

How to prevent blood clots while you are in hospital and after your return home

What is deep vein thrombosis?

Deep Vein Thrombosis DVT is a blood clot within a vein. The most common type of DVT is in the leg. If a DVT forms in the leg it can cause pain and swelling in the leg, which can be distressing for the patient.

A major concern is that someone with a DVT may develop a **Pulmonary Embolus PE**. This happens when a part of the blood clot (**embolus**) breaks off and travels up the veins through the heart and into the lungs. The clot can then become lodged in the arteries in the lung and block circulation; this can cause breathing difficulties, chest pains, and in a small number of cases may be life threatening.

What causes a deep vein thrombosis?

In the UK every year up to one in every thousand people are affected by DVT. Many of the people who develop DVT are in, or have recently been in hospital.

One of the main causes of DVT is **immobility**. This is because the blood circulating through the leg veins relies on leg muscle contraction to propel it up the leg. If a person isn't moving their legs and contracting their muscles, their blood flow becomes sluggish and this can result in blood clots forming.

This is an important factor when considering why people who come into hospital are at an increased risk of DVT. When you are in hospital and unwell you will often spend long periods in bed or sitting in a chair. Unfortunately, this immobility creates the ideal conditions in which a blood clot can form.

Other Important Risks Factors which may cause a DVT:

- A previous history of DVT or PE
- A recent operation especially on the hips or knees
- Cancer and its treatment
- Heart attack or stroke
- Previous DVT or PE within the family
- Increasing age
- Pregnancy
- The use of the combined oral contraception pill and hormone replacement therapy
- Obesity
- Smoking
- Long distance travel
- Dehydration.

When a person develops a DVT it is usually because they have one or more of the above risk factors. The more risk factors you have the more likely you are to develop a DVT.

You should discuss with your medical team the advisability of stopping Hormone Replacement Therapy or the Combined Oral Contraception Pill four weeks before elective surgery.

How can DVT be prevented? (DVT prophylaxis)

The chances of a patient developing a DVT can be significantly reduced if certain measures are taken.

All patients should expect their doctor to assess their individual risk of developing a DVT, and to provide the right level of intervention to reduce the chances of it occurring. These measures include:

- Hydration
- Mobilisation
- Graduated compression stockings

- Intermittent compression devices
- Heparin injections
- Anticoagulant medication

All of these measures are explained more fully below.

Hydration

It is important to drink plenty of fluids whilst you are in hospital to prevent you becoming dehydrated. If you are not able to drink your doctor may arrange for you to be given fluids via an intravenous drip.

Mobilisation

You should get out of bed and walk as soon as your condition allows. This will improve the blood flow in the veins. If you are unable to walk, it helps if you can exercise your legs as described below.

NOTE: Please do not do the following exercises if you have been told not to remove an orthopaedic boot/knee splint. If you are unsure please ask your physiotherapist for guidance before starting any exercise.

- 1.** With your legs out straight, point the toes of both feet towards the end of the bed. Relax, then point the toes toward your chin. Repeat this exercise five times.
- 2.** Move each foot at the ankle, making circles. Repeat this exercise five times.
- 3.** Bend one knee at a time, sliding the foot along the bed. Repeat this exercise five times.

This group of leg exercises can be repeated every one to two hours. After you have started walking, the exercises can be stopped.

Graduated compression stockings

Some patients benefit from wearing stockings, particularly after an operation. These should be worn all the time you are immobile but should be removed at least daily to check that the skin underneath particularly on the heel is not becoming sore, and to allow for washing.

If any skin damage is noticed you should stop wearing the stockings and discuss with your medical team.

The stockings work by putting pressure on the veins which is greater at the ankle than the knee so blood is squeezed up the leg.

It is important that your leg is measured before the stocking is fitted to ensure that you have been given the right size of stocking. Some patients, for example those who have arterial problems or leg ulcers, should not be fitted with stockings.

You may be sent home with these stockings, if you are not walking properly before you leave hospital. You can stop wearing the stockings once you have returned to your normal level of mobility. Your nurse will have shown you how to fit the stockings correctly.

Intermittent compression devices

Some patients who are not able to wear stockings, may be fitted with a cuff that is wrapped around their foot or lower leg. This is connected to a pump that squeezes the cuff intermittently and helps to push the blood up through the veins. This improves the circulation and reduces the chances of a blood clot forming. If you are fitted with one of these devices it is important that you wear them all the time.

Anticoagulants

Anticoagulants are medicines which reduce the ability of your blood to form clots. In doing this they can increase the chances of bleeding occurring, so it is not a suitable treatment for everyone.

Heparin injections

Heparin is an anticoagulant which is usually given as a small daily injection under the skin on the tummy. The injections are generally not painful but they can sometimes cause small bruises to appear at the injection site.

Heparin is a very effective way to stop clots occurring. If your illness means that you are likely to be in bed for more than three days then you should be considered for this treatment.

Please Note: The most common heparins used, are of animal origin. If this is of concern to you please discuss an alternative synthetic option such as Fondaparinux with your medical team.

Oral anticoagulants

For some conditions, particularly hip and knee replacements, you may be prescribed a tablet to take, to prevent blood clots from forming.

You should follow the instructions you are given regarding how to take this medication and complete the course, which will usually continue after discharge.

After your discharge from hospital

The chance of you developing a DVT remains high in the four weeks after your discharge, particularly if you have had major surgery, a major illness, or will continue to be immobile eg your leg is in a plaster cast or air boot .

Your doctor may feel that this risk is so great that you need to continue to have heparin injections at home. If you need further injections the ward staff will either teach you how to inject yourself or arrange for a nurse to visit you at home to administer it. It is important that any needles are disposed of safely and not put in the general household waste. Sharps bins can be obtained and disposed of through your local County Council waste management service. If you have any ongoing problems related to your injections please contact your GP for advice.

It is advisable to avoid long distance travel (longer than three hours) for four weeks after surgery, as this can increase your chances of developing a DVT.

The risk of developing a blood clot is increased for up to three months after being in hospital. If you should develop any of the following symptoms after your discharge you should seek urgent medical advice.

- Leg pain,
- Leg swelling,
- Discolouration in one of your legs
- If you should become breathless **or** develop chest pain

If you have any concerns regarding DVT and its prevention, particularly if you feel that you have a risk factor that has been overlooked and/or that you are not receiving adequate protective measures, please mention this to your nurse or doctor as soon as possible.

This leaflet is intended for patients receiving care in Brighton & Hove or Haywards Heath

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