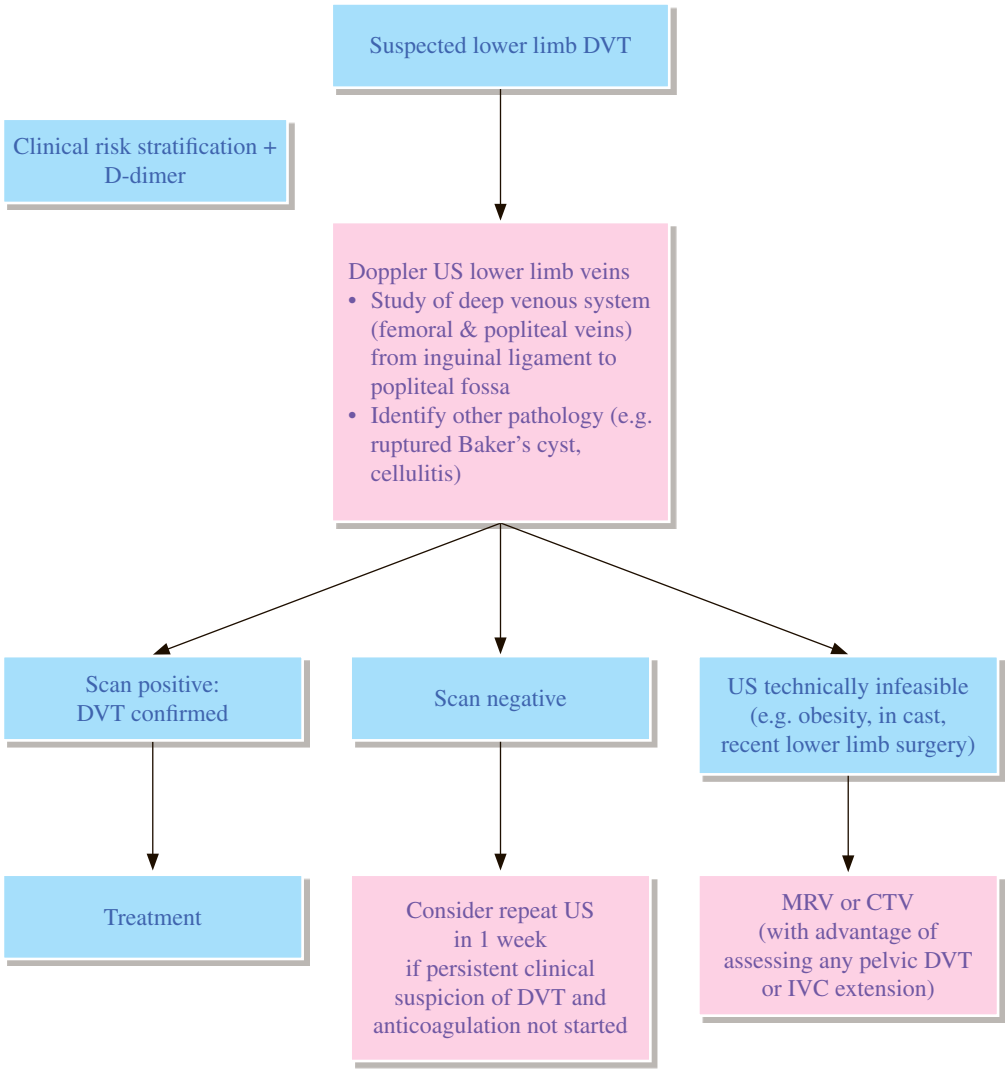
Suspected lower limb DVT
Clinical risk stratification + D-dimer
Doppler US lower limb veins
• Study of deep venous system (femoral & popliteal veins) from inguinal ligament to popliteal fossa
• Identify other pathology (e.g. ruptured Baker's cyst, cellulitis)
Scan positive: DVT confirmed
Scan negative
US technically infeasible (e.g. obesity, in cast, recent lower limb surgery)
Treatment
Consider repeat US in 1 week if persistent clinical suspicion of DVT and anticoagulation not started
MRV or CTV (with advantage of assessing any pelvic DVT or IVC extension)

REMARKS

1 Initial screening for possible deep vein thrombosis (DVT) includes a combination of clinical risk stratification score (e.g. Wells' score) and plasma D-dimer assay.

2 Both clinical risk stratification scoring and D-dimer assay have limitations. Imaging is typically required for confirmation of DVT.

3 **US**

- 3.1 Preferred primary imaging modality for diagnosing proximal DVT (from inguinal ligament to popliteal fossa).
- 3.2 Non-invasive, no exposure to ionizing radiation or iodinated contrast media, widely available and easily performed at patient's bedside.
- 3.3 Compression US is most important, often combined with real time Doppler imaging.
- 3.4 Duplex US for augmentation of venous flow rarely provides additional information.
- 3.5 High sensitivity (range: 93.2% - 95.0%, pooled sensitivity 94.2%) and high specificity (range: 93.1% - 94.4%, pooled sensitivity 93.8%) for diagnosing proximal DVT.
- 3.6 Much lower sensitivity for diagnosing distal DVT (below knee).
- 3.7 Difficult to assess pelvic DVT using US.
- 3.8 DVT limited to infrapopliteal calf veins (distal DVT) often resolves spontaneously and is rarely associated with pulmonary embolism. Treatment of distal DVT remains controversial. US calf veins is not recommended as a routine.
- 3.9 When there is persistent high clinical suspicion of DVT in patients who had an initial negative US and in whom anti-coagulation was not started, follow-up US in 1 week may be considered to exclude a calf thrombus that is propagating proximally.

4 **Magnetic resonance venography (MRV) / Computed tomography venography (CTV)**

- 4.1 Viable imaging options in patients in whom US is technically not feasible (e.g. in cast, obesity); and in patients with high suspicion of pelvic DVT or non-diagnostic US examinations.
- 4.2 Distinct advantage over US in demonstrating pelvic vein / inferior vena cava (IVC) involvement and extravascular pathology that may account for DVT.
- 4.3 MRV: no ionizing radiation, can be done with or without contrast; limitation include scanner availability, longer scanning time, patient factors and implants / devices which are MRI incompatible.
- 4.4 CTV: involves ionizing radiation and use of intravenous contrast; CTV may be incorporated into CT investigation of pulmonary embolism and proximal DVT.

5 Contrast X-ray venography

5.1 Historic gold standard for diagnosing DVT.

5.2 Rarely used nowadays.

5.3 Has a role in assessing recurrent acute DVT in patients with a previous history of DVT and in whom venous anatomy is complex.

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