Preventing blood clots while you're in hospital

What is deep vein thrombosis?

Whenever we cut ourselves, our blood hardens and a scab forms. This process is called blood clotting, or coagulation. Sometimes, a clot of blood can occur within a blood vessel, forming a 'plug' that can interrupt the normal flow of blood, a condition called thrombosis. When a clot forms in a vein deep within the leg, this is called deep vein thrombosis (DVT).

Why does blood clot?

Blood clotting is a natural, protective mechanism that is triggered by the body in response to a cut or wound and prevents you from bleeding too much. The blood-clotting process is a complex sequence of chemical reactions. Your blood contains blood clotting proteins, anti-clotting proteins and cells called platelets, all of which are important in this process. Thrombosis can occur as a result of inactivity (for example, prolonged bed rest) or inflammatory illnesses. Some people are born with abnormalities of the clotting or anti-clotting proteins in the blood that increase their risk - this is known as thrombophilia. This can sometimes be associated with a family history of blood clots.

Is a DVT serious?

If the blood clot stays in the leg, it may not cause serious problems and some clots cause no symptoms at all. After large clots, long-term swelling and discomfort in the leg can result. If a clot becomes dislodged from the vein in the leg, it can travel through the circulation to reach, and block, the blood vessels in the lungs, a condition called pulmonary embolism (PE). This condition can be trivial or life threatening, depending on the size of the clot.

Because symptoms of a PE can be the first sign of a problem, it is very important to prevent clots from forming in the first place.

We Care

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Why might I be at risk of developing blood clots?

There are several risk factors that increase your chances of developing a DVT or PE. These are commonly seen in patients in hospital.

The main risk factors include:

- major operations
- reduced mobility
- pregnancy
- trauma (fractures)
- acute medical illness
- stroke or paralysis
- cancer and its treatments
- some oral contraceptives or Hormone Replacement Therapy (HRT) - see below*
- smoking
- previous blood DVT or PE
- a known blood abnormality causing a clotting tendency (thrombophilia) or family history of clots.

We generally advise that women who are either on the pill or on HRT should continue to take these. If you are undergoing a procedure associated with increased risk of clotting, we will then take measures to address this. However, some surgeons may recommend that you stop taking them before surgery, which may mean that no anti-clot measures would be required.

What can be done to prevent blood clots?

When you are admitted to hospital, you will have a clotting risk assessment performed and, if you are found to be at risk, measures will be put in place to address this. These include:

Anti-thrombotic stockings (TED stockings)

Unless there is a good reason not to, eg poor circulation or nerve damage to the feet and legs common in diabetes, all surgical patients will be given anti-thrombotic stockings to wear while in hospital, and for six weeks after the operation. They should be worn day and night and not removed for more than 30 minutes a day (for bathing). It is important that the stockings are fitted properly, so that they will have the desired effect in preventing clotting. If your stockings are falling down or too tight, speak to a trained nurse who will be able to measure your legs and issue a more appropriate stocking. The stockings are designed to be washed up to 30 times. Wash them by hand, using a mild detergent in warm water and dry naturally.

Anticoagulants

If you are felt to be at high risk of clotting, you will also be prescribed an anticoagulant or ‘blood-thinner’. These work with the body’s natural anti-clotting system to prevent blood clots.

What type of anticoagulant is used?

One commonly prescribed anti-coagulant is Dalteparin, a type of heparin. It is given by your nurse as an injection, once every day, while you are in hospital.

For most patients and most operations, you will be given Dalteparin until you are fully mobile. This will normally be less than a week. In certain cases, your doctor may decide that you need to continue with Dalteparin for a while after you go home from hospital. If this is the case, the doctor or nursing staff will discuss this with you before you are discharged. Dalteparin is easy to inject at home and can be done either by you or a relative. Do not hesitate to ask about anything that concerns you - injecting at home is easy, and it is important that you feel confident about doing so. If you are unable to manage this, a district nurse will be asked to visit to give you the injection.

Based on Department of Orthopaedics guidelines, many patients undergoing operations will now take an oral antiplatelet medicine Aspirin in tablet form when discharged home. Some patients who are at a higher risk of DVT or PE will alternatively be given an anticoagulant called Rivaroxaban to take home. Aspirin is not recommended by NICE, but is recommended by the American College of Chest Physicians. You can choose to be treated in accordance with NICE guidance, if you would prefer, or you can discuss these options with your orthopaedic surgeon.

Are there any side effects with Dalteparin?

It is unlikely that you will experience any problems with Dalteparin. However, you should contact your doctor immediately, day or night, if you:

- feel chest pains or develop shortness of breath
- injure yourself, particularly on your head, eyes or joints
- cut yourself and bleed heavily
- have nose bleeds or your gums bleed heavily
- have a very heavy menstrual period
- notice unexpected bruises, such as brown or black spots on the skin
- vomit blood or something that looks like coffee-grounds
- pass blood in your urine or motions (either obvious blood or sticky, black stools)
- develop a sudden change in your general health, eg vomiting, diarrhoea, fever, etc.

What happens once I am out of hospital?

Continue to wear your compression stockings if you have been issued with them. Once your recovery is under way, the best thing to do is exercise.

Blood that is moving is less likely to clot. Exercise, eg walking, helps the blood to circulate and can help to prevent DVT. Regular, gentle exercise is something you should try to incorporate into your daily routine, if your health allows you. Not only will it help you keep your weight down, but it will also make you feel fitter and more energetic. You should ask your doctor what exercise is safe for you to do and when you can start.

What are the signs and symptoms of a DVT or PE?

If you experience any of the following signs or symptoms, you should inform a member of the healthcare team or your GP immediately:

DVT

- calf pain in either leg (throbbing, tightness)
- swelling of one leg, which is new or increasing
- any redness/skin inflammation to your calf/thigh area.

PE

- breathlessness
- coughing up blood-stained phlegm
- chest pain or discomfort, especially worsened on deep breathing or coughing
- cyanosis (a bluish tinge to the complexion due to lack of oxygen)
- sudden collapse.

If you experience any of these symptoms, call a doctor immediately.

Patient Experience Team

The team are available to offer advice or information on healthcare matters. Their office is in the Main Foyer (Gate 4) of Doncaster Royal Infirmary. Contact can be made either in person, by telephone or email. The team can visit inpatients on all Trust sites.

The contact details are:
Telephone: 01302 553140 or 0800 028 8059
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