

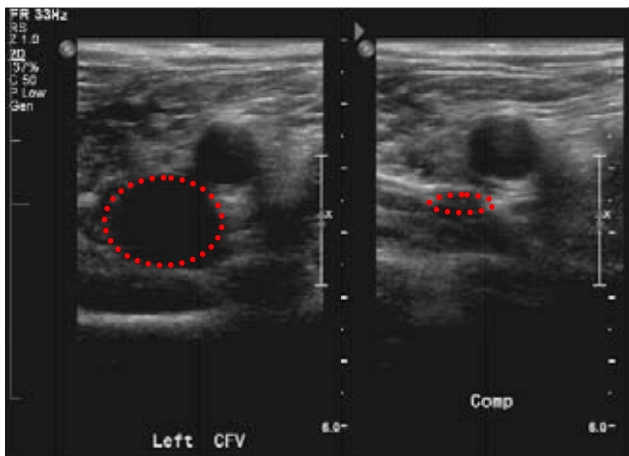
Deep Vein Thrombosis (DVT)

DVT affects approximately one person in a thousand, with incidence increasing with age (1). Higher risk groups include pregnant women, those who have had recent surgery or periods of inactivity (such as long haul travel), and people with malignancy.

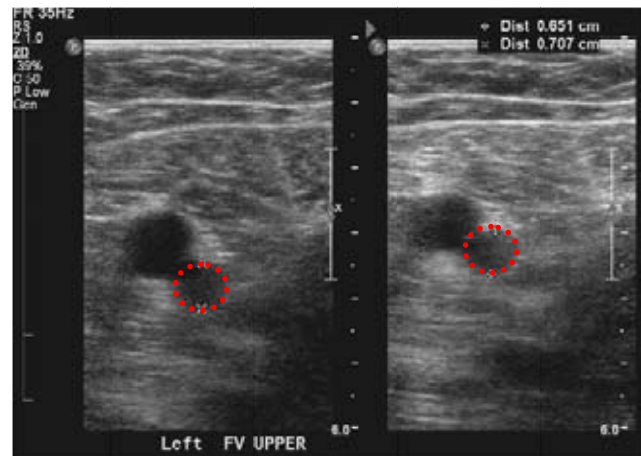
The Wells score quantifies risk and is used in combination with D-dimer to divide patients into those who don't need further testing (low Wells score and negative D-dimer) and those who do (high Wells Score or positive D-dimer).

Ultrasound has replaced other diagnostic tests for DVT. It has been shown in large studies to have sensitivity and specificity in the order of 95-98% for proximal DVT (2). Isolated calf vein thrombus is more commonly asymptomatic, particularly in the post-operative patient.

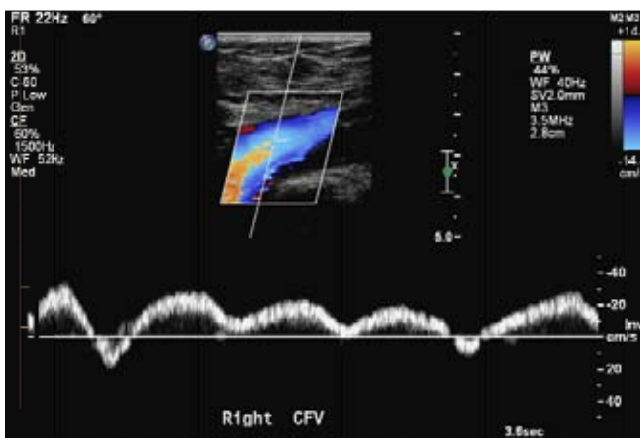
Ultrasound for suspected DVT is a dynamic examination, relying on the combination of grey scale appearances and ability to compress veins to determine the presence or absence of clot. Colour and pulsed wave Doppler are particularly useful in the larger leg, or if pain precludes compression examination, and in the assessment of the pelvic veins and IVC.



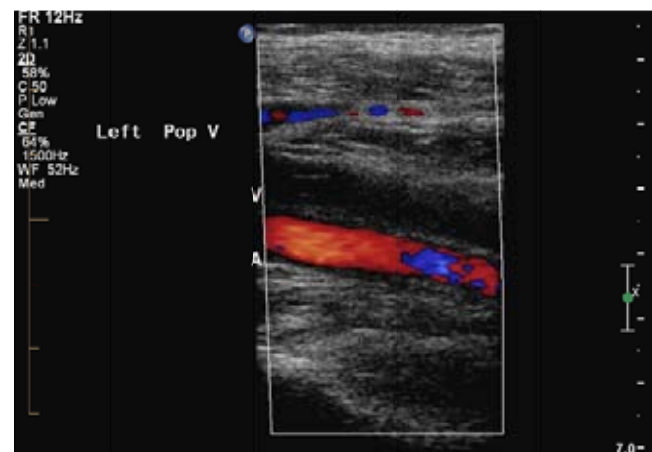
Normally compressing common femoral vein, free of thrombus.



Non-compressible superficial femoral vein containing thrombus.



Normal phasic venous flow in patent common femoral vein.



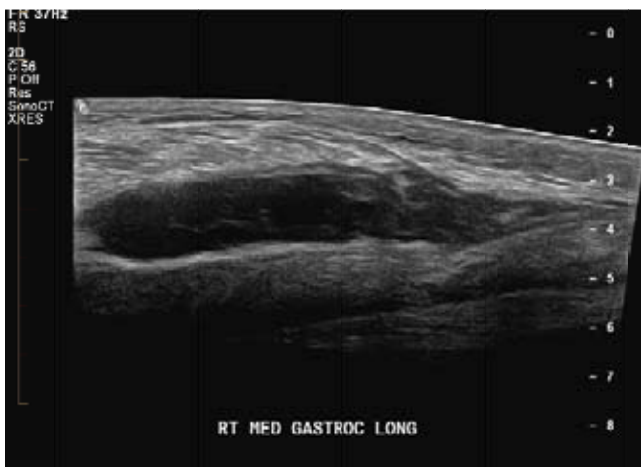
Lack of colour Doppler flow in thrombosed popliteal vein.

The Auckland Regional Clinical Pathway for DVT (3) divides patients into those with low and high Wells scores, with those in the low score category going on to D-dimer evaluation, and those with high scores (or a positive D-dimer) proceeding to ultrasound via Primary Options.

Those with a positive ultrasound can then be further divided into proximal and distal, with the proximal DVTs being referred acutely to hospital, and the distal DVTs being commenced on Clexane with follow-up via the thrombosis service at the relevant hospital.

Timely diagnosis of DVT, and in particular iliofemoral DVT, is important to allow early treatment and prevention of post-thrombotic syndrome, which is reported as occurring in up to 50% of those with DVT (4).

Another advantage of US is its ability to make alternative diagnoses which may explain the patient's symptoms, such as ruptured Bakers cyst, haematoma, or superficial thrombophlebitis.



Muscular tear with haematoma.

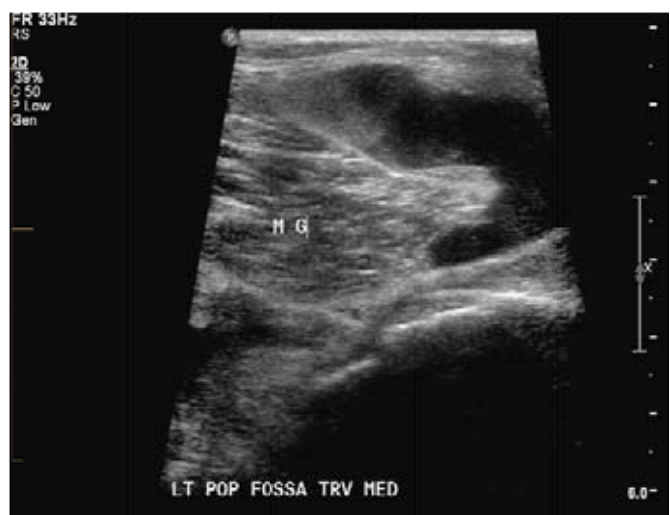


Thrombosed varicose veins.

USS for the diagnosis of DVT is performed by all our sonographers, and therefore available at the majority of our branches.

References:

1. White, R H. The Epidemiology of Venous Thromboembolism. *Circulation* June 2003; 107:I-4-I-8
2. Fraser, J D and Anderson, D R. Deep Venous Thrombosis: Recent Advances and Optimal Investigation with US. *Radiology* April 1999; 211: 9-24
3. www.healthpointpathways.co.nz/dvt-deep-vein-thrombosis/
4. Strijkers, R H W et al. Management of deep vein thrombosis and prevention of post-thrombotic syndrome. *BMJ* 2001; 343: d5916



Bakers Cyst.

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