

# DEEP VEIN THROMBOSIS (DVT)

by John Falkner-Heylings BSc(PodMed), FPSPract

Deep vein thrombosis, or DVT, develops in one in 3,000 people under the age of 40, rising to one in 500 in the over 80s. A DVT is a clot that forms in a deep vein of the leg or pelvis. If part of the clot breaks off, it can move until it becomes lodged in a narrower vein. If this is in the lung, it causes a blockage known as a pulmonary embolism which can be life-threatening.

Virchow's triad explains that clotting within a blood vessel occurs for three reasons: change in the quality of the blood, change in the walls of the blood vessel or change in local blood flow. Reduced blood flow in the legs from sitting in one position for a length of time (as on a long haul flight) can lead to DVT. And the dehydration that can also occur on a long flight leads to thickening of the blood and greater tendency to clot, again making DVT more likely. But DVT is not just brought on by flying. It can result from a long car or train journey, or a long coach ride. The essential thing is to avoid sitting still for long periods.

DVT usually presents as tenderness, pain and swelling affecting one leg only. The pain usually feels worse on standing and walking. However, it is possible for DVT to be asymptomatic. There may be a darkening or reddening of the skin of the leg due to the congestion that results from the blockage, and the superficial veins may become engorged. Symptoms may develop whilst travelling, but are more likely to occur several hours or even days later. Pain in the legs or breathing difficulties following a long journey should be given urgent medical attention.

Treatment is usually by injection of heparin to dissolve the clot, and this may, but does not always, require admission to hospital. In addition to the risk of the pulmonary embolism, post-thrombotic syndrome may follow an episode of DVT as a result of damage done to venous valves.

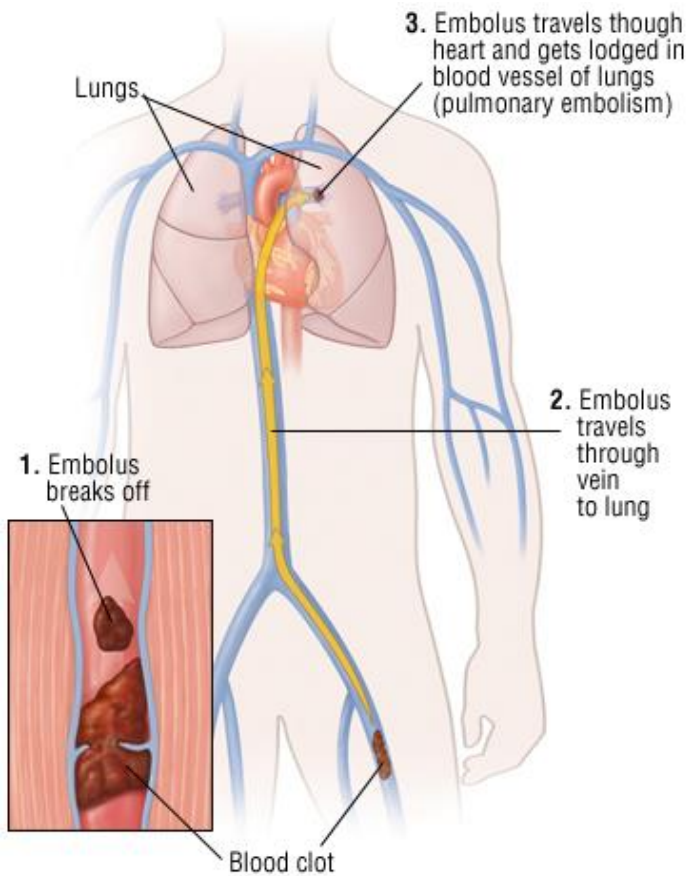
DVT commonly occurs:

- where there is a history of blood clotting abnormalities
- where there is a family history of thrombosis
- where there is heart disease or poor circulation
- in cases of cancer
- in cases of pregnancy or taking hormone treatment
- following major surgery
- following a period of immobility before a flight

Graduated compression (thromboembolic deterrent) stockings help in prevention of DVT and of post-thrombotic syndrome, particularly if suffering any of the above. Try to avoid crossing the legs, drink more to ensure full blood volume, and avoid tea, coffee or alcohol because these are all diuretic and cause the body to lose water and bring on dehydration. Those known to be at risk would do well to discuss with their doctor whether or not to take aspirin or some other anti-coagulant medication. Regular movement is important and the legs should be stretched at least every 2-3 hours, preferably by walking a short distance. Rotating the ankle, tapping the foot and wiggling the toes all work the muscles of the leg and help to pump blood around the lower limb.

Airlines may refuse to fly passengers who have:

- lung conditions that cause breathlessness at rest
- significant degrees of heart failure
- have undergone recent major surgery
- have sinus problems or ear infections
- are pregnant beyond 36 weeks
- are newborn
- have had a recent heart attack
- have had a recent pneumothorax.



A deep venous thrombosis (DVT) is a blood clot (thrombus) that forms inside deep veins in your legs or pelvis. The clot blocks blood flow and causes pressure to build up in the vein. Part of the clot can break away and move through your bloodstream to your lungs. If the clot blocks one or more of the blood vessels in your lungs, it is called a pulmonary embolism.

DVT is a common problem. Most of these clots occur when blood flow in the veins of the legs is slowed. This is usually as a result of inactivity.

Ordinarily, as you walk around, your leg muscles squeeze your veins and keep blood flowing back to the heart. But if you are inactive for many hours, blood flow in the veins of your legs may slow so much that clots form.

Harvard University Publishing



Large saddle embolus seen in the pulmonary artery (white arrows).

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*Responses should be submitted on A4 paper and should be of sufficient length to demonstrate full understanding of the topic. Single word answers are not permissible. Try to answer in one or two short paragraphs, not more than ¼ page per answer.*

Q1. What is a deep vein thrombosis?

Q2. State the prevalence of DVT.

Q3. Describe the presentation of a deep vein thrombosis.

Q4. State the three parts of Virchow's triad.

Q5. How might a DVT be prevented?

Q6. What complications can arise following a deep vein thrombosis?

Q7. What is the purpose of the advice to drink more water on long-haul flights?

Q8. What treatment is given in the occurrence of a DVT?

Q9. What medications might be advised in order to guard against further clotting episodes?

Q10. Detail some exercises that could be performed to help prevent DVT.

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