

DVT · Deep Vein Thrombosis

A plain-English guide for you and your family

WHAT IS HAPPENING

A clot in a deep leg vein (Deep vein thrombosis), or DVT, happens when a blood clot forms inside one of the deep veins in your body—most often in your lower leg or thigh. Normally, blood flows smoothly through your veins back to your heart. Your calf muscles act like pumps, squeezing the veins each time you walk. One-way valves inside the veins stop blood from sliding backward. The smooth lining of the vein wall keeps blood from clotting when it shouldn't. But when one or more things go wrong—sitting still for hours (like a long flight), damage to the vein wall (from a catheter or surgery), or blood that clots too easily (from birth control pills, cancer, or inherited clotting disorders)—a clot can form. That clot grows like a dam in a river: blood backs up behind it, your leg swells, the skin feels warm and tight, and walking hurts. The real danger is that a piece of the clot can break loose, float through your heart, and get stuck in your lungs—a life-threatening problem called pulmonary embolism (a clot lodging in a lung artery). In rare cases, the clot is so big it blocks nearly all blood leaving the leg, crushing the arteries and starving the leg of oxygen—a surgical emergency. Every sign you see traces back to one thing: a clot where it does not belong, blocking the highway home.

What you might feel

- Swelling in one calf or thigh
- Pain or tenderness in the calf or thigh
- Warmth over the swollen area
- Redness or darker color of the skin on the leg
- Swollen veins you can see or feel just under the skin
- The leg feels heavy or tight
- Shortness of breath or chest pain
- Fast heart rate or feeling dizzy

Call the doctor right away if...

- Sudden shortness of breath, chest pain, or coughing up blood — the clot may have moved to the lungs (pulmonary a traveling clot lodging in a vessel (embolism)).
- Swelling in both legs at once, or one leg that turns very pale and cold — the main vein near the belly may be blocked, or a large artery may be in trouble.
- Calling one-sided leg swelling 'a skin infection' in someone who just had surgery, was on a long trip, or cannot move much — DVT can look like an infection but needs different treatment fast.

What the care team will do

- Keep the patient on bed rest with the affected leg elevated above heart level until the doctor confirms anticoagulation (blood thinner) is started and working.
- Check oxygen saturation, respiratory rate, and heart rate every 2 to 4 hours and report oxygen below 94 percent, breathing faster than 20, chest pain, or sudden shortness of breath immediately.
- Measure the circumference of both calves and thighs at the same spot (mark with a pen) every shift and document the difference in centimeters.
- Start the first dose of anticoagulant (direct oral anticoagulant or low-molecular-weight heparin injection) within 2 hours of the doctor's order, and teach the patient never to skip doses.
- Assess the affected leg for new numbness, tingling, pale color, loss of pulse, or severe pain not relieved by medicine, and notify the doctor stat if any appear.
- Apply graduated compression stockings (20 to 30 millimeters of mercury pressure) from toes to knee once daily ambulation (walking) is approved, and remove them at bedtime.
- Check for signs of bleeding—gums, urine color, stool color, bruising, nosebleeds—every shift and teach the patient to report blood in urine or black tarry stools immediately.
- Encourage ankle pumps (pointing toes up and down 10 times every hour) and deep breathing exercises even while on bed rest, and help the patient walk short distances as soon as the doctor allows.

Medicines you may be given — and why

Apixaban (Eliquis) or Rivaroxaban (Xarelto)

These drugs block Factor Xa, a protein in your blood that helps clots form. By stopping Factor Xa, the medicine keeps your blood from making new clots on top of the one already stuck in your leg vein, so your body has time to slowly break down the clot on its own.

Enoxaparin (Lovenox) or Dalteparin (Fragmin)

These are injectable medicines that boost the power of antithrombin, a natural brake on clotting in your blood. By making antithrombin work much faster, LMWH stops Factor Xa and thrombin so new clot cannot grow.

Warfarin (Coumadin)

Warfarin slows down your liver's ability to make four clotting proteins (Factors II, VII, IX, and X) by blocking vitamin K, which those proteins need to work. With fewer working clotting factors, your blood stays thinner.

Alteplase (tPA)

Alteplase is an enzyme that directly dissolves fibrin, the sticky net holding a blood clot together. It is delivered through a thin tube (catheter) placed right into the clot in your vein, so it breaks down the clot from the inside out.

Where this information comes from

- American College of Chest Physicians (CHEST) Antithrombotic Guidelines
- American Society of Hematology (ASH) VTE Guidelines 2020
- ACCP Evidence-Based Clinical Practice Guidelines (9th & 10th editions)
- CDC Venous Thromboembolism Resources

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