

THROMBOPHILIA AND BLOOD CLOTTING

What is thrombophilia?

Thrombophilia (also called hypercoagulability or prothrombotic state) means an increased risk for excessive blood clotting in the veins and arteries. Substances in your blood (called proteins) work with tiny particles (called platelets) to form the blood clot. Forming a clot is called “coagulation”. Coagulation is a natural, life saving mechanism when you are injured and bleeding because it slows blood loss. However, your blood should not clot when it’s just moving through your body.

If blood clots inside your blood vessels, it is called “thrombosis” – it can either partially or completely block the flow of blood in the vessel. Several types of conditions have been identified which may lead to dangerous clots. These conditions may be present at birth (congenital or inherited thrombosis) such as Factor V Leiden or the Prothrombin mutation. A thrombosis may occur as a result of another condition occurring after birth (acquired thrombosis). Some people have more than one condition placing them at even further risk such as Factor V Leiden and a Protein C deficiency.

Why is thrombophilia dangerous?

When clots form in veins, blood builds behind the clot causing swelling and pain and eventually may damage the vein. The most common site for serious venous blood clots to form is in the deep veins of the lower legs and thighs (also called a deep vein thrombosis or DVT). The deep veins run through the muscles and are larger than veins near the skin. Blood clots can also form in the veins near the skin called superficial thrombosis. Superficial thrombosis is of less concern because it is not usually associated with serious effect such as pulmonary embolus.

An important complication of blood clots occurs when a portion of the clot (or the entire clot) breaks loose from the vessel in which it formed and then travels until it sticks in another smaller vessel and blocks blood flow there. This is called an embolus. An embolus can lodge in the brain, lungs, heart or other areas of the body and can cause damage to that area. A pulmonary embolus (a blood clot travels to the lungs) usually comes from a blood clot in the deep veins of the legs. A cerebral emboli (a blood clot that travels to the brain) is a frequent cause of stroke.

Am I at risk for a clot?

There are several reasons, called risk factors, that increase your chances of developing a dangerous clot. Usually, more than one of the risks factors needs to be present to form a clot. You are more likely to be at risk of deep-vein thrombosis (DVT) if;

- You have injured the deep veins in your arms or legs (for example if you have a broken bone, severe muscle injury or have surgery)
- The blood flow through your veins is slowed as with long plane rides or car drives, or bed rest
- You have an inherited or acquired risk factor, like Factor V Leiden or Protein C deficiency
- You have more than one inherited or acquired risk factor
- You have a previous history of a blood clot
- You are obese
- Your are dehydrated
- You are on birth control pills or hormone therapy or are pregnant
- You have a major illness such as cancer, infection of the blood, or an inflammatory disease
- You have a family member who has had a clot in the past

Some people have a combination of these risk factors and are at a higher risk than those who have fewer.

How do I know if I have a clot?

The most common place for a clot is in the leg. You may have swelling, pain and redness in the calf or behind the knee. A more rare site for clotting is in the lungs, which makes it hard to breathe and can cause chest pain. In even rarer cases, the clot might occur in the arm or another part of the body. Again, swelling, pain and/or redness may be present in the area of the clot.

Can thrombophilia be treated?

There are medicines that can thin your blood and make it less likely to clot. Some people with thrombophilia only need to take blood thinning medications when they have an increased risk such as; surgery, trauma, pregnancy or long plane/car trip. Other people with thrombophilia need to take medicine for the rest of their lives. The length of time of blood thinning medications depends on several issues such as, the type of clot, the degree of the clot, the underlying reasons for the clot and continued risk factors for clotting.

The two most common blood thinning medications are called heparin and coumadin. Usually, your doctor will give you heparin first, because heparin works right away. Heparin comes in two forms and if you are in the hospital, you may get your heparin through an IV. You may go home on heparin that must be injected under the skin. After being on heparin for the time suggested by your doctor, you might start taking coumadin. Coumadin is taken by mouth and takes longer to begin working so you should continue the heparin until the coumadin is working in your blood at a proper level. You will need to have your blood drawn to find out the level of heparin and coumadin in your blood.

These medications can cause you to bleed more easily. You might notice that cuts take longer to clot and that you may bruise more easily. If you have any unusual bleeding such as bleeding of your gums when you brush your teeth or new nose bleeds, call you doctor right away.

What can I do to avoid a clot?

1. Avoid long periods of bed rest. Avoid prolonged sitting or standing in one position. Don't cross ankles or legs while sitting or lying. Keep your feet higher than your hips while sitting. While resting, occasionally move your legs, ankles and toes to promote circulation
2. On long car or plane rides, get up and move around for ~15 minutes every 2 hours at least
3. Do not smoke or be around others who are smoking
4. Exercise regularly and stay well hydrated with water
5. Use support stockings (JOBST compression stockings or TED compression stockings) if you have severe varicose veins or if you have had a clot in your legs
6. Avoid knee socks or hosiery that might limit blood flow. Avoid tight diapers around the legs in infants.
7. Do not take Birth Control pills without discussing it with your Hematologist
8. If you become pregnant, consult your GYN and Hematologist
9. Tell the doctor or surgeon prior to having any surgery or procedure

Why does the area where my clot was still bother me?

If you have pain and swelling after your clot has gone, you may have what is called "post-thrombotic syndrome". This syndrome occurs in people who have had a clot (thrombus) and have damaged the wall of the vein and/or the valves in the vein. If you have had a DVT anywhere in your body, the medication given to you helps dissolve the clot. However, your vein can now be scarred and/or the valves in your veins damaged. This is why many people who have had a clot in their legs, have problems with poor circulation. It may not be that the vein still has a clot in it, but that the vein/valves are damaged and can no longer push the blood back up to recirculation. Wearing compression stockings, elevating the legs and good activity level can all help with this syndrome.

If you have any questions about your diagnosis, please KC Clevenger , Coagulation Nurse Practitioner at 303.861.6972 or the Hematology fellow on call if after hours or on the weekend at 303.861.6740.