Deep vein thrombosis and being in hospital

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Deep vein thrombosis is a well defined medical condition that can develop when someone is ill or having an operation. This leaflet explains the condition is and what may be done to prevent it.

What is Deep Vein Thrombosis?
Veins are specialised blood vessels that take blood back towards the heart from every part of the body. A deep vein thrombosis (DVT) is a blood clot that forms in a vein inside the leg or another part of the body. It is possible for a DVT to form in any vein but some are veins are at greater risk of DVT. A DVT may partially or completely block blood flow in a vein. In the leg or arm this can cause a variable amount skin warmth, redness and tenderness. The veins just under the skin may become swollen as blood flow is diverted to them. We know from research that sometimes a DVT can form without causing these symptoms.

Calf veins are the commonest site for DVT. Next commonest are the more serious above knee DVTs.

Post-phlebitic syndrome
Even if treated a DVT can lead to post-phlebitic syndrome. This can cause some or all of the following symptoms: persistent swelling, ache, skin irritation, skin colour changes, varicose veins and chronic ulcers of the lower leg. Post-phlebitic syndrome is more likely if the DVT is in the thigh veins, in people who are overweight and if more than one DVT occurs in the same leg.

Pulmonary Embolus
Sometimes part of the DVT can break off and travel through the veins to the lungs where it becomes lodged, blocking the blood flow, this is known as a pulmonary embolism (PE).
Although a small PE may not cause any symptoms, a bigger PE can cause breathing problems, chest pain and coughing up blood. A large PE can cause sudden collapse and death. DVT and PE are conditions known as venous thromboembolism (VTE). The term “hospital acquired thrombosis” includes DVT and PE.

How common is DVT?
It is estimated that about 1 in 2000 people are affected by DVT each year in the UK. About 1 in 10 people with an untreated DVT develop a PE large enough to cause symptoms. Studies have shown that increasing age causes an increase in the risk of DVT.

What causes a DVT?
Sometimes a DVT occurs for no apparent reason. Some people inherit or develop an increased risk of DVT. Being unwell and having reduced mobility can lead to changes in the blood and sluggish blood flow through the leg veins. These events make blood more likely to clot and form a DVT.

What are the risk factors for DVT?
There are many known risk factors for DVT, having them does not automatically mean that a DVT will happen. Risk factors include:

- For at least 3 days you are confined to bed, or are unable to walk without help, or spend a large part of the day in bed or in a chair.
- You are much less active than usual, or you are having an operation, or you have a serious injury and any one of the following applies to you:
  - you are having treatment for cancer
  - you are aged over 60
– you are being treated in the hospital critical care unit
– you are dehydrated
– you have thrombophilia (a disorder that makes your blood more likely to clot)
– you are seriously overweight (your body mass index is 30 or more)
– you have a medical condition such as a heart or lung problem, an infectious disease such as hepatitis or an inflammatory condition such as rheumatoid arthritis
– you or a close relative has had DVT before
– you are taking an oestrogen-containing contraceptive pill (the ‘combined pill’)
– you are taking hormone replacement therapy (HRT)
– you have varicose veins with phlebitis (pain and swelling).

In addition to the risk factors above, if you are pregnant or have given birth within the past 6 weeks, you would be at risk of DVT if the following apply

- You are aged over 35.
- You have lost a lot of blood or have had a blood transfusion.
- You are seriously overweight (your body mass index was 30 or more before you became pregnant or during the early part of your pregnancy).
- You have problems with your pregnancy such as pre eclampsia.
- You are expecting or have given birth to more than one baby in this pregnancy.
- You are having an operation (including caesarean section).
Having surgery also increases your risk of DVT if

- You are having an operation that takes longer than 90 minutes, or 60 minutes if the operation is on your leg, hip or abdomen.
- You are having an operation for an inflammatory or abdominal condition such as appendicitis.

**How can we reduce the chances of you developing a DVT in hospital?**

On admission to hospital or at your pre-operative assessment, you will have an assessment of your risk of DVT. A nurse or doctor will check for known risks for DVT and any reason not to use preventative treatments.

The assessment will decide the recommended preventative measures (known as thromboprophylaxis) to be used in hospital and what is recommended after leaving hospital.

These may include:

- Avoiding dehydration
- Mobilising early and frequently
- Use of elastic support (anti-embolic) stockings (see below)
- Intermittent compression boots (to gently squeeze the legs) (see below)
- Injections of heparin (an anticoagulant or “blood thinner”)
- The use of tablet anticoagulation medication (e.g. dabigatran or rivaroxaban)

The recommended treatment will be commenced in hospital and for some people anticoagulation treatment will continue for a few weeks after leaving hospital.
Elastic Support (anti-embolic) stockings

These stockings are specially designed to reduce the risk of DVT. They squeeze your lower legs to help improve blood circulation. Before they are put on your legs will be measured to ensure the correct size stocking is used and if your leg swells up then they need to be measured again. Your healthcare team will show you how to use them correctly.

Try to keep the stockings on for as much of the time as possible until you are back to your usual level of activity. The stockings should be removed daily to clean the area as well as checking on the condition of the skin.

It is important that you let your healthcare team know if you develop pain, discomfort, bruising, blisters or areas where your skin has changed colour as you may need to stop using the stockings.

Intermittent pneumatic compression devices

These devices are worn on your legs and will inflate automatically at regular intervals. When they inflate they help keep the blood in your legs circulating. It is important to use them for as much of the time as possible.

Your healthcare team will show you how to use them correctly.

What are the risks of medication used to prevent DVT?

Blood thinning medication can increase the risk of bleeding. This can be a minor bleeding episode e.g. small nose bleed, through to more major internal bleeding (although the risk of this is very small). The risk of these bleeding events are kept low by your medical team assessing your risk of bleeding prior to initiating these medications. If however, you notice abnormal bleeding you should inform your nursing or medical team.
What can I do, as a patient, to help to prevent DVT?

- Work with the ward staff to avoid dehydration, and follow their advice on increasing mobility
- Avoid travel lasting more than 3 hours in the 4 weeks before and after hospital admission for surgery

If you are coming in to hospital for an operation

- Consider stopping the oral contraceptive pill or hormone replacement therapy a month prior to surgery.

What happens if I’m already taking a blood thinning medication?

Your doctor will take into account on admission the medications you are taking.

If you are having an operation and you are already taking a drug that thins the blood (for example, aspirin or warfarin) your healthcare team should assess the risks and benefits of stopping this drug temporarily in the week before your operation. Aspirin and similar drugs may increase the risk of bleeding during or after an operation and, for people who are at risk of DVT, will not offer enough protection during this time. If you are going into hospital for any reason your healthcare team should consider and discuss with you other treatments to help prevent DVT.

What is a vena cava filter?

If your risk of DVT is high but you cannot take anticoagulant drugs and are not able to use anti-embolism stockings or intermittent pneumatic compression devices, you may be offered a temporary vena cava filter.

This is an umbrella-shaped device that is inserted into a large vein to trap any blood clots that form in the legs and stop them moving toward the lungs to cause a PE.
What are the symptoms of VTE?

There are certain signs to look out for during or after your hospital treatment that may mean you have developed DVT or PE.

You should seek help immediately if you experience any of the following:

- You have pain or swelling in your leg.
- The skin on your leg feels hot or is discoloured (red, purple or blue), other than bruising around the area where you have had an operation.
- The veins near the surface of your legs appear larger than normal or you notice them more.
- You become short of breath.
- You feel pain in your chest or upper back.
- You cough up blood.

If you are concerned that a DVT or PE has developed contact your GP or hospital clinical team, immediately.

What happens if a DVT or PE develops?

An assessment is made by the medical team and then blood tests and a scan can be done. If the test results are positive anticoagulation treatment with heparin and warfarin is given to prevent further clot formation and allow the DVT or PE to breakdown.

You may use this space to write any questions that you have for your doctor or hospital team.
Questions you may wish to ask your team whilst in hospital

- Am I at risk of DVT?
- How likely am I to have bleeding problems?
- Can I carry on taking other medicines?
- I am already taking aspirin. Why won’t this protect me from DVT?
- I am already taking warfarin (or heparin). Will I still need treatment to help prevent DVT when I go into hospital?
- Are there any side effects associated with this treatment?
- I am pregnant/breastfeeding. Will this treatment affect my baby?
- How long will I need to keep having this treatment?

Questions you may wish to ask your team before you leave hospital.

- How long should I keep wearing the stockings?
- How do I care for the stockings?
- How long should I keep using the anticoagulant drug?
- What should I do if I can’t inject myself?
- Who should I contact if I am having problems?
Glossary

Venous thromboembolism – a DVT or PE
Vein – blood vessel that carries blood towards the heart
DVT - a blood clot that forms in a vein deep in the body or limb.
PE – a clot that travels (embolus) to the lungs.
Post phlebitic syndrome – long term damage to a blood vessel where a clot has formed.
Anticoagulant – medication that slows blood clotting. Examples are heparin, enoxaparin and warfarin.
Thromboprophylaxis – measures, including anticoagulation that reduce the risk of DVT happening.
Risk assessment – deciding what, if any, measures should be taken to reduce the chance of a DVT forming.
References

Report of the independent expert working group on the prevention of venous thromboembolism in hospitalised patients, DoH, 2007

NICE guideline CG092 ‘Venous thromboembolism: reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital’ NICE 2010

Understanding NICE guidance: Information for people who use NHS services Reducing the risk of deep vein thrombosis (DVT) for patients in hospital, NICE 2010

DVT and travel, Department of Health and NBT leaflet


This leaflet was produced by the Thrombosis Committee for use throughout North Bristol NHS Trust.

NHS Constitution. Information on your rights and responsibilities. Available at www.nhs.uk/aboutnhs/constitution
If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.

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