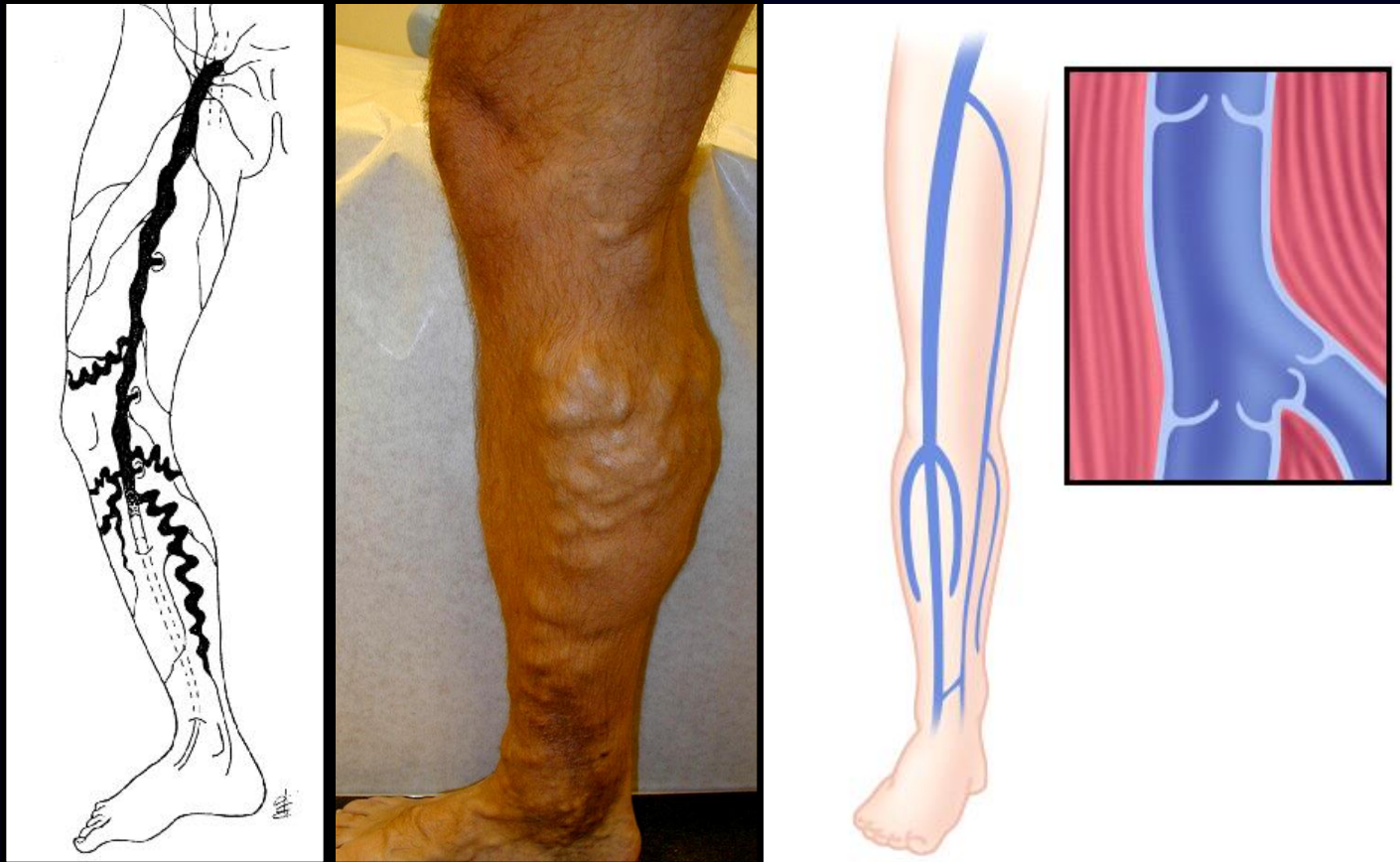
Daryl S. Kucey MD MSc MPH FRCSC
Davisville Vein Clinic
Division of Vascular Surgery
University of Toronto



DAVISVILLE
VEIN
CLINIC



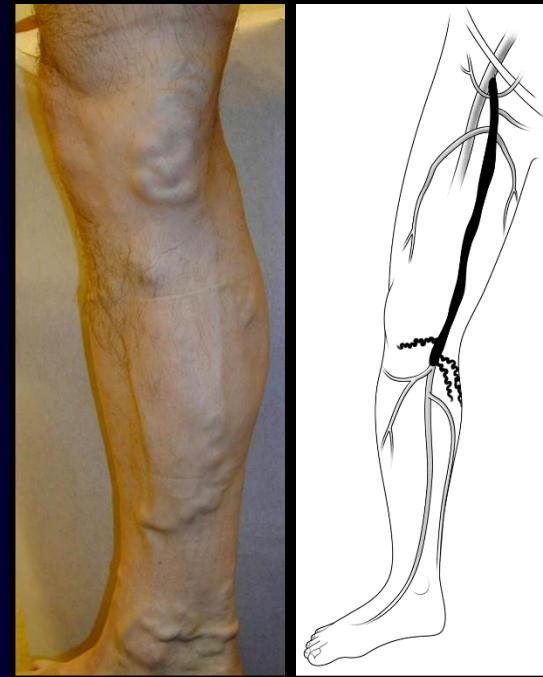
The Problem



Saphenous Incompetence

Alternatives for Treatment

- Conservative (stockings)
- Sclerotherapy
- Surgical Treatments
 - High Ligation and Stripping
 - Thermal Ablation



Historical Approach

- Treatment Options
 - Conservative
 - Sclerotherapy
 - Surgery
- Treatment Choice
 - Clinical Judgement
 - Patient Preference
 - Availability of Resources

Historical Approach Drawbacks

- Lack of Resources (OR Time)
 - Lengthy waiting list
- Recurrences / Treatment Failures
- Morbidity
- Patient Expectations
- Surgeon satisfaction

The Ideal Treatment

- Easy access to effective treatment
- High success / low recurrence
- Safe
- Patient satisfaction

Treatment Objectives

- Treat vast majority outside OR
- Limit recurrences or treatment failures
- Minimize complications
- Keep surgeons interested in this clinical problem

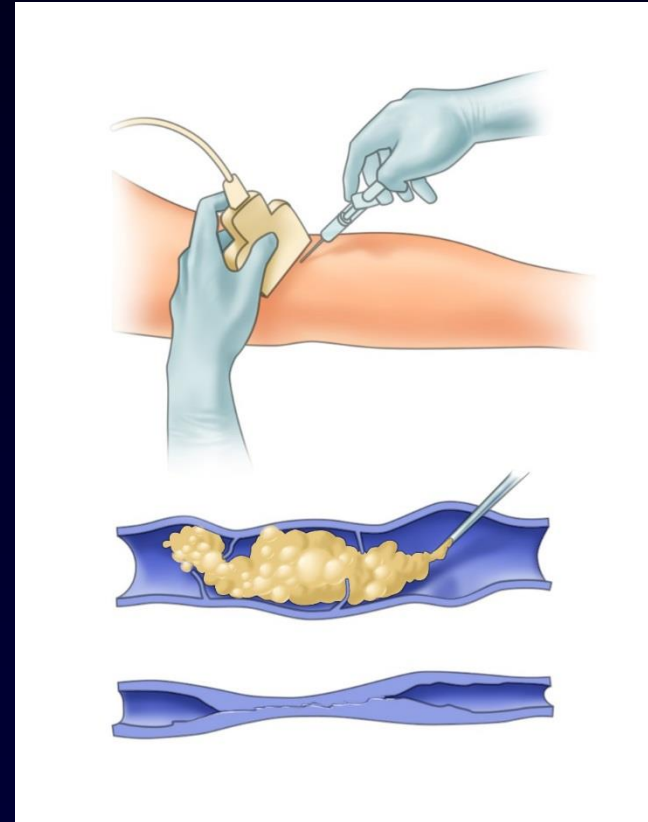
Treatment Approach

- Office based interventions
- Thorough pre-treatment evaluation
- Minimally invasive, image-guided interventions

Office Based Interventions



EVLA



Foam Sclerotherapy

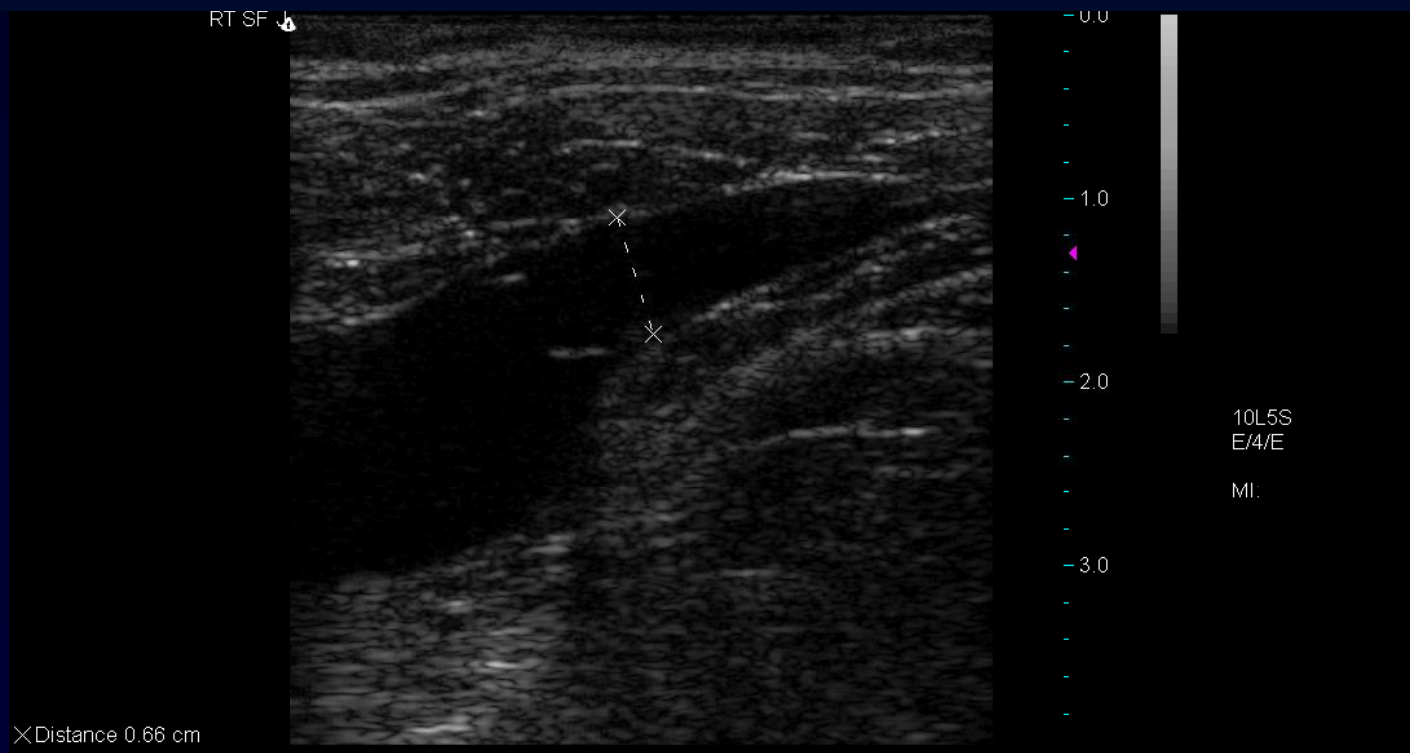
Office Based Interventions

- Local Anesthetic Only
- Early recovery
- Superior Cosmesis
- High success rate
- Low complications

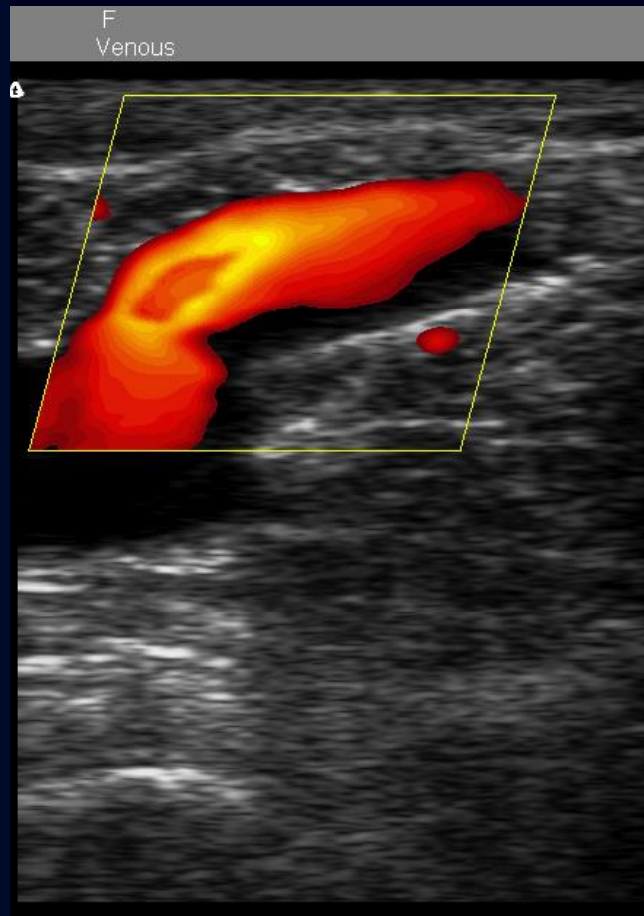
Pre-Treatment Evaluation

- Patient (and treatment) selection is key to success
- Clinical Judgement alone is inadequate
- Must understand the anatomy and physiology of reflux
- ***Image-guided surgery***

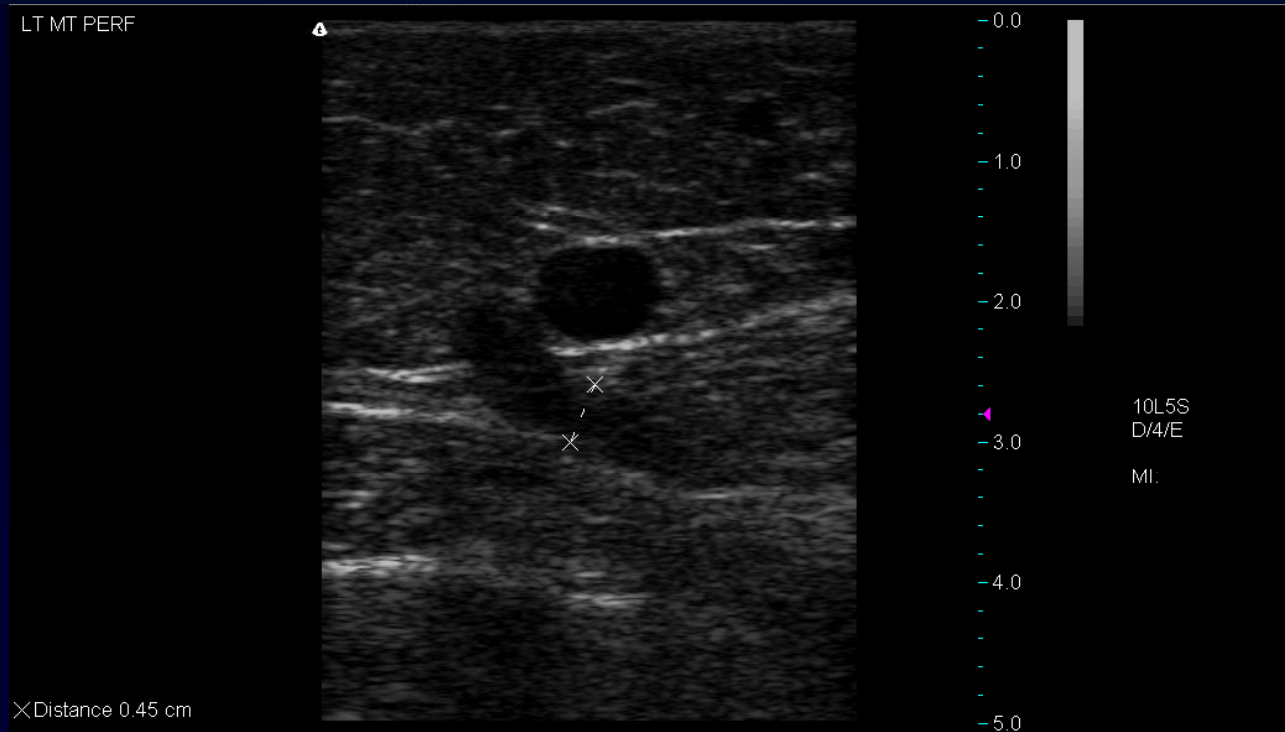
SFJ – valve cusps



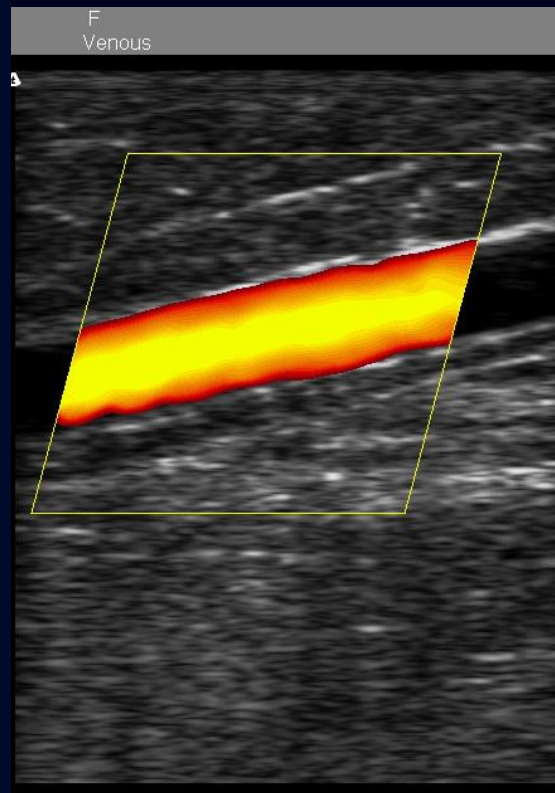
SFJ – reflux with valsalva



GSV – mid thigh perforator



GSV – mid thigh reflux



Endovenous Laser Ablation

- Office Intervention
- Image guidance
- Local Anesthesia
- No incision
- Less Pain
- Early Recovery



Endovenous Laser Therapy (EVLT)

- First described by Navarro, Min, Bone (*Dermatol Surg* 2001;27:117-122).
- Laser fiber – (1470nm wavelength)
- Chromophore of laser light tuned to wall of vein
- Thermal injury to endothelium
- Initially thrombotic occlusion
- Ultimately fibrosis, ablation of the lumen

Stepwise Approach to Success

- Patient Selection
- Venous access
- Guidewire insertion
- Positioning of sheath and laser fiber
- Tumescant anesthesia
- Thermal ablation
- Post-treatment compression

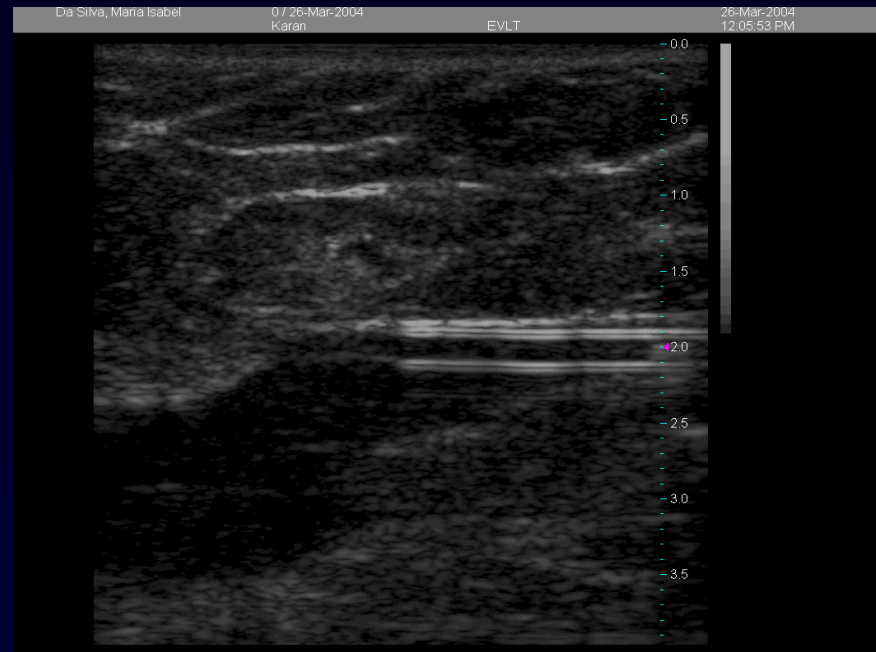
Patient Selection

- Large varicose veins due to underlying saphenous incompetence
- Long, short or accessory saphenous
- Saphenous can be large, tortuous, duplicate



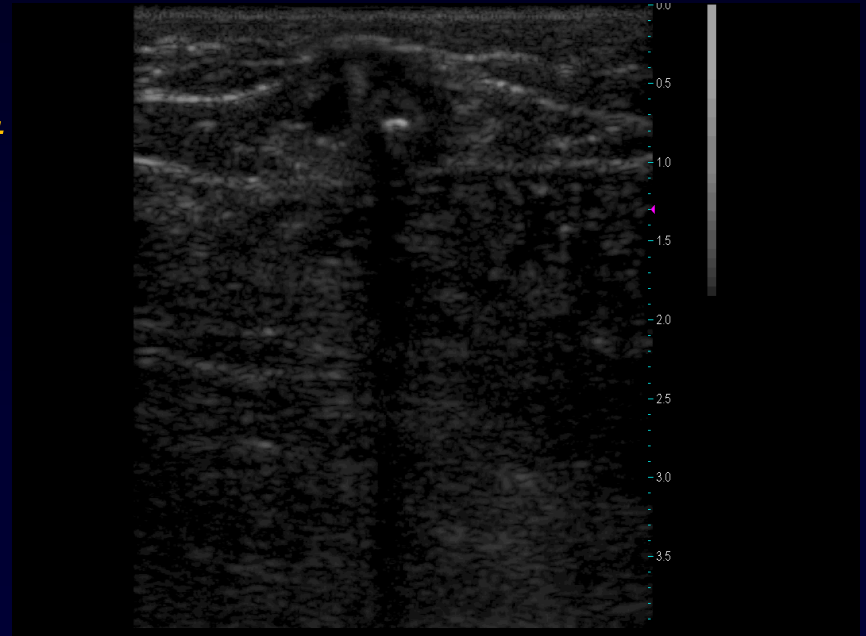
Access and positioning

- Percutaneous always
- Imaging is key
- Guidewire / 5 fr sheath
- Position laser at junction



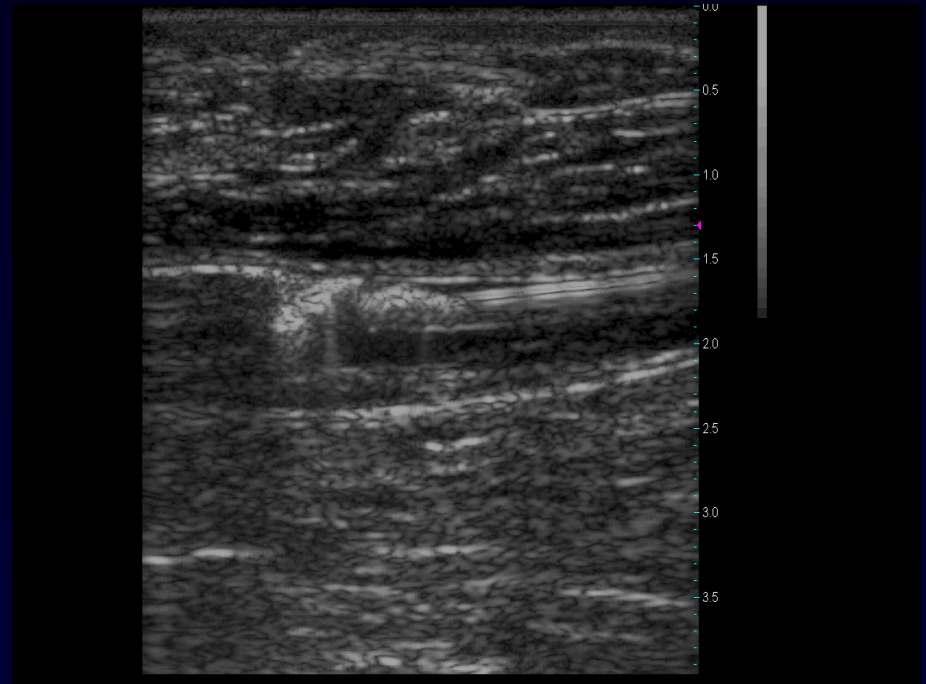
Tumescence

- 1% Lidocaine diluted 1 to 10 with NS -*analgesia*
- Heat Sink
 - *prevent injury to adjacent tissues*
- Promotes *venospasm*
 - To reduce blood volume and facilitate thermal injury



Thermal Ablation

- 6 W continuous
- Pullback rate 1-3mm per second
- Endothelial injury (or “controlled” phlebitis)
- Tumescence and venospasm are essential



Compression



Greater Saphenous Vein

Pre-Treatment



Post-Treatment



Greater Saphenous Vein

Pre-Treatment



2 Wks Post-EVLT



Lesser Saphenous Vein

Pre-Treatment



Post-Treatment



Accessory Saphenous Vein

Pre-Treatment

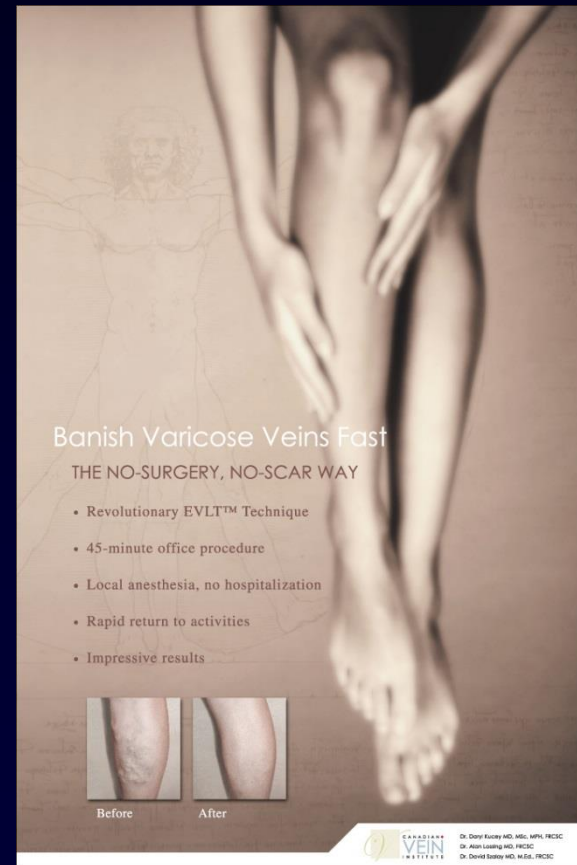


Post-Treatment




Conclusions

“EVLA is a safe, effective procedure and an advanced office-based alternative to surgical stripping.”



Banish Varicose Veins Fast
THE NO-SURGERY, NO-SCAR WAY

- Revolutionary EVLT™ Technique
- 45-minute office procedure
- Local anesthesia, no hospitalization
- Rapid return to activities
- Impressive results



Before After

CARDIFFIAN VEIN INSTITUTE
Dr. Daniel Kuczyński MD, MSc, MPH, FRCS(C)
Dr. Allen Leshgig MD, FRCS(C)
Dr. Daniel Toney MD, M.Ed., FRCS(C)