

Information for you

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Reducing the risk of venous thrombosis in pregnancy and after birth

Who is this information for?

This information is about reducing the risk of a venous thrombosis if you are thinking about having a baby, are already pregnant or have just had a baby.

If you need information on the diagnosis and treatment of venous thrombosis during pregnancy or after birth, please see the RCOG patient information *Diagnosis and treatment of venous thrombosis in pregnancy and after birth* (www.rcog.org.uk/en/patients/patient-leaflets/treatment-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, so it is important to see your midwife early in pregnancy.

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?

Your risk of venous thrombosis is increased further 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 if you 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.

Can I reduce the risk of getting a DVT or PE?

You may be able to reduce your risk, as most DVTs and PEs that occur during pregnancy and after birth are preventable.

You will 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. This helps to decide whether you would benefit from preventive treatment. This will depend on which risk factors you have and how many.

Some risk factors, such as previous thrombosis, are significant enough on their own for treatment to be recommended. Other risk factors may not be enough on their own for you to require treatment. Your doctor or midwife will talk with you about your risk factors and explain why treatment may be advised in your case.

If you are diagnosed with a DVT, your doctor will give you treatment to reduce the risk of a PE occurring.

When will my risk be assessed?

Before pregnancy

If you have any of the risk factors listed above and are planning a pregnancy you should talk to your GP or midwife. You may need to see an obstetrician early in pregnancy to discuss starting treatment.

If you have previously had a DVT or PE or have a thrombophilia (see above), your GP can arrange a hospital appointment with a doctor who specialises in thrombosis in pregnancy.

If you are already taking warfarin to treat or prevent venous thrombosis, you may be advised to change to heparin injections because warfarin can be harmful to your unborn baby (see section below). Most women are advised to change before becoming pregnant or as early as possible in pregnancy. For some women, warfarin may be the only option. Talk to your doctor before you become pregnant so that any changes can be planned to keep you and your baby as healthy as possible.

During and after pregnancy

Your midwife should carry out a risk assessment at your first antenatal booking and at around 28 weeks of pregnancy. A risk assessment should also be carried out if your situation changes during your pregnancy and/or if you are admitted to hospital. After your baby is born a further risk assessment should be done.

Can my risk change?

Yes. Your risk can either increase or decrease.

You may start by having one or two risk factors but your risk can increase if you develop other factors, such as becoming unwell, developing severe varicose veins, travelling for over 4 hours or having a complicated birth. In this case, you may be advised to start taking treatment.

Your risk may also decrease, for example if you stop smoking. Treatment may then no longer be necessary.

How can I reduce my risk of getting a DVT or PE?

You can reduce your risk of getting of a DVT or PE:

- stay as active as you can
- wear special stockings (graduated elastic compression stockings) to help prevent blood clots
- keep hydrated by drinking normal amounts of fluids

- stop smoking
- lose weight before pregnancy if you are overweight.

You may be advised to start treatment with injections of heparin, which is an anticoagulant used to thin the blood. There are various types of heparin. The most commonly used in pregnancy is low-molecular-weight heparin (LMWH). Heparin is also used to treat venous thrombosis, but the dose of heparin used to prevent a venous thrombosis is usually less.

For most women, the benefits of heparin are that it reduces the risk of a venous thrombosis or a PE developing.

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 depending on your risk factors and your weight in early pregnancy or before you became pregnant.

You may be on a low-dose or a high-dose regimen. You (or a family member) will be shown how and where in your body to give the injections. You will be provided with the needles and syringes (already made up) and will be given advice on how to store and dispose of these.

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?

If you have any of the risk factors listed on page 2, you might need heparin during pregnancy. You should thus see your GP, midwife or obstetrician as early as possible so that heparin can be started at the right time. For some women, this may be before their booking appointment.

The length of time you will be advised to stay on heparin depends on your risk factors and whether your situation changes. It may be that treatment is recommended for only a few days to cover long-distance travel, or treatment may be recommended for the week immediately after delivery. Sometimes, treatment may be recommended for the whole of your pregnancy and for up to 6 weeks after the birth.

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 that 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 12 hours (24 hours if you are on a high dose) after your last injection. You will have the option of alternative pain relief.

If the plan is to induce labour, you should stop your injections 12 hours (24 hours if you are on a high dose) before the planned date.

What happens if I have a caesarean section?

If your baby needs to be born by emergency caesarean section within 12 hours (24 hours if you are on a high dose) of your last heparin injection you will not be able to have an epidural or spinal injection and instead will need a general anaesthetic for your operation.

If you are having a planned caesarean section, your last heparin injection should be 12 hours (24 hours if you are on a high dose) before the planned caesarean delivery. Heparin will usually be restarted within 4 hours of the operation.

What happens after birth?

It is important to be as mobile as possible after you have had your baby and to avoid becoming dehydrated.

A risk assessment will be carried out after the birth of your baby. Even if you weren't having injections in pregnancy, you may need to start heparin injections for the first time after birth. This will depend on what risk factors you have for a DVT. You may be advised to have heparin for 7–10 days after birth or sometimes for 6 weeks after birth.

If you were on heparin before the baby's birth, you are likely to be advised to continue this for 6 weeks afterwards.

If you were taking warfarin before pregnancy and have changed to heparin during pregnancy, you can change back to warfarin usually 3 days after birth.

At your postnatal appointment, your doctor should:

- discuss future pregnancies – you may be recommended heparin treatment during and after your next pregnancy but if, for example, you stop smoking or lose weight before your next pregnancy, heparin treatment may not be necessary next time
- discuss your options for contraception – you may be advised not to use any contraception that contains estrogen, such as the 'combined pill', as this can also add to your risk of DVT.

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 Guideline *Reducing the Risk of Thrombosis and Embolism during Pregnancy and the Puerperium* (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/gtg37a.

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.

A final note

The Royal College of Obstetricians and Gynaecologists produces patient information for the public. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the doctor or other attendant in the light of the clinical data presented and the diagnostic and treatment options available. Departure from the local prescriptive protocols or guidelines should be fully documented in the patient's case notes at the time the relevant decision is taken.

All RCOG guidelines are subject to review and both minor and major amendments on an ongoing basis. Please always visit www.rcog.org.uk for the most up-to-date version of this guideline.