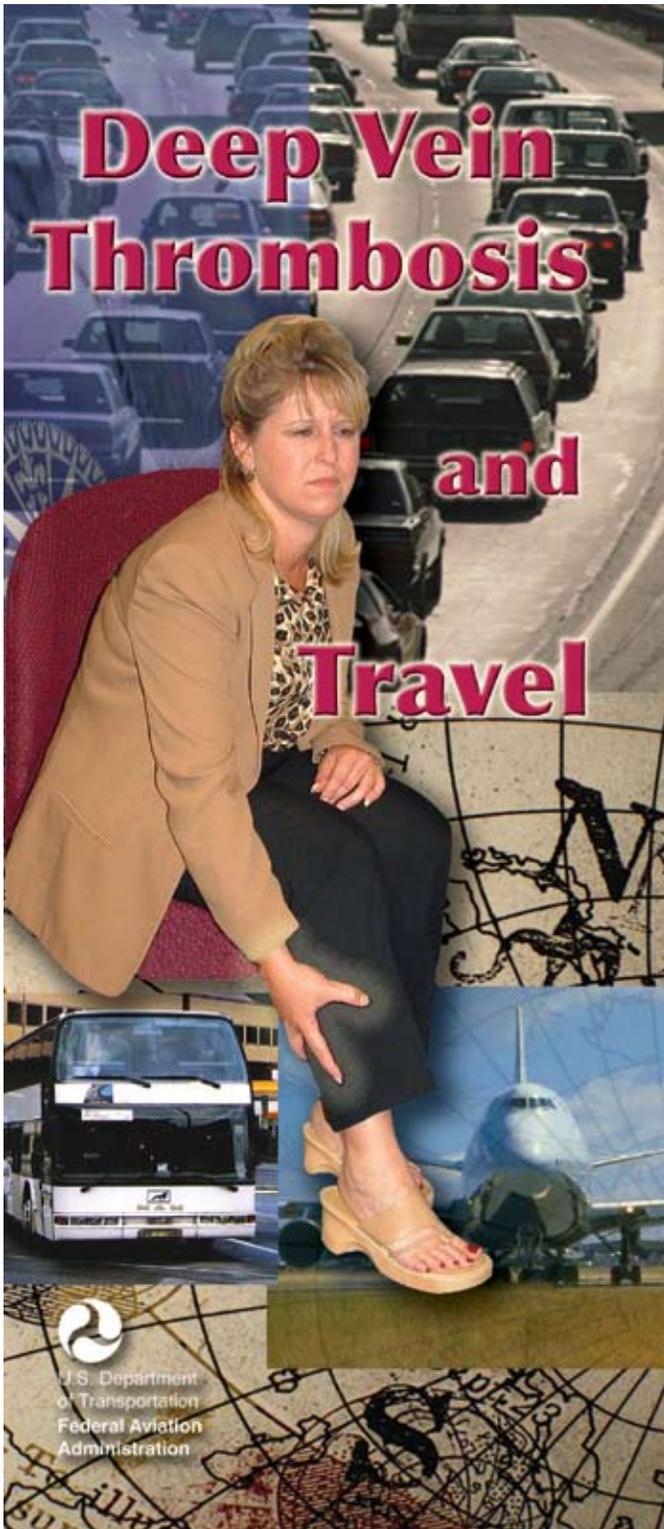




Federal Aviation
Administration



Introduction

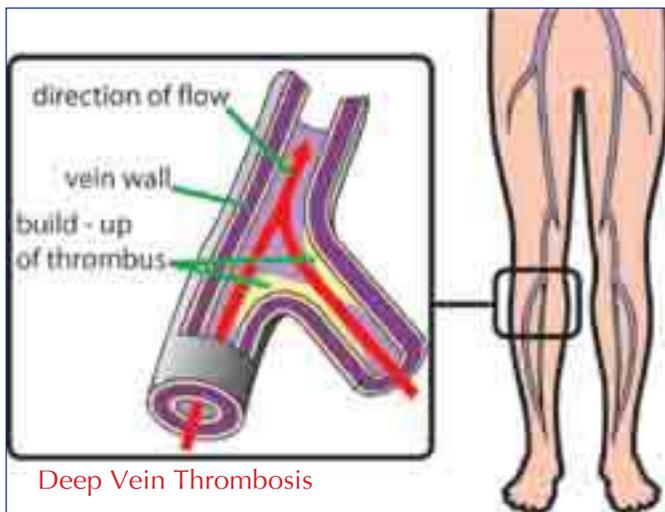
Deep Vein Thrombosis (DVT) is a condition in which a clot, or thrombus, typically forms in a deep vein in a leg. People with a DVT may notice pain and swelling in the leg where the clot has formed, though smaller clots may not cause any symptoms. The major problem occurs when a part of the clot breaks off and flows to the lungs. This condition, called a Pulmonary Embolus (PE), can cause severe injury or death. DVTs are known to occur in about 1 out of 1000 people in the general population from all causes.

Traveler's Thrombosis

The condition has been erroneously dubbed *Economy Class Syndrome* by some people because of the perception that passengers in the more restrictive coach or economy class of the aircraft are more likely to develop DVTs. Recent research, however, has found that passengers in any seating class of the aircraft may develop a DVT. Research indicates that any situation where one's activity is limited for long periods – a long automobile drive or train ride, for instance – may contribute to a DVT. For this reason, the term *Traveler's Thrombosis* is more appropriate.

Cause

The precise cause of Traveler's Thrombosis, while currently not clear, appears to be related, in part, to long periods of sitting and inactivity. The decrease in activity may lead to inadequate circulation of the blood in the legs. In addition, the veins may be slightly constricted, which could also impair circulation in the legs.



Treatment

If you suspect that you may have developed a DVT, you should immediately contact your physician or go to an emergency room. Be sure to mention that you have recently completed a long journey, as that information may aid in making the correct diagnosis. Different procedures will be used to check for the presence of a DVT and to evaluate a possible pulmonary embolus, if indicated. If a DVT or PE is found, then you will usually be started on a blood thinner to help prevent the clot from becoming larger while it slowly resolves.

Prevention

Since it has not been scientifically established that there is a direct relationship between DVT and flying, there may be no need for specific preventive methods. However, some practices may be found to be beneficial:

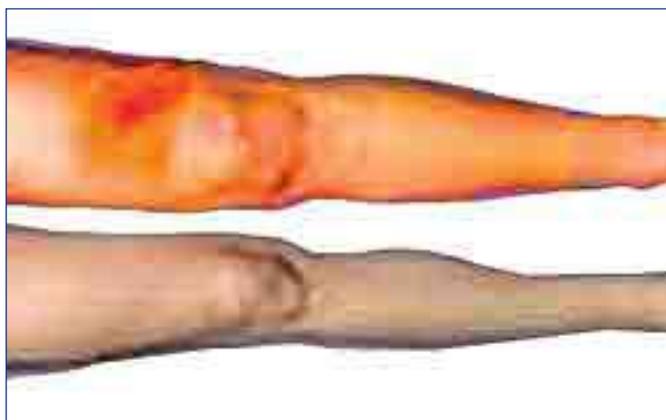
- Increasing leg muscle activity during long periods of sitting improves blood flow in the legs. This may include walking around the cabin or exercising your lower legs and ankles while seated.
- Drinking adequate fluids, and avoiding alcohol and caffeine, may also help by preventing dehydration.
- Loose-fitting clothing may be beneficial in avoiding constriction of veins.
- Some recommend taking short naps, instead of long ones, to avoid prolonged inactivity.

Other conditions that alter blood flow or normal clotting mechanisms may make some people more likely to develop a DVT. Some of these risk factors include a prior DVT, certain heart diseases, cancer, pregnancy, smoking, older age, and some blood clotting disorders. Recent major surgery or trauma is also a risk factor.

Certain medications may also contribute to formation of the thrombus. Birth control pills and related hormones have been found to make some people slightly more susceptible to forming DVTs.

Symptoms

Not all DVTs cause noticeable symptoms, but the most common are swelling and redness in the affected leg, often associated with some pain in the same area. Severe chest pain or problems breathing may indicate a pulmonary embolus and should be evaluated immediately.



If you have any of the risk factors for DVT, consult your physician before long trips. If indicated by a physician, special support socks or stockings can reduce blood pooling in the legs and blood thinning medications may be prescribed.

For more information, we encourage you to read “*Traveller’s Thrombosis: A Review of Deep Vein Thrombosis Associated With Travel*,” published in *Aviation, Space, and Environmental Medicine*, Vol. 72, No. 9, September 2001.

Summary

1. A Deep Vein Thrombosis (DVT) is a clot that forms in a leg vein.
2. A DVT can cause harm by obstructing blood flow to a limb or if a part of the clot flows to the heart or lungs.
3. A DVT can be caused by some medical problems, medications, and long periods of inactivity.
4. The risk of developing a DVT can be reduced by:
 - Occasional muscular activity
 - Maintaining hydration
 - Limiting alcohol and caffeine intake
 - And, if indicated by a physician:
 - Support socks or stockings
 - Blood-thinning medications

Other Pilot Safety Brochures Available

Number	Title
AM-400-94/2	Alcohol and Flying: A Deadly Combination
AM-400-95/2	Altitude Decompression Sickness
OK05-0270	Carbon Monoxide: A Deadly Threat
AM-400-91/1	Hypoxia: The Higher You Fly, the Less Air in the Sky
AM-400-98/3	Hearing and Noise in Aviation
AM-400-97/1	Introduction to Human Factors in Aviation
AM-400-92/1	Over the Counter Medications and Flying
AM-400-98/2	Pilot Vision
AM-400-95/1	Smoke!
AM-400-00/1	Spatial Disorientation: Visual Illusions
AM-400-03/1	Spatial Disorientation: Why You Shouldn’t Fly By the Seat of Your Pants
AM-400-01/1	Physiological Training Courses for Civil Aviation Pilots
AM-400-05/1	Sunglasses for Pilots: Beyond the Image

MEDICAL FACTS FOR TRAVELERS

Publication AM-400-03/2

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