

Information for you

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Diagnosis and treatment of venous thrombosis in pregnancy and after birth

Who is this information for?

This information is for you if you think you may have, or have already been diagnosed with, a venous thrombosis or pulmonary embolism while pregnant or just after birth. You may also find it helpful if you are the partner or a relative of a woman in this situation.

If you would like information on how to reduce your risk of a venous thrombosis, please see RCOG patient information *Reducing the risk of venous thrombosis in pregnancy and after birth* (www.rcog.org.uk/en/patients/patient-leaflets/reducing-the-risk-of-venous-thrombosis-in-pregnancy-and-after-birth).

What is venous thrombosis?

A thrombosis is a blood clot in a blood vessel (a vein or an artery). Venous thrombosis occurs in a vein. Veins are the blood vessels that take blood back to the heart and lungs whereas arteries take the blood away.

A deep vein thrombosis (DVT) is a blood clot that forms in a deep vein of the leg, calf or pelvis.

How common is it in pregnancy?

Pregnancy increases your risk of a DVT, with the highest risk being just after you have had your baby. However, venous thrombosis is still uncommon in pregnancy or in the first 6 weeks after birth, occurring in only 1–2 in 1000 women.

A DVT can occur at any time during your pregnancy, including the first 3 months.

What are the symptoms of a DVT during pregnancy?

The symptoms of a DVT usually occur in only one leg and can include:

- a red and hot swollen leg



- swelling of your entire leg or just part of it, or it may just feel heavy.
- pain and/or tenderness – you may only experience this when standing or walking.

You should seek advice immediately from your doctor or midwife if you notice any of these symptoms.

During pregnancy, swelling and discomfort in both legs is common and does not always mean that there is a problem. Ask your doctor or midwife if you are worried.

Why is a DVT serious?

Venous thrombosis can be serious because the blood clot may break off and travel in the bloodstream until it gets lodged in another part of the body, such as the lung. This is called a pulmonary embolism (PE) and can be life threatening. However, dying from a PE is very rare in women who are pregnant or who have just had a baby.

The symptoms of a PE can include:

- sudden unexplained difficulty in breathing
- tightness in the chest or chest pain
- coughing up blood (haemoptysis)
- feeling very unwell or collapsing.

You should seek help immediately if you experience any of these symptoms. Diagnosing and treating a DVT reduces the risk of developing a PE.

What increases my risk of DVT or PE?

You are at increased risk of venous thrombosis if any of the following apply to you.

- **Before pregnancy**

If you:

- are over 35 years of age
- have already had three or more babies
- have had a previous venous thrombosis
- have a mother, father, brother or sister who has had a venous thrombosis
- have a thrombophilia (a condition that makes a blood clot more likely)
- have a medical condition such as heart disease, lung disease or arthritis – your doctor or midwife will be able to tell you whether any medical condition you have increases your risk of a DVT/PE
- have severe varicose veins that are painful or above the knee with redness/swelling
- are a wheelchair user.

- **Lifestyle**

If you:

- are overweight with a body mass index (BMI) over 30, are a smoker or use intravenous drugs.

- **During pregnancy**

If you:

- are admitted to hospital
- are carrying more than one baby (multiple pregnancy)

- become dehydrated or less mobile in pregnancy due to, for example, vomiting in early pregnancy, being in hospital with a severe infection such as appendicitis or a kidney infection or if you are unwell from fertility treatment (ovarian hyperstimulation syndrome)
 - are immobile for long periods of time, for example after an operation or when travelling for 4 hours or longer (by air, car or train)
 - have pre-eclampsia – please see RCOG patient information *Pre-eclampsia* (www.rcog.org.uk/en/patients/patient-leaflets/pre-eclampsia).
- **After the birth of your baby**
 - If you:
 - have a very long labour (more than 24 hours) or have had a caesarean section, lose a lot of blood after you have had your baby or receive a blood transfusion.

You should have a risk assessment during pregnancy and after you have had your baby during which your doctor or midwife will ask whether you have any of the risk factors above. For further information, see RCOG patient information *Reducing the risk of venous thrombosis in pregnancy and after birth* (www.rcog.org.uk/en/patients/patient-leaflets/reducing-the-risk-of-venous-thrombosis-in-pregnancy-and-after-birth).

How are DVT and PE diagnosed during pregnancy?

DVT

If you are experiencing symptoms, your doctor will examine your leg and may recommend an ultrasound scan of your leg to see whether you have a thrombosis. If no thrombosis is seen but you are still having symptoms, the ultrasound scan may be repeated a few days later.

PE

The tests may include:

- a chest X-ray – this can also identify common problems that could be the cause of your symptoms, such as a chest infection
- a CT scan (specialised X-ray) of your lungs
- a VQ scan (ventilation/perfusion scan) of your lungs – this involves a drip into a vein in your arm
- an ultrasound scan of both your legs if you have any symptoms of a DVT.

Are there any risks with having the tests?

The chest X-ray, CT scan and VQ scan all use radiation. The chest X-ray uses a tiny dose of radiation that is not considered harmful for you or your baby.

The CT and VQ scans both carry a small risk but this needs to be weighed up against the risk to you and your baby of an undiagnosed PE. The risk to your baby of developing childhood cancer after a VQ scan or a CT scan is extremely low although it is slightly higher with a VQ scan than with a CT scan.

However, a CT scan gives a higher dose of radiation to your breasts than a VQ scan and the lifetime risk of breast cancer may be increased. Your doctor will talk to you about the benefits and risks and which test would be best for you.

What is the treatment for venous thrombosis?

If your doctor suspects that you have a venous thrombosis, you will be advised to start on treatment with an injection of a drug called heparin to thin the blood. There are various types of heparin. The most commonly used in pregnancy is low-molecular-weight heparin (LMWH).

For most women, the benefits of heparin are that it:

- works to prevent the clot getting any bigger so your body can gradually dissolve the clot
- reduces the risk of a PE
- reduces the risk of another venous thrombosis developing
- lowers the risk of long-term problems developing in the leg.

What does heparin treatment involve?

Heparin is given as an injection under the skin (subcutaneous) at the same time every day (sometimes twice daily). The dose is worked out for you according to your weight in early pregnancy.

You may not need to stay in hospital for the whole duration of treatment with heparin. You (or a family member) will be shown how and where in your body to give the injections. Needles and syringes (already made up) will be provided and you will be given advice on how to store and dispose of these. You will have regular check-ups as an outpatient.

Are there any risks to my baby and me from heparin?

Low-molecular-weight heparin does not cross the placenta and therefore cannot harm your baby.

There may be some bruising where you inject – this will usually fade in a few days.

One or two women in every 100 (1–2%) will have an allergic reaction. If you notice a rash after injecting, you should inform your doctor so that the type of heparin can be changed.

How long will I need to take heparin?

Treatment is usually recommended for the remainder of your pregnancy and for at least 6 weeks after the birth. The minimum treatment time is 3 months and you may need to continue it for longer.

What else can I do to help if I have a DVT?

- Stay as active as you can.
- You will be prescribed a special stocking (graduated elastic compression stocking) to wear, which helps to reduce the swelling in the leg.
- If you need pain relief, ask your doctor or midwife.

What should I do when labour starts?

If you think you are going into labour, do not have any more injections. Phone your maternity unit and tell them you are on heparin treatment. They will advise you what to do.

An epidural injection (a regional anaesthetic injection given into the space around the nerves in your back to numb your lower body) cannot be given until 24 hours after your last heparin injection. You will have the option of alternative pain relief.

If the plan is to induce labour, you should stop your injections 24 hours before the planned date.

What if I have a caesarean section?

If you are having a planned caesarean section, your last heparin injection should be 24 hours before the planned delivery. Heparin will usually be restarted within 4 hours of the operation.

If your baby needs to be born by emergency caesarean section within 24 hours of your last injection, you will not be able to have an epidural or spinal injection. Instead you will need a general anaesthetic for your operation.

What happens after birth?

Treatment should be continued for at least 6 weeks after birth. You are likely to need treatment for longer if your DVT or PE was diagnosed late in pregnancy or after birth.

There is a choice of treatment after birth of continuing with injections of heparin or using warfarin tablets. Your doctor will discuss your options with you.

After birth you will usually be given an appointment with your GP, obstetrician or haematologist. At your appointment the doctor will:

- ask about your family history of thrombosis and discuss tests for a condition that makes thrombosis more likely (thrombophilia) – these tests should be done when you have stopped treatment and ideally before any future pregnancies
- discuss your options for contraception – you should be advised not to take any contraception that contains estrogen, such as the 'combined pill'
- discuss future pregnancies – you will usually be recommended heparin treatment during and after your next pregnancy.

Can I breastfeed?

Yes – both heparin and warfarin are safe to take when breastfeeding.

Making a decision

Shared Decision Making

If you are asked to make a choice, you may have lots of questions that you want to ask. You may also want to talk over your options with your family or friends. It can help to write a list of the questions you want answered and take it to your appointment.



Ask 3 Questions

To begin with, try to make sure you get the answers to three key questions if you are asked to make a choice about your healthcare.

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?

These resources have been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation

* Ask 3 Questions is based on Shepherd HL, et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options: A cross-over trial. Patient Education and Counselling, 2011;84: 379-85

Sources and acknowledgements

This information has been developed by the RCOG Patient Information Committee. It is based on the RCOG Green-top Clinical Guideline *Thromboembolic Disease in Pregnancy and the Puerperium: Acute Management* (April 2015). The guideline contains a full list of the sources of evidence we have used. You can find it online at: www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg37b.

This leaflet was reviewed before publication by women attending clinics in Glasgow, Coleraine and Sunderland, and by the RCOG Women's Network.

The RCOG produces guidelines as an educational aid to good clinical practice. They present recognised methods and techniques of clinical practice, based on published evidence, for consideration by obstetricians and gynaecologists and other relevant health professionals. This means that RCOG guidelines are unlike protocols or guidelines issued by employers, as they are not intended to be prescriptive directions defining a single course of management.

A glossary of all medical terms is available on the RCOG website at: www.rcog.org.uk/en/patients/medical-terms.