MARY WASHINGTON HEALTHCARE IMAGING SERVICES

Attachments/Charts

A. Criteria for Normal Venous Doppler Signals

1. Sponaneity

- Venous signals can be heard at all levels of the limb without manipulation (such as augmentation). Vasoconstriction can interfere with normal spontaneity
- The exception to this rule is the calf where a spontaneous venous signal may not be heard.

2. Phasicity

 Venous signals fluctuate in response to respiratory efforts due to changes in intra-abdominal pressure. Normal venous flow decreases during inspiration due to compression by descent of the diaphragm on the IVC and. This is visible by color Doppler by the appearance of cessation of flow in the veins.

3. Augmentation

- Venous flow should show a marked increase in response to compression distal to area being examined and after the release of compression proximal to the area being examined.
- Abnormality exists when normally expected augmentation is not present.

4. Nonpulsatility

- Normally, veins in the lower extremities do not vary with the cardiac cycle.
- Venous signals may be pulsatile visually by color Doppler or may be heard and seen with spectral Doppler. This is not an indication of obstruction but fluid overload due to increased venous pressure such as in the case of congestive heart failure.

B. Criteria for Determining Presence and Age of Venous Clot

than 14 days, visualization of actual clot may be difficult, absence or decreased color flow some color flow. Echo-free lumen (except for valves) Echo-free lumen (except for valves) Absence of clot Absence	Normal vein	Acute Clot	Subacute Clot	Chronic Clot
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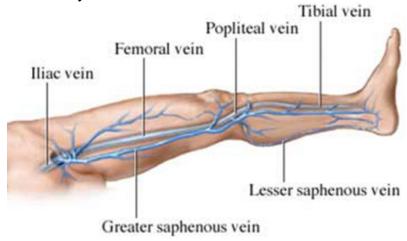
Note: Acute on Chronic DVT refers to venous thrombosis that has both chronic and acute components. This can be correlated with the patient's symptoms as well as previous imaging.

Differentiating acute from subacute clot may be very difficult without a prior duplex study, especially if the patient is not on anticoagulation therapy. If the patient has not had imaging and is not being treated, the clot should be considered acute.

Visualization of collaterals suggests chronicity, but does not exclude concomitant acute thrombus.

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C. Map of the lower extremity veins



http://www.bidmc.org/CentersandDepartments/Departments/Surgery/VascularSurgery/DiseasesandConditions/Veins/Overview.aspx

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