

Further information

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AntiCoagulation Europe is committed to the prevention of thrombosis and to providing information and support to help people maintain their quality of life whilst on anticoagulant and antiplatelet therapy.

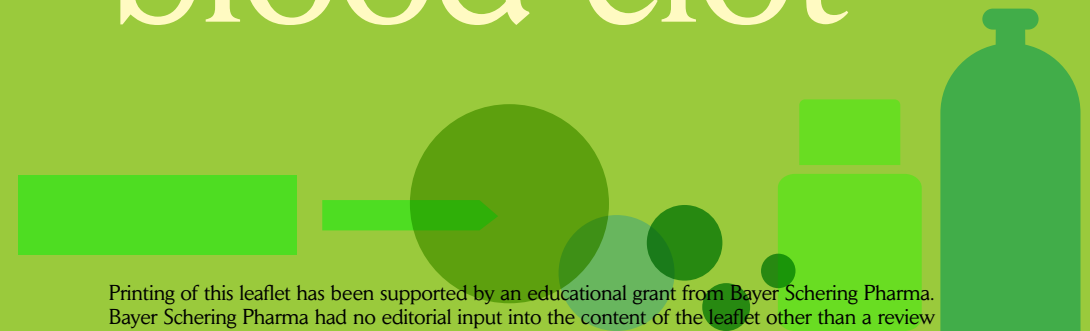
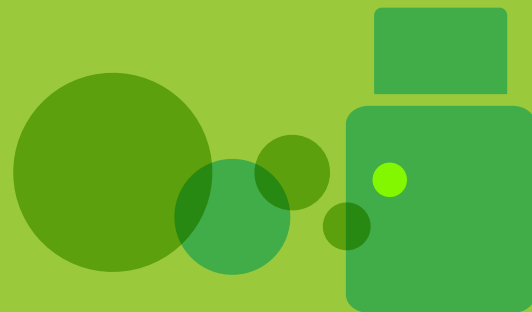
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Going into hospital? Understand how to reduce your risk of developing a blood clot



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This booklet has been developed to explain the increased risk of developing blood clots (also known as deep vein thrombosis) in people who have been hospitalised for any reason. It aims to help you identify whether you or your loved ones have an increased risk of developing a blood clot during a hospital stay and the importance of receiving a simple assessment to find out if you are at risk of a blood clot.



Hospital acquired blood clots are a major health risk and the number one cause of preventable death for hospitalised patients in the UK. In fact, it has been estimated that blood clots account for more than 25,000 preventable deaths each year.

This means that blood clots in UK hospitals cause more deaths per year than MRSA, AIDS, breast cancer and road traffic accidents combined.



What is a blood clot and when can it be dangerous?

When you injure or cut yourself a natural process (called the clotting cascade) allows blood to clot to prevent serious blood loss after injury. However, sometimes a clot forms within a blood vessel - usually after damage to a vein or because blood flow has slowed down or stopped. This can be dangerous as the clot prevents a normal blood supply reaching areas of the body beyond the clot.

The most common type of blood clot is called Deep Vein Thrombosis (DVT). This is a blood clot that has formed in a deep vein, usually in the leg, but can also be in in other deep veins of the body such as the arms.

A potentially fatal complication of DVT is when a blood clot breaks loose and travels to the lungs. This is called a Pulmonary Embolism (PE)

There is a collective medical term for the two conditions DVT and PE which is Venous Thromboembolism (VTE). VTE is a well-recognised cause of preventable disease and death in hospitalised patients but the risks can be reduced through the use of VTE risk assessment and thromboprophylaxis.

The risks of developing blood clots in hospital

About 1 in 4 cases of blood clots is associated with hospitalisation and may occur in patients hospitalised to treat medical illness as well as in those undergoing surgery. Around 60% of cases of blood clots, as well as the majority of cases of fatal pulmonary embolism (PE), occur in medical (i.e. non-surgical, non-trauma) patients.



It is important to understand, though, that it is not going into hospital itself that causes blood clots but circumstances arising from a hospital stay, such as prolonged immobility in a hospital bed causing blood to pool or 'stagnate' in the leg veins, or direct injury to veins during surgery. Remember also that, fortunately, that the risk of blood clots can be reduced and more details of simple preventative treatment can be found later in this booklet.

Assessing your risk of developing a blood clot

In 2008 the Department of Health published a risk assessment tool to help medical teams assess the risk of blood clots in people admitted to hospital and decide whether patients should receive treatment to prevent blood clots. This treatment is called thromboprophylaxis, pronounced throm-bo-prof-il-axis. It states that 'Risk assessment is recommended for all patients on admission to hospital. It is also recommended that all patients are periodically reassessed during their stay as their level of risk may change. Reassessment after 24 hours and at regular intervals during your stay or if your condition changes recommended'. This tool was updated in 2010. The updated tool also requires an assessment of your risk of bleeding. Treatment will be recommended depending on your risk of having a clot weighed against your risk of bleeding.

There are a number of risk factors which can increase your likelihood of developing a blood clot. You should ideally discuss your risk with your doctor or nurse before you go into hospital or at the earliest opportunity when admitted to hospital.

Risk factors for developing a blood clot

- *If you have had a deep vein thrombosis or a pulmonary embolism in the past*
- *If you are over 40 years old*
- *If you have certain types of cancer or heart disease*
- *If you have vein disease (such as varicose veins)*
- *If you smoke*
- *If you are taking treatments containing oestrogen (such as HRT or the combined contraceptive pill) or if you are pregnant*
- *If you are obese*
- *If you have a genetic condition which means you are prone to developing blood clots (inherited thrombophilia)*

If you do not receive a blood clot risk assessment you should ask your doctor or nurse for one.

Do not be worried that they may be busy, they will usually be happy to discuss this with you.

Discussing your risk of a blood clot with your medical team

If any of the risk factors for developing a blood clot in hospital listed above apply to you or someone you know, you should discuss this with a doctor or nurse as soon as possible and ask them for a blood clot risk assessment. This should be done as soon as possible when you enter the hospital, 24 hours later and at regular intervals during your stay as your risk level may change.

Remember if the doctor or nurse seems busy, don't be put off, just ask when there is a more convenient time to discuss your risk of developing blood clots – he or she should be happy to reassure you that throughout your treatment you will be assessed, monitored and treated as appropriate by the medical team. They may already have done a blood-clot risk assessment without you realising it. If they haven't yet done one, you could start by asking the following questions:



Questions to ask your hospital doctor or nurse

- *When will you be giving me a blood clot risk assessment?*
- *What is my risk of developing a blood clot during my hospital stay?*
- *What treatment will I receive to lower my risk?*
- *Will I be measured and fitted with elastic compression stockings?*
- *Will I need to take anticoagulants – and for how long?*
- *What should I look out for when I get home?*



Treatments you may receive to lower your risk

Prevention of blood clots is possible through the use of simple treatment called thromboprophylaxis (pronounced throm-bo-prof-il-axis) during the hospital stay of the patient, and will normally continue after you have gone home.

Diagnosis of a DVT can be difficult as up to half of people with blood clots have either no symptoms or no specific symptoms at first. Because it is so difficult to predict whether a patient will develop blood clots in hospital, simple treatment to prevent a blood clot developing in the first place is now regarded as the best, and most cost effective, medical practice. Because of the often silent nature of a blood clot, the first sign of a problem may be a serious complication, such as a pulmonary embolism.

Also a high proportion of DVT and PE occurs after someone has been discharged from hospital.

There are two main types of treatment

Chemical

Treatment with anticoagulants. Anticoagulants are drugs that slow down your blood clotting process.

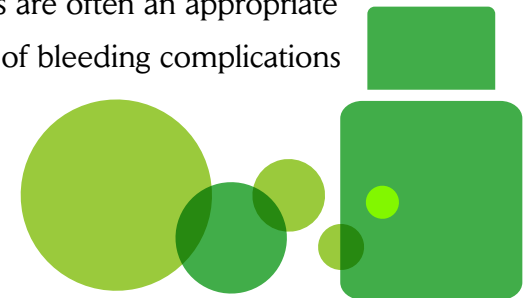
They may be given as injections of low molecular weight heparin (LMWH), and in tablet form (e.g. warfarin). If you are given warfarin you will need to have regular blood tests to monitor the warfarin levels. You may be given both heparin and warfarin, this is quite normal.

If you are having hip or knee surgery then there are also more recent treatments that are taken as a tablet once or twice a day and do not require regular monitoring.

The benefits of all anticoagulant treatment to prevent blood clots must be carefully balanced against the risk of bleeding which can be associated with these medicines.

Mechanical

Foot pumps, with or without graded elastic compression stockings, (sometimes called anti-embolism or surgical stockings). Mechanical devices are often an appropriate option in patients at high risk of bleeding complications and may also be used in addition to anticoagulation treatment.



Surgical stockings (anti-embolism stockings)

These stockings are designed to reduce the risk of blood clots in the legs. They work by providing firm elastic compression to the legs. The effect of the compression reduces both 'pooling' of blood in the veins and damage to the vein wall which can contribute to the formation of blood clots.

Some patients will only be offered stockings if they are unable to have other blood clot prevention methods.

Some patients should not wear stockings as they may cause complications. Your doctor or nurse should check your medical history and the condition of your legs to make sure it is safe for you to wear them.

You should wear the stockings day and night, before, during and after your operation, or from admission (if you are not having an operation) until you are back to your usual levels of mobility. If you remove the stockings for bathing then reapply them as soon as possible afterwards.



The choice of which stockings you should wear depends on many factors; the main ones are your leg size and personal preference. Your legs will be measured to find out which size is right for you and you may need to be re-measured at times during your hospital stay if the size of your leg(s) changes, for instance, if you get leg swelling after leg surgery.



Thigh-length stockings offer good protection against blood clots in surgical patients; however, your personal preference should be taken into account when choosing whether to

wear thigh-length or knee-length stockings.

The nurse will show you how to put the stockings on. If your stockings are uncomfortable check that they are correctly fitted. Ask to be re-measured to check that you are still wearing the correct size of stocking as after operations patients may develop leg swelling and you may even need different sizes on each leg. Ask your nurse to check your legs for signs of complications from wearing the stockings and report any new symptoms you develop whilst wearing them.

When you go home you should be given two pairs of stockings, one pair to wash and one pair to wear. You can wash them daily, by hand or in a machine, at a temperature no higher than 40°C. Do not wash with bleach and do not dry in a tumble dryer as this may damage the material in the stockings. Make sure the stockings are dry before you wear them.

If you are applying any creams or ointments to your legs, ensure they are absorbed fully before putting on the stockings again as they may also damage the material.

Always wear the stockings correctly. Do not leave them rolled down or poke your toes out of the toe hole as this may cause complications. Report any new symptoms immediately, especially if you develop a rash which could suggest an allergy to the material in the stockings, or if you develop any numbness, pins or needles, coldness or pain in your legs or feet.

You should remove the stockings every day to bathe your legs and feet, and wash the stockings. Whilst they are removed, check your skin for signs of redness, blisters or any other marks, especially around your heel or bony areas. ***Report any of these signs to your nurse or doctor, as they may be indications of the start of complications.***



If you are at higher risk of complications due to loss of sensation in your legs or your skin is in poor condition then more frequent checks of your skin are necessary.

Ask your nurse to assist with this if necessary. Your nurse or doctor will answer any further questions you may have regarding the safe use of these stockings.

What are the symptoms of deep vein thrombosis (DVT)

The following is a list of the most common symptoms of a deep vein thrombosis (DVT) and pulmonary embolism (PE).

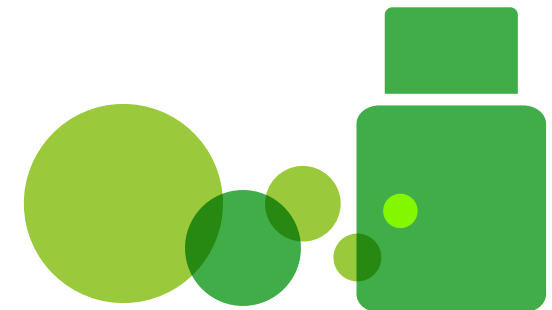
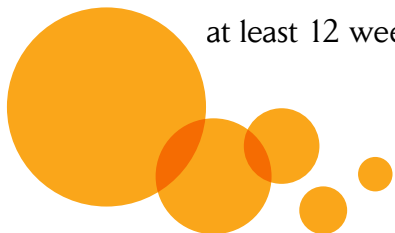
If you develop a blood clot you may experience some or all of these symptoms. However, please remember it can sometimes be difficult to diagnose blood clots, as some people may have no specific symptoms.

Please remember that many people do not have a DVT or PE until after they have been discharged. You are at risk for at least 12 weeks after discharge.



Deep vein thrombosis (DVT)

- *Swelling of the affected leg*
- *Pain in the affected leg - the pain may only be noticeable, or get worse when standing or walking*
- *Reddening of the affected leg*



Symptoms of pulmonary embolism (PE)

- *Chest or shoulder pain*
- *Shortness of breath*
- *Cough with blood streaked mucus*

Reducing the risk of developing a blood clot in hospital

Before going into hospital you should review any medication you are currently taking with your healthcare team, this includes medication that you may have bought over the counter and vitamins and minerals that you may be taking.

For example, if you are taking oestrogen-containing oral contraception (combined pill) or hormone replacement therapy (HRT), you should discuss with your healthcare team whether you should consider stopping these temporarily before you have your operation. If you are stopping your oral contraception you must use alternative contraception.

Every patient in hospital is unique. Whilst in hospital due to reduced mobility and/or surgical procedures, patients are put at risk of hospital-acquired DVT (deep vein thrombosis). To help lower your risk, early mobilisation is vital. If unable to get out of bed it is just as important to do some simple exercises while in bed - as simple as moving your legs or rotating your ankles.

Before early mobilisation it is important to check with your healthcare team to be sure it is all right for you to be up and walking. It is important to continue with mobilising/exercise when discharged from hospital. Many patients do not continue to exercise when they go home.

In their guideline on reducing the risk of blood clots in patients undergoing surgery, the National Institute for Health and Clinical Excellence (NICE) state that healthcare professionals should not allow patients having surgery to become dehydrated during their stay in hospital and should encourage patients to get up and move around as soon as possible after surgery. This also applies to patients who are admitted to a medical ward

While in hospital it is important to be aware of the risk of blood clots. Discuss with your healthcare team the steps that can be taken to reduce your risk of developing this condition.



Simple ways you can help to reduce your risk of blood clot

If you are going into hospital, you should follow the simple lifestyle advice below in the weeks before you are admitted:

- *Eat a balanced diet*
- *Keep a healthy weight*
- *Cut down - or try to stop - smoking*
- *Keep hydrated - drink plenty of water*
- *Stay mobile with plenty of leg exercise*

While you are in hospital, you can reduce your risk of developing a blood clot by following some further simple advice:

Always check with your doctor or nurse before doing any of the following.

- *Get up and move around as much as possible*
- *If you can't get out of bed you should regularly move your toes up and down, alternately pointing your toes towards the floor and then up to the ceiling, and perhaps rotating the ankle*
- *Drink a glass of water every hour*



Moving or swinging your leg from the knee will not help, it actually only exercises the knee joint. It is the action of pointing your toes that encourages the calf muscle pump to return blood in your legs back to your heart – an effect that walking would normally achieve. If your legs are swollen, sit with your feet elevated, perhaps on a pillow and try not to stand still for long periods.

Risk of a blood clot after leaving hospital

Your risk of developing a blood clot will continue after you have been discharged from hospital. You should continue to be as mobile as possible and to follow the advice on how to prevent a blood clot given in this booklet

After you are discharged if you are at all worried about any symptoms you have after leaving hospital or if you have any symptoms of swelling or pain to the legs you must contact your GP **immediately**. However, please remember it can sometimes be difficult to diagnose blood clots, as some people may have no specific symptoms.

If you suffer any shortness of breath or chest pain you must get to your local A&E department or call 999 **immediately**.

Remember, a pulmonary embolism can be fatal and requires urgent medical attention.

Five top tips to avoid getting a blood clot in hospital

1. Know Your Risk

When you or a loved one goes into hospital, remember to ask the doctor or nurse to conduct a short, simple blood clot risk assessment test to check whether you are at risk of getting a blood clot.

2. Drink lots of fluids

Have supplies of fresh water by your bedside at all times and remember to drink at least a glass of water every hour. If you are unable to drink fluids by mouth, ask the nurse or doctor for advice.

3. Keep mobile

If you have to stay in hospital for a while, make sure you walk around the ward as much as you can and don't cross your legs in bed. If you are unable to get out of bed, try flexing your feet upwards at regular intervals to keep the blood flowing in your legs.

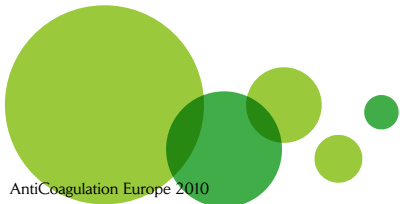


4. Know if your risk has changed

Depending on what you're in hospital for and how long you are staying, your risk of developing a blood clot may change. Remember to ask for a blood clot assessment test to be repeated by a doctor or nurse every 2-3 days of your stay in hospital.

5. Take control

If you are at risk of developing a blood clot, remember that there are a number of clot-preventing treatments and approaches that can be used. Discuss your options with the doctors and nurses who look after you in hospital



Glossary

Anticoagulants

Drugs designed to prevent and treat blood clots. Sometimes referred to as 'blood thinners'.

Coagulation cascade

A chain of biochemical reactions that result in the formation of a clot. Anticoagulants work by blocking or regulating a stage, or stages, of the coagulation cascade.

Deep vein thrombosis (DVT)

A blood clot in a deep vein, usually resulting from damage to the vein or blood flow slowing down or stopping.

Usually DVTs are found in the leg, but can also be in the arm.

Distal DVTs are found in deep veins of the calf, and are the most common type of DVT

Proximal DVTs are found in the legs above the calf up to the waist

Low molecular weight heparin (LMWH)

An anticoagulant used to prevent new clots forming and existing clots from getting larger. It is injected subcutaneously (under the skin).



Morbidity

A diseased condition or state.

Mortality

A fatal outcome of a disease or procedure.

Pulmonary embolism (PE)

A potentially fatal condition caused by a blood clot blocking a vessel in the lung: usually the clot originates from a DVT in the legs. PE can result in permanent lung damage.

Thromboprophylaxis

Preventative treatment to stop a blood clot forming.

Thrombosis

Formation of a clot inside a blood vessel.

Venous thromboembolism (VTE)

A disease process beginning with a blood clot occurring within the venous system, including deep vein thrombosis and pulmonary embolism.

Warfarin

An anticoagulant that inhibits multiple steps in the blood clotting process. Administered as a tablet, the dose varies by patient, and regular monitoring and dose adjustment is required. Warfarin and other similar drugs are sometimes also known as Vitamin K antagonists (VKAs).



Notes

AntiCoagulation Europe...

- Publishes a quarterly magazine, INReview, full of information for people on anticoagulation and antiplatelet therapy
- Has a comprehensive website
- Provides information booklets.
- For a full list and prices please write or email us at: anticoagulation@ntlworld.com



Standard and Gold Membership

- **Standard Membership**
£9.00 gives you four copies of INReview per year
- **Gold Membership**
£18.50 gives you four copies of INReview per year, plus a medical ID card from MediPAL.
(£9.50 payment for ID card is a one off payment)

Carrying medical ID is vitally important when you are taking a drug such as warfarin. It enables emergency services to see brief details of your medical history, as well as the medication you are taking. The card also provides your name and a contact telephone number as well as your clinic or GP.

It can also be a useful memory tool when you are discussing your condition with medical staff. It can be updated twice for free. Also available in some European languages.

