

## Understanding NICE guidance

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Information for people who use NHS services

### Reducing the risk of a blood clot from surgery

*NICE 'clinical guidelines' advise the NHS on caring for people with specific conditions or diseases and the treatments they should receive.*

This booklet is about the care and treatment of people who are at risk of developing a blood clot from surgery in the NHS in England and Wales. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence). It is written for people who are having surgery but it may also be useful for their families or carers or for anyone with an interest in the topic.

The booklet aims to help you understand the care and treatment options that should be available in the NHS. It does not describe blood clots or the tests or treatments for them in detail. A member of your healthcare team should discuss these with you. There are examples of questions you could ask throughout this booklet to help you with this. Some sources of further information and support are on the back page.

## Contents

Your care	3
Blood clots	4
Risk factors	5
Reducing the risk of blood clots	5
After your operation	7
How to tell if you have a blood clot	7
More information	8
About NICE	8

**The advice in the NICE guideline covers adults who are at risk of developing a blood clot because they are having an operation that requires an overnight stay in hospital. These operations include:**

- hip or knee surgery
- abdominal surgery
- gynaecological surgery (but not caesarean section)
- surgery on the brain, spine, heart, lungs, kidneys or bladder
- surgery on the arteries or veins.

**It does not specifically look at preventing blood clots in:**

- children or young people under 18 years old
- adults who are at risk of developing blood clots for reasons other than having an operation.

## Your care

Your treatment and care should take into account your personal needs and preferences, and you have the right to be fully informed and to make decisions in partnership with your healthcare team. To help with this, your healthcare team should give you information you can understand and that is relevant to your circumstances. All healthcare professionals should treat you with respect, sensitivity and understanding and explain blood clots and the ways of reducing the risk of developing them simply and clearly.

The information you get from your healthcare team should include details of the possible benefits and risks of particular treatments. You can ask any questions you want to and can always change your mind as your treatment progresses or your condition or circumstances change. Your own preference is important and your healthcare team should support your choice wherever possible.

Your treatment and care, and the information you are given about it, should take account of any religious, ethnic or cultural needs you may have. It should also take into account any additional factors, such as physical or learning disabilities, sight or hearing problems, or difficulties with reading or speaking English. Your healthcare team should be able to arrange an interpreter or an advocate (someone who supports you in asking for what you want) if needed.

If you agree, your carers and relatives should have the chance to be involved in decisions about your care. Carers and relatives also have the right to the information and support they need in their roles as carers.

If people are unable to understand a particular issue or are not able to make decisions for themselves, healthcare professionals should follow the advice that the Department of Health has produced about this. You can find this by going to the Department of Health website ([www.dh.gov.uk](http://www.dh.gov.uk)) and searching for information on 'consent' and 'capacity'.

*If you think that your care does not match what is described in this booklet, please talk to a member of your healthcare team.*

## Blood clots

When you are inactive for a period of time, blood tends to collect in the lower parts of your body, often in the lower leg. This makes your blood move around your body more slowly, which can trigger a blood clot (also known as a thrombus) to form. Blood clots are therefore more common in people who are immobile, but may also occur in people who are unable to move around as much as normal, for example, when travelling for long periods of time or having an operation.

People having an operation are at risk of blood clots because they are inactive during and after the operation and because of the damage caused to their veins during the operation.

A blood clot may develop in the body at any time during or after an operation. When a clot forms in one of the 'deep veins' in your leg, thigh, pelvis or arm it is known as deep vein thrombosis (DVT).

The blood clot itself is not life threatening, but if it comes loose it can be carried in your blood to another part of your body where it can cause problems – this is called a venous thromboembolism (VTE). If the clot travels to the lungs it is called a pulmonary embolus (PE) and it can be fatal. Even if a blood clot does not come loose, it can still cause long-term damage to your veins.

### Questions you might like to ask your healthcare team

- Please tell me more about blood clots.
- Am I at risk of developing a blood clot from my operation?

## Risk factors

Everyone who has an operation is at risk of developing a blood clot but some people have certain 'risk factors' that make them more likely to develop one. Your healthcare professional should assess which risk factors apply to you.

### Example risk factors for developing blood clots

- You or a member of your family has had a blood clot before.
- You have cancer.
- You have longstanding problems with your heart or lungs.
- You are on the combined contraceptive pill<sup>†</sup> or taking HRT.
- You have inflamed varicose veins (phlebitis).
- You are obese (you have a body mass index of 30 or more).
- You are unable to move around.
- You take a journey of more than 3 hours in the 4 weeks before or after your operation (for example, on an aeroplane or train).
- You are over 60.
- You have a disorder that makes your blood more likely to clot.

<sup>†</sup> You may be advised to stop taking the contraceptive pill before your operation

## Reducing the risk of blood clots

There are two main ways of reducing your chances of developing a blood clot:

- Using devices that help stop the blood collecting in your leg veins.
- Using medicines that reduce the risk of blood clotting.

During your stay in hospital, your healthcare professional should also make sure that you do not become dehydrated, which will help reduce your risk of developing a blood clot.

## Stopping the blood collecting in your leg veins

There are devices that can reduce your risk of developing a blood clot. These work by encouraging your blood to circulate around your body.

Depending on the type of operation you are having, you should be offered compression stockings, inflatable compression devices or both. During your stay in hospital you should wear your stockings and use the devices as often as you can and for as long as possible.

### *Compression stockings*

Compression stockings are tight stockings specially designed to reduce the risk of blood clots. The stockings squeeze your feet, lower legs and thighs, helping your blood to move around your body more quickly.

If you are having an operation, you may be offered compression stockings when you go into hospital. Your healthcare professional should show you how to wear them correctly.

It is important to wear the stockings as much as possible until you are back to your usual level of activity.

### *Inflatable compression devices (including foot pumps)*

These go around your legs (and sometimes your feet) and inflate automatically at regular intervals. They apply pressure when inflated which keeps your blood moving around your body.

## Medicines that reduce the risk of blood clots

Depending on your risk factors and type of operation, your healthcare professional may also offer you medicine to reduce the risk of a blood clot developing during your stay in hospital. You may be given a type of **heparin** or **fondaparinux**. Both of these drugs are 'anticoagulants', which means that they help to prevent your blood from clotting.

### Questions you might like to ask your healthcare team

- What can I do to reduce my risk of developing a blood clot?
- Please tell me why you have decided to offer me this particular treatment.
- Are there any side effects associated with this treatment?

## After your operation

You are still at risk of developing a blood clot in the days and weeks after your operation. This risk continues until you have recovered from your operation and you are back to your usual level of activity.

Your healthcare professional should encourage you to move about as soon as possible after your operation to avoid getting a blood clot. If you cannot move around, leg exercises should be arranged for you.

It is important that you follow the instructions given to you by your healthcare professional to reduce the risk of blood clots developing after your operation. This might include wearing compression stockings until you are back to your usual level of activity, or continuing to take your anticoagulant medicine for several weeks after your operation.

You should also avoid long periods of travel for 4 weeks after your operation to reduce your chances of developing a blood clot.

## How to tell if you have a blood clot

There are certain signs to look out for after your operation that could mean you have a blood clot. You should contact your healthcare professional immediately if you experience any of the following in the days or weeks after your operation:

- You have pain or swelling in your leg.
- The skin on your leg is hot or discoloured (red, purple or blue), other than bruising around the operation site.
- Your feet are numb or tingling.
- 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, back or ribs which gets worse when you breathe in deeply.
- You cough up blood.

## More information

The organisations below can provide more information and support for people at risk of developing blood clots. Please note that NICE is not responsible for the quality or accuracy of any information or advice provided by these organisations.

- Anticoagulation Europe, 020 8289 6875  
[www.anticoagulationeurope.org](http://www.anticoagulationeurope.org)
- British Heart Foundation, 08450 708070  
[www.bhf.org.uk](http://www.bhf.org.uk)
- Lifeblood: The Thrombosis Charity, 01406 381017  
[www.thrombosis-charity.org.uk](http://www.thrombosis-charity.org.uk)

NHS Direct online ([www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)) may also be a good starting point for finding out more. Your local Patient Advice and Liaison Service (PALS) may also be able to give you further information and support.

### About NICE

NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating different medical conditions. The guidance is written by independent experts including healthcare professionals and people representing patients and carers. They consider the best available evidence on the condition and treatments, the views of patients and carers and the experiences of doctors, nurses and other healthcare professionals working in the field. Staff working in the NHS are expected to follow this guidance.

*To find out more about NICE, its work and how it reaches decisions, see [www.nice.org.uk/aboutguidance](http://www.nice.org.uk/aboutguidance)*

*This booklet and other versions of this guideline aimed at healthcare professionals are available at [www.nice.org.uk/CG046](http://www.nice.org.uk/CG046)*

*You can order printed copies of this booklet from the NHS Response Line (phone 0870 1555 455 and quote reference N1217).*