

Cosmetic Surgery for Plumbers



THE VEIN INSTITUTE  
AT SOUTHERN SURGICAL ARTS

# All About Varicose Veins, Non-invasive Work-up and Therapy

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Medicine

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# Talk Objectives

- Be able to diagnose patients with venous disease.
- Be familiar with modern treatment modalities.
- Understand the importance of gradient compression.
- Know the main presenting symptoms of vein dz.













# How Do You Treat?

- Diuretics?
- Compression?
- Refer to dermatology?
- Work up for other disease processes?
- Watchful waiting?
- Home health for wrappings/Unna boots?
- Pain management?
- Lymphedema therapy?

# Vein Disease or “Varicose Veins”

Chronic venous disease

(Chronic) Venous insufficiency

Venous reflux

Venous (valvular) incompetence

(Ambulatory) Venous hypertension

Venous stasis disease

# THE SPECTRUM OF CHRONIC VENOUS DISEASE

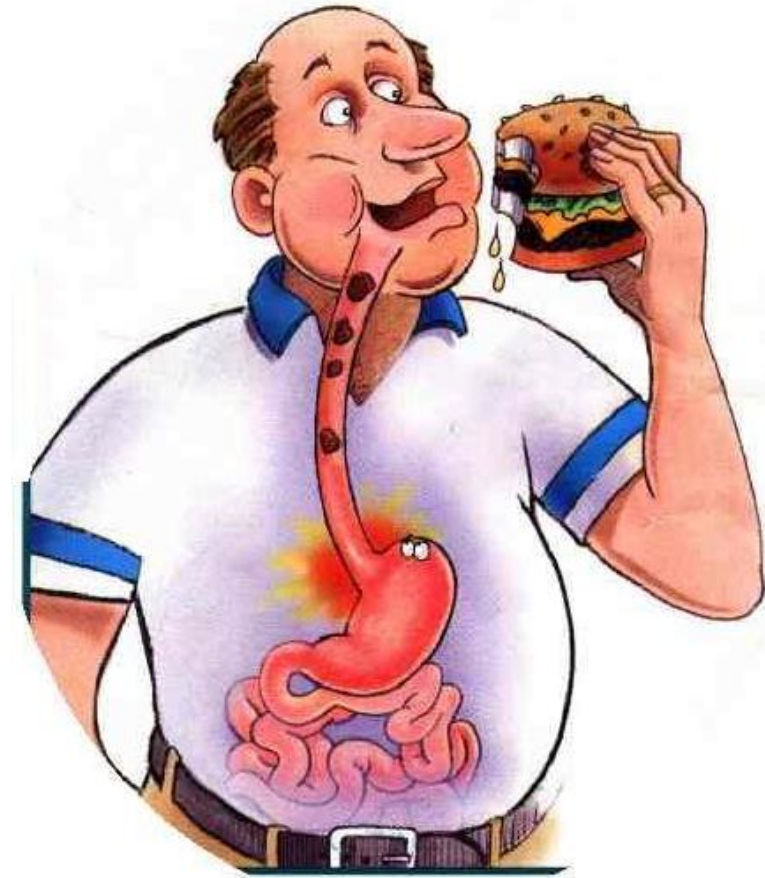
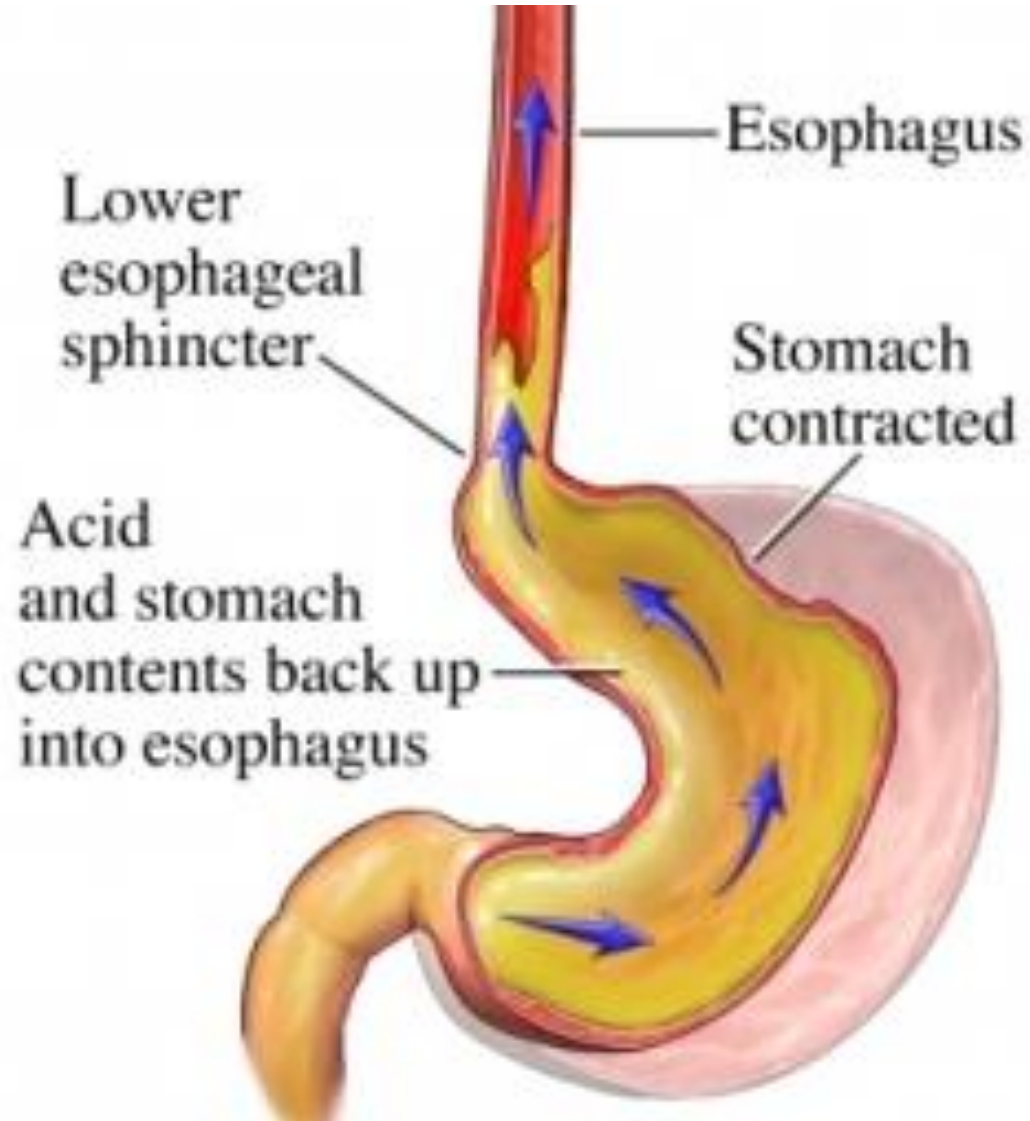


# IMPORTANCE OF CHRONIC VENOUS DISEASE

- 1 in 22 *or* 4.5% *or* 12.2 million people in the USA are affected by varicose veins
- Incidence increases with age and is more common in women with over 40% of women in their 50's suffering from some sort of venous disorder
- Across all ages and gender, 60% of Americans suffer from venous disease and its sequelae

*National Heart Lung and Blood Institute (NHLBI) <http://www.nhlbi.nih.gov/>*

# REFLUX



# Venous Reflux Pathophysiology

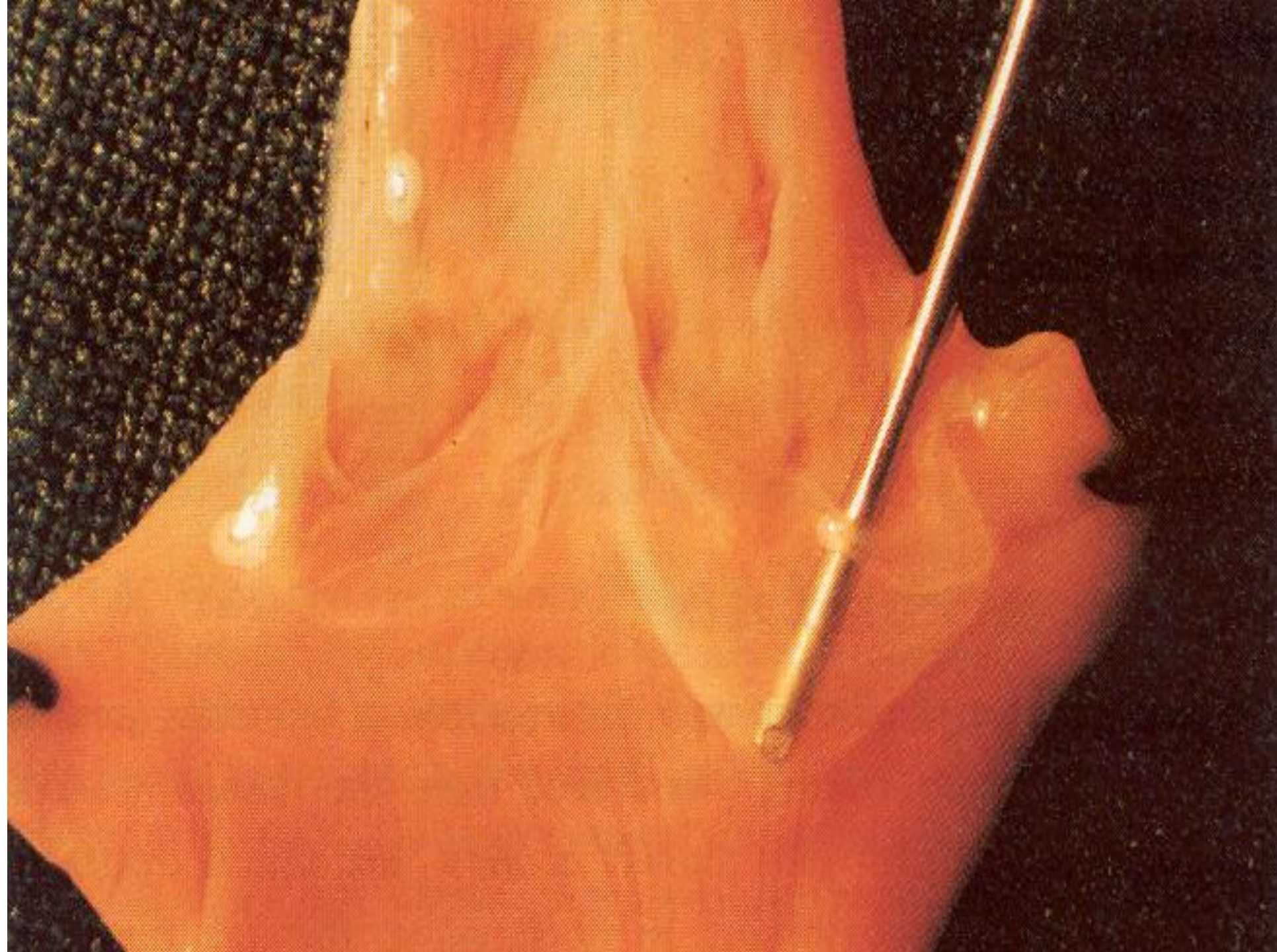
Dilated veins/malfunctioning valves →  
Blood flowing back down the veins (REFLUX) →  
High pressure in the superficial veins →

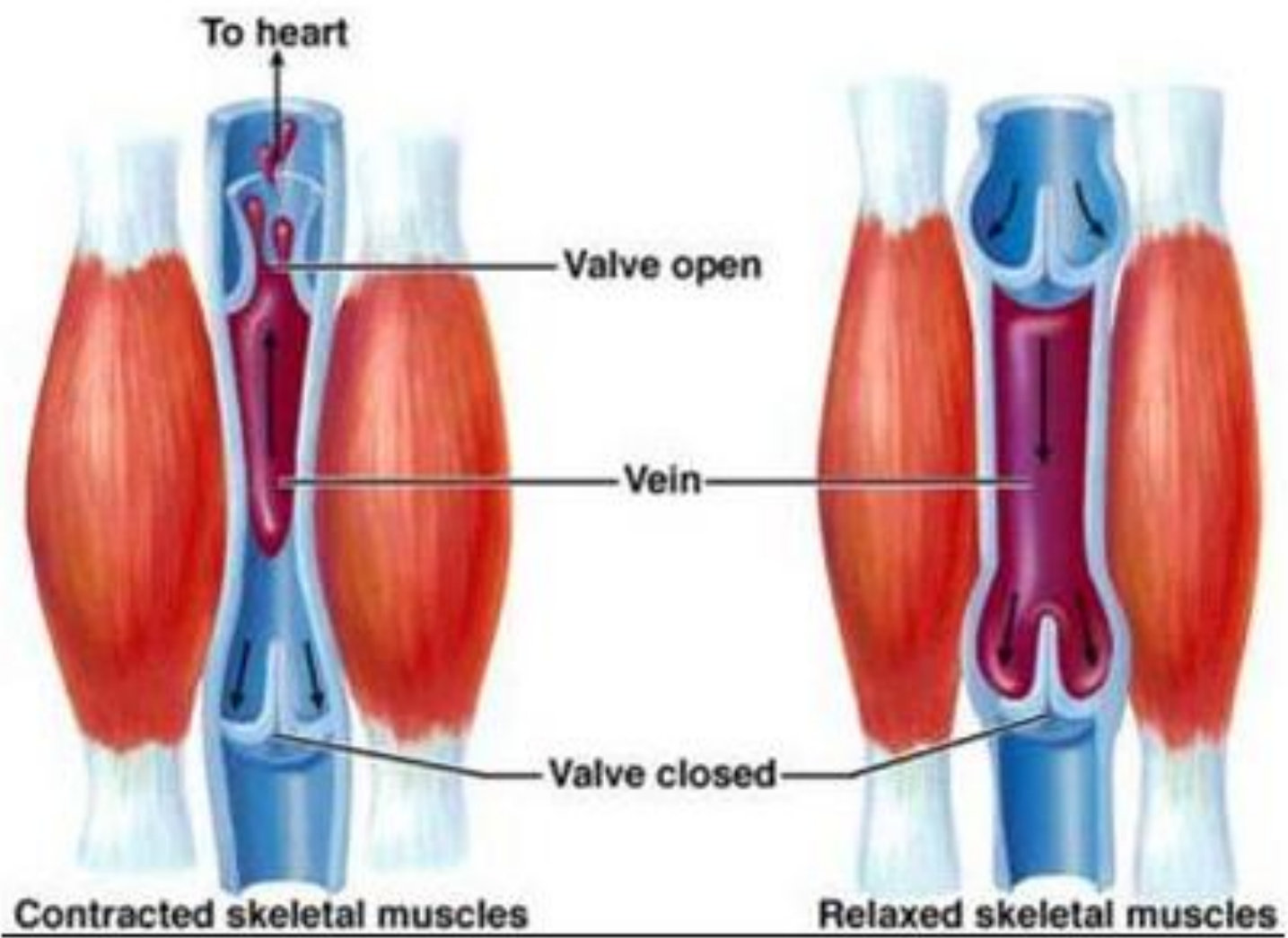
## Symptoms

Leg pain  
Aching  
Throbbing  
Cramps  
Fatigue/tiredness  
Heaviness  
Leg swelling  
Restless legs  
Spontaneous bleeding  
Numbness  
Itching

## PE findings

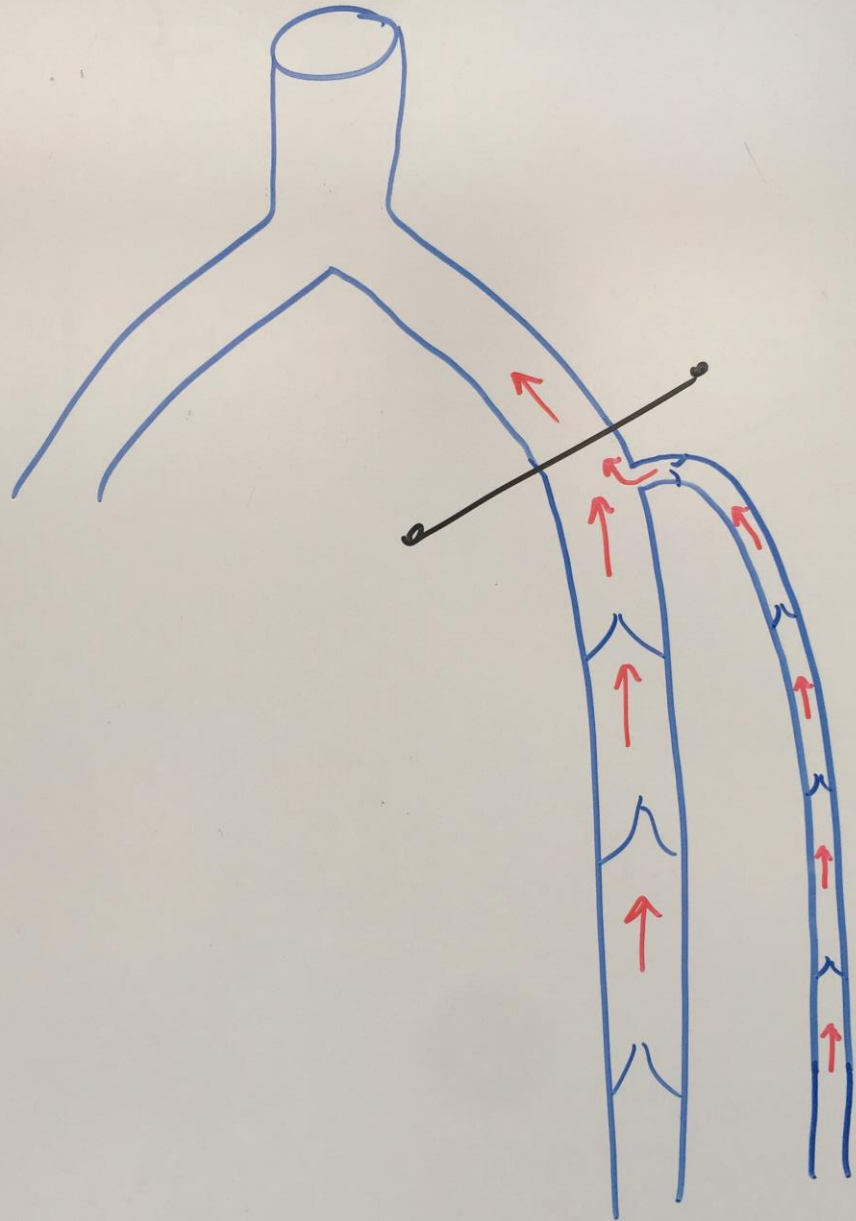
Varicose veins  
Spider veins  
Pigment Skin changes  
Lipodermatosclerosis  
Venous ulcers



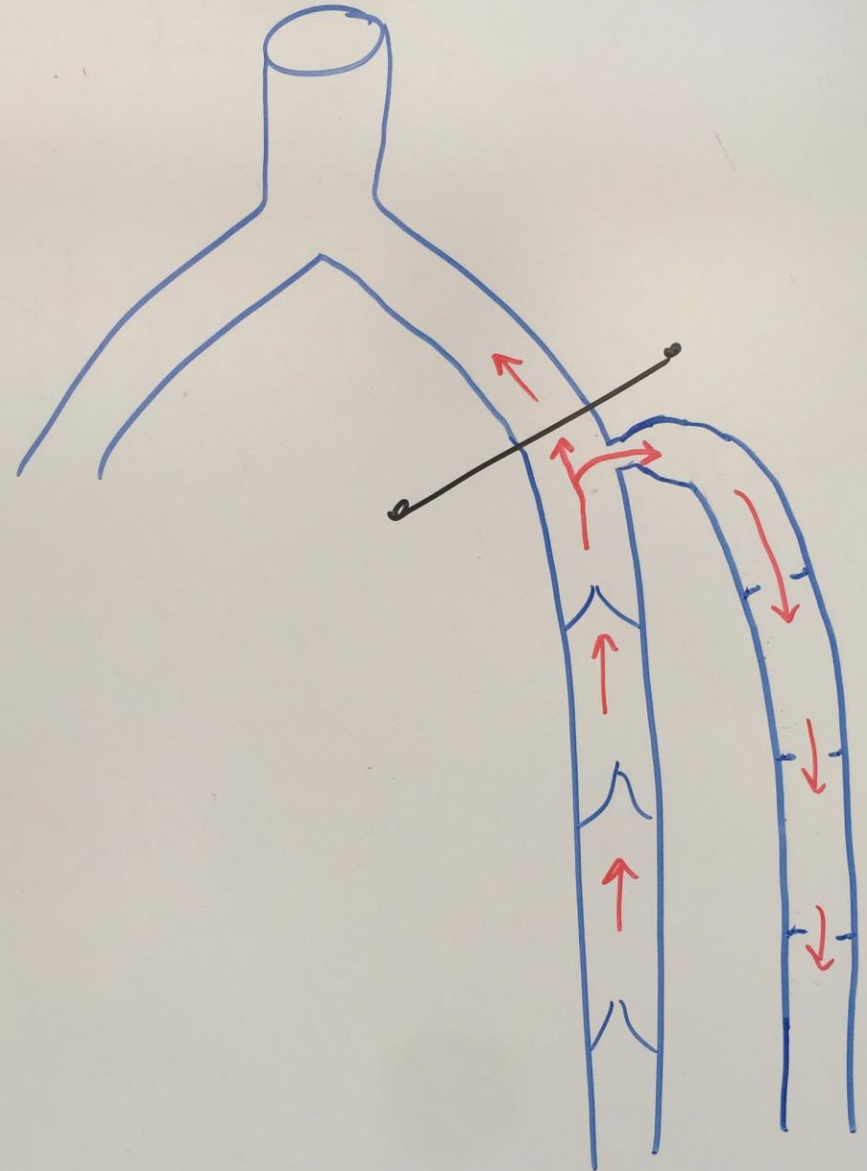




Normal



Superficial Venous Reflux



Normal

Reflux

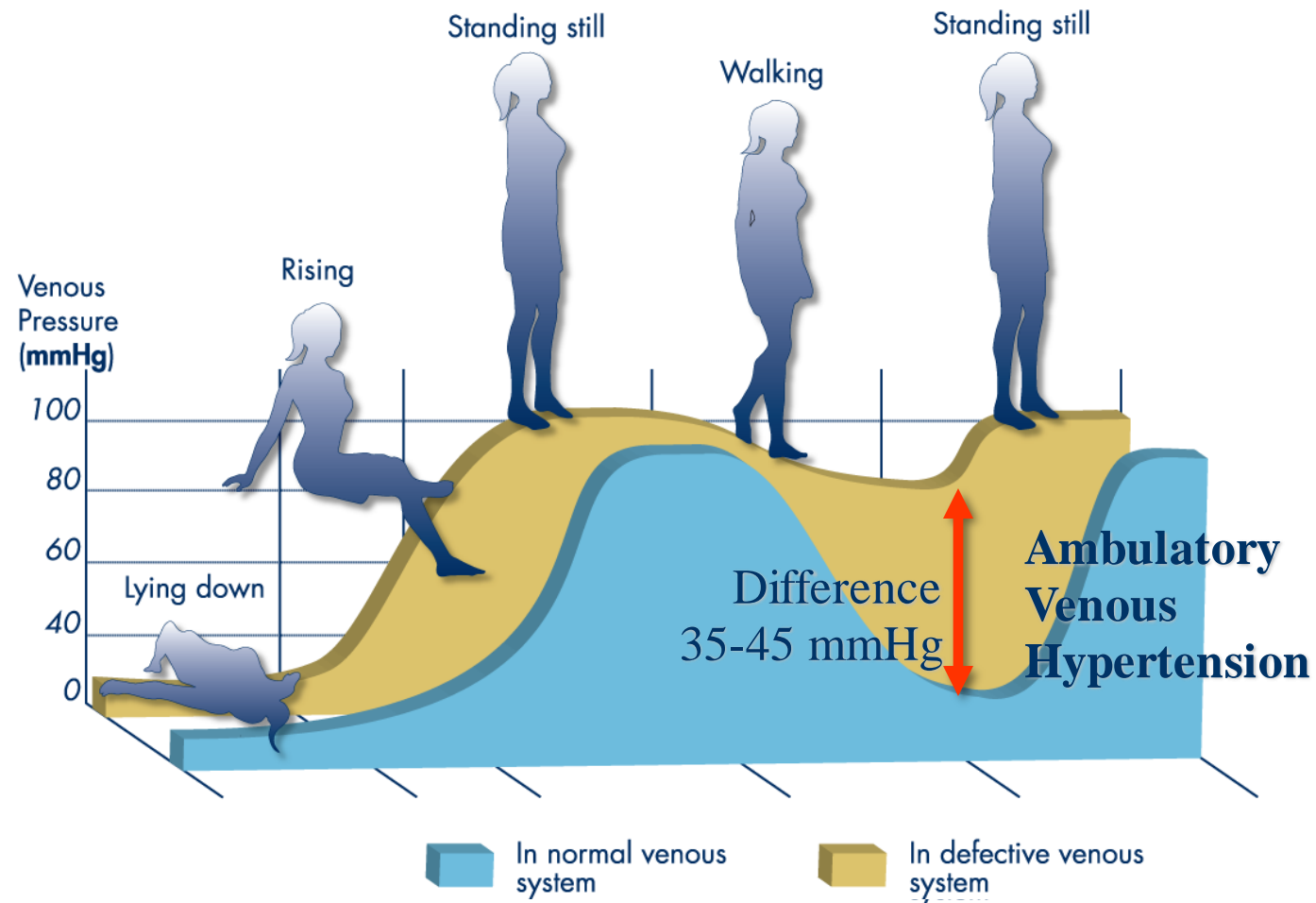


Healthy Vein Valves  
& Correct Blood Flow

Damaged Vein Valve  
& Incorrect Blood Flow

# Venous Pressure at the Ankle

Normal vs. Defective



# Presenting Symptoms of Chronic Venous Disease

- Pain
  - Aching, throbbing, burning, stabbing, cramping.
- Swelling (peripheral edema)
- Varicosities
  - Varicose, telangiectasia(spider), reticular.
- Restless legs/RLS
- Numbness
- Fatigue, heaviness in legs
- Itching
- Bleeding
- Skin changes.....Pigment, LDS, ULCERs.

# The Work Up

- Dr Google/SM/friends and family/PCP Referral!
- Interview/H&P
- Venous US exam – key!!!

# Evaluation of Patients

- H&P
  - Coagulopathy
  - Thrombophlebitis or DVT
  - PAD
  - Results from previous treatment
- Testing
  - Duplex ultrasound
- Patient selection

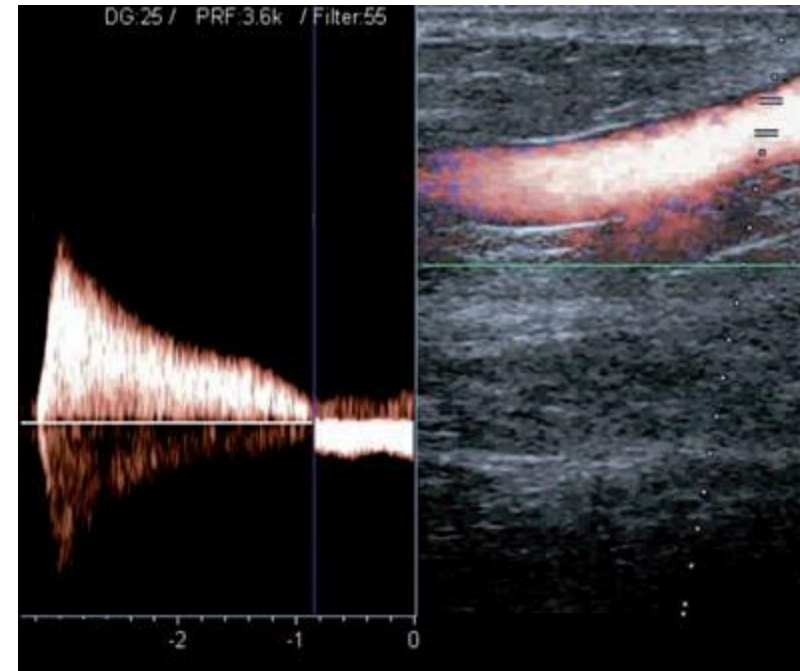


# Ultrasound



# Duplex Ultrasonography

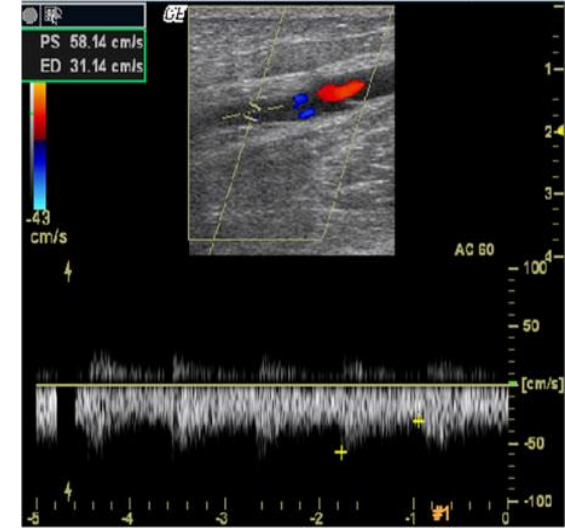
- Replaced plethysmography and venography
- 7-10MHz linear transducer
- Exam supine and standing
- Superficial and deep systems evaluated
- Physiologic reflux:  $< 0.5$  sec
- Pathologic reflux:  $> 0.5$  sec





# Duplex scan

- ▣ Vast majority have superficial incompetence only.
- ▣ Sensitivity 95 % for identifying the competence of the saphenofemoral and saphenopopliteal junctions.
- ▣ Less sensitive for identifying incompetent perforators (40 to 60 percent)



[Lin, JC, Iafrati, MD, O'Donnell, TF Jr, et al. Correlation of duplex ultrasound scanning-derived valve closure time and clinical classification in patients with small saphenous vein reflux: Is lesser saphenous vein truly lesser?. J Vasc Surg 2004; 39:1053.](#)

[Jutley, RS, Cadle, I, Cross, KS. Preoperative assessment of primary varicose veins: a duplex study of venous incompetence. Eur J Vasc Endovasc Surg 2001; 21:370.](#)

[REDACTED]  
MRN: [REDACTED]  
DOB: [REDACTED] 19[REDACTED]  
Exam Date: 05/12/[REDACTED]  
Procedure Code: 93970

Referring MD: [REDACTED]  
CC:  
Accession# [REDACTED]  
Procedure US DPLX SCAN EXTRM VEINS  
BILAT

**History:** [REDACTED]-year-old with venous insufficiency. Patient complains of bilateral leg pain and swelling.

**Technique:** Color flow Doppler and spectral waveform analysis was used.

**Findings:** The bilateral common and superficial femoral, popliteal, greater saphenous and calf veins are well visualized, widely patent and easily compressible. No evidence of DVT is noted. Grayscale and color flow analysis failed to demonstrate any abnormalities.

**Impression:** No evidence of DVT or other abnormality is noted left and right lower extremity.

**Electronically Signed By:**

[REDACTED]

[REDACTED] Md

# Treatment

- Non-surgical

# CONSERVATIVE MANAGEMENT

- Leg Elevation
- Exercise/Ambulation
- Compression Stockings (BAUERFEIND, SIGVARIS, JUZO, JOBST, ETC.)
- Weight loss

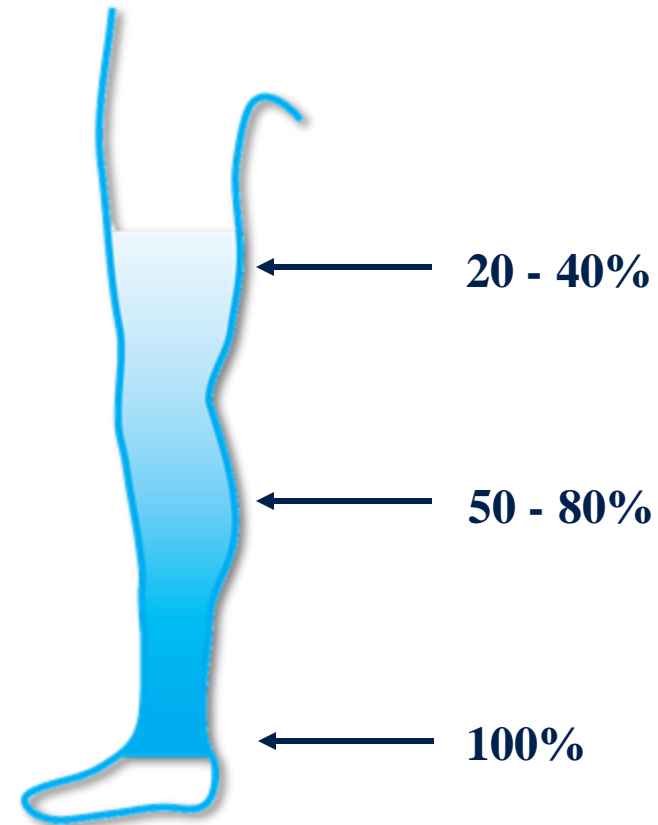
# Compression Therapy

- To be effective, it is very important that compression be graduated
- Strongest at the ankle and decreasing in the proximal direction



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# New York Marathon

## Paula Radcliffe



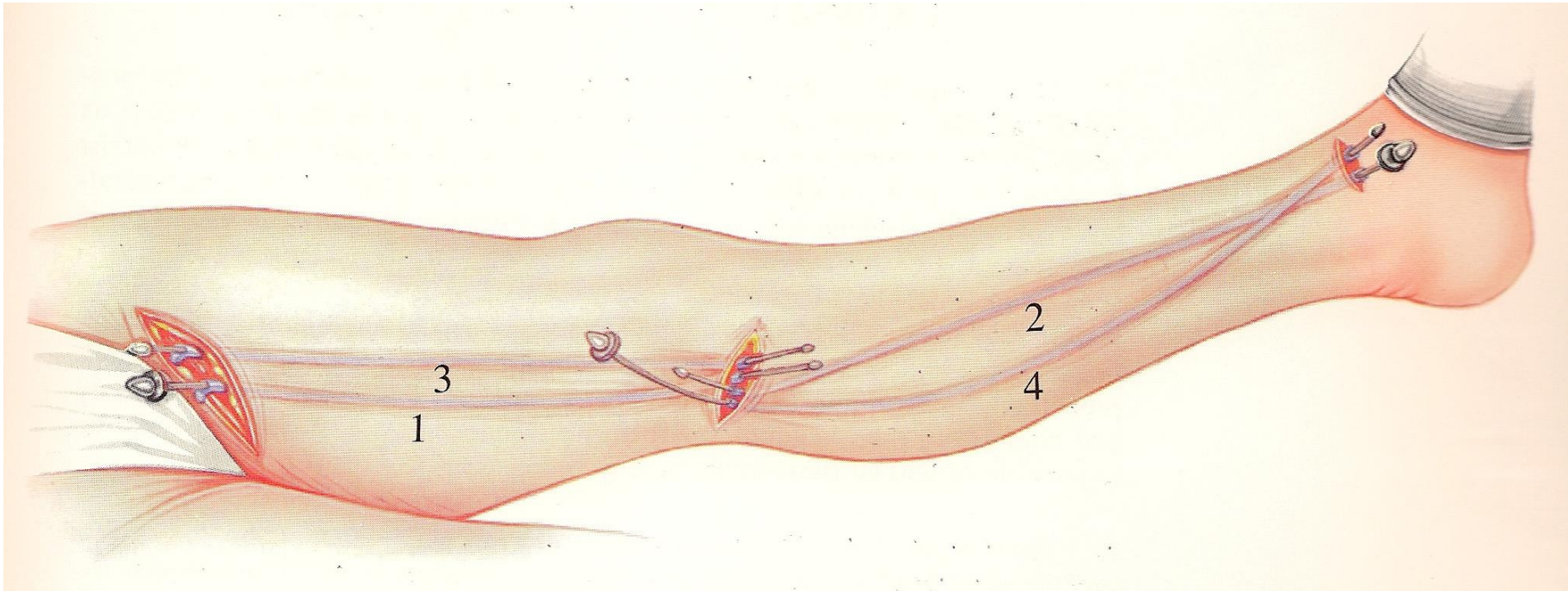
Ed Costello from Brooklyn, NY, US





# Treatment

- Surgical



# Modern Treatment

- **Endovenous Laser ablation.**
- **Endovenous Radio Frequency ablation.**
- **Commercial foam preparations**
- **Glue**



- Outpatient procedure
- Only local anesthesia required
- Closure of >93% Great Saphenous Veins at 2 yrs







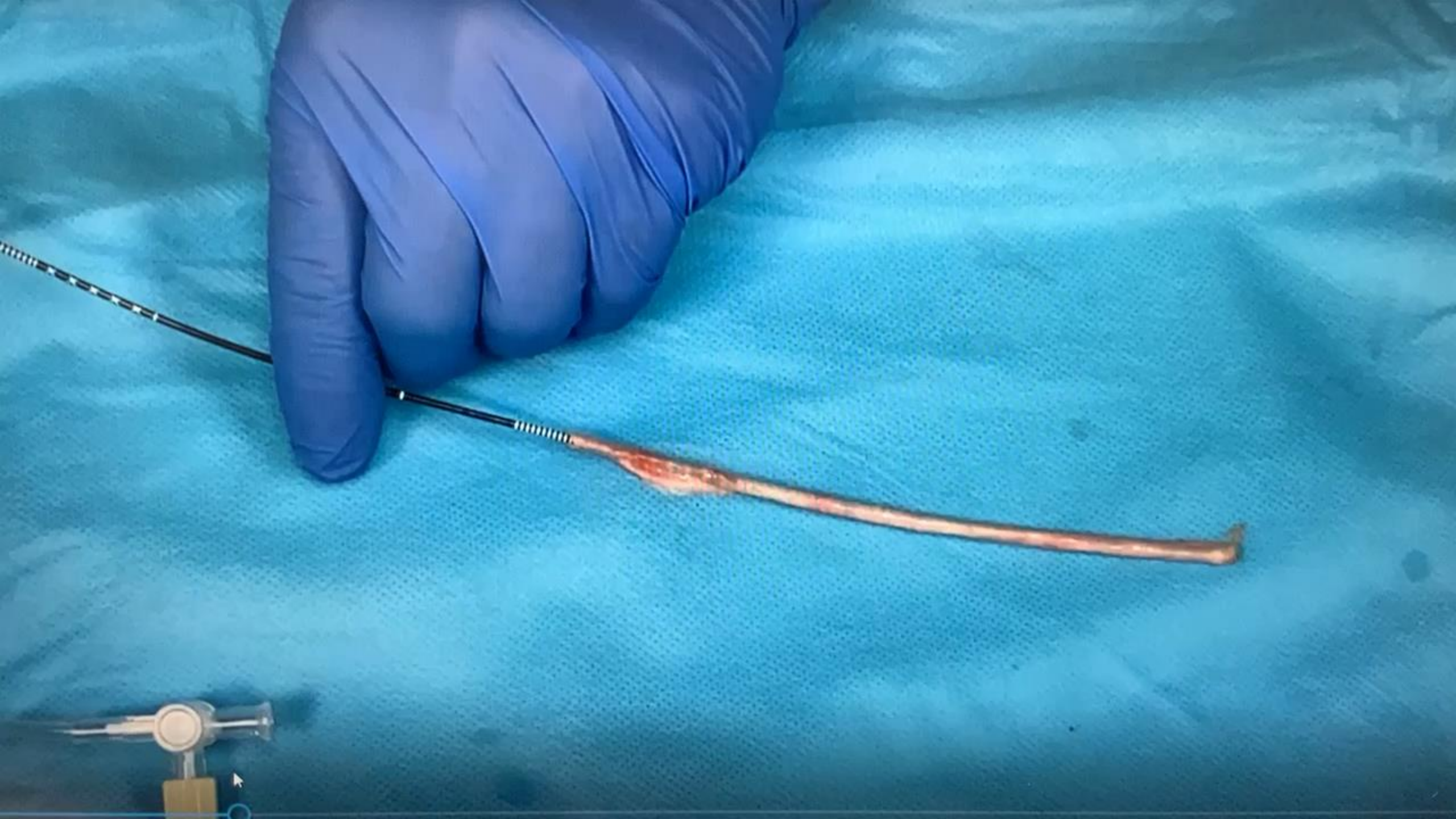












# Stripping

- General or Spinal.
- Hospital/OR.
- Painful.
- Recovery 4-6 weeks.
- Recurrence high.

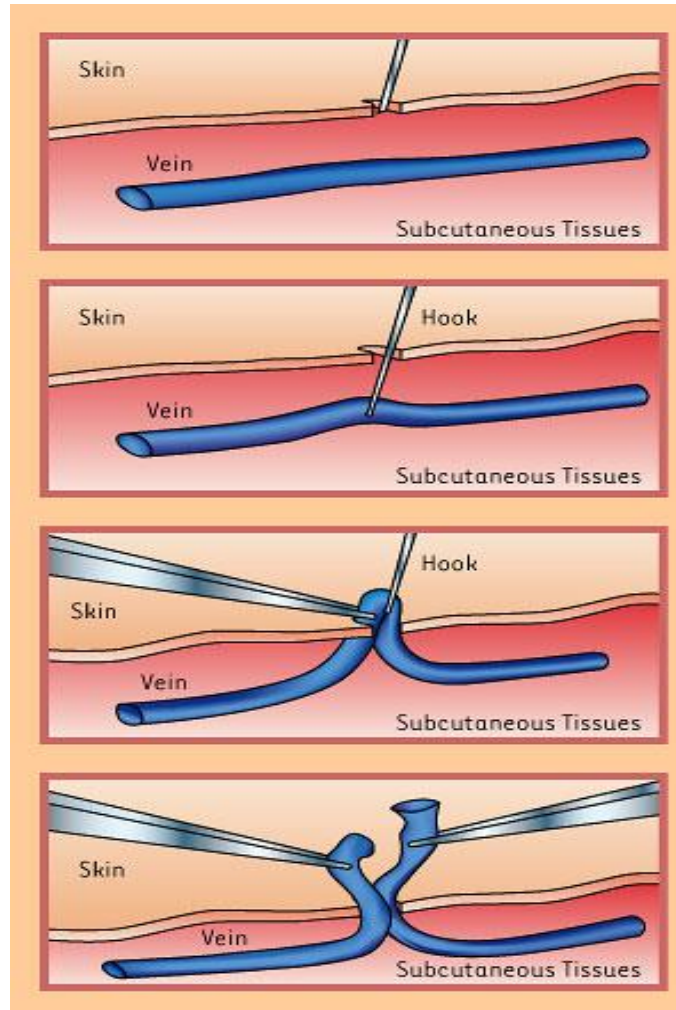
# LASER/RF

- Local/IV sedation.
- Office Procedure.
- Minimal Discomfort.
- 1-2 days.
- 1-2%.

# Adjunctive Procedures

- **Microphlebectomy**
- **Sclerotherapy**

# Microphlebectomy



















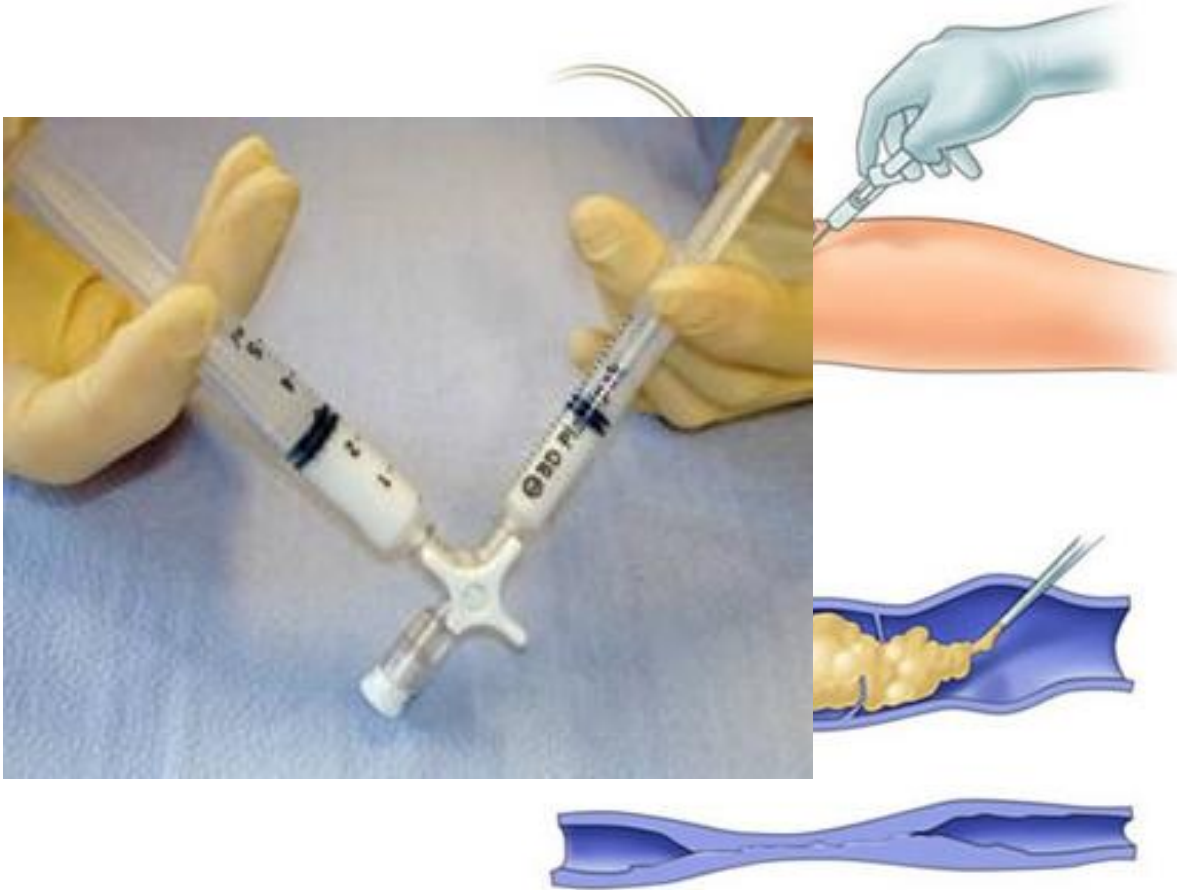


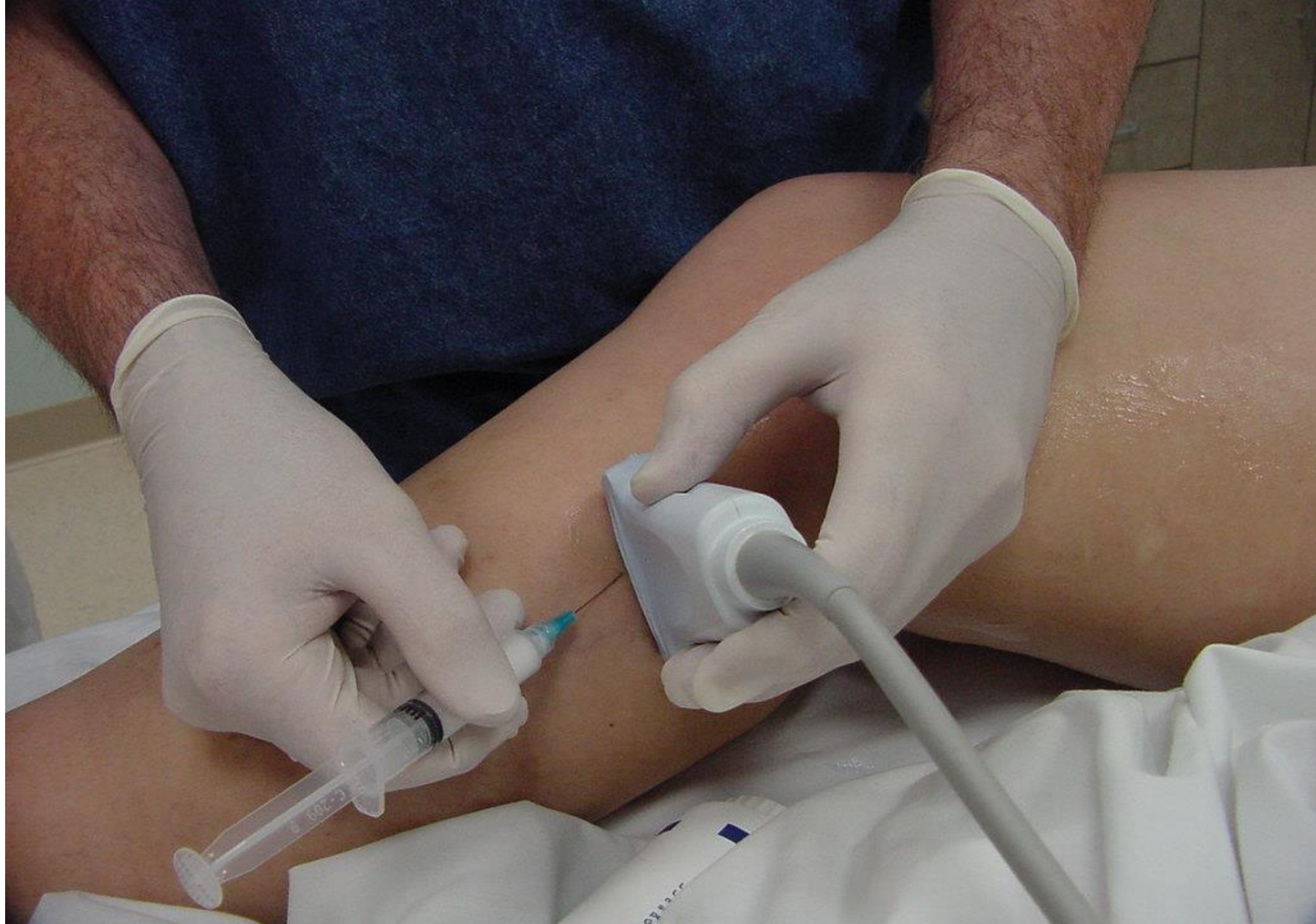


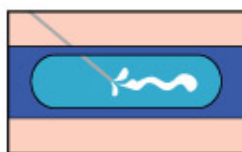
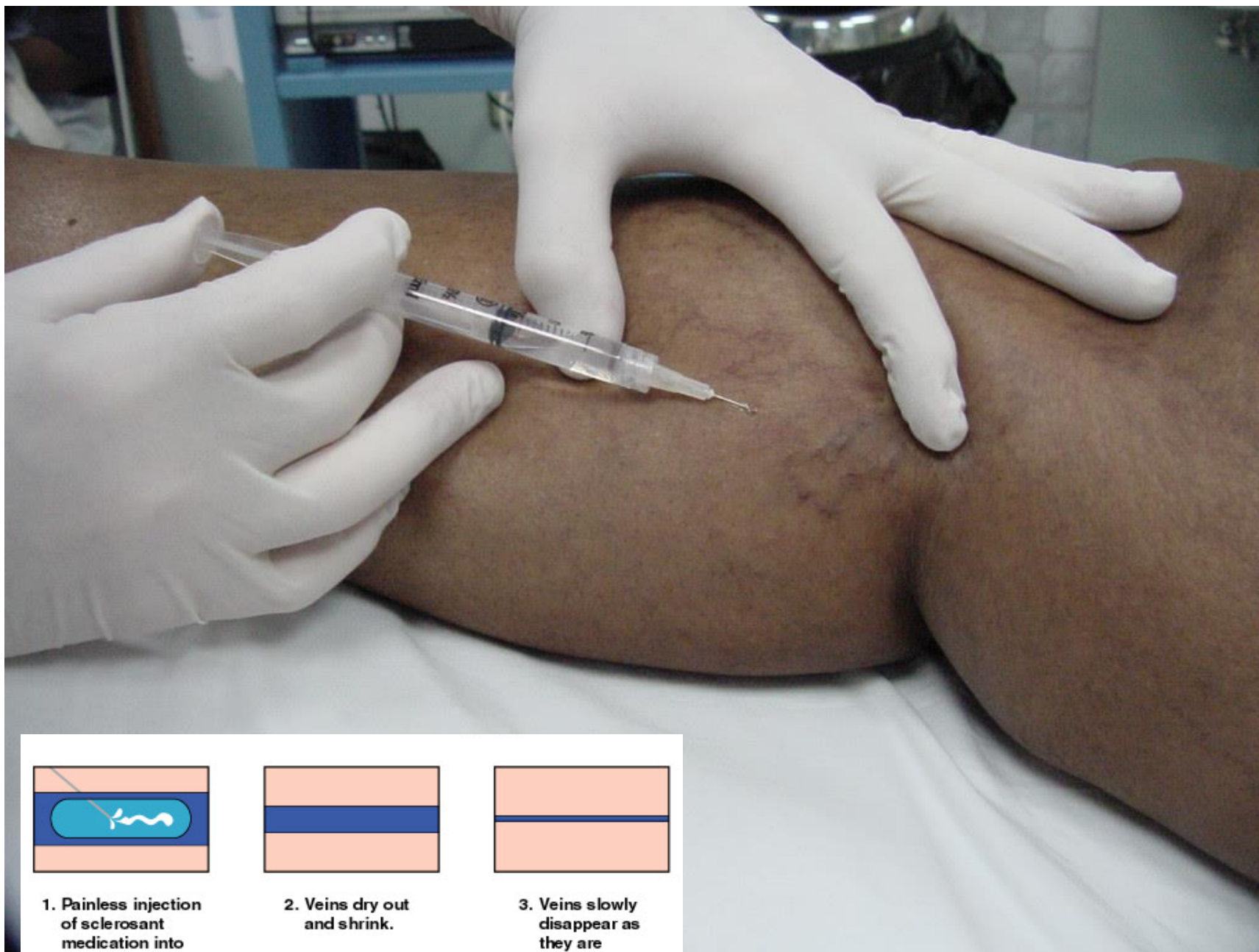




# Sclerotherapy







1. Painless injection of sclerosant medication into varicose veins or spider veins.



2. Veins dry out and shrink.



3. Veins slowly disappear as they are gradually absorbed by





BEFORE



AFTER



**BEFORE**



**AFTER**



**BEFORE**



**AFTER**





Scale document up







**BEFORE**



**AFTER**

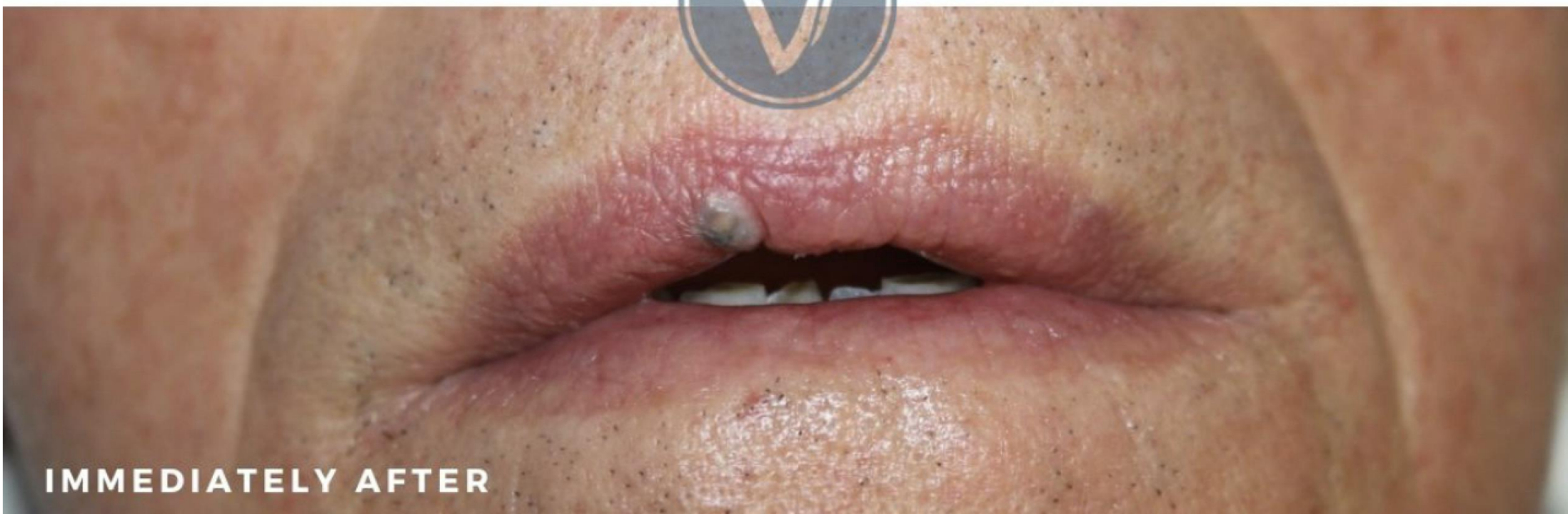


# Cosmetic treatments





**BEFORE**

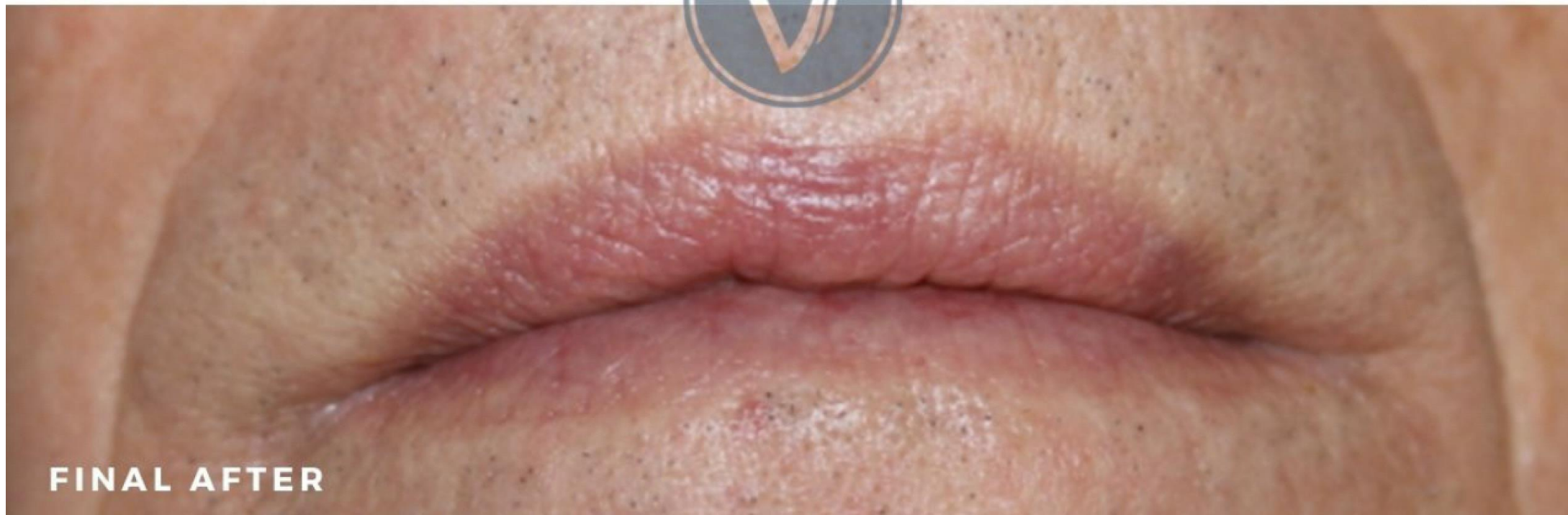


**IMMEDIATELY AFTER**





**BEFORE**



**FINAL AFTER**



# What can happen if you decide not to have tx

- The importance of early treatment.....



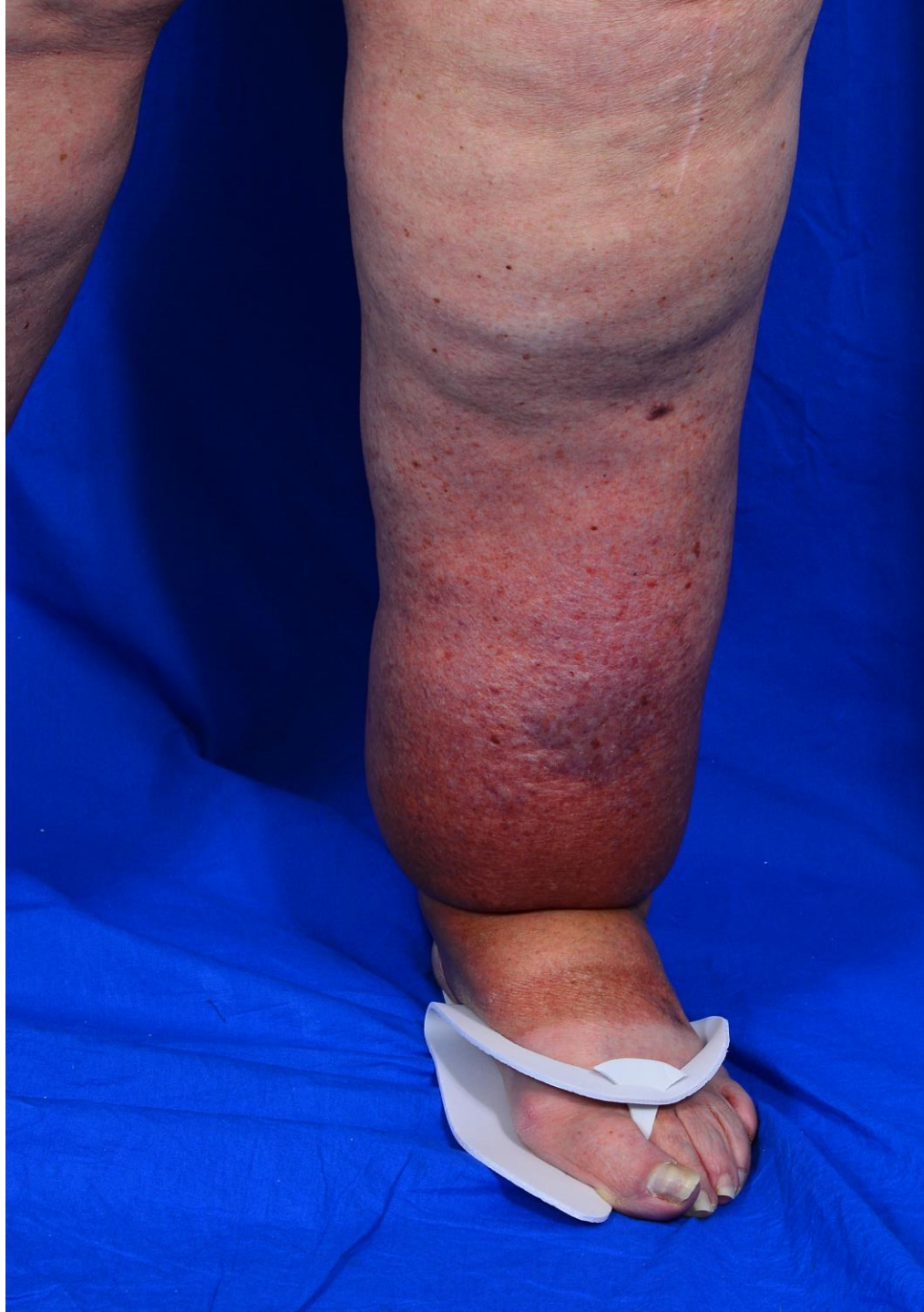


















# Spontaneous Bleeding.....



# Spontaneous Bleeding.....

























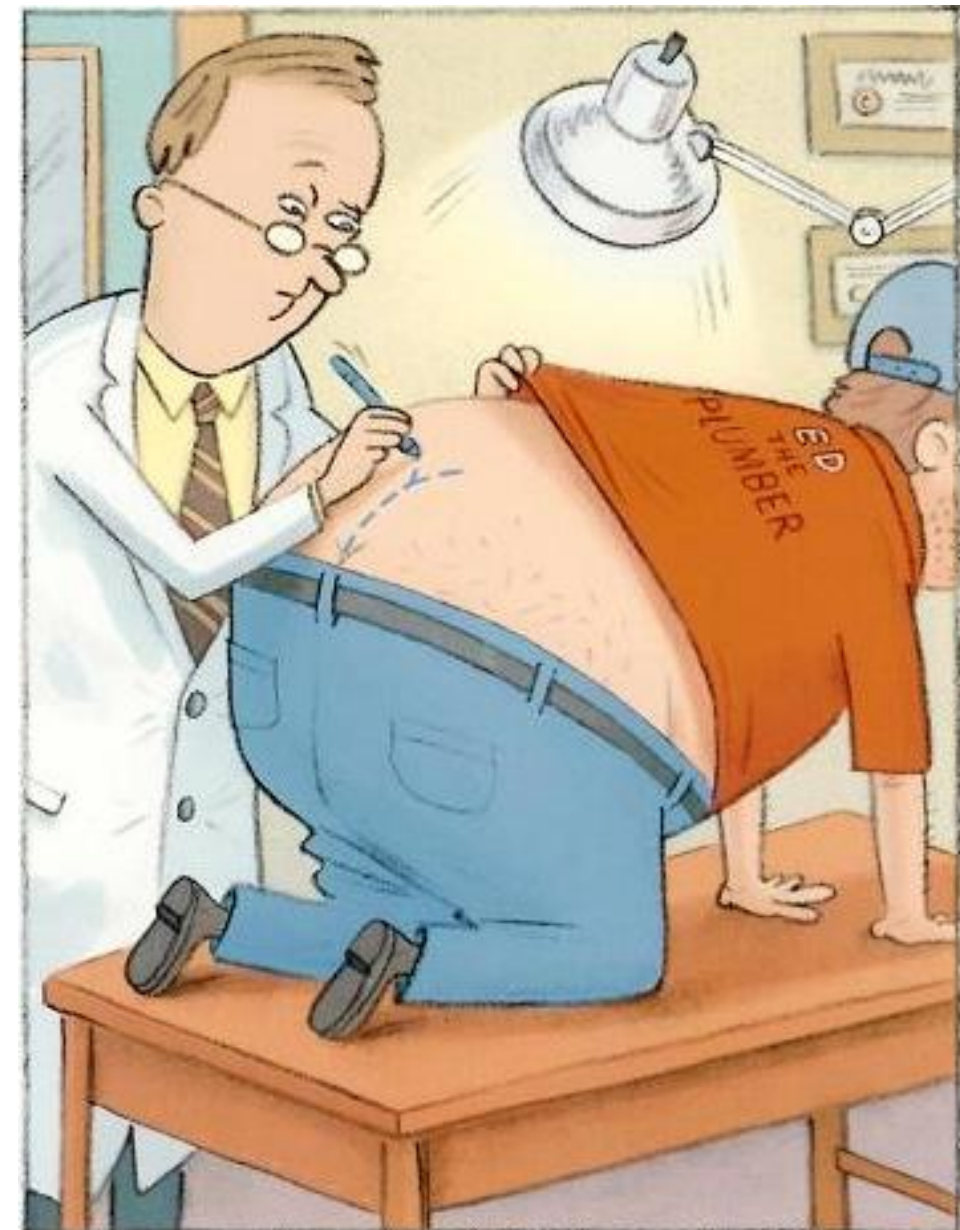












Thank You!

Vince Gardner  
C 205-807-6721

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God makes the snake