



Deep vein thrombosis (DVT) is a condition characterized by the formation of a blood clot (thrombus) in one of the deep veins, usually in the legs. This clot can partially or completely block blood flow through the vein, leading to various symptoms and complications. If the clot breaks loose and travels to the lungs, it can cause pulmonary embolism, a life-threatening condition. DVT is considered a medical emergency and requires prompt diagnosis and treatment to prevent complications.

Symptoms

DVT symptoms may include:

- Swelling in the affected leg, often in the calf or thigh
- Pain or tenderness, which may worsen when standing or walking
- Warmth and redness over the affected area of the leg
- Skin discoloration, such as a bluish or reddish hue
- Swollen veins that are visible or palpable
- Leg fatigue or heaviness

In severe cases, DVT may lead to symptoms of pulmonary embolism, such as sudden shortness of breath, chest pain, rapid heart-beat, or coughing up blood. Patients should seek medical attention right away if they experience any DVT symptoms.



If you have DVT risk factors, it's important to tell a doctor.

Talking to a Doctor

Patients should talk to a doctor if they experience any DVT symptoms, such as swelling, pain, warmth, or redness in one leg. If you have DVT risk factors, it's important to tell a doctor. Prompt medical evaluation is crucial to diagnose DVT early and prevent potential complications.

Causes and Risks

The causes and risk factors for DVT include:

- **Immobility:** Prolonged periods of immobility, such as during long flights or bed rest after surgery, can increase the risk of blood clot formation in the veins.
- **Surgery:** Certain surgical procedures, especially those involving the lower extremities or abdomen, can disrupt normal blood flow and increase the risk of DVT.
- **Trauma:** Injury to the veins, such as fractures or severe muscle injury, can lead to blood clot formation.
- **Obesity:** Excess body weight puts added pressure on the veins and can impair blood flow, increasing the risk of DVT.
- **Pregnancy:** Pregnancy and childbirth increase the risk of DVT due to hormonal changes, increased pressure on the veins, and decreased mobility.
- **Oral contraceptives and hormone therapy:** Certain medications, such as birth control pills or hormone replacement therapy, can increase the risk of blood clot formation.
- **Smoking:** Smoking damages blood vessels and increases the risk of clot formation.
- **Family history:** A family history of blood clotting disorders or a personal history of previous DVT increases the risk of developing the condition.

- **Age:** The risk of DVT increases with age, particularly in individuals older than 60.
- **Medical conditions:** Certain medical conditions, such as cancer, heart disease, inflammatory bowel disease, and inherited blood clotting disorders, can increase DVT risk.

Role of Vascular Surgeon

Vascular surgeons play a key role in diagnosing DVT, which typically involves a combination of clinical evaluation, imaging tests, and laboratory studies. The diagnostic process might include:

- **Medical history and physical examination:** Your doctor will inquire about your symptoms, medical history, and risk factors. They will also perform a physical examination, focusing on signs such as swelling, tenderness, redness, or warmth in the affected limb.
- **D-dimer blood test:** A D-dimer test measures the levels of a substance called D-dimer in the blood. D-dimer is released when a blood clot dissolves. Elevated D-dimer levels may indicate the presence of a blood clot, although this test alone is not sufficient to diagnose DVT and is often used in conjunction with imaging tests.
- **Imaging tests:** Diagnostic imaging tests

often are used to confirm the presence of a blood clot and assess its location and extent. The most commonly used imaging tests include:

- **Doppler ultrasound:** This non-invasive test uses sound waves to create images of blood flow in the veins. It can detect blood clots and evaluate blood flow characteristics.
- **Venography:** In this procedure, a contrast dye is injected into a vein, and X-ray images are taken to visualize the veins and identify any blockages caused by blood clots.
- **CT venography or MRI venography:** These imaging techniques use computed tomography (CT) or magnetic resonance imaging (MRI) to create detailed images of the veins and detect blood clots.

Once DVT is confirmed, further evaluation may be needed to determine the underlying cause and assess the risk of complications. Treatment will be initiated based on the severity of the condition and individual patient factors. Early diagnosis and prompt treatment are essential to prevent complications.

Treatment

Your doctor will determine the best treatment for DVT. Treatment options include:

- **Anticoagulant therapy:** Medications, such as heparin or low molecular weight heparin, are initially administered to prevent further clot formation. These drugs work by inhibiting the blood's

clotting factors. Oral anticoagulants, such as warfarin or direct oral anticoagulants, may be prescribed for short or long-term management to prevent DVT recurrence.

- **Compression therapy:** Wearing compression stockings or bandages helps improve blood flow in the affected limb; reduce swelling; and alleviate symptoms, such as pain and heaviness.
- **Elevation:** Elevating the affected limb above the heart can help reduce swelling and improve circulation.
- **Thrombolytic therapy:** In severe cases of DVT, thrombolytic therapy may be considered to rapidly dissolve the blood clot. This treatment involves the administration of clot-dissolving medications directly into the clot via a catheter.
- **Inferior vena cava (IVC) filter placement:** In rare cases where anticoagulant therapy is contraindicated or ineffective, or if there is a high risk of pulmonary embolism, an IVC filter may be inserted into the inferior vena cava to trap blood clots and prevent them from traveling to the lungs.
- **Thrombectomy:** In select cases of massive or life-threatening DVT, removal of the blood clot (thrombectomy) may be necessary to restore blood flow and prevent complications. This can be done surgically or minimally invasively.

Treatment decisions are based on factors, such as the location and extent of the blood clot, the patient's overall health, and the risk of bleeding associated with anticoagulant therapy. Close monitoring and follow-up with healthcare providers are essential to ensure optimal management of DVT and prevent recurrence.

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