

The ROYAL MARSDEN
NHS Foundation Trust

Blood clot prevention

A guide for patients
and carers



NHS

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Introduction

Having cancer can increase the risk of developing a blood clot. The risk varies across different types of cancer and the risk factors can change over time - this can be based on your general health and the specific types of cancer treatment received.

Although not all blood clots are preventable, we want you to be assured that we will minimise the risk during your treatment and care.

This booklet explains how you can help us to reduce the risk. It covers how blood clots develop, who is most at risk, and the signs to look out for.

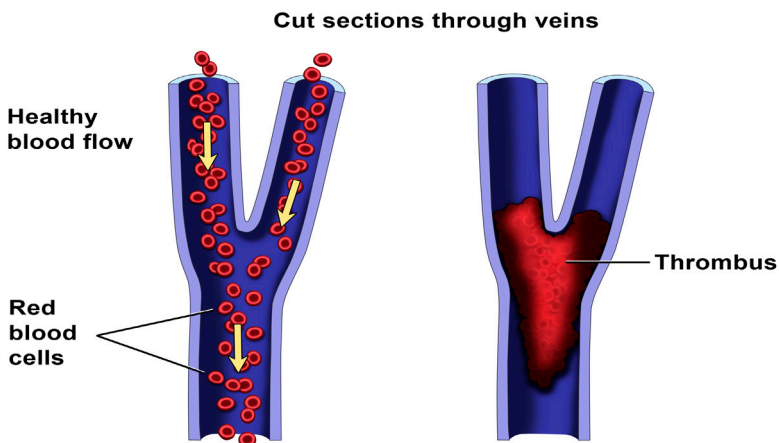
What is a venous thromboembolism (VTE)?

VTE is one of a number of medical terms used when talking about blood clots.

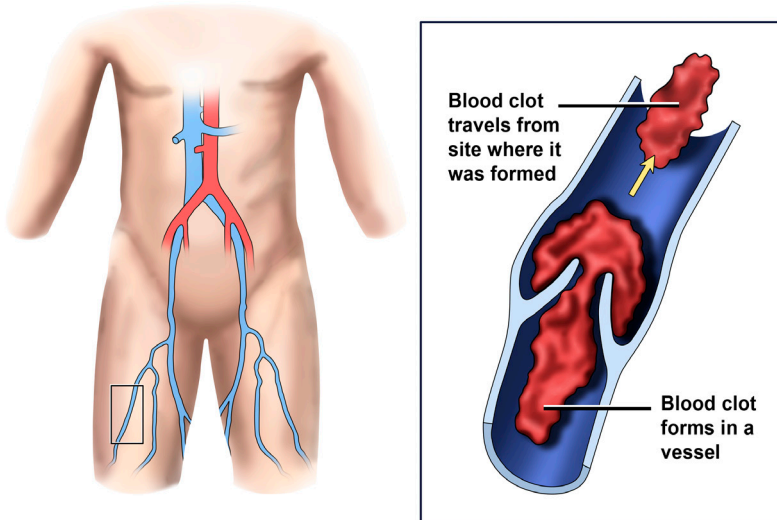
VTE is the collective name for deep vein thrombosis (DVT) and pulmonary embolism (PE).

What is deep vein thrombosis (DVT)?

This is a blood clot which develops in a deep vein, most commonly in the leg or pelvis (less commonly in the deep veins of your arms but this can occur if you have a PICC line).



If a blood clot forms in a deep vein in the leg or pelvis it can block the blood flow within the vein. This can result in the leg becoming swollen and painful.

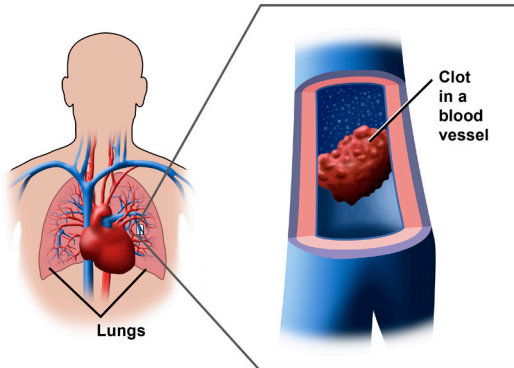


What is a pulmonary embolism (PE)?

Sometimes part of the blood clot causing the DVT separates and travels towards the heart and onwards to the lungs. A pulmonary embolism is a blood clot in the blood vessels that supply the lungs. Pulmonary embolism can be life threatening and therefore needs urgent medical attention.

If you develop a DVT or PE you may have to take anticoagulation (blood thinning) treatment for 3-6 months, possibly longer. The doctors will keep you informed of how long you will need anticoagulation treatment.

Pulmonary embolism



What are the signs and symptoms of VTE?

If you experience the following problems you may be suffering from a **DVT**:

- sometimes there are no symptoms
- pain, swelling and tenderness in a leg
- discolouration of the leg - red, blue or purple changes
- difficulty weight-bearing on the affected leg.

If you experience the following problems you may be suffering from a **PE**:

- coughing up small amounts of blood
- chest pain which is made worse when you take a deep breath
- shortness of breath.

If you experience any of these symptoms please urgently attend the nearest Accident and Emergency department (A&E).

Who is at risk of a VTE?

Any patient can be at risk of developing a VTE. However, there are a number of factors that can increase your chance of this happening. Your risk may be increased if you:

- have cancer or are undergoing cancer treatment

- have had a previous clot
- are less mobile than usual for more than three days for example, confined to or spend a large part of the day in bed or in a chair
- are due to have surgery
- are over 60 years old
- are overweight
- smoke
- have previously had a VTE
- have certain blood conditions such as clotting disorders
- are using an oestrogen-containing contraceptive (combined pill)
- are taking hormone replacement tablets (HRT)
- are dehydrated
- are pregnant
- have varicose veins.

If you are taking an oestrogen-containing oral contraceptive (the combined pill) or having hormone replacement therapy (HRT) and you will be having an operation, your healthcare team will advise you to consider stopping these drugs temporarily four weeks before you have your operation. This will be explained to you at your pre-assessment appointment. If you are sexually active during this time we strongly recommend that condoms are used.

If you are having an operation and you are already taking a drug that thins the blood (for example, aspirin) your healthcare team should assess the risks and benefits of stopping the drug one week before your operation. This will be explained to you at your pre-assessment appointment.

After your operation ask the medical team when and if you should restart your medications.

Will my risk of a VTE be assessed while I am in hospital?

Hospital staff will assess your risk of developing a VTE as soon as possible after admission or by the time of your first consultant review. If anticoagulation is needed, it should be started as soon as possible and within 14 hours of admission. You will be re-assessed if your condition or planned care has changed in any way. If you are having surgery, you may also be assessed at your pre-admission assessment appointment.

If you are at risk of developing a VTE, your healthcare team should also assess whether bleeding might be a problem during your hospital treatment. If the risk of bleeding outweighs the risk of VTE you will not be offered an anticoagulation drug.

If your risk of DVT is high but you cannot take anticoagulant drugs and are not able to use anti-embolic stockings, 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 and stop them moving towards the lung. This is usually removed following surgery.

When I am in hospital what will be done to help prevent a VTE?

- **Stay hydrated** – if you are allowed to do so, drink plenty of fluid. However, if you are not allowed to do this, the doctors will give you fluids via a vein.
- **Move around** – keep mobile as much as you can. The physiotherapist will teach you some appropriate leg exercises.
- **Anti-embolic stockings** – if the doctor decides that you would be suitable for these, the nursing staff will fit you with a pair of stockings.
- **Intermittent calf pumps** – some patients who have surgery will have a special device which fits like a cuff around each calf (similar to a blood pressure cuff). This will inflate and deflate alternately. These are designed to help prevent clot formation in the calf.

- **Medication (anticoagulants)** – your doctor might consider it necessary to prescribe you an anticoagulant drug to reduce your risk of developing a blood clot. This is called prophylaxis. Depending on the type of surgery you may be asked to continue this medication for 28 days following the operation.

Not all methods mentioned above are appropriate for all patients. Your doctor will assess which methods are most suitable for you as an individual.

When I am at home how can I help prevent a VTE?

- Drink plenty of fluids
- Stop smoking
- Keep mobile especially on long journeys by performing leg exercises
- Maintain a healthy weight
- Consider wearing anti embolic stockings if your mobility is limited.

What anticoagulant might I be offered?

The anticoagulant most often used is heparin. We usually offer patients a type of heparin injection called Tinzaparin - this is injected under the skin. Heparin comes from animals, if you have any concerns about using animal products, please tell your doctor.

If you are already taking anticoagulation medication such as warfarin or Rivaroxiban please tell your doctor.

I am taking warfarin and have been prescribed anti-cancer medicines (chemotherapy), what do I need to consider?

Like other medications, anti-cancer medicines can sometimes affect how well your warfarin works. Your doctor or nurse will discuss this with you when starting treatment for cancer and they will often change your anticoagulation treatment to heparin

(Tinzaparin). If your doctor decides to keep you on warfarin it is important to let your GP or anticoagulant dosing service know that you are starting anti-cancer treatment. They may want to temporarily adjust the dose or increase the frequency of your blood tests (INR) to ensure that the warfarin is still working safely.

Can I take other medicines whilst on anticoagulant therapy?

When buying 'over the counter' medicines, tell the pharmacist that you are taking anticoagulants. Also tell any doctor or nurse who is prescribing, or making changes to, your medication that you are taking anticoagulants. If you have been prescribed any new medication, you should inform the team who prescribed your anticoagulant.

Medicines containing **aspirin** should only be taken if prescribed by your doctor or hospital consultant. Ibuprofen based medicines should also be avoided. You can take paracetamol if needed for pain relief.

Should I avoid any particular food or drink?

You should eat a well balanced diet and maintain a healthy weight. You should not consume more than two units of alcohol per day. Avoid binge drinking as it interferes with anticoagulant treatment. Up to two units of alcohol every day is better than a large amount once a week.

Are there any side effects associated with anticoagulants?

The possible side effects include:

- Skin rash or allergy
- Bleeding
- HITS (heparin induced thrombocytopenia) – very rarely patients can develop this condition which affects the platelet count (this will be monitored through blood tests)
- If you have kidney failure you may be offered a different type of heparin to protect your kidneys.

Monitoring your anticoagulation treatment

The medical team may take a blood test before you start having this medication and while you are having it. This is to check the level of the clotting cells (platelets) and potassium in your blood. If you have any pre-existing medical conditions, your doctor may also check how well your kidneys are working.

How anticoagulants may affect dental treatment

If you are going to have surgery or dental work, tell your prescriber or health care professional that you have received anticoagulants prior to any treatment.

Taking anticoagulants if you are planning pregnancy or become pregnant

If you are either pregnant or think you may be so, please tell your doctor. They will advise you further.

How anticoagulants may affect activities such as sport **You should avoid contact sport.**

If you have missed a dose of anticoagulant

Give the missed dose as soon as you remember, unless it is almost time for the next dose. Do not use double doses.

Try to avoid injury while taking anticoagulants

Take special care brushing or flossing your teeth, shaving and cutting your fingernails or toe nails, and when using sharp objects. Report any injuries to your prescriber or health care professional.

If I am taking an anticoagulant how long should I continue to take it?

Your doctor will assess whether or not you will need to continue with the medicine or injections after you leave hospital. This depends on an assessment of the risk of your developing a clot.

It will also depend on the nature of any surgery that you may have undergone.

If you are to continue with the medication we will give the appropriate amount of medicine/injections to continue at home.

Anti-embolic stockings

Anti-embolic stockings provide support to the muscles in your leg to help the flow of blood in your veins. Anti-embolic stockings are not suitable for all people. You should not wear them if you have had a recent stroke or have peripheral arterial disease, peripheral neuropathy, recent leg skin grafts, eczema, fragile skin or very swollen legs.

As an inpatient you may be provided thigh or knee length anti-embolic stockings - the nursing team will measure your legs to ensure the correct fit. If you would like to consider anti-embolic stockings as an outpatient, for example, because you are increasingly tired and less mobile, it is important to speak to your keyworker or the Medical Day Unit (MDU) staff first. This is because anti-embolic stockings may not be an appropriate or safe option for you.

Below the knee



Above the knee



How long will I need to wear the anti-embolic stockings for?

You will need to wear your stockings day and night for the duration of your stay in hospital. If you have been given stockings to prevent VTE after leaving hospital you should continue to wear these until you regain your previous level of mobility. If you are receiving anti-cancer treatment and you notice your mobility becoming restricted, you could consider buying specialist stockings from your local pharmacy, or speak to the staff in the MDU/OPD at your next appointment.

Wearing instructions

- If you have difficulty putting the stockings on please ask your nurse to help you
- The stockings should feel firm but should also be comfortable
- If they feel too tight or too loose please tell your nurse
- They should be wrinkle free and worn throughout the day and night
- Do not roll the stockings down as this could restrict blood flow
- You should remove your stockings daily for up to 30 minutes - during this time you can wash and moisturise your legs with cream (if you have an existing skin condition please ask your doctor which is the most appropriate moisturiser to use).
- When your stockings are removed you should check the condition of your skin
- If you are experiencing any of the following, please inform your nurse immediately: pain, discomfort (particularly over the heels and bony areas), numbness, and leg swelling or skin problems such as rashes, blistering or discolouration.

Looking after your anti-embolic stockings

- After three months, the stockings should be washed regularly to renew the compression and remove skin flakes and sweat (approximately every 2 to 3 days)

- The stockings should be washed by hand or on a delicate wash cycle (40°C) in a washing machine
- Hang them up to dry
- Do not tumble dry as the heat will damage the stockings
- Do not dry them directly on a radiator as this will damage the fabric and reduce its useful wear time.

What are the risks of wearing anti-embolic stockings?

If the stockings are too tight they may limit the blood flow within your legs and you may experience one or more of the following symptoms:

- blistering
- skin discolouration
- skin markings
- numbness
- pins and needles
- soreness.

If you have any of these symptoms you must report them immediately to your nurse.

- Looseness - if the stockings are too loose they will not provide enough pressure to reduce the risk of DVT.
- Rash - if you develop a rash you may be allergic to the materials in the stockings.

What should I do if I think I have a VTE?

VTE needs immediate treatment. If you develop any symptoms while you are in hospital please inform the nursing staff or doctors promptly. If you develop these symptoms once you have left hospital, please seek medical advice immediately from your local A&E department. If you have symptoms of a DVT you will need an ultrasound scan (ideally within 4 hours of reporting the symptoms). If a PE is suspected, you will need an urgent CT scan. A treatment dose of anticoagulant may be given if there is a delay. Both tests will usually identify the VTE if there is one.

If a VTE is diagnosed

If you are diagnosed with a VTE you will start anticoagulation injections immediately - you may have to have these for 3-6 months or even longer. The hospital doctors will inform your GP of the diagnosis and the GP will manage your anticoagulation care perhaps referring you to a local anti-coagulation clinic.

Contact details

If you have any concerns with the anti-embolic stockings or anticoagulant, you should speak to a member of your medical or surgical team or your Clinical Nurse Specialist (Keyworker).

Out of normal office hours you can contact the Clinical Site Practitioner at The Royal Marsden on:

020 7352 8171 bleep 017 (Sutton)

bleep 022 (Chelsea)

However if you experience severe symptoms you should visit your local accident and emergency department.

The Royal Marsden Macmillan Hotline: 020 8915 6899

You can ring the Royal Marsden hotline 24 hours a day, 7 days a week.

Call us straight away if you are feeling unwell or are worried about the side effects of cancer treatments.

This service provides specialist advice and support to all Royal Marsden patients, as well as to their careers, and both hospital and community-based doctors and nurses caring for Royal Marsden patients.

Resources

Useful websites: www.anticoagulationuk.org
 www.thrombosis-charity.org.uk

References

This booklet is evidence based wherever the appropriate evidence is available and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre

Freephone: 0800 783 7176

Email: patientcentre@rmh.nhs.uk.

Should you require information in an alternative format please contact The Royal Marsden Help Centre.

Notes and questions

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