

## ***BLOOD CLOTS***

**Venous thromboembolism** is a medical term for blood clots within the veins. Blood clots can form either in the superficial veins that we can see just under the skin or in the deep veins, which are deep within the muscle compartment (reference “*vein anatomy and physiology*” section). Usually, superficial thrombophlebitis (or superficial vein clots) are not dangerous; however, occasionally can be accompanied by deep vein blood clots. Hence, for an initial episode of superficial thrombophlebitis it is wise to be examined to make sure and identify the extent of the problem. Superficial thrombophlebitis (STP) is usually accompanied by tenderness, a “lumpy” feeling and a reddish inflammation along the course of the vein involved with the thrombus or clot. This is not an infection, but an inflammation from the irritation of the clot on the vein wall. If the blood clot stays within the superficial vein and does not come near the junction where the superficial vein joins the deep vein, these clots usually do not break off and travel up the vein system and enter the heart or lungs. Superficial thrombophlebitis is sometimes treated with blood thinners, but more usually treated with anti-inflammatory medicines, such as ibuprofen, warm compresses and compression stockings.

**Deep vein blood clots** are a different matter and some times deep vein clots will break off, travel up the vein pathway and enter the heart and lungs causing sudden shortness of breath, chest pain or potentially even sudden death. (reference “*Ask the Doctor*” articles section) Most of the time the clots in the deep system cause a temporary obstruction, acute swelling of the lower leg, foot and ankle some times up to three times its normal size and are accompanied by significant leg pain. Treatment of deep vein blood clots is usually centered around blood thinners to prevent further clots from forming, giving more time for the body’s normal enzymes to help dissolve and break up the blood clot and re-canalize or re-open the vein pathway. In some instances, the deep vein blood clots can actually be removed by mechanical or enzymatic devices.

In both instances of superficial and deep venous thrombosis, the vein wall as well as the very delicate one-way check valves can be injured and usually irreparably. This destruction of the one-way check valve system in the leg results in future reversed flow of blood and gives rise to the venous insufficiency problems and symptoms alluded to in many of the other sections in these reports. Occasionally, these clots will form in already diseased veins, such as varicose veins or during a certain condition such as immobility around the time of surgery or during lengthy airplane or automobile travel times. Occasionally, individuals have a genetic predisposition for clot formation called “**thrombophilia**” and it is important to understand this process if you have other risk factors that your primary physician might help you identify. It is important to understand that individuals with venous insufficiency problems, including varicose veins, do have abnormality in the proper normal vein flow patterns in their veins (both deep and superficial system) and may be at increased risk for blood clot formation. Hence, the presence of varicose veins that are not only of cosmetic concern for many individuals, but also should be a functional and medical concern due to the increased risk for a blood clot formation. I would encourage you to review the several “*Ask the Doctor*” articles, which I prepared for publication in *The Herald Times Reporter* and found on another section within the patient education portion of this website.