

Patient Sticker

Lower Limb DVT AEC Pathway Patient Advice Leaflet



Date:

Dear Patient,

The doctor suspects that you have a deep vein thrombosis. Until you have a scan, you will be treated with **daily injections** of Dalteparin (Fragmin). This will prevent any clot from enlarging.

- To arrange a scan, please phone the ultrasound department in the Ambulatory Emergency Care clinic at Kingston Hospital between 9am and 10am on the **next working day**. Have this letter to hand when you phone and enter the details of your appointment below.

Telephone Number 020 8546 7711 extension 2824

Date of Scan	Day of Scan	Time of Scan

At the time you are given report to the:

Ambulatory Emergency Care (AEC) clinic in the Surgical Centre

- At the weekend, the next available scan will be on a Monday so continue to give your own injection of dalteparin (Fragmin).
- Bring this letter with you to the Accident and Emergency department **only if you feel unwell**.
- After your scan you will attend the DVT Clinic for review.

Signed _____

Print Name _____

Position _____

Bleep No. _____

Information for Patients

You have been asked to attend the Ambulatory Emergency Care clinic [AEC] at Kingston Hospital for continuing treatment for DVT

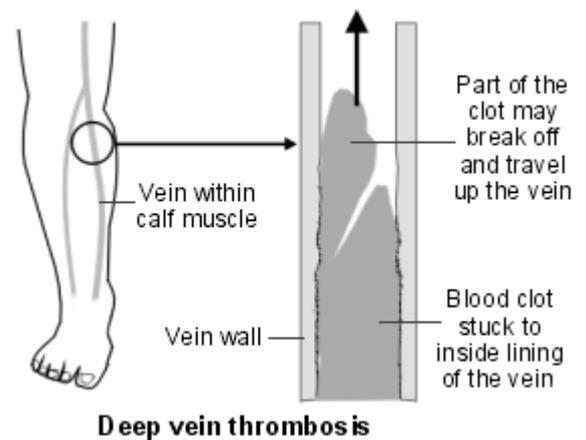
A deep vein thrombosis (DVT) is a blood clot in a leg vein. A common cause is immobility. A complication can occur in some cases, where part of the blood clot breaks off and travels to the lung (pulmonary embolus). This is usually prevented if you are given anticoagulation treatment.

What is a deep vein thrombosis?

A deep vein thrombosis (DVT) is a blood clot that forms in a deep leg vein. Veins are blood vessels that take blood towards the heart.

Deep leg veins are the larger veins that go through the muscles of the calf and thighs. (They are not the veins that you can see just below the skin). When you have a DVT the blood flow in the vein is partially or completely blocked, depending on whether the blood clot partially or completely fills the width of the vein.

A calf vein is the common site for a DVT. A thigh vein is less commonly affected. Rarely, blood clots form in other deep veins in the body.



Why do blood clots form in leg veins?

Blood normally flows quickly through veins, and does not usually clot. Sometimes a DVT occurs for no apparent reason. However, the following increase the risk of having a DVT:

- **Immobility** which causes blood flow in the veins to be slow. Slow flowing blood is more likely to clot than normal flowing blood.
 - **A surgical operation which lasts more than 60 minutes** is the most common cause of a DVT. The legs are still when you are under anaesthetic. Blood flow in the leg veins can become very slow.
 - **Any illness or injury that causes immobility** increases the risk of a DVT.
 - **Long journeys by plane, train or coach/car** are thought to cause a slightly increased risk of DVT. This is because you are mostly sitting still and not moving around much.

- **Damage to the inside lining of the vein** increases the risk of a blood clot forming. For example, a DVT may damage the lining of the vein. So, if you have a DVT, then you have an increased risk of having another one in the future. Some conditions such as vasculitis (inflammation of the vein wall), and some medicines (for example, some chemotherapy drugs), can damage the vein and increase the risk of having a DVT.
- **Conditions that cause the blood to clot more easily than normal** (thrombophilia) can increase the risk. Some medical conditions can cause the blood to clot more easily than usual. For example, nephrotic syndrome and antiphospholipid syndrome. Some rare inherited conditions can also cause the blood to clot more easily than normal. For example, factor V Leiden.
- **The contraceptive pill and hormone replacement therapy (HRT)** which contain oestrogen can cause the blood to clot slightly more easily. Women taking the combined oral contraceptive pill or HRT have a small increased risk of DVT.
- **People with cancer or heart failure** have an increased risk of having a DVT.
- **Older people** are more likely to have a DVT, particularly if you have poor mobility or have a serious illness such as cancer.
- **Pregnancy** increases the risk. About 1 in 1000 pregnant women have a DVT.
- **Obesity** also increases the risk of having a DVT.

How common is a deep vein thrombosis?

It is estimated that about 1 in 1000 people have a DVT each year in the UK.

What are the symptoms of a deep vein thrombosis?

The typical symptoms are pain, tenderness, and swelling of the calf. Blood that would normally go through the blocked vein is diverted to outer veins. The calf may then become warm and red. Sometimes there are no symptoms and a DVT is only diagnosed if a complication occurs such as a pulmonary embolus (see below).

Do I need any tests?

Sometimes it is difficult for a doctor to be sure of the diagnosis from just the symptoms, as there are other causes of a painful and swollen calf. For example, a muscle strain or infection. If you have a suspected DVT you will normally be seen urgently at hospital for assessment and tests to confirm or rule out the diagnosis. Two commonly used tests are:

- The D-dimer test. This is blood test that detects fragments of the breakdown products of a blood clot. The higher the level, the more likely that you have a blood clot in a vein. Unfortunately the test can be positive in a number of other situations, such as if you have had recent surgery or if you are pregnant. A positive test does not, therefore diagnose a DVT but can help decide if further tests, such as a scan, are needed.

- An ultrasound scan of the leg which can often detect a clot in a vein. If there is a delay in getting a scan, you may be given medication to thin your blood. This is, in effect treating you as if you do have a DVT, even though it has not been proven. This is safer than doing nothing whilst waiting for a scan.

Sometimes these tests are not 100% conclusive and more detailed tests are necessary. For example, Contrast Venography. In this test a dye is injected into the leg veins. X-ray tests can then detect the dye which shows to be not flowing if a vein is blocked by a clot.

Is a deep vein thrombosis serious?

It can be. When a blood clot forms in a leg vein it usually remains stuck to the vein wall. The symptoms tend to settle gradually. However, there are two main possible complications:

- Pulmonary embolus (a blood clot which travels to the lung).
- Post-thrombotic syndrome (persistent calf symptoms).

Pulmonary embolus (PE)

In a small number of people who have a DVT, a part of the blood clot 'breaks off'. This travels in the bloodstream and is called an embolus. An embolus will travel in the bloodstream until it becomes stuck. An embolus that comes from a clot in a leg vein will be carried up the larger leg and body veins to the heart, through the large heart chambers, but will get stuck in a blood vessel going to a lung. This is called a pulmonary embolus.

A small pulmonary embolus may not cause any symptoms. A medium sized pulmonary embolus can cause breathing problems and chest pain. A large pulmonary embolus can cause collapse and sudden death. It is estimated that if people with DVT are not treated, about half of them would develop a PE large enough to cause symptoms or death.

Post-thrombotic syndrome

Without treatment, up to 4 in 10 people who have a DVT develop long-term symptoms in the calf. This is called 'post-thrombotic syndrome'. Symptoms occur because the increased flow and pressure of the diverted blood in other veins can affect the tissues of the calf. Symptoms can range from mild to severe and include: calf pain, discomfort, swelling, and rashes. An ulcer on the skin of the calf may develop in severe cases.

Post-thrombotic syndrome is more likely to occur if the DVT occurs in a thigh vein, or extends up into a thigh vein from a calf vein. It is also more common in people who are overweight, and in those who have had more than one DVT in the same leg.

What is the treatment for a deep vein thrombosis?

The aims of treatment are:

- To prevent the clot spreading up the vein and getting larger. This may prevent a large embolus breaking off and travelling to the lungs (a PE).

- To reduce the risk of post-thrombotic syndrome developing and venous leg ulcers in the future.
- To reduce the risk of a further DVT in the future.

Anticoagulation - preventing the clot from getting larger

Anticoagulation is often called 'thinning the blood'. However, it does not actually thin the blood. It alters certain chemicals in the blood to stop clots forming so easily. Anticoagulants do not dissolve the clot. They prevent a DVT from getting larger, and any new clots from forming. The body's own healing mechanisms can then get to work to break up the clot. A serious embolus is rare if you start anticoagulation treatment early after a DVT.

There are a number of options:

- **Warfarin** has been the usual anticoagulant for many years. However, it takes a few days for warfarin tablets to work fully. Therefore, heparin injections are often used in the first few days for immediate effect. The aim is to get the dose of warfarin just right so the blood will not clot easily, but not too much which may cause bleeding problems. You will need regular blood tests whilst you take warfarin (called INRs). You need them quite often at first, but then less frequently once the correct dose is found.
- **Rivaroxaban, Apixaban, Edoxaban** and **Dabigatran** are newer anticoagulant medicines. You do not have to have regular blood tests to monitor your blood clotting. This is an advantage over warfarin. However, there is no antidote (as there is with warfarin) to stop you bleeding too easily. These newer tablets are not suitable for everybody.
- **Heparin injections (Dalteparin - Fragmin)** if you are pregnant. This is because anticoagulant medicines can cause harm (birth defects) to the unborn child.

The length of time you will be advised to take anticoagulation depends on various factors. If you have a DVT during pregnancy or after an operation, then after the birth, or when you are fit again, the increased risk is much reduced. So, anticoagulation may be only for a few months. On the other hand, some people continue to have an increased risk of having a DVT. In this case, the anticoagulation may be long-term. The Anticoagulant clinic consultant or nurse will advise you how long your treatment will be for.

Walking regularly but raising your leg whilst resting

- Unless your doctor advises against this, you should walk regularly after you are discharged from hospital. Walking is thought to improve circulation in the affected leg and may help to reduce your risk of further DVT.
- When you are resting, as much as possible - raise your leg. This reduces the pressure in the calf veins and helps to prevent blood and fluid from pooling in the calves. Raised means that your foot is higher than your hip so gravity helps with blood flow returning from the calf. The easiest way to raise your leg is to recline on a sofa with your leg up on a cushion. Sitting on the sofa or in a chair, with your feet on a footstool or pouffe, is not keeping your feet up - the feet are well below your hips in this position.
- Raise the foot of the bed a few inches if it is comfortable to sleep like this. This is so your foot and calf are slightly higher than your hip when you are asleep.

Preventing a first DVT - or a recurrence of a DVT

A DVT is often a 'one-off' event, for example after a major operation. However, some people have an ongoing risk of a further DVT. For example, if you have a blood clotting problem, or continued immobility. As mentioned above, you may be advised to take anticoagulation long-term.

Other things that may help to prevent a first or recurrent DVT include the following:

- If possible, avoid long periods of immobility such as sitting in a chair for many hours. If you are able, get up and walk around now and then. A daily brisk walk for 30-60 minutes is even better if you can do this. The aim is to stop the blood 'pooling', and to get the circulation in the legs moving. Regular exercise of the calf muscles also helps. You can do some calf exercises even when you are sitting.
- Major operations are known to be a risk for a DVT - particularly operations to the hip, lower tummy (abdomen), and leg. You may be given an anticoagulant just before and after an operation to help prevent a DVT. An inflatable sleeve connected to a pump to compress the legs during a long operation may also be used. It is also common practice to get you up and walking as soon as possible after an operation.
- When you travel on long plane, train, car or coach journeys, you should have little walks up and down the aisle every now and then. Also, exercise your calf muscles every now and then whilst sitting in your seat.

In Summary

- The main cause of DVT is immobility - especially during or after surgery.
- The most serious complication of DVT is a pulmonary embolus (PE) where part of the blood clot breaks off and travels to the lung.
- Persistent calf symptoms may occur after a DVT.
- With treatment, the risk of the above two complications is much reduced.
- Treatment includes anticoagulation medicines, leg elevation and keeping active.
- Prevention is important if you have an increased risk of DVT - for example, during long operations or when you travel on long journeys.