

Arm Venous Ultrasound Scan



ARTERY AND VEIN DIAGNOSTICS



Penrith | Suite 3, Level 1, Nepean Private Specialist Centre, 1A Barber Avenue,
Kingswood NSW 2747

Macquarie Park | Wise Clinic, Level 1, 11 Khartoum Road, Macquarie Park NSW 2113



02 9037 7353



02 9037 7352



info@arteryvein.com.au

Patient Information

1. Understanding Upper-Limb Deep Vein Thrombosis

Deep Vein Thrombosis (DVT) occurs when a blood clot forms in the deep veins. While most DVTs occur in the legs, they can also develop in the veins of the arm, known as **Upper-Limb Deep Vein Thrombosis (UEDVT)**.

The deep veins of the arm include:

- Brachio-cephalic trunk
- Jugular veins
- Subclavian vein
- Axillary vein
- Brachial veins
- Radial and ulnar veins

These veins drain blood from the arm back to the heart. When a clot forms, it can partially or completely block blood flow.

UEDVT is important to diagnose promptly because:

- The clot can extend into the chest veins
- Part of the clot can travel to the lungs (pulmonary embolism)
- It may cause long-term swelling or discomfort in the arm
- It may be associated with underlying medical conditions or devices

1.1 Causes of Upper-Limb DVT

UEDVT may occur due to:

Primary (Effort-Related) Causes

- Strenuous or repetitive arm activity
- Thoracic outlet compression
- Paget–Schroetter syndrome (effort thrombosis)

Secondary Causes

- Intravenous catheters or PICC lines
- Pacemaker or defibrillator leads
- Recent surgery or hospitalisation
- Cancer or cancer treatment
- Hormonal therapy
- Trauma to the arm
- Clotting disorders
- Prolonged immobility

Sometimes, no clear cause is identified.

1.2 Common Symptoms of UEDVT

You may experience:

- Swelling of the arm, hand, or fingers
- Pain or heaviness in the arm
- Redness or warmth
- Visible veins around the shoulder or chest
- Tightness or discomfort when using the arm
- Sudden onset of symptoms after exercise or catheter insertion

Some patients have no symptoms, making ultrasound essential for diagnosis.

2. Why You Have Been Referred for This Scan

Your doctor may recommend an upper-limb venous ultrasound if you have:

- Sudden arm swelling
- Pain or tenderness in the arm
- A recent PICC line, cannula, or pacemaker insertion
- Visible collateral veins across the chest or shoulder
- A high D-dimer blood test
- Symptoms concerning for pulmonary embolism
- A history of clotting disorders
- Follow-up after a known UEDVT

The scan helps confirm or exclude the presence of a clot and guides urgent treatment decisions.

2. Understanding Upper-Limb Superficial Venous Thrombosis

In addition to deep vein thrombosis, clots can also form in the superficial veins of the arm, such as the cephalic, basilic, and median cubital veins. This is known as **superficial venous thrombosis (SVT)**.

SVT may occur due to:

- Recent cannulation or IV lines
- Local trauma or irritation
- Inflammation of the vein (superficial thrombophlebitis)
- Varicose or dilated superficial veins
- Extension from deeper venous thrombosis

Although SVT is generally less serious than UEDVT, it can be painful and may occasionally extend into the deep venous system, making ultrasound assessment important.

Common symptoms of SVT include:

- Localised tenderness
- A firm, cord-like vein
- Redness or warmth along the vein

- Swelling near a cannulation site

2.1 Causes of UESVT

UESVT may occur due to:

- Recent cannulation, IV lines, or blood tests
- PICC line or midline catheter insertion
- Local trauma or irritation to a superficial vein
- Inflammation of the vein (superficial thrombophlebitis)
- Varicose or dilated superficial veins in the arm
- Repetitive arm use or minor injury
- Infection or local inflammatory conditions
- Extension from a deeper venous thrombosis (less common)

2.2 Common Symptoms of UESVT

You may experience:

- Localised tenderness along the vein
- A firm, cord-like vein under the skin
- Redness or warmth over the affected area
- Mild swelling near the vein or cannulation site
- Pain that worsens with touch or arm movement
- Visible inflammation or thickening of the vein

Unlike UEDVT, UESVT rarely causes whole-arm swelling or chest-wall collateral veins.

3. What the Scan Examines

An upper-limb venous duplex ultrasound uses sound waves to assess the deep and superficial veins of the arm.

Your scan will evaluate:

3.1 Vein Compressibility

The sonographer gently presses the probe against the vein.

- A normal vein compresses fully
- A clotted vein does not compress, indicating clots

This is the most reliable method for diagnosing venous thrombosis.

3.2 Blood Flow (Doppler Assessment)

Doppler ultrasound assesses:

- Direction of blood flow
- Respiratory variation
- Flow augmentation with arm or hand movement
- Areas of reduced or absent flow

These findings help confirm the presence and extent of a clot.

3.3 Clot Characteristics

If a clot is present, the scan assesses:

- Location
- Size and extent
- Whether it is acute or chronic
- Whether it is partially or fully occlusive
- Whether it is mobile or free-floating

3.4 Central Vein Assessment

Where possible, the scan evaluates:

- Brachio-cephalic trunk
- Subclavian vein
- Internal jugular vein
- Axillary vein

These areas are important for detecting catheter-related or effort-related thrombosis.

3.5 Superficial Veins and Cannulation Sites

The scan also includes assessment of the superficial venous system, including the cephalic, basilic, and median cubital veins.

Where clinically indicated, the cannulation sites, PICC line entry points, and areas of localised swelling or tenderness are examined for thrombosis, inflammation, or other complications.

4. How to Prepare for Your Scan

Most patients do not need special preparation. However:

- Wear loose, comfortable clothing, or tops that allow easy access to the arm and shoulder.
- Remove compression sleeves or tight clothing before the scan, as these can affect the assessment of your veins.
- Avoid applying moisturisers or oils to your arms on the day of the scan.
- If you have wound dressings or surgical sites, the sonographer will advise whether they should remain in place or be adjusted.
- If you have difficulty raising or rotating your arm, please inform the sonographer so we can adjust your positioning.
- Continue taking your usual medications unless your doctor advises otherwise.

If your doctor has requested an **urgent DVT scan**, please attend as soon as possible.

5. What to Expect During the Scan

An upper-limb venous ultrasound is safe, painless, and performed by a highly trained vascular sonographer with advanced expertise in venous thrombosis assessment.

5.1 Duration

The scan typically takes **20–30 minutes**, depending on your anatomy and symptoms.

5.2 Positioning

You may be examined:

- Lying on your back
- Sitting upright
- With your arm supported comfortably
- With your arm rotated or raised for specific assessments

Your comfort is always prioritised.

5.3 The Procedure

- Warm gel is applied to your arm and shoulder.
- The sonographer gently moves a handheld probe along the deep veins from the neck to the wrist.
- You may feel light pressure during vein compression, but it should not be painful.
- The sonographer may ask you to take a deep breath or move your hand to assess blood flow.
- If you prefer a male or female sonographer, please let the practice know when booking.

5.4 Safety

Ultrasound uses sound waves — not radiation — making it safe for all patients, including those who are pregnant. If you feel discomfort or light-headed at any time, please let the sonographer know so we can pause the scan.

6. How the Scan Helps Guide Treatment

Your scan results help determine the most appropriate management, which may include:

6.1 Anticoagulation (Blood Thinners)

The most common treatment for UEDVT. These medications prevent the clot from growing and reduce the risk of pulmonary embolism.

6.2 Catheter-Related Management

If the clot is associated with a PICC line or device, your doctor may discuss:

- Whether the line should remain in place
- Whether it needs to be removed or replaced

- Additional imaging or specialist review

6.3 Compression and Symptom Management

Compression sleeves may be recommended in selected cases to:

- Reduce swelling
- Improve symptoms
- Support venous return

6.4 Further Imaging or Specialist Review

Your doctor may recommend:

- CT or MR venography
- Haematology review for clotting disorders
- Vascular specialist assessment

6.5 Follow-Up Ultrasound

Some patients require repeat scans to:

- Monitor clot resolution
- Assess for extension
- Guide duration of anticoagulation

7. After the Scan

7.1 Review of Images

Your scan images and measurements are reviewed by a vascular specialist or reporting sonographer trained in upper-limb venous assessment.

7.2 Report Delivery

A detailed report is sent to your referring doctor, usually within **24 hours** for routine scans or **immediately** for urgent findings.

The report includes:

- Presence or absence of DVT
- Location and extent of clot
- Whether the clot is acute or chronic
- Degree of occlusion
- Central vein involvement
- Summary of clinical significance

7.3 Next Steps

Your doctor will discuss the results with you and outline treatment options tailored to your symptoms and medical history.

If a DVT is detected, your doctor may begin treatment immediately.

8. Frequently Asked Questions

Is the scan painful? No. You may feel mild pressure during compression, but the scan is not painful.

Can I drive afterward? Yes. Most patients can drive immediately after the scan. In rare cases, your sonographer may need to discuss the findings with a vascular specialist before confirming it is safe for you to drive.

Do I need to stop medications? No. Continue your usual medications unless your doctor advises otherwise.

Is ultrasound safe? Yes. Ultrasound is completely safe and does not use radiation.

Why do I need a DVT scan if my symptoms are mild? Some DVTs cause very few symptoms but still carry a risk of complications. Ultrasound is the most accurate way to confirm or exclude a clot.

Can a PICC line cause a clot? Yes. Catheters and pacemaker leads can irritate the vein wall and increase the risk of UEDVT.

9. Why Choose Our Vascular Lab

State-of-the-art ultrasound technology for high-resolution imaging and precise haemodynamic assessment.

Comprehensive, clinically focused reporting to support accurate diagnosis and urgent treatment planning.

Patient-centred care, with an emphasis on comfort, clear communication, and a supportive experience throughout your visit.

Examinations performed in accordance with international venous ultrasound standards, ensuring accuracy, consistency, and best-practice methodology.