



Patient Information
and Support

LOWERING YOUR RISK OF BLOOD CLOTS

(VTE PREVENTION)

A **Venous Thromboembolism (VTE)** is a clot, which has formed in a vein, usually the deep veins in the leg. It most commonly starts in the calf veins but can extend up into the thigh veins; this condition is known as Deep Vein Thrombosis (DVT). It can also occur in deep veins in other parts of the body.

Blood clots are your body's natural response to a cut or break and ensure that wounds or areas of inflammation do not bleed excessively. These are necessary and helpful forms of blood clots that we all need.

Unfortunately, sometimes unwanted large blood clots form within the deep veins (often in the legs, but they can occur elsewhere in the body), parts of these unwanted clots can break free and cause blockages that can become very serious. The most serious situation is when a clot breaks off and travels to the lungs causing a Pulmonary Embolism (PE).

Why do blood clots form in the veins?

Blood flow through the veins is helped along by movement of the muscles which squeeze the veins. Most clots occur because of three factors:

- Reduced flow in the vein
- Damage to the vein walls
- Changes that result in making the blood sticky and more likely to clot

What makes you more at risk of developing a DVT?

There are many factors that can increase risk of developing a DVT, however admission into hospital for whatever reason has been shown to be a significant risk factor.

Age over 60	Obesity (BMI greater than 30)	Some orthopaedic surgery
Significantly reduced mobility	Personal or family history of VTE	Sepsis (infection)
Dehydration	Use of hormone replacements	Inflammatory conditions
Known thrombophilia	Use of oestrogen containing pill	Significant medical co-morbidities
Pregnancy and 6 weeks post delivery	Varicose veins with phlebitis	
Active cancer or cancer treatment	Some general surgery operations	

If you are concerned you may be at risk of developing a DVT please speak to your doctor


All hospitals are expected to complete a DVT risk assessment for every patient admitted into hospital – whether as a planned admission or following an urgent or acute admission.

Risk assessing an individual is very simple and just involves a healthcare professional reviewing a series of questions that help to assess a patient's risk level and if any therapies or actions need to be taken to reduce their risk.

If you are admitted into hospital you should be **Risk Assessed for Blood Clots**

All Hospitals in the United Kingdom are expected to risk assess you for blood clots:

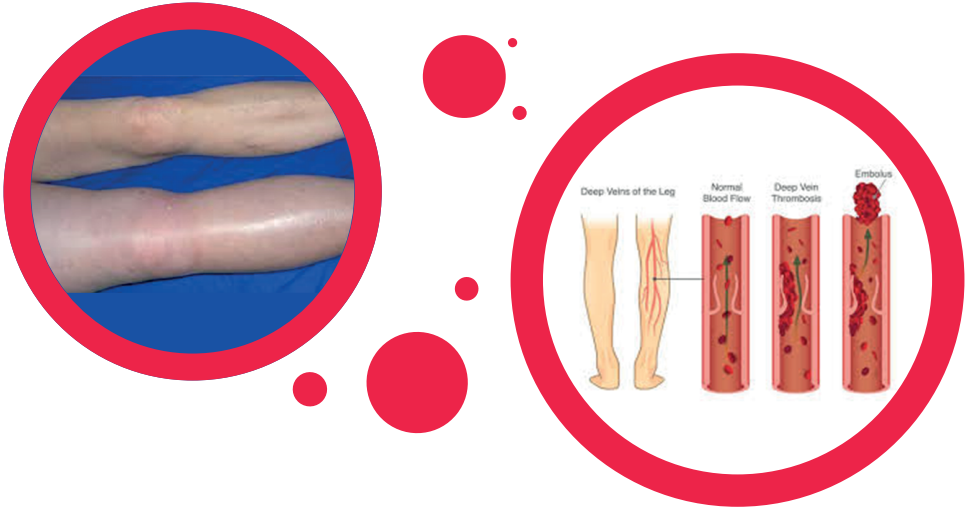
- On admission to hospital
- Regularly during your stay in hospital as your level of risk may change



**IF IN DOUBT
ASK TO BE
RISK
ASSESSED**

What are the symptoms of a DVT?

Symptoms associated with a DVT are uncommon and so the majority of patients will have no outward signs at all except pain, therefore it is important to that the cause of the pain is investigated. Some people may experience a sensation of heat and have swelling in the area affected and skin discolouration, if so, part or all of the limb may be affected by these symptoms.



A DVT can be very serious and is a potentially life threatening condition if, as a result of the DVT, a pulmonary embolism (PE) occurs.

A pulmonary embolism (PE) is when a part of the blood clot from the DVT breaks off and travels in the blood stream. A moving clot is called an embolus. The clot is carried up into the larger veins through the heart and becomes lodged in the arteries of the lung (the pulmonary arteries), which supply blood to the lung tissues. This is known as a 'pulmonary embolus' (PE).

Symptoms can include:

- Shortness of breath, either sudden or gradual onset
- Chest pain which can be worse on breathing in, and
- Sudden collapse
- Symptoms of a DVT (pain, tenderness, and swelling) may also be present.

What can be done in hospital to help prevent me developing a DVT?

Going into hospital increases your risk of developing potentially serious blood clots for a number of reasons:

- You may be less mobile so the blood circulation in your legs becomes more sluggish and this can encourage clots to form.

The hospital team will encourage you to keep mobile if at all possible. If you are able to, get up and go for a walk several times a day. Your hospital care team may also organise rehabilitation, this is to help you regain your mobility, not only to help you feel better and remain independent, but also reduce your risk of a DVT.

- Hospitals can be very warm and you may have to rely upon others to fetch drinks for you, but staying well hydrated is very important in reducing your risk of a DVT.



REMEMBER TO DRINK PLENTY OF WATER
BOTH WHEN YOU ARE IN HOSPITAL AND WHEN YOU RETURN HOME

- If you are in hospital for a condition that increases your risk of a DVT or being given therapy that may help you recover but cause your blood to be 'stickier' so more likely to clot, the medical team may advise a treatment or therapy to help reduce your risks.

Thromboprophylaxis is a method of reducing the risk of developing a DVT. This may involve reducing the 'stickiness' of the blood by using 'pharmacological' (drug) therapy or 'mechanical' (machine) therapy. Patients who are identified as at increased risk of a DVT and unable to be very active may be offered a therapy to reduce the risk.

Intermittent Pneumatic Compression Device (IPC)

The 'boots' or 'stockings' simply strap around your leg and apply Intermittent Pneumatic Compression (IPC) through the calf, thigh or foot area that is covered by the garment.

The IPC stocking fits around your leg and is inflated at regular intervals by a pump at the end of the bed. The garment applies a gentle intermittent pressure to the area

helping to increase both the volume and rate of blood flow, in a way normal walking and activity would usually do. IPC devices come in full length and knee length. These devices are mostly used on stroke and orthopaedic wards.



IPC therapy has been shown to be very effective at reducing the risk of a DVT.

They may seem a little bit uncomfortable at first but are important to use if your doctor or nurse advises.

Anti-Embolism Stockings



Anti-embolism stockings (AES) are no longer widely used because research has shown they provide little benefit in reducing risk of a DVT. However, sometimes some people may be given anti-embolism stockings to wear. They may be thigh or knee length and are usually white.

Anti-embolism stockings need to be properly fitted and worn as advised. They will feel very tight. The stockings work due to variable measured tightness from the top of the stocking to the foot of the stocking.

The variable tightness helps to squeeze your blood back up your leg when you are immobile due to your condition. Even when wearing the stockings, remember to keep mobile.

It is very important you wear your stockings as advised by your doctor or nurse.

Low Molecular Weight Heparin (LMWH) Injection

This is a medicine given through a syringe. Often the injection is given in your tummy during your hospital stay. The medicine helps to slow the clotting speed of the blood and so prevent it from clotting too easily. LMWH is of animal origin and so if you have any concerns please inform your doctor or nurse.



Because LMWH works almost immediately it is often also given as an immediate therapy at the start of a treatment for patients who have developed a blood clot. LMWH is usually given for short-term use until it is safe to prescribe an anticoagulant in tablet form such as warfarin or one of the Direct Oral Anti-Coagulants (DOAC).

**It is very important you have the injections as advised by your doctor or nurse.
This will help to prevent you developing a DVT.**

Oral Anticoagulation (Tablets)



Warfarin and **Direct Oral Anti-Coagulants (DOACs)** such as apixaban, dabigatran, edoxaban and rivaroxaban are anticoagulant tablets that slow down the speed at which the blood naturally clots. They are used to reduce the risk of a DVT in individuals known to be at an increased risk. They are also given to patients for treatment of a blood clot.

Often patients prescribed an oral anticoagulant tablet will be advised to continue taking the tablets for a certain length of time at regular intervals (as advised by your healthcare professionals) after being discharged from hospital.

**It is very important you take this medicine as advised by your doctor or nurse.
This will help to prevent you developing a DVT.**

Remember these important points to help reduce your risk of a DVT:

- Keep moving - avoid prolonged periods of immobility such as sitting for many hours
- Get up and walk around, at least every 90 minutes
- Do regular feet and leg exercises
- Check your sitting style, avoid cross legs/ankles or sat on one leg
- Eat a healthy balanced diet
- Keep well hydrated
- Keep to a healthy weight
- Avoid smoking



Going home from hospital

It is just as important to carry on moving regularly and making sure you are well hydrated.

If your doctor prescribes anticoagulation tablets to take when you go home please make sure you take them regularly for the duration of the treatment.

You may be asked to wear anti-embolism stockings. Wear them as directed and follow the advice given to you by the ward staff.

If you have any concerns when you go home and feel you may be developing a clot in your leg or lung (deep vein thrombosis or a pulmonary embolism) you should seek medical advice immediately.

GLOSSARY OF TERMS

Anticoagulants - are medicines that help prevent blood clots. They are prescribed to reduce the risk of a blood clot and to treat blood clots.

Arteries - are the blood vessels that deliver oxygen-rich blood from the heart to the tissues of the body.

COCP/OC - Combined Oral Contraceptive Pill.

Compression stocking / graduated compression stocking - are specialised hosiery that help stimulate circulation in your feet, ankles, and legs.

CT scan - a computerised tomography scan uses X-rays and a computer to create detailed images of the inside of the body.

D-dimer test - measures the level of fibrin degradation in the body. It can indicate whether there may have been a significant blood clot (thrombus), but it does not show the location or cause of the blood clot.

DOAC - Direct Oral Anti-Coagulant refers to a group of new anticoagulant medications including apixaban, dabigatran, edoxaban, rivaroxaban.

Doppler ultrasound - is a test that uses high-frequency sound waves to measure the amount of blood flow through your arteries and veins, usually those that supply blood to your arms and legs.

DVT - deep vein thrombosis is a blood clot that develops in a deep vein on the body, most commonly the leg, but it can occur anywhere in the body.

ECG - an electrocardiogram is a simple test that can be used to check your heart's rhythm and electrical activity.

Embolism - is the lodging of an embolus, a blockage-causing piece of material, inside a blood vessel. The embolus may be a blood clot (thrombus), a fat globule (fat embolism), a bubble of air or other gas (gas embolism), or foreign material.

HRT - hormone replacement therapy.

INR - International Normalised Ratio is a standardised measurement of the time it takes for blood to clot. Regular INR monitoring is required to safely and appropriately manage the dosing of warfarin.

Intermittent pneumatic compression - is a therapeutic technique used in medical devices that include an air pump and inflatable auxiliary sleeves, gloves or boots in a system designed to improve venous circulation in the limbs of patients who suffer or are at risk of a DVT or PE.

LMWH - Low Molecular Weight Heparin is a class of anticoagulant used to prevent and treat blood clots. LMWH is usually injected subcutaneously.

Lung V/Q or V/Q SPECT - Ventilation Perfusion Scan. This is a test in which a small amount of radioactivity is used to obtain pictures and information of how your lungs function. These pictures will help your doctor make a diagnosis.

MRI scan - a Magnetic Resonance Imaging scan is a type of scan that uses strong magnetic fields and radio waves to produce detailed images of the inside of the body.

NOAC - novel oral anticoagulant, but now referred to as 'DOAC' medication.

PE - Pulmonary Embolism, this is when a blood clot elsewhere in your body has broken off and travelled in the blood stream to your lungs and causes a blockage that can be extremely dangerous and requires urgent medical attention.

Perfusion scan - another name used to refer to a V/Q scan.

Subcutaneous injection - is an injection administered just under the skin using a short needle to inject a drug into the tissue layer between the skin and the muscle.

Thrombosis - is the formation of a blood clot inside a blood vessel, obstructing the flow of blood through the circulatory system.

UFH - UnFractionated Heparin is a fast-acting anticoagulant that works together with antithrombin, a natural protein in the body, to prevent blood clots from being formed.

US - Ultrasound scan is a medical test that uses high-frequency sound waves to capture live images from the inside of your body. It's also known as sonography.

Veins - are blood vessels that carry blood toward the heart. Most veins carry deoxygenated blood from the tissues back to the heart (exceptions are the pulmonary and umbilical veins, both of which carry oxygenated blood to the heart).

Venogram - is an x-ray test that involves injecting contrast material into a vein to show how blood flows through your veins.

VKA - vitamin K antagonists are substances that reduce blood clotting by reducing the action of vitamin K. They are used as an anticoagulant medication. Warfarin is a commonly used VKA antagonist anticoagulant.

VTE - venous thromboembolism is a condition in which a blood clot forms most often in the deep veins of the leg, groin or arm (known as deep vein thrombosis, DVT) and travels in the circulation, lodging in the lungs (known as pulmonary embolism, PE), a DVT and PE together are known as a VTE.

Warfarin - is a type of medicine known as an anticoagulant. It makes the blood less 'sticky' and slower to clot. This means your blood will be less likely to form dangerous blood clots. Warfarin is used to treat people who have had a blood clot and also prescribed to prevent blood clots if the person is considered to be at risk of a blood clot.

Register with Thrombosis UK to receive information, updates and support

YOUR DETAILS

Firstname:	
Surname:	
Email Address:	
Telephone Number:	
Date of Birth:	
Address:	
City:	
County:	Postcode:

Thrombosis UK takes security and confidentiality very seriously and would NEVER pass your name or contact details on to any third party or share with unauthorised employees. Your name and contact details will be stored on the Thrombosis UK secure database only accessible to authorised Thrombosis UK staff. We adhere strictly to UK and EU data protection law. Permission to continue to share our news with you and store your contact details will be sought annually. We would you like to keep you updated on our news, events and work. We do not send out high volumes of emails but the ones we do send fall into the following categories:

Please tick the box to show your preference:

- Yes I would like to receive all categories of emails
- No I would not like to receive emails

What is the purpose of your contact with us today?

- To provide my details so that I may be kept updated with all news and events that Thrombosis UK provide
- I would like to express an interest in local patient meetings
- I would like to sign up to fundraise for you
- I would like to receive information about blood clots (thrombosis)
- I have a question or query.



FOR FURTHER INFORMATION OR
ADVICE, PLEASE CONTACT:

THROMBOSIS UK



WWW.THROMBOSISUK.ORG



ADMIN@THROMBOSISUK.ORG



0300 772 9603

Reviewed September 2022

Next review date: September 2024