

Deep Vein Thrombosis (DVT)

What Is Deep Vein Thrombosis?

The blood supply of the leg is transported by arteries and veins. The arteries carry blood from the heart to the limbs; veins carry blood back to the heart. The leg contains superficial veins, which are close to the surface, and deep veins, which lie much deeper in the leg. Deep vein thrombosis (DVT) is a condition in which a blood clot (a blockage) forms in a deep vein. While these clots most commonly occur in the veins of the leg (the calf or thigh), they can also develop in other parts of the body.

DVT can be very dangerous and is considered a medical emergency. If the clot (also known as a thrombus) breaks loose and travels through the bloodstream, it can lodge in the lung. This blockage in the lung, called a pulmonary embolism, can make it difficult to breathe and may even cause death. Blood clots in the thigh are more likely to cause a pulmonary embolism than those in the calf.

Causes of DVT

Many factors can contribute to the formation of a DVT. The more risk factors a person has, the greater the risk of having a DVT. However, even people without these risk factors can form a DVT.

Risk Factors for DVT:

Blood or vein conditions:

- Previous DVT
- Varicose veins
- Blood clotting disorders
- Family history of DVT or blood clotting disorders

Other medical conditions:

- Heart disease
- Chronic swelling of the legs
- Obesity
- Inflammatory bowel disease
- Cancer
- Dehydration
- Sepsis

Women's health issues:

- Hormone replacement therapy
- Birth control pills containing estrogen
- Pregnancy or recent childbirth

Other:

- Age over 40 years old
- Immobility (through inactivity or from wearing a cast)
- Recent surgery
- Trauma (an injury)
- Smoking

Signs and Symptoms of DVT in the Leg

Some people with DVT in the leg have either no warning signs at all or very vague symptoms. If any of the following warning signs or symptoms are present, it is important to see a doctor for evaluation:

- Swelling in the leg

- Pain in the calf or thigh
- Warmth and redness of the leg

Diagnosis

DVT can be difficult to diagnose, especially if the patient has no symptoms. Diagnosis is also challenging because of the similarities between symptoms of DVT and those of other conditions, such as a pulled muscle, an infection, a clot in a superficial vein (thrombophlebitis), a fracture and arthritis. If DVT is suspected, the doctor will immediately send the patient to a vascular laboratory or a hospital for testing, which may include a blood test, Doppler ultrasound, venogram, MRI or angiogram.

Treatment of DVT

If tests indicate a clot is present, the doctor will make a recommendation regarding treatment. Depending on the location of the clot, the patient may need hospitalization. Medical or surgical care will be managed by a team of physicians, which may include a primary care physician, internist, vascular (blood vessel) surgeon or hematologist (blood disease specialist).

Treatment may include:

- Medication. A blood-thinning medication is usually prescribed to help prevent additional clots from forming.
- Compression stockings. Wearing fitted hosiery decreases pain and swelling.
- Surgery. A surgical procedure performed by a vascular specialist may be required.

Complications of DVT

An early and extremely serious complication of DVT is a pulmonary embolism. A pulmonary embolism develops if the clot breaks loose and travels to the lung. Symptoms of a pulmonary embolism include:

- Shortness of breath
- Chest pain
- Coughing up blood
- A feeling of impending doom

A long-term consequence of DVT is damage to the vein from the clot. This damage often results in persistent swelling, pain and discoloration of the leg.

Preventive Measures

For those who have risk factors for DVT, these strategies may reduce the likelihood of developing a blood clot:

- Take blood-thinning medication, if prescribed.
- Reduce risk factors that can be changed. For example, stop smoking and lose excess weight.
- During periods of prolonged immobility, such as on long trips:
 - Exercise legs every two to three hours to get the blood flowing back to the heart. Walk up and down the aisle of a plane or train, rotate ankles while sitting and take regular breaks on road trips.
 - Stay hydrated by drinking plenty of fluids; avoid alcohol and caffeine.
 - Consider wearing compression stockings.