Deep Vein Thrombosis (DVT) and Embolism

What is it?

Deep vein thrombosis [throm-BOH-sis]—also called DVT—is a blood clot (or thrombus) in veins in the deep tissues of the body. Most DVTs are found in the veins of the leg.

DVTs are dangerous. They can damage the valves in your veins, leading to chronic pain and swelling. They can also break loose and travel in your veins.

A blood clot that has broken loose is called an embolism [EM-BUH-liz-uhm]. If it has traveled to the lungs, it’s called a pulmonary embolism (PE). A PE can be life-threatening.

What causes it?

Blood clots can be caused by anything that slows or stops blood circulation. This can include:

- Sitting for a long time (especially 4 hours or more)
- Long periods of bed rest, as when hospitalized or paralyzed
- Injury to a deep vein from surgery, a broken bone, or other trauma
- Pregnancy and the first 6 weeks after giving birth (due to hormonal changes, less physical activity, and the uterus pressing on blood vessels)
- Surgery (especially joint replacement, gynecological surgery, or a C-section)
- Birth control pills or hormone therapy
- Cancer and some of its treatments
- Heart failure
- Intravenous (IV) catheter in a large vein
- Being overweight or obese
- Smoking
- Personal or family history of DVT or embolism

What are the symptoms?

The symptoms of DVT can vary depending on the individual person and the site of the clot. The most common symptoms are:

- Pain or swelling in the affected area (such as a leg)
- Redness or warmth in the affected area

Sometimes the first noticeable symptoms are from a PE. These symptoms include:

- Shortness of breath that comes on suddenly
- Chest pain that gets worse when you breathe deeply or cough
- Coughing or vomiting blood

If you experience symptoms of PE, call 911 and get medical help immediately.
How is DVT diagnosed?
If your doctor suspects you have DVT, you may be given one or more of these tests:

- **Blood tests.** Your blood may be tested for a substance called D-dimer, which is usually present in patients with blood clots. If this test is normal, your symptoms are probably not caused by a blood clot.

- **Ultrasound.** Sound waves are used to measure blood flow through your veins and identify any blood clots.

How is PE diagnosed?
If your doctor suspects you have PE, you may be given one or more of these tests:

- **Blood tests.** D-dimer can also be used to test for the presence of PE.

- **CT or V / Q scans.** Computerized tomography (CT) or another type of scan — called a V / Q scan — are imaging tests that can look for PE.

How can I prevent it?
If you’re at risk of having DVT or PE, or have had one before, you can help prevent another one by:

- **Having regular checkups with your doctor.** Make sure your prescriptions are still correct.

- **Taking all your medicines as directed.** You may need to take an anticoagulant (“blood thinning”) medicine to help prevent clots from forming or getting bigger.

- **Getting up and walking around as soon as possible if you’ve been in bed after surgery or an illness.** If you’re on bedrest or recovering from a surgery (such as a C-section), your care team may suggest a sequential compression device (SCD) to gently squeeze your legs and speed up blood flow.

- **Standing up and walking around every hour if you have to sit for a long time.** Stretch your legs and feet every 20 minutes while sitting.

- **Modifying your lifestyle to improve your overall health.** Maintain a healthy weight, quit smoking, and control your blood pressure.

How are DVT and PE treated?
DVT and PE need to be treated right away. (DVT can usually be managed by your regular physician or an urgent care clinic.) The goal of treatment is to prevent the blood clot from getting bigger or becoming an embolism (or having another embolism if PE has already occurred). Treatment also aims to keep you from getting more blood clots. Treatment may include:

- **Blood thinner medicines.** These medicines — also called anticoagulants [an-tee-koh-AG-yuh-luhnts] — reduce your blood’s ability to clot. They can’t break up clots you already have, but they can prevent them from getting bigger. They can also prevent new clots from forming. They’re usually taken for at least 3 months, and sometimes much longer.

- **Clot busters.** These medicines — called thrombolytics [throm-BOL-it-iks] — are given to break up blood clots. Because they can cause severe bleeding, they’re only given in a hospital in very serious situations.

- **Filters.** Rarely, a patient may have a small filter inserted into a large vein — called the vena [VEE-nuh] cava [KEY-vuh] — in the abdomen (belly). If a blood clot breaks off, this will reduce the chance of it traveling to the lungs. Filters are used in patients who cannot safely take a blood thinner medicine. Filters should be removed once a blood thinner medicine can be taken.

- **Compression stockings.** These can reduce the swelling that happens after a blood clot forms in your leg. The stockings are tighter near the ankle and looser near the top. This helps keep your blood from pooling and clotting.

- **Self-care.** Your doctor may recommend that you:
  - Elevate your leg or wear a compression stocking to help with swelling.
  - Are involved in regular physical activity. Regular activity helps the symptoms of DVT improve faster. Once you start treatment, resume regular activity as soon as you feel able. If you are taking a blood thinner, avoid high-risk activities that could cause a serious injury. A serious injury could lead to dangerous bleeding.