# DVT


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Cambridge

# Yes/No question

- Do the femoral & popliteal veins compress?

# Why?

- DVT is bad
- History not diagnostic
- Exam unreliable
- Imaging not always available
- Heparin can be dangerous

# Puzzle pieces

- History
- Exam
- Lab
- Imaging

# History

- Wells criteria
  - Active cancer
  - Leg immobilization
  - Bedridden > 3 days
  - Surgery < 4 wks

# Exam

- Wells criteria
  - Localized tenderness
  - Entire leg swollen
  - Calf swelling > 3 cm
  - Pitting edema
  - Collateral superficial veins

# Wells criteria

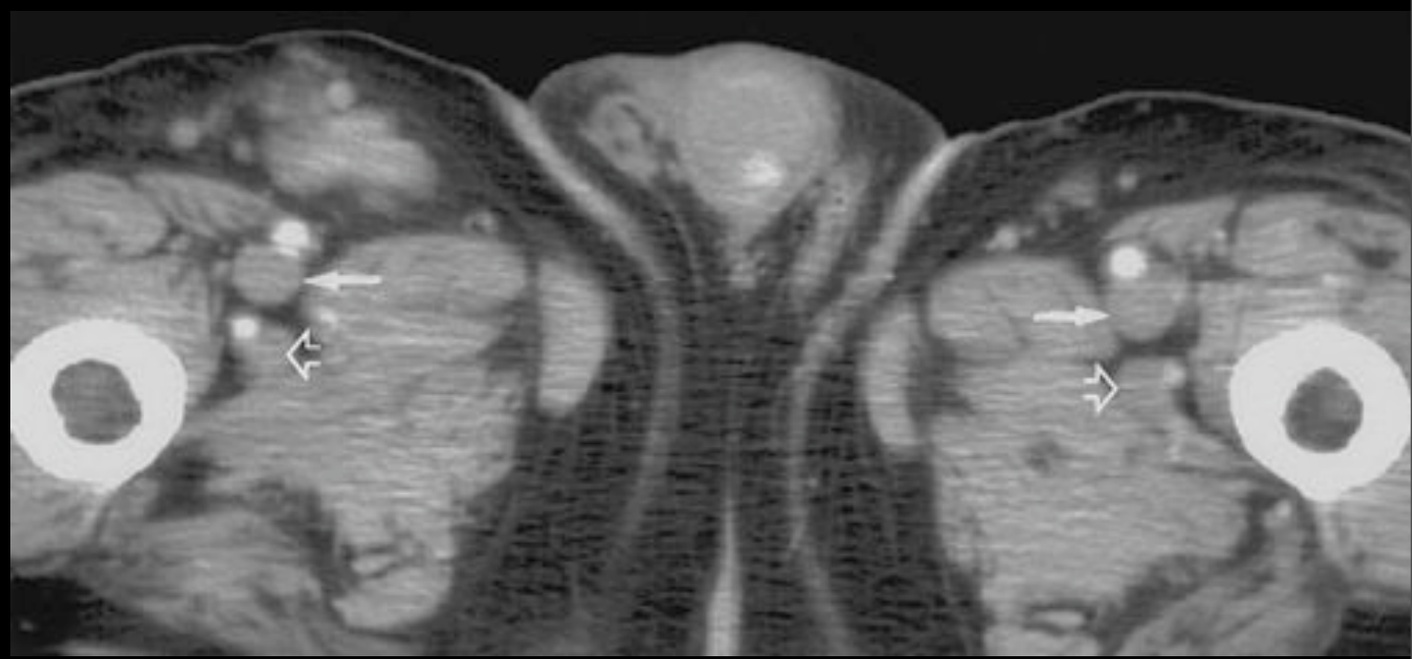
- Probability
- Low ≤ 0 points
- Moderate 1-2 points
- High ≥ 3 points

# Lab

- D-dimer

# Imaging

- Venography
- MRI
- CT
- Ultrasound



# Management: positive

# Management: positive

- Treat with LMWH

# Management: normal U/S

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- Low probability with negative U/S → DVT ruled out

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- Moderate or high probability → CT or f/u ultrasound 3-5 days

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- Low probability with negative U/S → DVT ruled out
- Moderate or high probability → CT or f/u ultrasound 3-5 days
- High probability → CT

# Management: indeterminent

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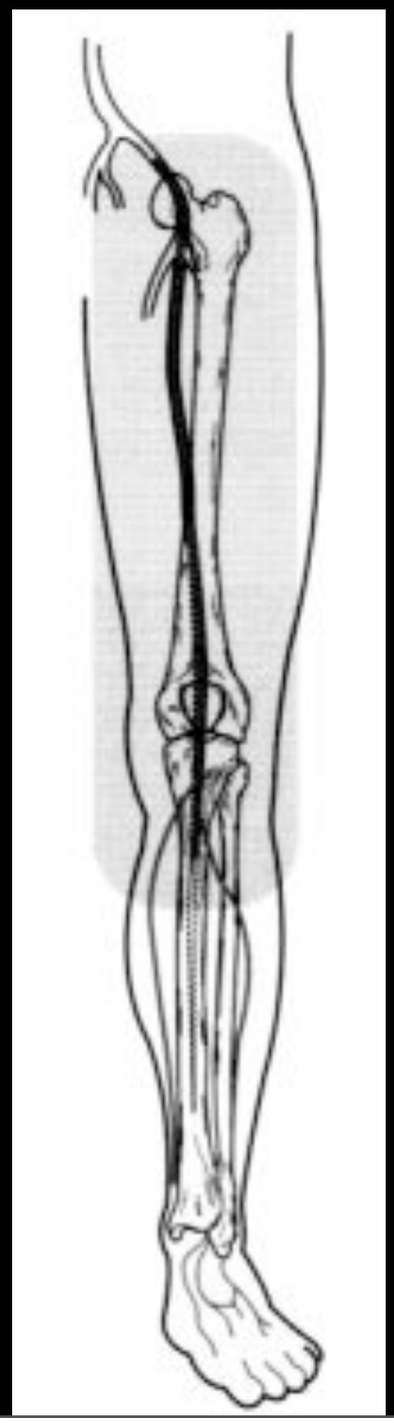
- Alternative testing (eg CT)

# Anatomy

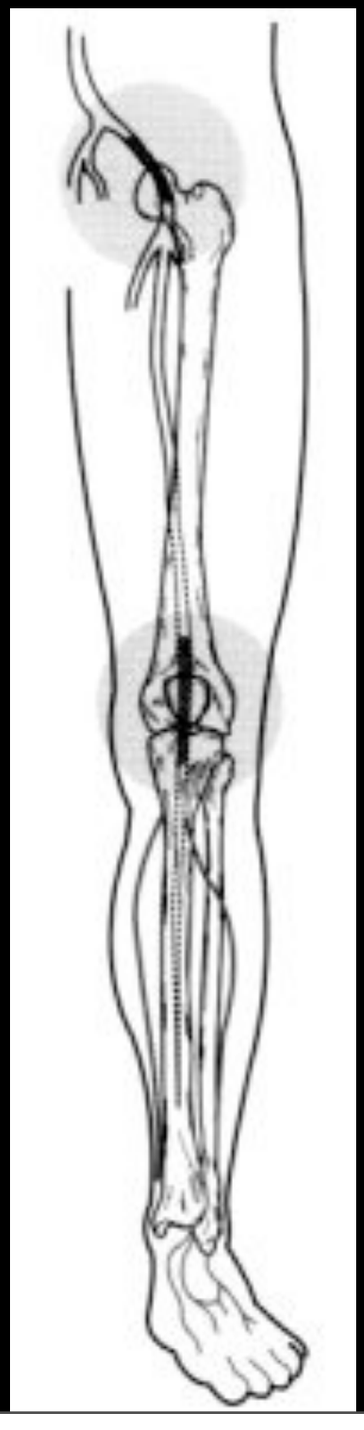
# Ultrasound exam

- Duplex
  - Venous compression
  - Augmentation
  - Spontaneity
  - Phasic variation



# Ultrasound exam

- Focused emergency exam
- Compression only
- CFV to bifurcation
- Popliteal vein



# Ultrasound exam

- Linear transducer
- 30-45° reverse Trendelenburg
- Adjust depth

# Ultrasound exam

- Femoral vein
  - Knee flexed
  - Hip ext rotated
  - Transverse view
  - Follow as far as possible

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# Ultrasound exam

- Popliteal vein
- Dangle legs
- Transverse view
- Follow through popliteal fossa

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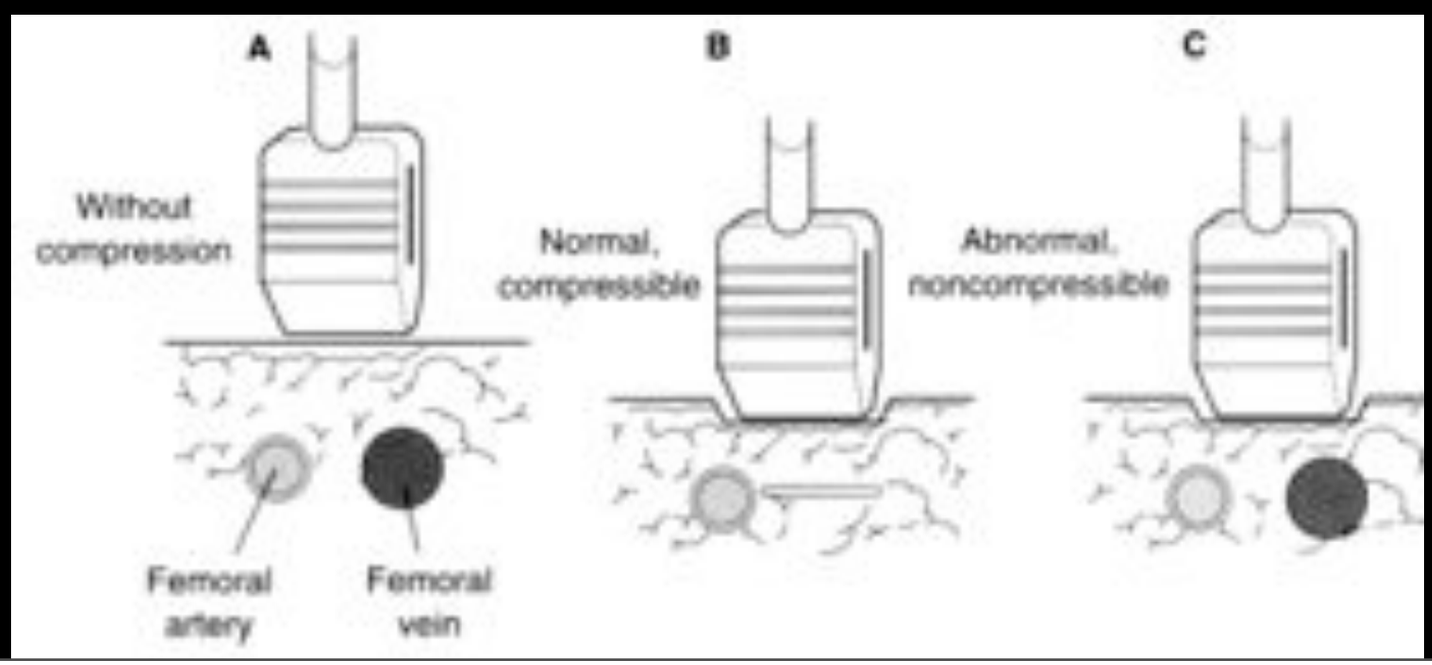
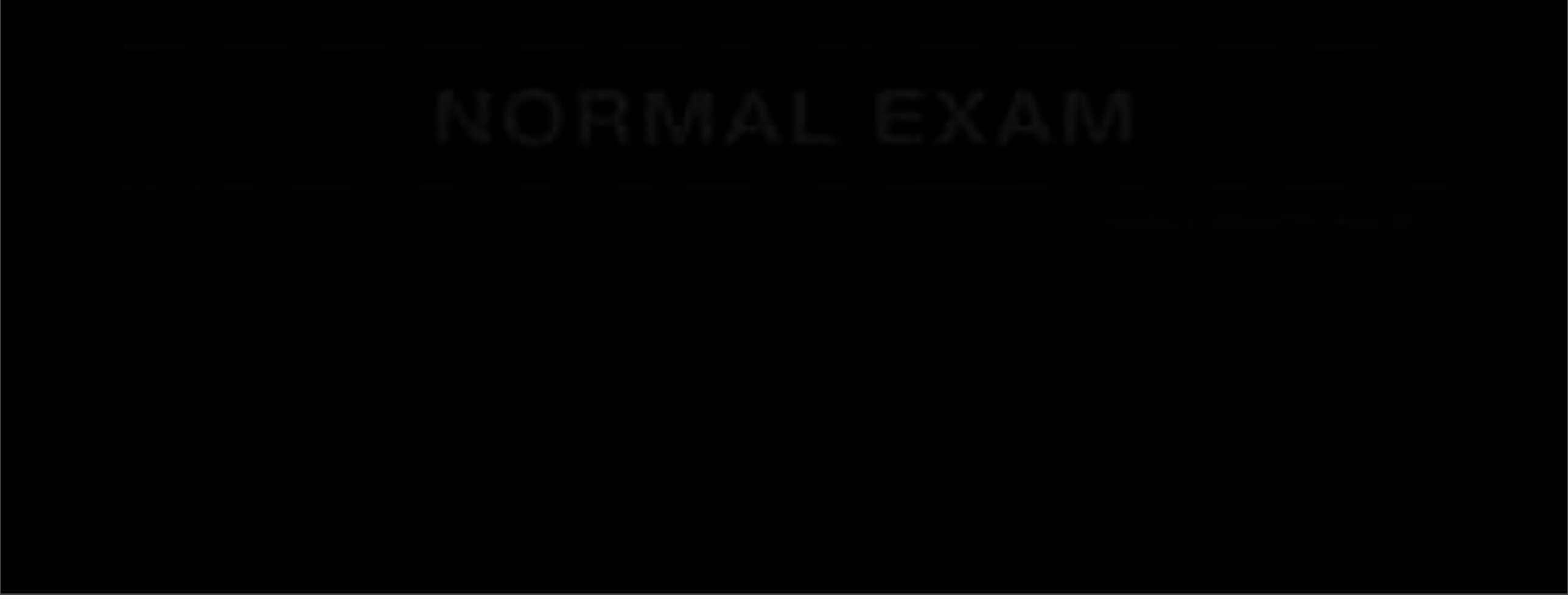
# Ultrasound exam

- Compression
  - Complete coaptation = normal
  - Deformity of artery indicates excessive pressure = DVT



# Normal: Femoral



# Normal: Popliteal

# Acute DVT: Femororal

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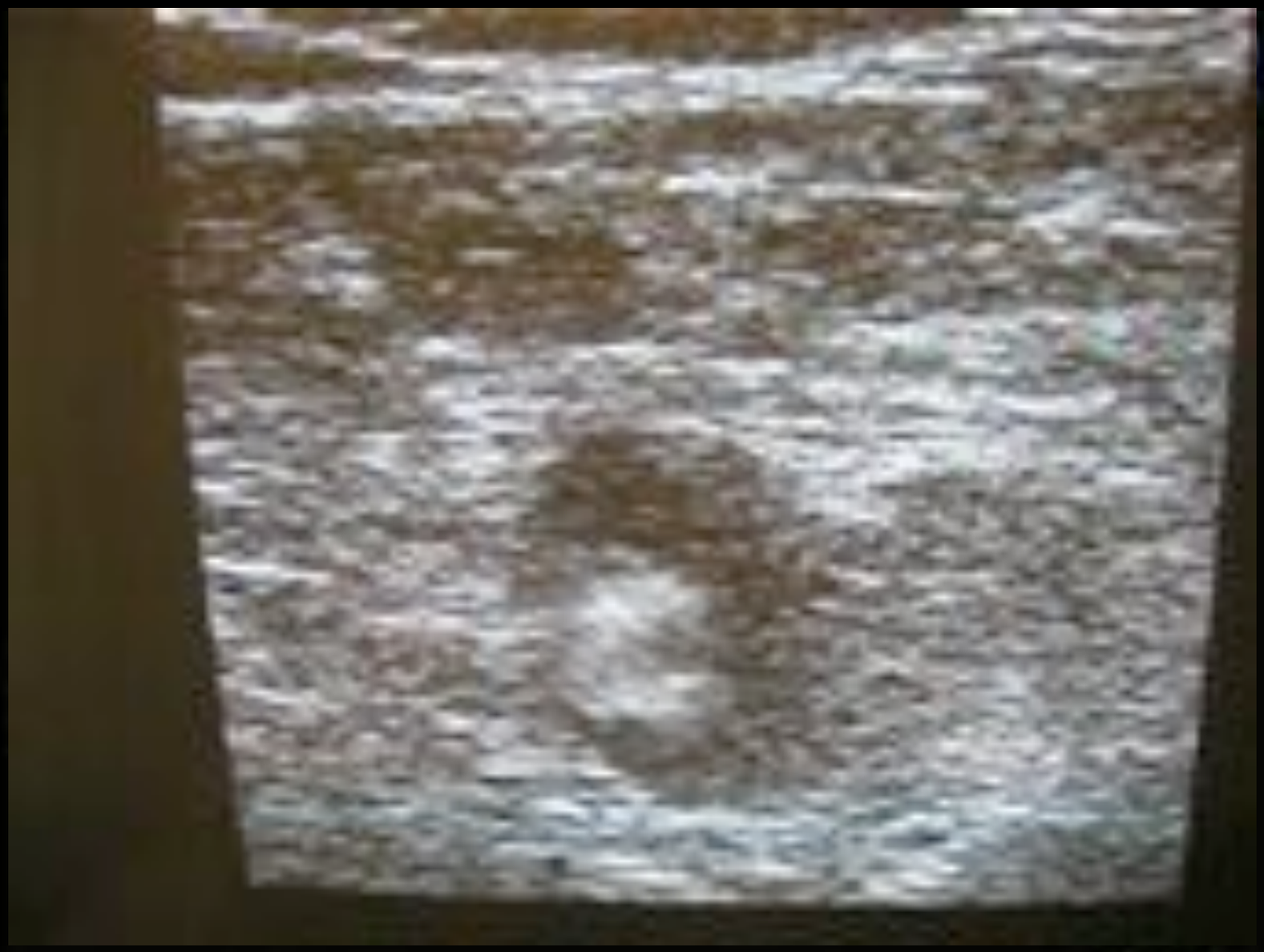
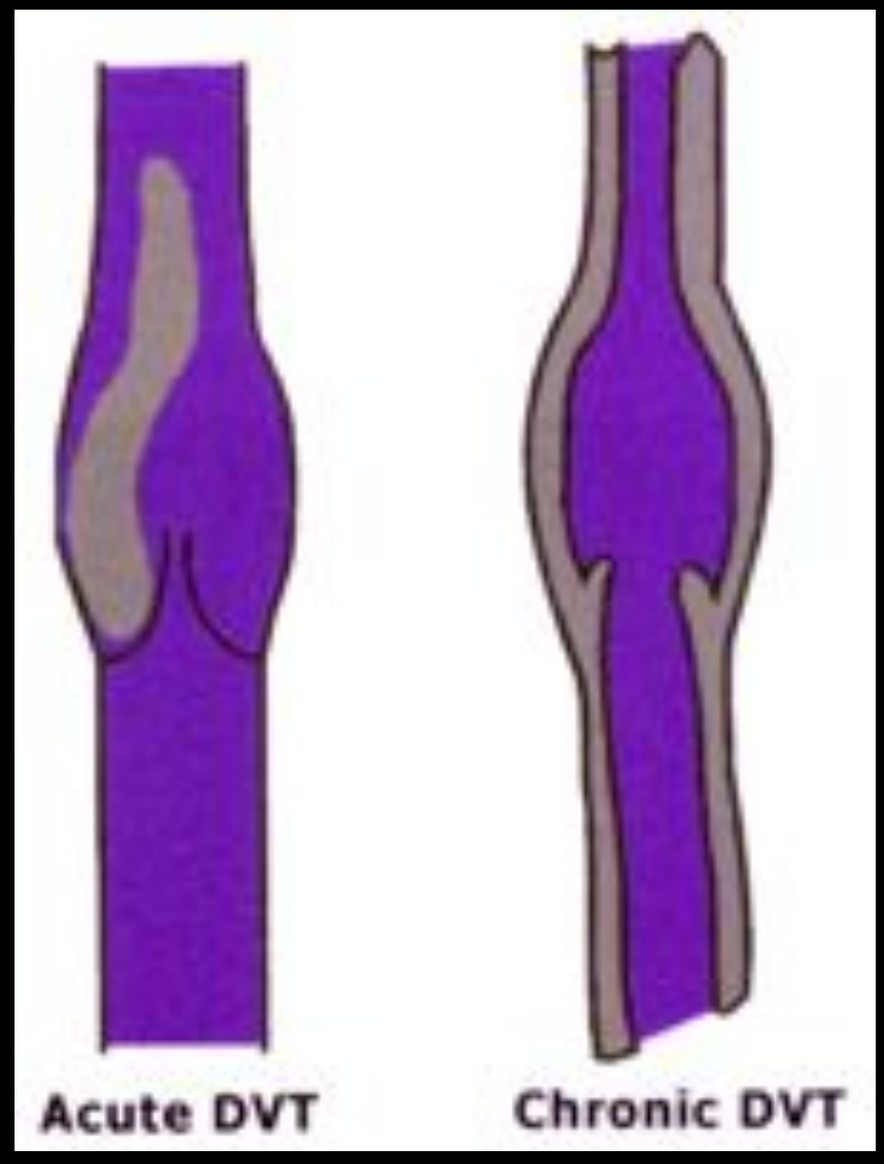


# Chronic DVT

- Adherent to wall or walls thickened
- DVT returns to normal in 50%
- Echogenic vs lucent acute clot



# Pearls & pitfalls

- Visualization of clot unreliable
- Baker's cyst
- Abdominal probe in obesity

# Pearls & pitfalls

- Lymph nodes
- Finding popliteal vein
- Light touch
- Doppler ± augmentation
- Reposition pt

# Review

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- How do we diagnose a DVT?

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- What do we do with normal exam?

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- How do we diagnose a DVT?
- What do we do with normal exam?
- How do we improve difficult views?

# Cheers