



Venous Disease Diagnosis and Management

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Disclosures

I have the following financial relationship
with commercial interests to disclose:

- Boehringer Ingelheim – Speaker Bureau

Why involved in this treatment

- Many cardiology patients have
- Peripheral arterial practice compliment
- Patient satisfaction
- Complete patient care for vascular disease

Prevalence of Venous Disease

- 2X more prevalent than CAD
- 5X more prevalent than PAD

Who to Refer

- **Signs and Symptoms**
 - **Leg pain/ache**
 - **Varicose veins**
 - **Swelling**
 - **Heavy legs**
 - **Leg fatigue**

Risk Factors

- **Family History/Genetics**
- **Phlebitis**
- **DVT**
- **Obesity**
- **Standing/Inactivity**
- **Female**
- **Multiple Pregnancies**
- **Age**

Differential Diagnosis

- CHF
- Venous Insufficiency
- Drug Therapy
- DVT
- Lymphedema

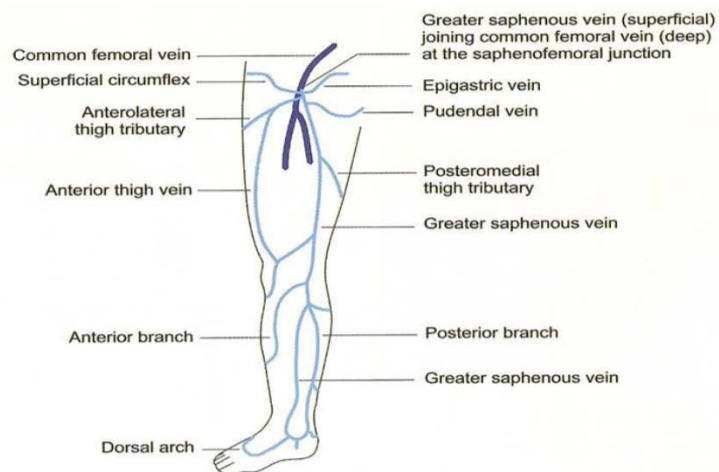
Physical Presentation



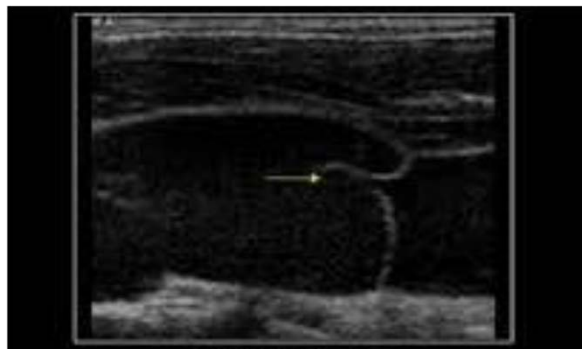
Evaluation Protocol – Initial Visit

- **History/Physical**
- **Venous US study:**
 - **What is involved**
 - **What looking for**
 - **Diagnostic criteria**

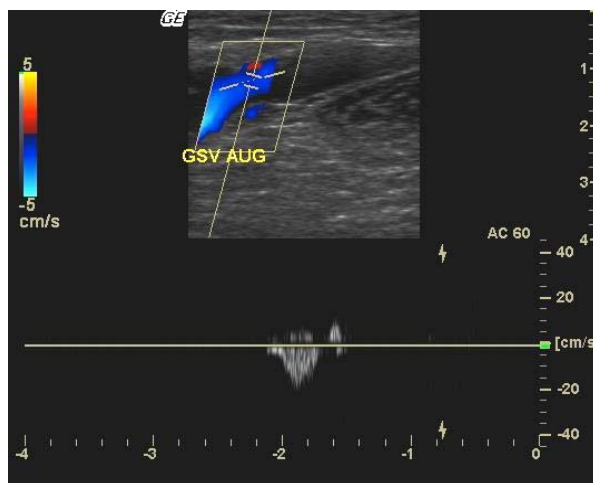
Normal Venous Anatomy



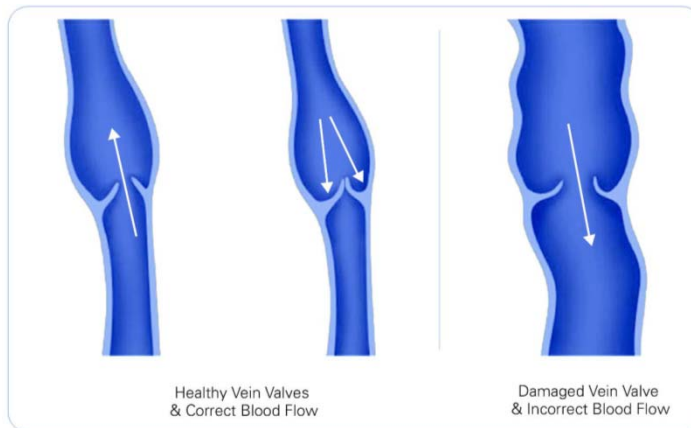
Venous Valve



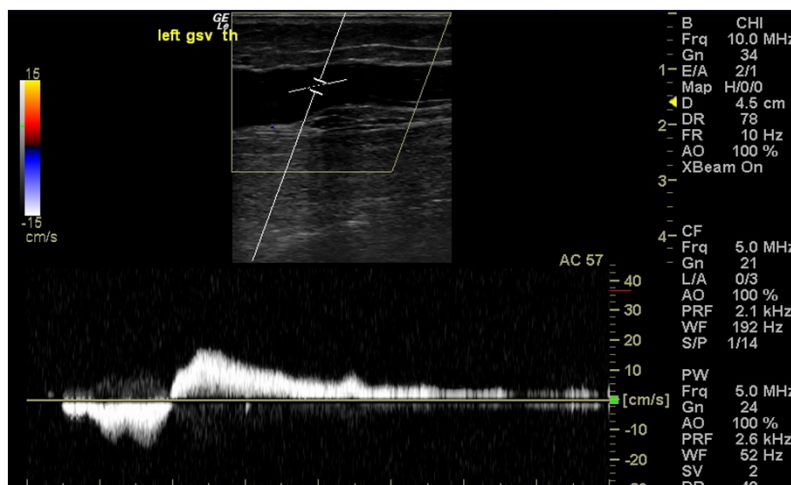
Normal Augmentation



Reflux Effect



Venous Reflux



Physiology of Venous Disease

- **Low pressure system**
 - **Elevated venous pressure**
 - **Dilation**
 - **Flow disturbance**
 - **Stagnant flow**
 - **Reflux**
 - **Superficial changes and symptoms**

Results of Prolonged Venous Insufficiency

- **Vein Dilates**
- **Visible Varicosity**
- **Pain**
- **Swelling**
- **Ache**
- **Decreased Activity**
- **Ulceration**

Clinical Classification of Venous Insufficiency

- CEAP
- Class 0 – No visible or palpable signs
- Class 1 – Telangiectasia of reticular veins
- Class 2 – Varicose veins
- Class 3 – Edema
- Class 4 – Skin changes
- Class 5 – Healed venous ulceration
- Class 6 – Active venous ulceration

Results of Initial Visit and Plan

- Venous Ultrasound
 - Bilateral evaluation
 - Evaluated for reflux >0.5 seconds
 - Excluded DVT as etiology
 - Mapped location/degree of reflux
- Patient consultation and treatment plan
- Results to referring/primary PCP

Insurance Requirements

- **3 months of compression therapy**
- **Follow-up in 3 months with US**
 - **Assess symptom control**
 - **Assess for reflux with US**
- **Plan/schedule further treatment**

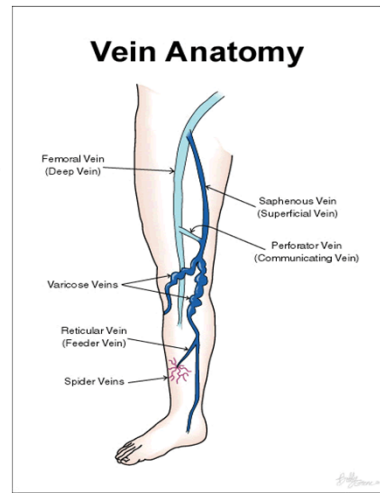
Compression Therapy

- **3 months of compression therapy**
- **Recommend at least 15mmHg pressure**
 - **Online sites**
 - **Over the counter**
 - **Wear daily when upright**

Treatment

- **Three layer treatment:**

- **Spider/Reticular Veins**
- **Varicose Veins**
- **Superficial Veins**



Treatment of Venous Insufficiency

- **Sclerotherapy**
- **Stab Phlebectomy**
- **Ablation Therapy**

Sclerotherapy

- For <3mm superficial veins
- Considered cosmetic
- Multiple injections of
 - Polidocanol
 - Induced sclerosis of spider veins

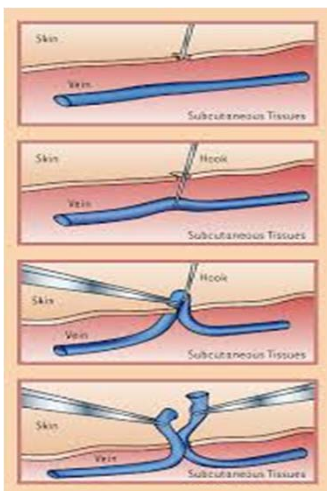
Sclerotherapy Treatment



Stab Phlebectomy

- Indicated for superficial varicosity >3mm
- Access along the pathway for removal
- Completed in clinic setting
- Insurance coverage with set requirements
- Sometimes complimentary to ablation

Stab Phlebectomy



Stab Phlebectomy



Post Phlebectomy

- **Expect for about 2 weeks:**
 - Discomfort – inflammation**
 - Bruising**
 - Chord fragments**

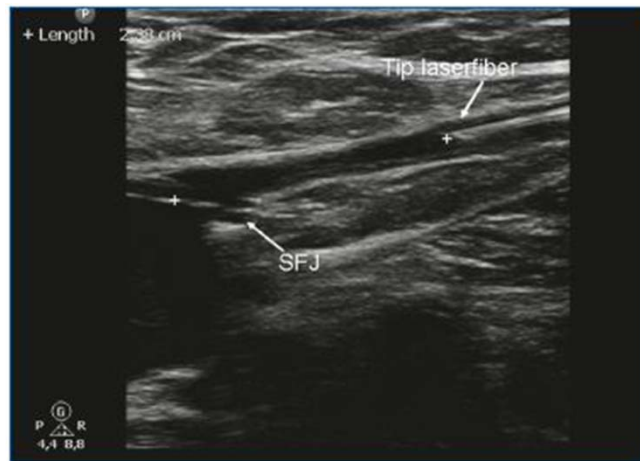
Venous Ablation

- Most commonly the GSV or SSV
- Heat energy used to close the vein
- >90% closure rate at 5 years
- Very diseased vein not adequate conduit
- Multiple other functional veins
- Deep system confirmed as patent

Venous Ablation



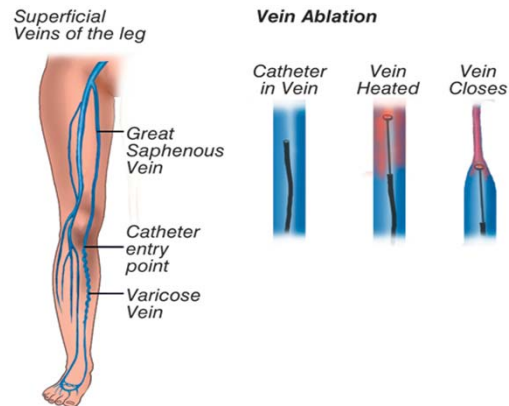
US guided laser placement



Tumescent Therapy



Venous Ablation



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Findings Post EVLT

- **Minor Bruising/Induration – 51%**
 - **Transient Tightness – 24%**
 - **Hematoma – 2.3%**
 - **Temporary Numbness – 3.8%**
 - **Phlebitis – 7.4%**
 - **DVT – 0.8%**
- **Post op compression and NSAID therapy**

Endovascular Laser Results

- Persistent closure 90% at 5 years
- Symptom improvement >90%

Summary of Care

- Initial consultation/US
- 3 month followup post compression/conservative
- Treatment visit – all completed in clinic
- Followup post treatment 1-2 weeks
- See as needed

Thank You
Dwight Chrisman MD FACC