

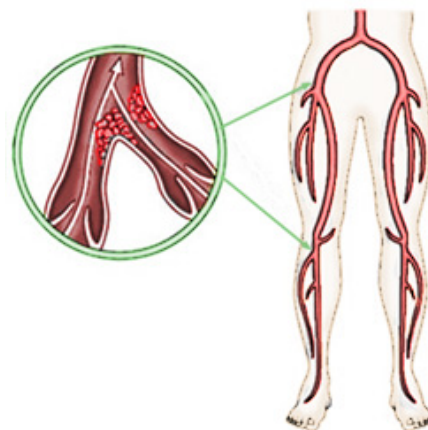


# What You Need to Know About Blood Clots

## What is a blood clot?

There are two types of clots:

- **Deep Vein Thrombosis (DVT)** is a blood clot that forms in the veins deep in the body (usually in the leg or pelvis).
- **Pulmonary embolus (PE)** is a blood clot that breaks off from a vein deep in the body and travels in the bloodstream to your lungs



Reproduced with permission from OrthoInfo. ©American Academy of Orthopaedic Surgeons.  
<http://orthoinfo.aaos.org>

## What are the symptoms of a blood clot?

Sign and Symptoms of a Deep Vein Thrombosis (DVT):	Sign and Symptoms of a Pulmonary Embolus (PE):
<p>Only about half of the people who have a <b>DVT</b> have signs and symptoms.</p> <p>These signs and symptoms occur in the leg affected by the deep vein clot:</p> <ul style="list-style-type: none"> <li>• Pain or tenderness, often starting in the calf.</li> <li>• Swelling, including the ankle &amp; foot.</li> <li>• Warmth and redness of the area or a noticeable discoloration.</li> </ul>	<p>Some people aren't aware of a deep vein clot until they have signs and symptoms of a PE.</p> <p><b>Call 911 if you notice these signs of a PE:</b></p> <ul style="list-style-type: none"> <li>• Unexplained, shortness of breath</li> <li>• Rapid breathing</li> <li>• Chest pain (may be worse with deep breathing).</li> <li>• Rapid heart rate</li> <li>• Unexplained cough and coughing up blood</li> <li>• Dizziness, lightheadedness or fainting</li> </ul>

## How is a DVT or PE blood clot diagnosed?

Your doctor will ask you questions about your symptoms and if your symptoms suggest that a blood clot is likely, you could have one or all of the following tests:

**Blood Test for a D-dimer:** This test measures the level of a compound released when blood clots are dissolving. A high level may mean deep vein thrombosis (DVT).

### Imaging studies:

- **Ultrasound** – This is the most common test for diagnosing deep vein blood clots. This test uses sound waves to create pictures of blood flowing through the arteries and veins in the affected leg.
- **Venography** - if an ultrasound doesn't provide a clear diagnosis your doctor may order a venography. For this test, dye is injected into a vein in the affected leg. The dye makes the vein visible on an x-ray image. The x ray will show whether blood flow is slow in the vein, which may suggest a blood clot.
- Other tests used to diagnose DVT include **MRI** (Magnetic Resonance Imaging) or **CT** (Computed Tomography Scanning). These tests create pictures of your organs and tissue

If your doctor thinks that you have PE, he or she may recommend more tests, such as a **VQ scan** (Lung Ventilation Perfusion Scan). A lung VQ scan shows how well oxygen and blood are flowing to all areas of the lungs.

Another test that is sometimes used to diagnose PE is **Pulmonary Angiography**. For this test, dye is injected to show how blood is flowing through the blood vessels in the lungs.

Your doctor may order other imaging and blood tests as needed.

## How is a DVT or PE blood clot treated?

The treatment of DVT or PE are similar.

- **Blood thinning medications:** These prevent blood clots from forming or getting larger. Some examples are: (Heparin, LOVENOX<sup>®</sup>, FRAGMIN<sup>®</sup> (dalteparin sodium injection), INNOHEP<sup>®</sup> (tinzaparin sodium injection), Coumadin<sup>®</sup> (warfarin), Eliquis<sup>®</sup> (apixaban), Pradaxa<sup>®</sup> (dabigatran), Xarelto<sup>®</sup> (rivaroxaban), Savaysa<sup>®</sup> (edoxaban).
- **Thrombolytic Therapy:** Dissolving blood clots using medication called “Clot Busters”.
- **Thrombectomy:** A (clot removing) procedure.
- **IVC (Vein Filters):** medical device that prevents clots from traveling through the body.
- **Stents:** Medical device used to treat narrow or weak arteries.

## How can I prevent a DVT or PE blood clot?

- Stay active, try not to sit for long periods of time. For example, take your time while traveling so that you are not sitting for too long.
- Maintain an ideal body weight
- Review your risk factors and your medical history with your doctor.
- Talk to your doctor about preventing blood clots after surgery.

## Where can I learn more about DVT and PE blood clots?

- Clot Connect Project: <http://www.clotconnect.org/>
- Venous Thromboembolism (Blood Clots):  
<http://www.cdc.gov/ncbddd/dvt/index.html>
- Deep Vein Thrombosis (DVT) Fact Sheet:  
<http://vascular-disease.org/flyers/deep-vein-thrombosis-flyer.pdf>



### Audiovisual Resources:

- Vascular Disease Foundation. **How Blood Clots Form:**  
<http://www.vdf.org/interactive/v>

Disclaimer: This document contains information and/or instructional materials developed by Michigan Medicine for the typical patient with your condition. It may include links to online content that was not created by Michigan Medicine and for which Michigan Medicine does not assume responsibility. It does not replace medical advice from your health care provider because your experience may differ from that of the typical patient. Talk to your health care provider if you have any questions about this document, your condition or your treatment plan.

Patient Education by [Michigan Medicine](#) is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License](#). Last Revised 10/2017

