Venous Disease for Primary Care Providers

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November 6, 2026

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Disclosures

Terumo Aortic

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Venous Disease- Objectives

Learning objectives:

1. Identify key differences between arterial disease and venous disease of the lower extremity
2. Understand initial treatment options for venous insufficiency
3. Recognize pelvic venous disease and assist in initial work up

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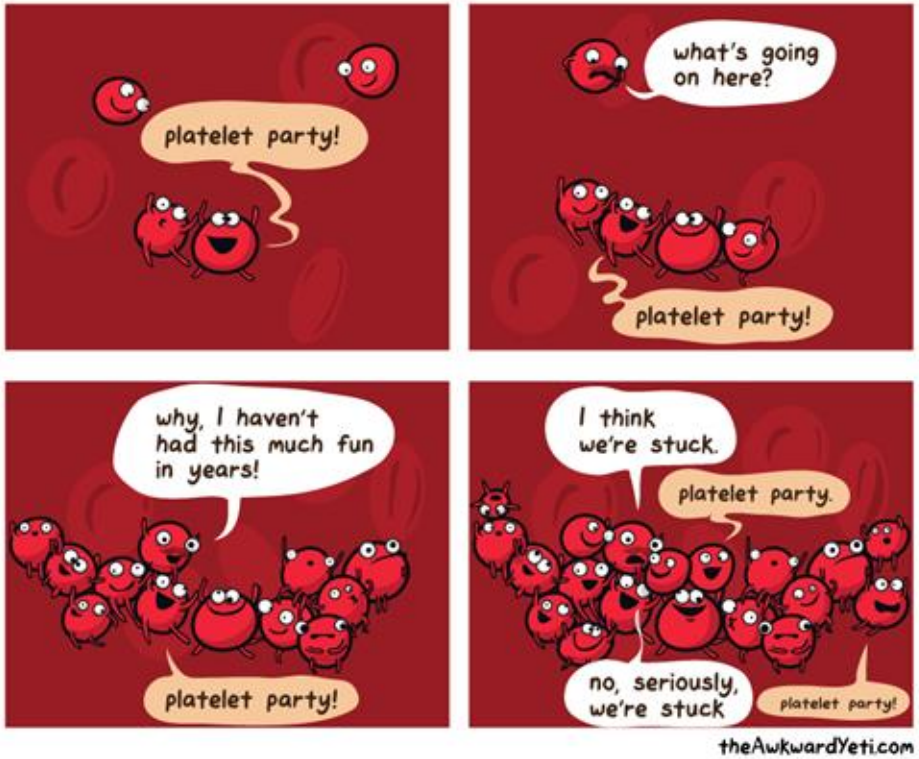
Acute Venous Thrombosis

Acute Venous Thrombosis

Deep Venous Thrombosis

Superficial Venous Thrombosis

Lower extremity



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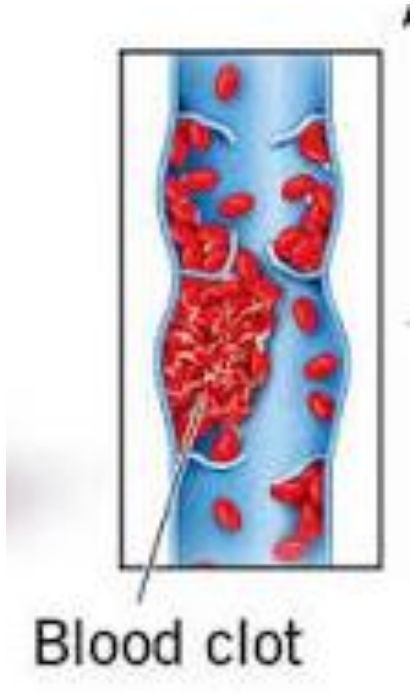
Deep Venous Thrombosis

Blood clot involving a deep vein of the leg (iliac, femoral, popliteal, or tibial vein)

Acute: Less than 14 days

Subacute: 14-28 days

Chronic: 28 Days or older



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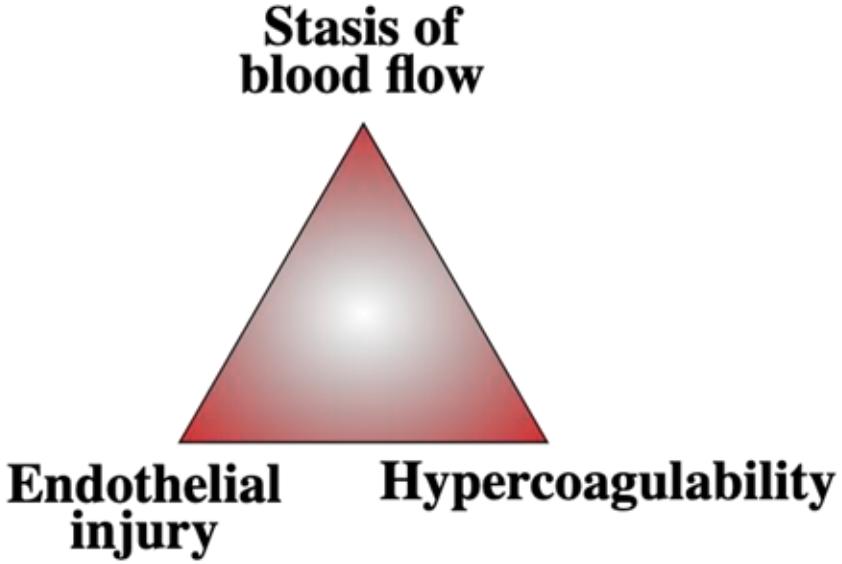
Deep Venous Thrombosis

Risk Factors:

Stasis: Immobility due to illness, travel, etc

Endothelial injury: surgery, injury

Hypercoagulability: genetic tendency, pregnancy, smoking, medications, cancer, a combination there of, etc



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Diagnosis of DVT

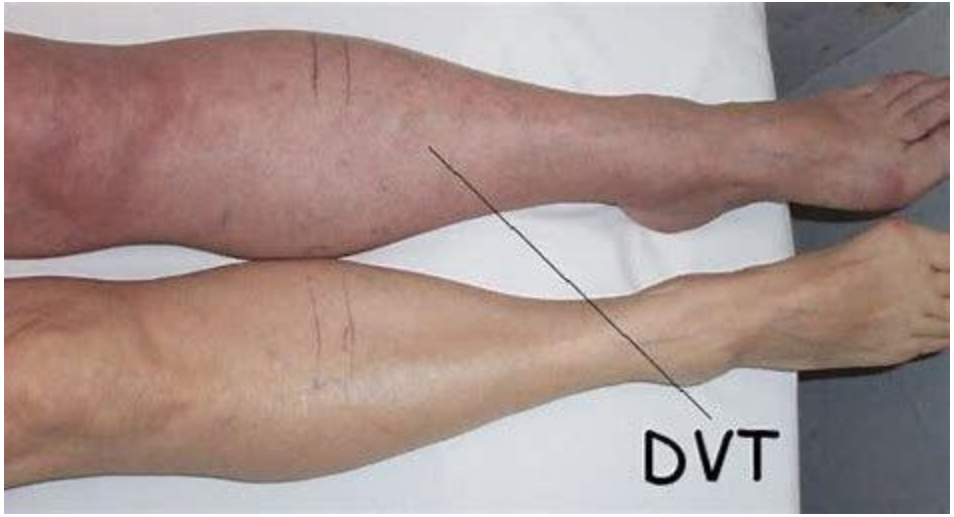
Symptoms:

Typically unilateral leg swelling.

Acute onset

Lower extremity pain

May be warm with either a red discoloration or a bluish discoloration



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Diagnosis of DVT

Venous Duplex:

Findings:

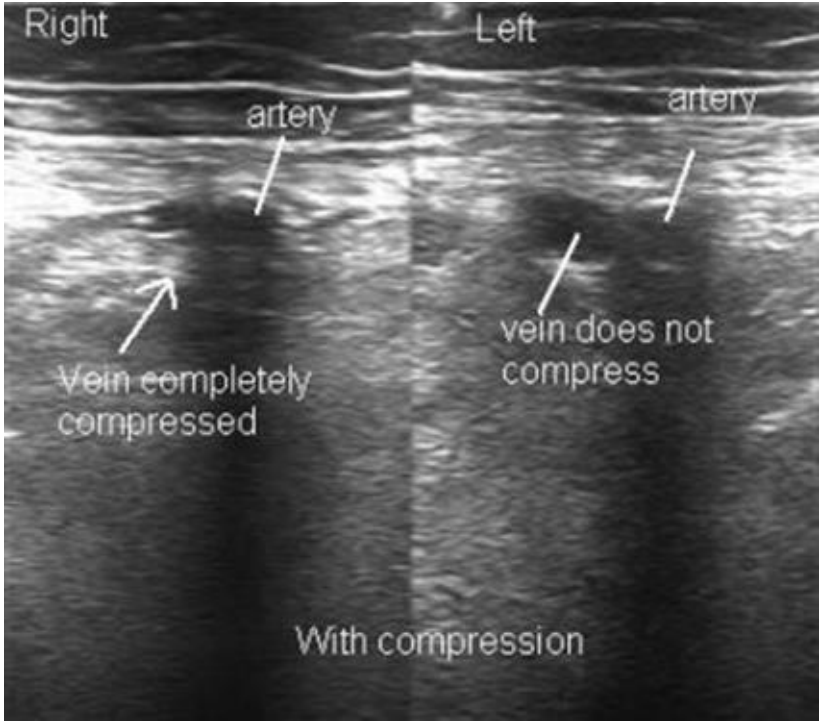
Hypoechoic (dark)material filling vein

Non compressible

No color fill or limited color fill

Loss of phasic waveform

Loss of Augmentation



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Diagnosis of DVT

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Diagnosis of DVT

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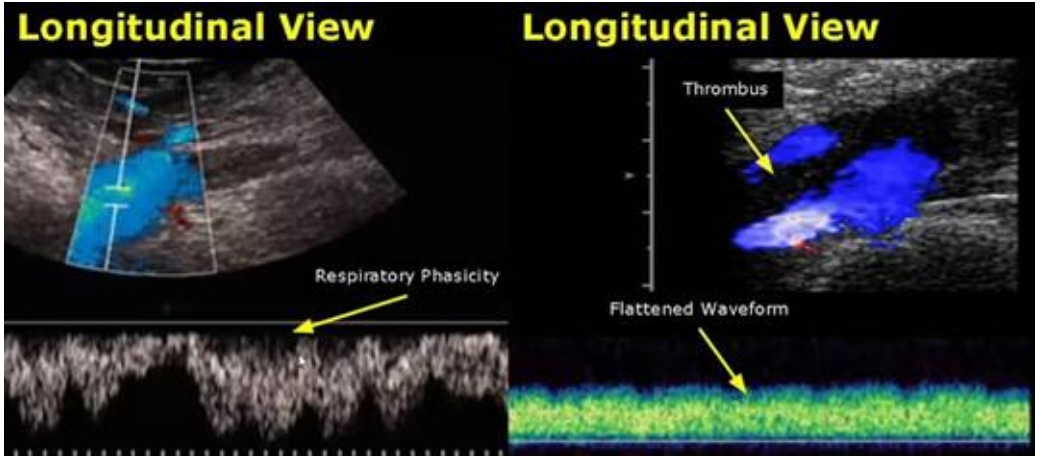
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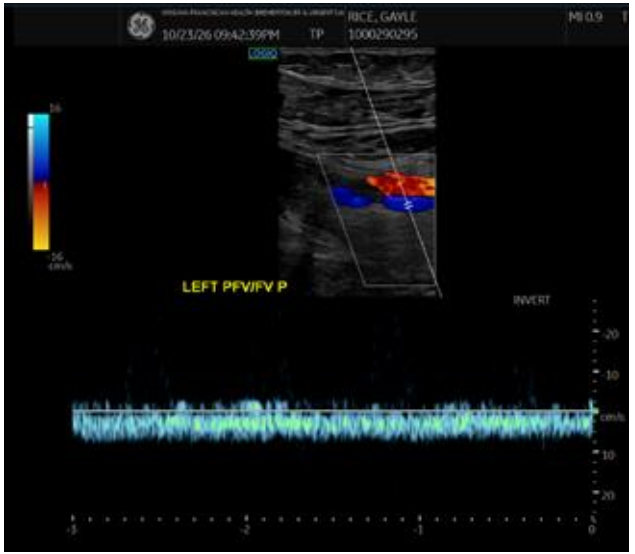
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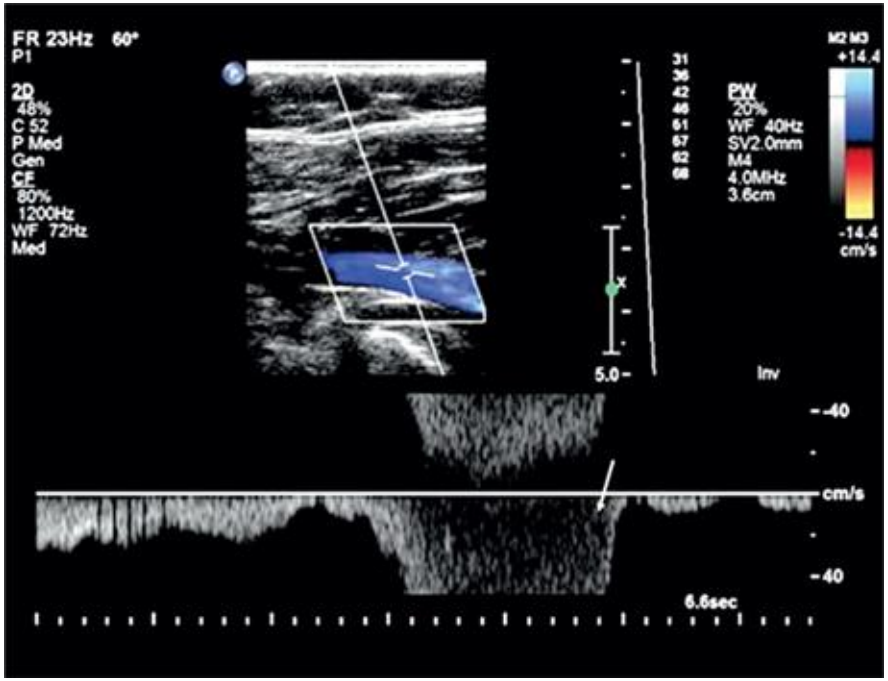
Diagnosis of DVT

Phasic waveforms and Augmentation Explained

Continuous column of blood can transmit pressure waves.

Phasic waveforms is pressure changes in chest with respiration shown in vein

Augment is pressure waveform cause by squeezing calf

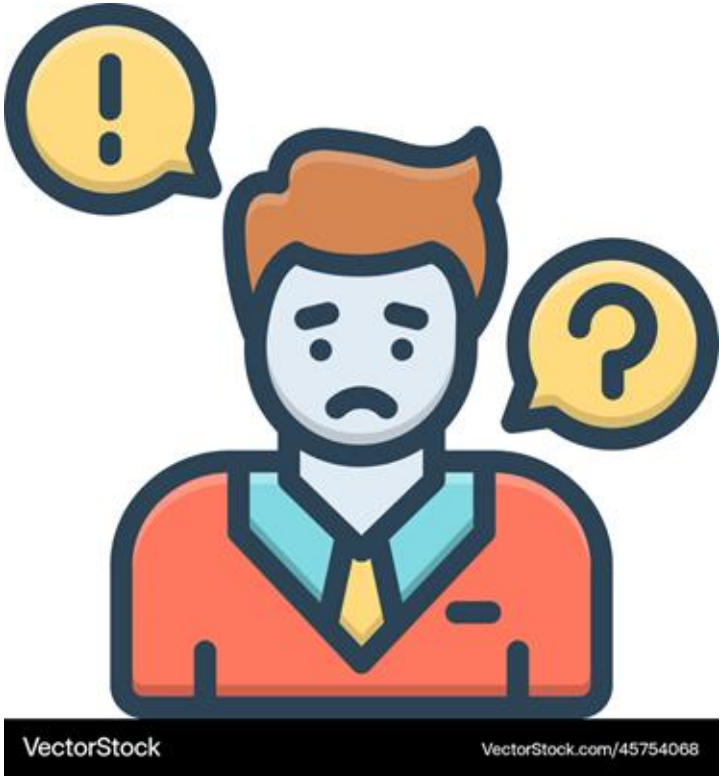


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Diagnosis of DVT

1. No evidence of deep venous thrombus with an the femoral vein, popliteal vein, and calf veins.

2. Evaluation of the common femoral vein is limited secondary to technical factors, specifically with the patient being nonresponsive and noncompliant with instructions for positioning. Unable to obtain typical color flow and unable to compress the common femoral vein.



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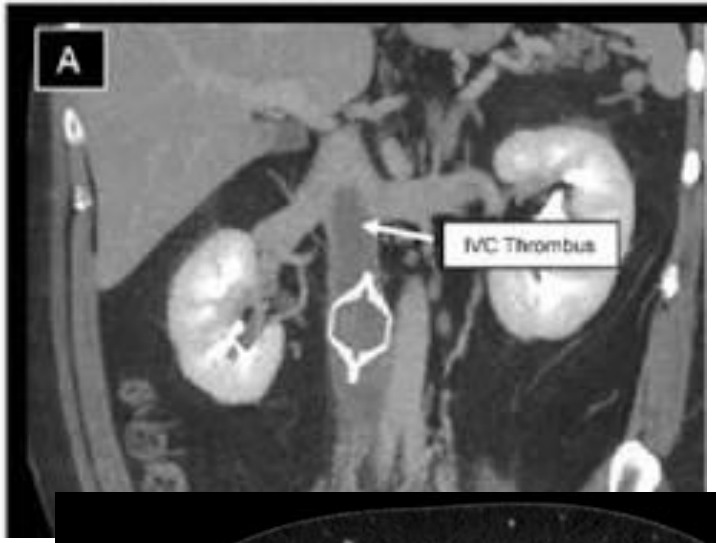
Diagnosis of DVT

CT Scan:

Not as good duplex and will miss DVT if only imaging used

Useful for diagnosing IVC/iliac DVT

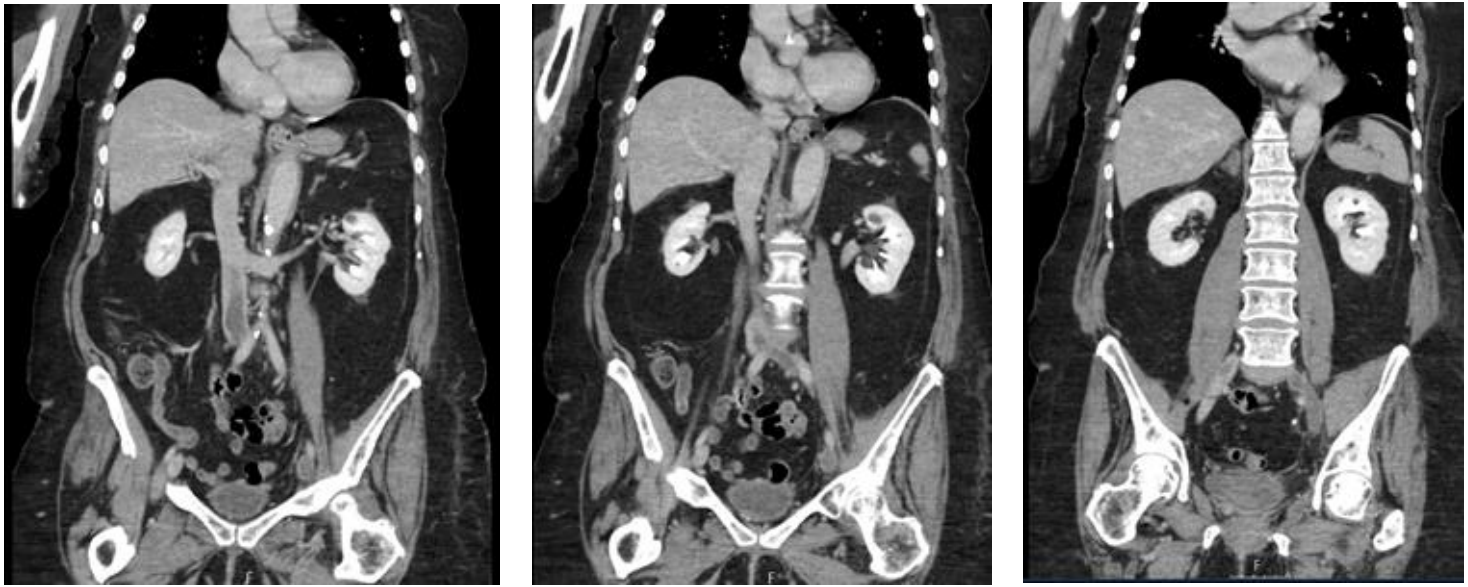
Consider if clinical suspicion is high for DVT but duplex is negative





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Diagnosis of DVT



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Treatment of DVT

Chest Guidelines

Best source of information

Free access

Just a google away



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Treatment of DVT

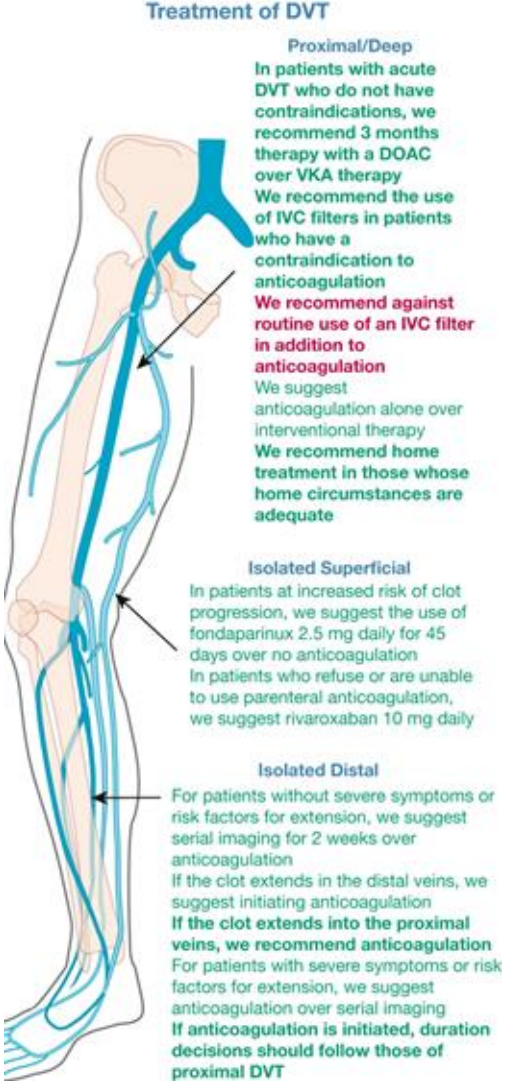
Basics:

New DVT of femoral/popliteal veins: anticoagulation for 3 months with DOAC

No IVC filter unless anticoagulation contraindicated

No Surgical intervention

No Follow up Imaging recommended



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Treatment of DVT

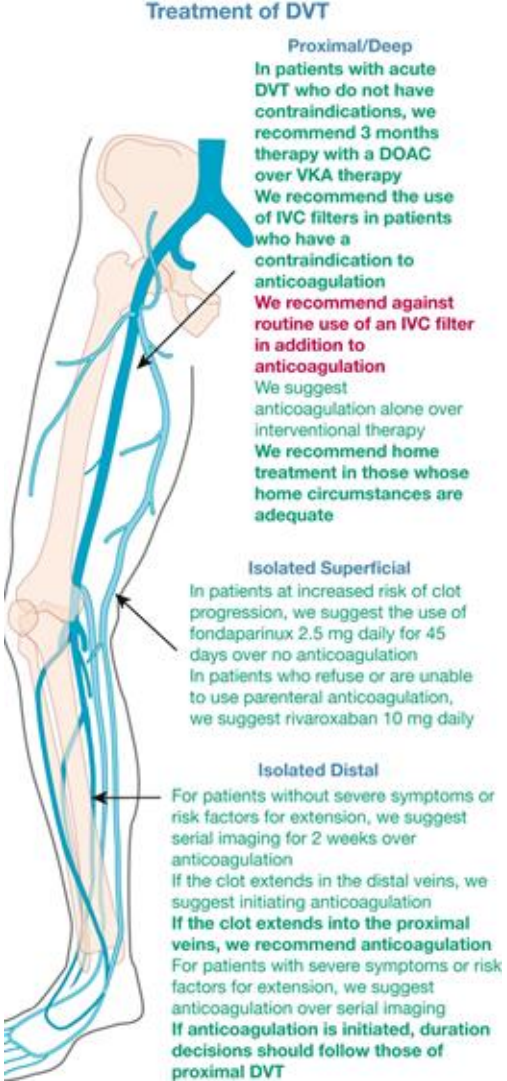
Basics:

Focal Tibial DVT Can we watched closely if no risk factors (hypercoagulable state etc)

Repeat imaging in 2 weeks

If patient ok to anticoagulate and any uncertainty about follow up or risk factors- just anticoagulate

If anticoagulated- should be for 3 months



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Treatment of DVT

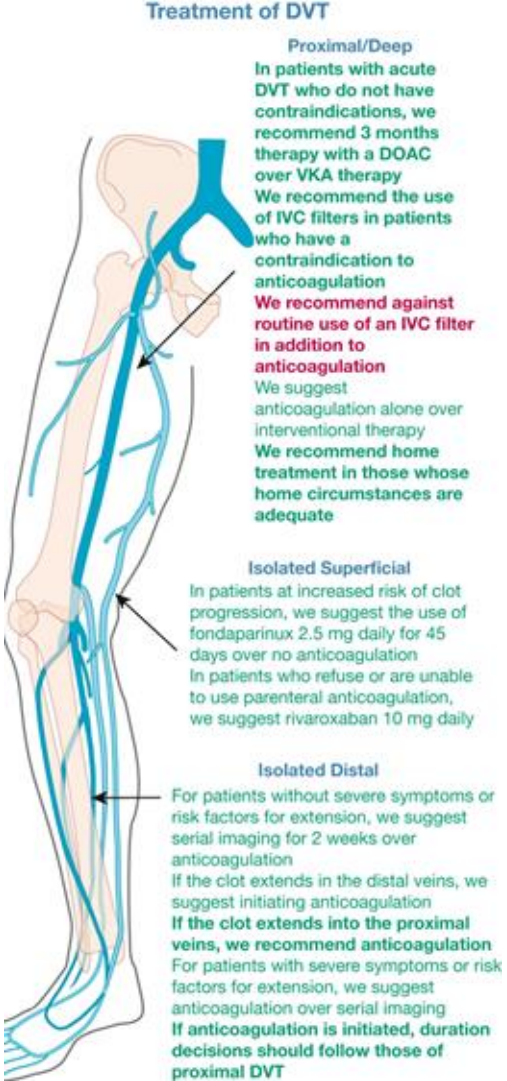
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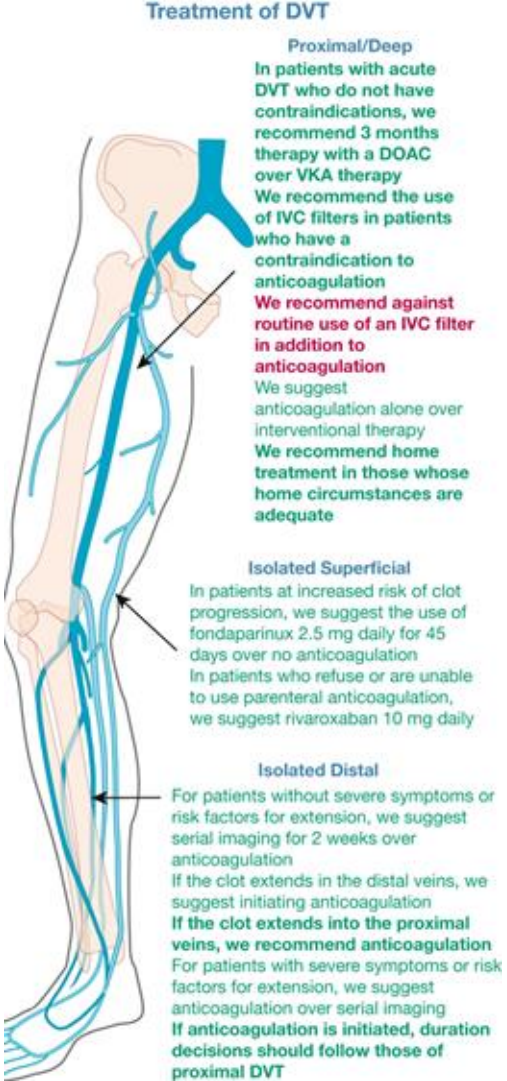


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Treatment of DVT

Exceptions:

- Hypercoagulable conditions:
  - Acquired: Cancer, pregnancy, etc- treat until provoking factor is gone
  - Genetic: usually lifelong
- Unprovoked DVT:
  - Typically lifelong- or refer to hematology and let them decide…



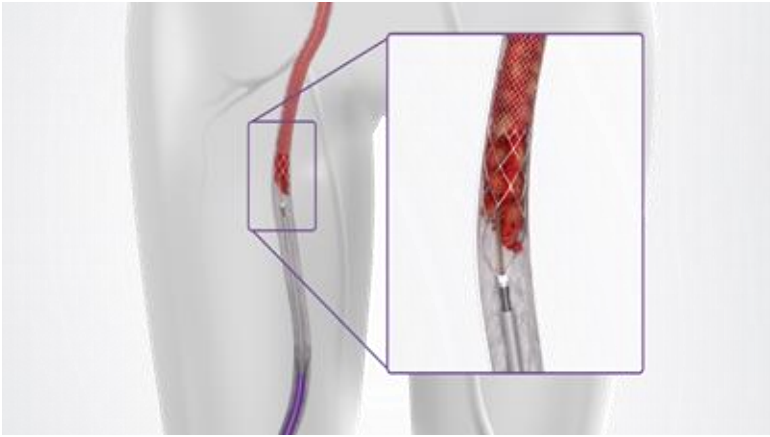
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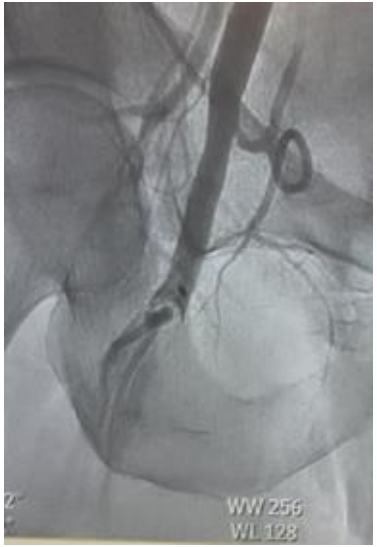
Treatment of DVT

IlioFemoral DVT/ IVC DVT

If a good surgical candidate then recommend venogram- mechanical thrombectomy and/or thrombolysis

IIf poor surgical candidate then anticoagulation alone





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Early Mobilization and Compression

- Not associated with higher PE risk
- Non significant improvement in limb pain- more pronounced improvement in subgroup with moderate -severe DVT
- Edema was not improved compared to bedrest- but was not worse either
- ACCP+ APT recommend early mobilization

Early Mobilization for Patients with Venous Thromboembolism: A Review of Clinical Effectiveness and Guidelines

CADTH Rapid Response Report: Summary with Critical Appraisal

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Acute Venous or Arterial Thombosis?

Arterial

- 5 Ps
  - Pallor
  - Poikilothermia
  - paralysis,
  - paresthesias
  - Pulseless
- Swelling not typical

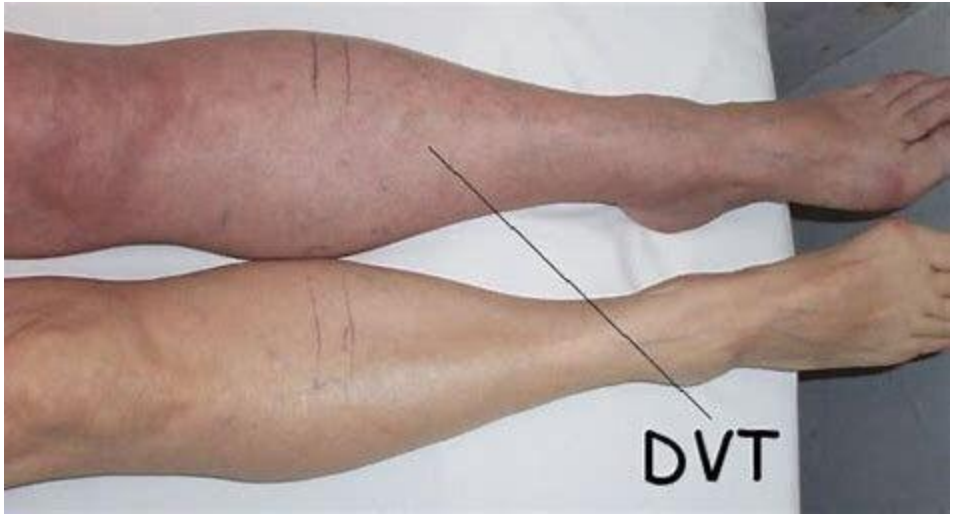
Venous

- Warm/hot to touch
- normal motor/sensation- can be slightly limited by swelling
- Pulses normal (or signals if not palpable)
  - Except cerulean dolens

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Acute Venous or Arterial Thombosis?





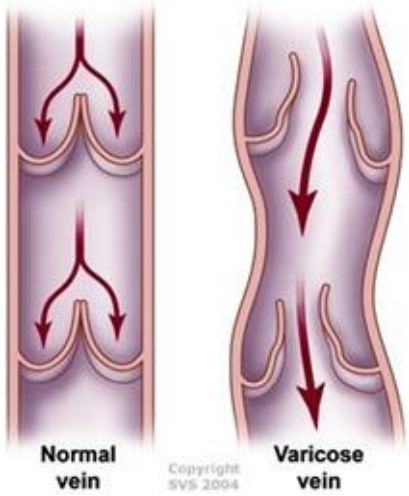
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Venous Insufficiency

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Venous Insufficiency/Reflux

- Malfunction of venous valves
  - Can affect deep or superficial veins
  - Valves allow blood to fall caudal direction
    - Superficial veins >0.5 s
    - Deep Veins >1 s
- Leads to increased venous pressures in veins of lower extremity

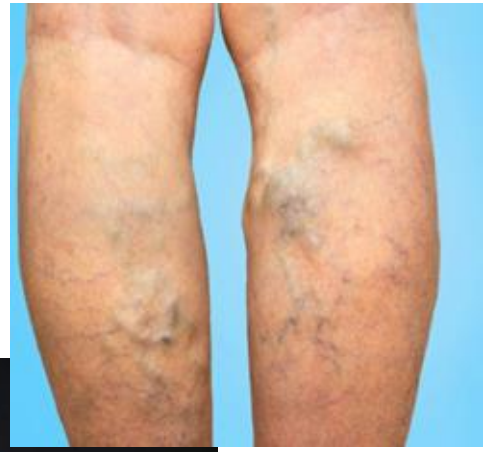


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https://vascular.org/patient-resources/vascular-conditions/varicose-veins

Venous Insufficiency/Reflux

- Symptoms
  - Chronic leg swelling
  - varicose veins
  - heaviness, aching, itching, pain
  - non healing ulceration



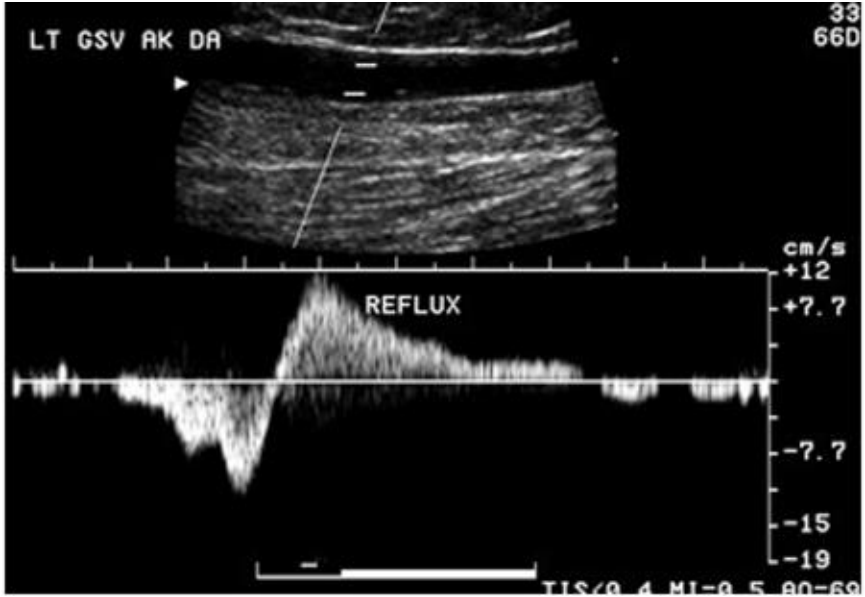


https://vascular.org/patient-resources/vascular-conditions/varicose-veins

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Diagnosis

- Clinical Symptoms
- Venous **insufficiency/reflux** duplex
  - Standard venous duplex looks for evidence of DVT- won't show reflux
- Presence of active ulcers/recent bleed – more urgent intervention



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AbuRahma, Ali F., et al. "Society for Vascular Surgery Clinical Practice Guidelines for Management of Extracranial Cerebrovascular Disease." *Journal of Vascular Surgery*, 2021. https://vascular.org/referral-resources/who-refer/patients-carotid-disease

Initial Treatment

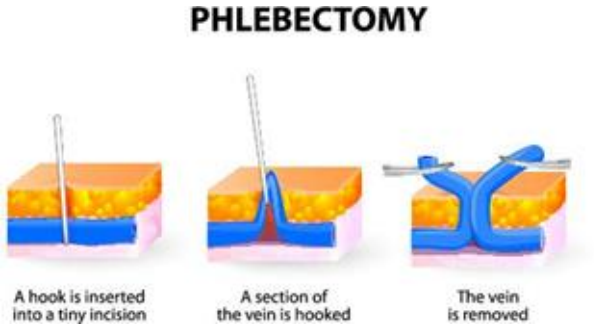
- Leg swelling Symptomatic veins
  - Compression Stockings
    - ideally 20-30 mmHg
    - OTC ok but odd sizes likely need medical grade
  - Lifestyle changes
    - Walking more
    - weight loss
    - Leg elevation
    - No sleeping in recliners



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Superficial Venous Treatment

- Non surgical (lifestyle, compression stockings, medications/OTC
- GSV or SSV Ablation – RFA, Cyanoacylate closure, Laser closure
- Sclerotherapy
- Phlebectomy
- High ligation





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Venous Ulcerations

- Compression is a MUST
  - Prefer multilayer compression wrap/unna boot- Wound Care
  - If not compressed will not heal
- Look into other causes of swelling
- Eval venous outflow
  - Duplex or CT scan ot ensure no iliac stenosis/occlusion.

    Venogram gold standard to rule out
- Eval /Treat venous insufficiency

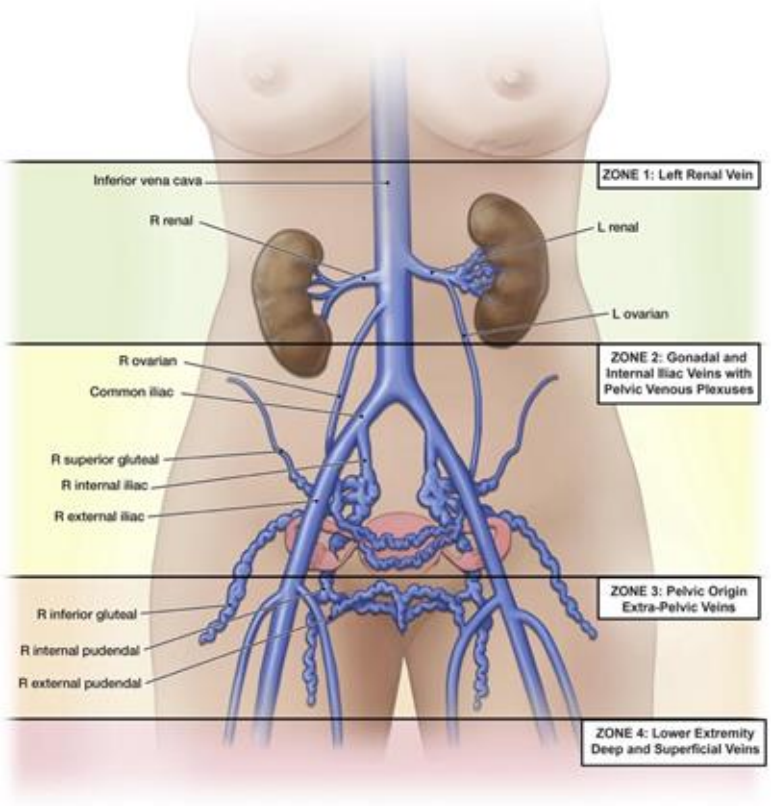
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Pelvic Venous Disease

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Pelvic Venous Disease

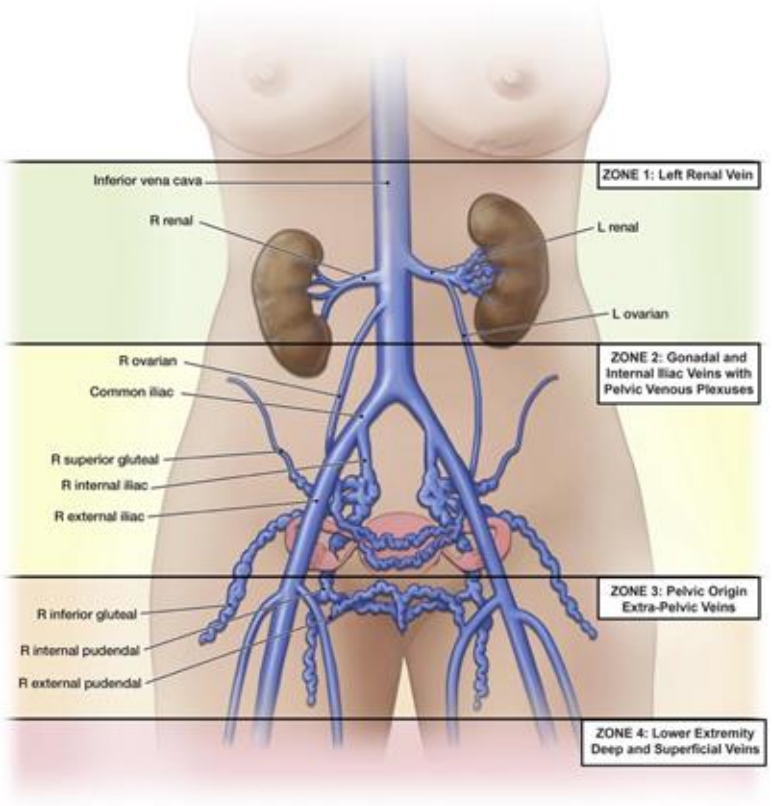
- Formerly known as PCS
  - Pelvic Congestion Syndrome
- Is Varicose Veins of Pelvis
- Treatment same idea as lower extremity
  - Eval for reflux
  - Eval for outflow obstruction



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Symptoms

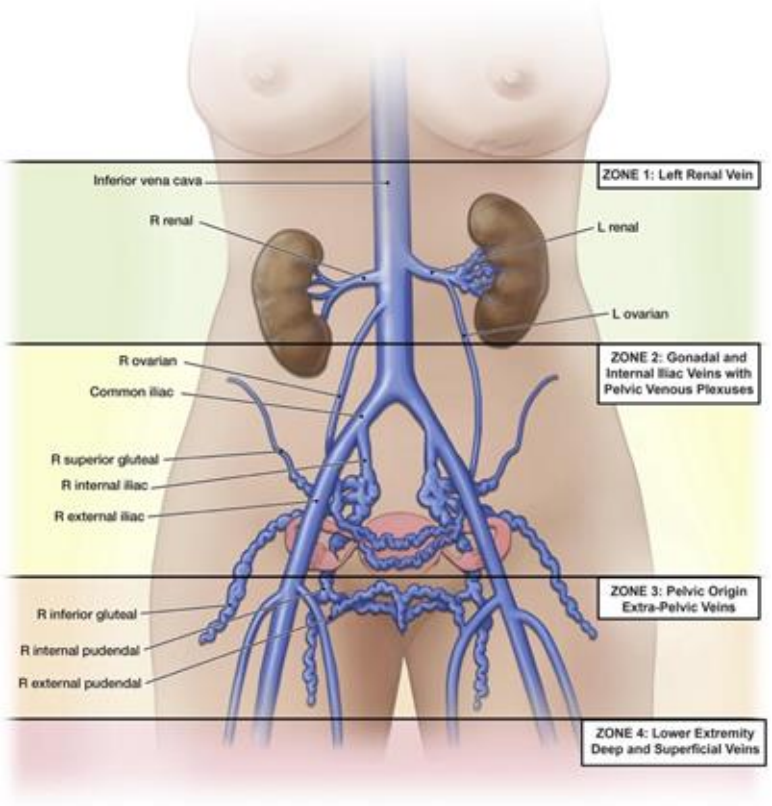
- Depends on location of venous pooling
  - Pelvic, perineal, flank, varicose veins down legs or labia
- Typically worse with menstrual cycles
- Worse with standing/sitting
- Worse with increased pelvic flow



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Evaluation

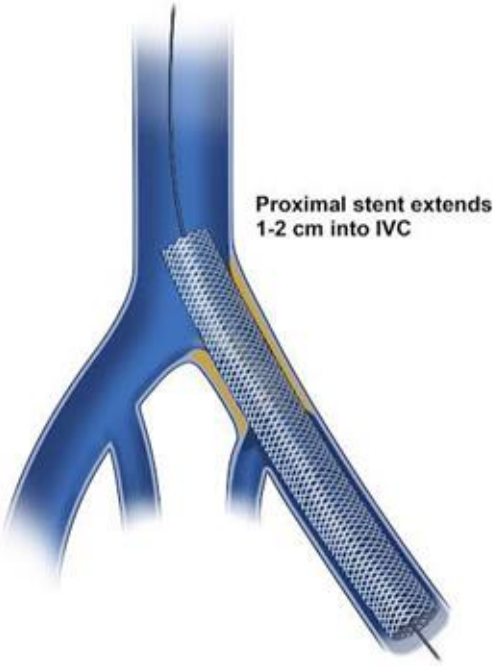
- Detailed history/exam
- CT abdomen and pelvis
  - Not CTA
- Pelvic Venous Duplex
- Rule out other causes of pelvic pain
  - Urologist, GI, Gyn, physical therapy

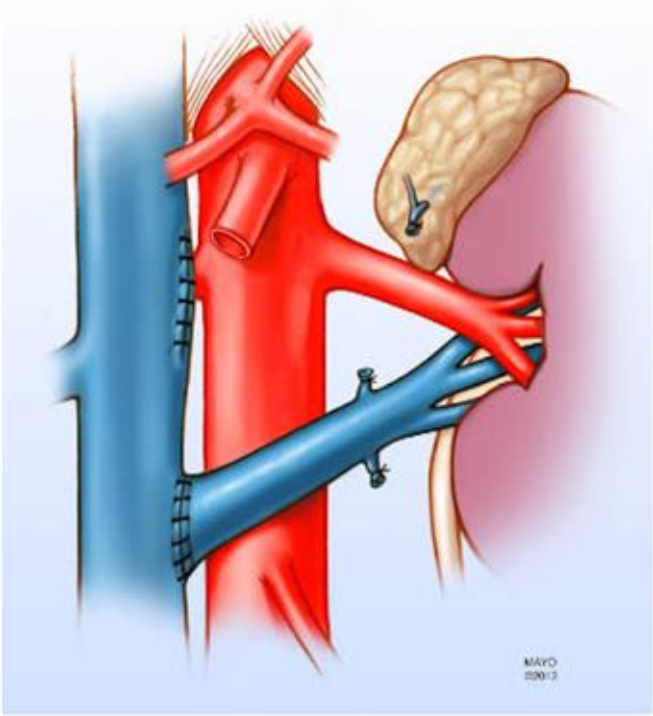


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Treatment

- Depends on Anatomy
- Ovarian vein coil
- iliac vein stenting
- iliac vein coil
- Pelvic sclerothearpy
- left renal vein transposition
- All of the above





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Thank you

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