



DEEP-VEIN THROMBOSIS AND PULMONARY EMBOLISM

Health Fact Sheet 2009

Background

Deep vein thrombosis (throm-BO-sis), (also known as deep venous thrombosis or DVT), is a blood clot that forms in a vein deep in the body. Blood clots occur when blood thickens and clumps together. Most deep vein blood clots occur in the lower leg or thigh. They also can occur in other parts of the body, such as the veins of the arm. A blood clot in a deep vein can break off and travel through the bloodstream. The loose clot is called an embolus. When the clot travels to the lungs and blocks blood flow, the condition is called **pulmonary embolism** (PULL-mun-ary EM-bo-lizm), or PE. PE is a very serious condition which can damage the lungs and other organs in the body and cause death.

Blood clots in the thigh are more likely to break off and cause PE than blood clots in the lower leg or other parts of the body. Blood clots also can form in the veins closer to the skin's surface. However, these clots won't break off and cause PE.

Warning Signs and Symptoms

Only about half of the people with DVT have symptoms. The signs and symptoms of deep vein thrombosis (DVT) may be related to DVT itself or to pulmonary embolism (PE). See your doctor right away if you have symptoms of either. Both DVT and PE can cause serious, possibly life-threatening complications if not treated.

Symptoms of DVT may include: pain, swelling, tenderness, discoloration or redness of the affected area, and skin that is warm to the touch. Many as half of all DVT episodes produce minimal symptoms or are completely "silent." A careful history has to be taken considering *risk factors* (see below), including the use of estrogen-containing methods of hormonal contraception, recent long-haul flying, intravenous drug use and a history of miscarriage. A family history can reveal a hereditary factor in the development of DVT. Approximately 35 percent of DVT patients have at least one hereditary thrombophilia (increased tendency for the blood to clot), including deficiencies in the anticoagulation factors protein C, protein S, antithrombin, or mutations in the factor V and prothrombin genes.

Some people don't know they have DVT until they have signs or symptoms of PE. Symptoms of PE include:

- Unexplained shortness of breath
- Pain with deep breathing
- Coughing up blood
- Rapid breathing and a fast heart rate also may be signs of PE.

Cause and Risk Factors

- The most common risk factors are recent surgery or hospitalization. (40% of these patients did not receive heparin prophylaxis).
- Other risk factors include advanced age, obesity, infection, immobilization, use of combined (estrogen-containing) forms of hormonal contraception, tobacco usage and air travel ("economy class syndrome", a combination of immobility and relative dehydration) are some of the better-known causes.
- Thrombophilia (tendency to develop thrombosis) often expresses itself with recurrent thromboses.

Diagnosis: A physical examination, diagnostic scanning, or blood test can be performed to determine DVT or PE.

Prevention

If you're at risk for DVT or pulmonary embolism (PE), you can help prevent the condition by:

- Seeing your doctor for regular checkups.
- Taking all medicines your doctor prescribes.
- Getting out of bed and moving around as soon as possible after surgery or illness. This lowers your chance of developing a blood clot.
- Exercising your lower leg muscles during long trips including walking, stretching and flexing feet. This helps prevent a blood clot from forming.

Travel Tips

Your risk of developing DVT while traveling is small. The risk increases if the travel time is longer than 4 hours, or if you have other risk factors for DVT.

During long trips, it may help to:

- Walk up and down the aisles of the bus, train, or airplane. If traveling by car, stop about every hour and walk around.
- Move your legs and flex and stretch your feet to encourage blood flow in your calves.
- Wear loose and comfortable clothing.
- Drink plenty of fluids and avoid alcohol.
- If you're at increased risk for DVT, your doctor may recommend wearing compression stockings during travel or taking a blood-thinning medicine before traveling.

For information about Deep Vein Thrombosis or Pulmonary Embolism, call the **New Jersey Department of Health and Senior Services, Heart Disease and Stroke Prevention Program** at (609) 984-6137. Visit National Web site at: <http://www.cdc.gov/dhdspl/> , The National Heart, Lung and Blood Institute http://www.nhlbi.nih.gov/health/dci/Diseases/Dvt/DVT_Prevention.html, The American Heart Association, web site at <http://www.americanheart.org>, the American Stroke Association web site at: <http://www.strokeassociation.org>, the Food and Drug Administration at: www.fda.gov/fdac/features/2004/604_vein.html and the U.S. Surgeon General at: www.surgeongeneral.gov/topics/deepvein/.