Clinical Case
Progressive Worsening of Calf Swelling
A 33 year old female with history of non-Hodgkins lymphoma currently in remission presented with progressive left calf swelling for the past 2 years.

**Symptoms**

Constant dull ache and tightness in left leg that becomes worse with prolonged standing

She has no issues with ambulation, fever, chills, shortness of breath, back pain or weight loss
History

Medical history
non-Hodgkins lymphoma in 2008 treated with chemotherapy and chest radiation
No history of CVI, SVT, DVT, PE, thrombophilia, recent hospitalization, injuries, extended travel

Social history: non-smoker

Family history: none

Allergies: none

Medications: none
Physical exam

Both lower limbs warm and well perfused
Distal palpable pulses
No skin changes or ulcerations
No cellulitis
Motor and sensory intact
No prominent varicosities
Non-pitting edema left leg
What imaging studies should be obtained?
Left limb venous duplex ultrasound

No deep vein thrombosis
No deep venous reflux
GSV diameter was 6mm and had reflux from SFJ to the distal thigh
Varicose veins in the mid-thigh, distal thigh and mid-posterior calf
No SSV reflux
CT Venogram

No evidence of abdominal or pelvic mass
Left renal vein was normal
CT Venogram

Mild left CIV compression but not likely to suspect significant obstruction.

However, the extent of her swelling could not be explained by the GSV reflux alone.

Should further evaluation of the iliac veins be performed?
Venogram

AP view

LAO 45°
73% area reduction of left common iliac vein from the right common iliac artery
What is the next step?

GSV ablation
Stenting of the left common iliac vein
Both procedures
In some patients with swelling or skin damage venous reflux alone cannot account for CVD severity. In such cases imaging of the iliac veins is often done to detect obstruction.

Correcting obstruction and saphenous vein reflux has shown to improve clinical outcomes despite the deep vein incompetence. This was demonstrated by Neglen P, et al who did combined interventions in 99 limbs of 96 patients with up to 5.5 years of follow-up.

Evaluation of the iliac veins and IVC can be performed initially with transabdominal ultrasound.

Axial imaging with CTV or MRV is performed in the following:
- Lack of ultrasound experience
- Ultrasound imaging is suboptimal
- Ultrasound did not demonstrate obstruction in patients with high clinical suspicion

IVUS and venography are used during the intervention. However, if the ultrasound and axial imaging do not demonstrate obstruction IVUS and venography are used for diagnosis with intention to treat.