York Teaching Hospital
NHS Foundation Trust

Anticoagulant treatment for DVT

A guide to your diagnosis and the choice of treatment

ⓘ For more information, please contact:

Please see contact details on page 23 of this booklet

Caring with pride

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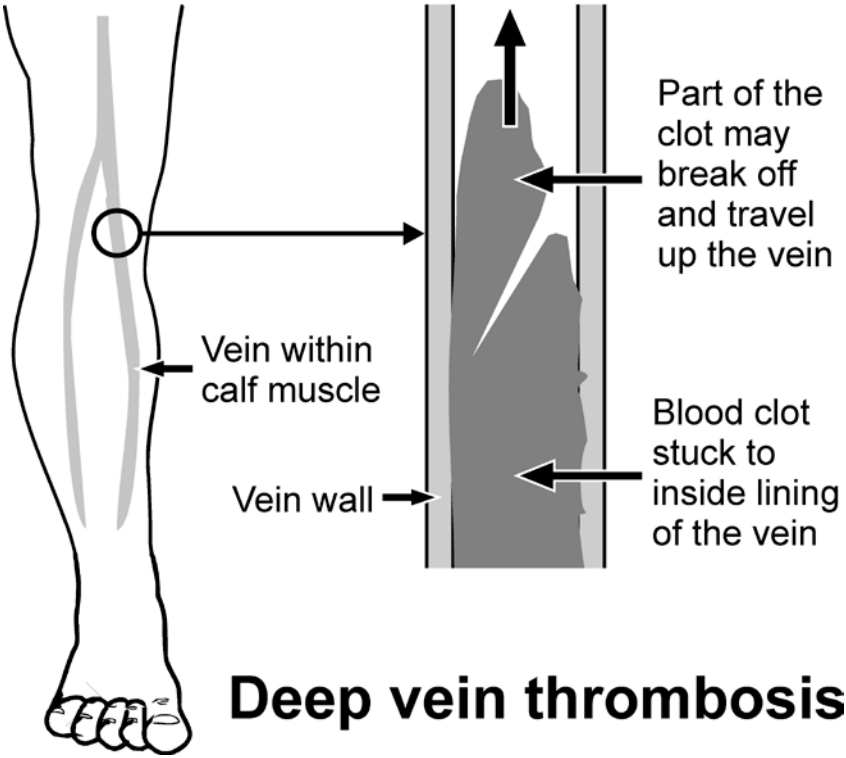
Deep Vein Thrombosis and Anticoagulants

What is a deep vein thrombosis?

A deep vein thrombosis (DVT) is a blood clot that forms in a vein that passes through the muscles in your thigh and calf. These are blood vessels that take blood to your heart. When you have a DVT, the blood flow in the vein can be partially or completely blocked. Rarely, this can occur in other deep veins in your body.



Why do they occur?

The blood flow in these veins is helped along by muscle contractions as your leg moves. Sometimes a clot can develop for no apparent reason. A provoked DVT is one that develops when there is a possible cause for it. The following factors may increase the risk of having a DVT:

- **Immobility**, which causes blood flow in the veins to be slow. Slow-flowing blood is more likely to clot.

- **A surgical operation where you are asleep for over 60 to 90 minutes** is the most common cause of a DVT. Blood flow in the leg veins can become very slow, making a clot more likely to occur. Certain types of surgery (particularly operations on the pelvis or legs) increase the risk of DVT even more.

- **Any illness or injury that causes immobility** increases the risk. This includes having a leg in a hard plaster cast after a fracture. People who are admitted to intensive care units are at an increased risk of DVT, for a number of reasons, but mainly because they are very ill.

- **Long journeys by plane, train or coach/car** may cause a slightly increased risk. This is because you are mostly sitting still and not moving around very much.

- **Damage to the inside lining of the vein** increases the risk of a blood clot forming. For example, a DVT may damage the lining of the vein. So, if you have a DVT, then you have an increased risk of having another one in the future. Some conditions such as vasculitis (inflammation of the vein wall) and some drugs (for example, some chemotherapy drugs) can damage the vein and increase the risk of having a DVT.

- **Conditions that cause the blood to clot more easily than normal (thrombophilia)** can increase the risk. Some conditions can cause the blood to clot more easily than usual. Examples include nephrotic syndrome and antiphospholipid syndrome. Some rare inherited conditions can also cause the blood to clot more easily than normal. An example of an inherited blood disorder that can cause DVT is factor V Leiden mutation.

- **The contraceptive pill and hormone replacement therapy (HRT)** which contain oestrogens can cause the blood to clot slightly more easily. Women taking the pill or HRT have a small increased risk of DVT.

- **People with cancer or heart failure** have an increased risk. Sometimes a DVT happens in a person who has not yet been diagnosed with cancer. Investigations looking for the cause of a DVT may show cancer to be the underlying cause.

- **Older people (over 60 years of age)** are more likely to have a DVT, particularly if you have poor mobility or have a serious illness such as cancer.

- **Pregnancy** increases the risk. About one in 1,000 pregnant women have a DVT while they are pregnant, or within about six weeks after they give birth.

- **Obesity** also increases the risk.

- **Dehydration** e.g. diarrhoea, can make a DVT more likely to happen. Effectively the blood becomes more sticky and liable to clot.

What are the signs and symptoms of a DVT?

- Increased pain
- Tenderness
- Swelling and redness

How is DVT treated?

Most people will need anticoagulants to treat a DVT and to help prevent further DVTs. Anticoagulation is often referred to as ‘thinning your blood’. An anticoagulant does not actually thin the blood but alters the blood clotting process to stop clots from forming so easily. This prevents an existing clot from growing bigger and stops new clots from forming.

Which anticoagulant will I be taking?

You will be treated with either warfarin or one of the newer oral anticoagulants which include; apixaban, rivaroxaban, dabigatran and edoxaban.

Warfarin

When you are taking warfarin you will be given a yellow 'oral anticoagulation therapy' pack to provide you with more detailed information. It takes a few days before tablets start to work, therefore heparin injections are given in the first few days for immediate effect.

You will need regular INR blood tests during treatment with warfarin to ensure that your blood clotting is maintained within the correct range. You will need these frequently at first until the correct dose of warfarin has been established.

Blood tests will then become less frequent. In the first month, you may need to restart heparin injections if your INR blood test is too low. Illness, changes in diet and other medicines can alter the effects of warfarin. You must inform your clinic or GP if you become unwell or your medicines change.

Newer Oral Anticoagulants (DOACs)

Rivaroxaban, apixaban, dabigatran and edoxaban are in a class of drugs called direct acting oral anticoagulants (commonly abbreviated to DOACs).

Because these drugs work in a slightly different manner to warfarin, there is no need for regular INR blood tests. Kidney and liver tests will be taken before treatment starts and then at once a year thereafter, if you are on long term treatment.

How do I take DOACs?

Each of the DOACs is taken in a different way therefore you should take the dose as directed by your doctor. You will also be given a separate information leaflet about your DOAC. If you are unsure how to take them you should discuss this with your GP or pharmacist.

What if I miss a dose of my DOAC?

The advice is different depending on which DOAC you are taking and at which stage of treatment you are at. You should follow the missed dose advice as directed in the patient information leaflet provided with your medicine. If you are unsure what to do about a missed a dose you should speak to your GP or pharmacist.

How long do I need to take anticoagulants for?

The length of time depends on many factors. Your doctor will advise you about this. You will usually have treatment for three to six months depending on the location of the blood clot and your previous medical history. If you have had a blood clot before, you may have to continue taking anticoagulation for the rest of your life.

When you receive your anticoagulant you should be given an anticoagulation alert card. You should carry this alert card with you whilst you are taking your anticoagulant and show it to anyone treating you. It is important that you inform your doctor, dentist, surgeon, nurse, or pharmacist that you are taking an anticoagulant.

What are the possible side effects of the treatment?

The DOACs and warfarin are anticoagulants so they increase the risk of bleeding. If you experience any of the following, you must contact your GP immediately, or seek urgent medical advice.

- You are unable to stop any bleeding
- You suffer a major trauma or a significant blow to the head
- Blood in your bowel motions or urine
- Coughing or vomiting blood
- Heavy or persistent nose bleeds
- Unexplained excessive visible bruising
- Severe headaches that are unusual for you
- Significantly heavier periods

If serious bleeding occurs, can it be reversed?

With warfarin, if bleeding occurs the INR is checked and depending on the severity of the bleeding and the INR result, vitamin K and clotting factors can be given which reverses the effects of warfarin.

There is currently no specific antidote for the DOACs except for dabigatran, however, if urgent treatment is required, your anticoagulant will be stopped, clotting factors can be given and the bleeding symptoms will be treated directly.

Are there any other side effects?

Warfarin may also cause nausea, hair loss and rarely diarrhoea. The DOACs may also cause headaches and dizziness, constipation, rash and general stomach upset and irritation.

If you develop any of these symptoms please see your doctor who if necessary could prescribe a different anticoagulant. A full list of side effects can be found in the patient information leaflet supplied with your medication. It is important to read this leaflet before you start taking your new medicine.

It should be noted that patients taking warfarin are closely monitored for the first few months until a stable dose in reached. With the DOACs there will be fewer follow up visits. This may be more convenient; however it will mean that there are fewer opportunities to discuss your treatment.

Allergic reactions

Possible allergic reactions to anticoagulants include difficulty breathing, skin rash and itching. If you suspect that you are having an allergic reaction to your medication, you need to seek urgent medical attention from your GP or the emergency department.

Can I take other medicines with anticoagulants?

Your current medicines have been reviewed by the doctor before starting anticoagulant treatment. It is important that you always check any changes in prescribed dose or new medicines with your doctor or pharmacist. Medicines bought over the counter including herbal supplements or alternative remedies may interact with anticoagulants and you must make sure they are safe to take with your anticoagulant treatment.

Pain relief

Paracetamol is safe to take with anticoagulants. Aspirin and non-steroidal anti-inflammatory drugs e.g. ibuprofen, should be avoided, unless under the guidance of your GP.

Pregnancy

Taking warfarin during pregnancy is known to be harmful to your developing baby, however the effects of the DOACs during pregnancy is unknown. If you are currently pregnant or considering becoming pregnant you should inform your doctor straight away so they can prescribe a different anticoagulant.

How can I help to prevent a DVT from recurring?

- **Avoid long periods of immobility** such as sitting in a chair for long periods of time. Try to walk around every so often or you can perform calf exercises whilst sitting down. These can be carried out by flexing the muscles in your legs occasionally, and keep moving your toes and ankles to help blood circulation.

- When you travel on long flights or train journeys, try to have short walks up and down the aisle and perform calf exercises whilst you are sitting down.

- If you are advised to **wear a compression stocking**, ensure that you put it on every day whilst lying in bed before getting up. Try to rest the leg in the evenings with your leg raised. Wear the stocking for the whole day until you go to bed.

- If you go for any operation, anaesthetic or any in-patient hospital stay, **you must tell the surgical, medical and nursing staff that you have had a DVT or pulmonary embolism (PE)** in the past. This will ensure that staff will take precautions in preventing further episodes.

What are the long-term consequences of a DVT?

Post-thrombotic syndrome:

Without treatment, up to 6 in 10 people who have a DVT develop long-term symptoms in the calf. This is called 'post-thrombotic syndrome'. Symptoms occur because the increased flow and pressure of the diverted blood into other veins can affect the tissues of the calf. Symptoms can range from mild to severe and include: calf pain, discomfort, swelling, and rashes. An ulcer on the skin of the calf may develop in severe cases.

Most people who develop a DVT are advised to wear graduated compression stockings with an ankle pressure of greater than 23mmHg. This is usually Class 3 British/Class 2 European. Stockings should be worn while they provide relief from the symptoms of DVT. You should wear the stocking each day, for up to two years. If you do develop post-thrombotic syndrome, you may be advised to wear the stockings for more than two years.

Note: a compression stocking used following a DVT should be fitted professionally after an assessment and accurate measurement and is obtained on prescription initially from the hospital doctor, then after six months via prescription from your own GP. Do not buy 'over the counter' support stockings that may be the wrong class or size and which may potentially cause more damage.

Unless your doctor advises against this, you should walk regularly after you are discharged from hospital.

- Walking is thought to improve circulation in the affected leg and may help to reduce your risk of further DVT.

- When you are resting, as much as possible - raise your leg. This reduces the pressure in the calf veins, and helps to prevent blood and fluid from 'pooling' in the calves. 'Raised' means that your foot is higher than your hip so gravity helps with blood flow returning from the calf. The easiest way to raise your leg is to recline on a sofa with your leg up on a cushion.

- Raise the foot of the bed a few inches if it is comfortable to sleep like this. This is so your foot and calf are slightly higher than your hip when you are asleep.

A possible serious complication of a blood clot is a pulmonary embolism (PE). This is where a blood clot becomes dislodged, passes through your circulation and reaches your lungs.

When should I seek urgent medical advice?

If you experience any of the following possible symptoms of PE:

- Unusual sudden onset of breathlessness or chest pain
- Coughing up blood
- Any episode of collapse
- Fast heart rate, racing pulse or palpitations

Call 999 urgently (or 112 if you are using a mobile phone). Tell the operator that you have been recently diagnosed with a DVT.

Diet and alcohol

It is advisable to eat a healthy balanced diet, and to avoid excessive changes in your weight during your treatment.

Alcohol can interfere with your treatment. In line with national guidance, we recommend that you do not drink more than 14 units per week, spread evenly over three days or more. This applies to both men and women.

Here are some examples of the number of alcohol units in drinks:

Pint of regular beer/ lager/ cider	Alcopop or can/ bottle of regular lager	Glass of wine (175ml)	One single measure of spirits	Bottle of wine

Travel

When you travel on long flights or train journeys, try to have short walks up and down the aisle and perform calf exercises whilst you are sitting down.

Driving

You are able to continue to drive, if your symptoms allow, but ensure that you can perform an emergency stop. You should not drive if your ability to drive is impaired. If you have any further queries regarding travel, please consult you GP for advice.

Can I still play sport?

You should try to lead as normal a life as possible but because of the risk of bleeding you should avoid contact sports that could lead to a head injury such as football, rugby and cricket. Martial arts and kickboxing must be avoided.

You can continue to take part in non-contact sports such as running, athletics, cycling or racquet sports. Wear the right protective clothing such as a cycle helmet and knee padding.

For more information about DVT, you can visit the following website: www.patient.co.uk or talk to your doctor.

Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:
Jayne Oliver, Anticoagulation Nurse Specialist, The York Hospital, Wigginton Road, York, YO31 8HE or telephone 01904 726785.

Teaching, training and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

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PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email pals@york.nhs.uk.

An answer phone is available out of hours.

For more information please contact:

Jayne Oliver –Anticoagulation Nurse Specialist

Tel: 01904 726785

Lawrence Unit, Bridlington Hospital

Tel: 01262 423022

Dales Unit, Scarborough Hospital

Tel: 01723 342278

Or

Medicines Information

The York Hospital, Wigginton Road, York, YO31 8HE or
Tel: 01904 725960

References and further information

Department of Health:	www.dh.gov.uk
NHS Website:	www.nhs.uk

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