Venous thromboembolism in pregnancy and during birth

Royal Berkshire NHS Foundation Trust

This leaflet is for anyone who is considering having a baby, is already pregnant or have just had a baby and are at risk of venous thromboembolism. It explains what complications may occur and how your pregnancy will be monitored because of the increased risks. If you have any questions or concerns, please speak to your midwife or doctor.

What is venous thromboembolism?

A thrombus is a blood clot in a blood vessel (a vein or an artery). A clot that occurs in a vein (taking blood towards the heart and lungs) is a venous thrombus. Embolism means that the blood clot breaks down and moves through the blood vessels to the other parts of the body. Deep vein thrombosis (DVT) is when a blood clot forms in a deep vein of the leg, calf or pelvis. If the clot moves to the lung, it is called pulmonary embolism (PE).

Why is a DVT serious?

The danger of a DVT is that the blood clot may break off and travel in the bloodstream until it gets stuck in another part of the body, such as in the lung (pulmonary embolism) which although very rare, can be life-threatening.

What are the symptoms?

DVT:	**Pulmonary embolism (PE):**
The symptoms of a DVT usually occur in only one leg and include: ● A red and hot swollen leg. ● Swelling in your entire leg or just part of it. ● Pain and/or tenderness – you may only experience this when standing or walking or it may just feel heavy.	● Sudden unexplained difficulty in breathing. ● Tightness in the chest or chest pain. ● Coughing up blood (haemoptysis). ● Feeling very unwell or collapsing.
During pregnancy, swelling and discomfort in both legs is common and does not always mean there is a problem. Always ask your doctor or midwife if you are worried. **Please also be aware that some of these symptoms listed above can also be signs of heart disease. If you experience any chest pain which radiates to your left arm or jaw you must seek urgent medical attention**	

Seek advice immediately from your doctor or midwife if you notice any of these symptoms.

Although pulmonary embolism is rare, it can be life-threatening. Diagnosing and treating a DVT reduces the risk of developing a PE.

Who is at risk of venous thromboembolism?

During pregnancy you are 4-6 times more likely to develop venous thromboembolism. Venous thromboembolism related to pregnancy can occur at any stage of pregnancy and for six weeks after birth. This is due to changes in the body caused by being pregnant.

Additional risks for developing venous thromboembolism in pregnancy are when you:

- Have had previous venous thromboembolism.
- Having a thrombotic condition called thrombophilia makes a blood clot more likely.
- Are over 35 years of age.
- Have a body mass index (BMI) over 30.
- Have had 3 or more babies.
- Are pregnant as a result of IVF (in-vitro fertilisation).
- Are carrying more than one baby (multiple pregnancy).
- Have severe pre-eclampsia.
- Have just had a baby by Caesarean birth.
- Are immobile for long periods of time, for example, after an operation or when travelling, for four hours or longer.
- Have a close blood relative (e.g., brother/sister/mother/father) that has had venous thromboembolism.
- If you smoke.

When you first book with your midwife, they will do a risk assessment. If you are classed as 'high-risk,' you will be offered an appointment with a consultant at the hospital and may be offered preventative treatment such as special blood thinning injections (anticoagulant) daily throughout your pregnancy to help reduce the risk of developing a clot (see below for further information). You or a family member will be taught how to give these injections. This risk assessment will also be done if you are admitted to the hospital and, once you have had your baby, you will also be given a pair of special compression (surgical) stockings to wear whilst you are in hospital.

How to reduce the risk of thromboembolism

- Lose weight before pregnancy if you have a BMI of 30 or over.
- Maintain a healthy weight
- Keep as active as possible.
- Keep well hydrated.
- Stop smoking.

How is venous thromboembolism diagnosed during pregnancy?

DVT:	Pulmonary embolus (PE):
Your doctor will examine your leg. They will organise some blood tests and they may offer you an ultrasound scan of your leg to see if there is a clot. If no clot is seen but you are still having symptoms, the scan may be repeated after one week.	The tests may include: ● A chest X-ray (this can also identify common problems which 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) of your lungs. This needs a drip into a vein in your arm. ● An ultrasound of both your legs to look for an existing blood clot that may be present but not have caused you any symptoms.

Are there any risks associated with having the tests?

The chest X-ray, CT scan and VQ scan use radiation (X-rays). You may be concerned about the risk of these tests. The chest X-ray uses a very small dose of radiation, and your tummy will be shielded from the X-rays with a lead apron. The risk to your baby of developing cancer in childhood after a VQ scan is extremely rare (1 in a quarter of a million). Such a tiny risk with CT and VQ scans need to be weighed up against the risk to you both of an undiagnosed venous thromboembolism. 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. The risk may be increased from around 1 in 12 to 1 in 9 over your lifetime.

What is the treatment for venous thromboembolism?

As soon as your doctor suspects you have venous thromboembolism, you will be advised to start treatment with an injection of heparin (an anticoagulant) to increase the time your blood takes to clot. Although they are often called blood thinners, they do not actually thin the blood. There are different types of heparin. The most commonly used in pregnancy is 'low-molecular-weight heparin' (LMWH); if you are already taking this the dose will be increased.

For most, the benefits of heparin are that it:

- Works to prevent the clot from getting any bigger so your body can gradually dissolve it.
- Reduces the risk of a pulmonary embolus.
- Reduces the risk of another venous thrombosis developing.

What does heparin treatment involve?

Heparin is given as an injection under the skin at the same time(s) every day. The dose is worked out for you according to your weight. Usually, you will have heparin once daily, but if you are on a higher dose, this is usually split into two doses. You (or a family member, if you wish) will be shown how and where in your body to do the injections. You will be provided with the needles and syringes (usually already made up), and you will be advised on how to store and

dispose of them. You will have regular check-ups, including blood tests, as an outpatient. You will probably not be required to stay in hospital.

How long will I need to take heparin?

Treatment is usually recommended for the remainder of your pregnancy and at least six weeks after the birth. The minimum treatment time is three months.

Contact your doctor if you experience any worrying symptoms when you are taking heparin (such as chest pains, unexpected bruises, or a sudden change in your health). Also, contact your doctor if you have any heavy bleeding during this time.

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

Low-molecular-weight heparin cannot cross the placenta and so is safe to take when you are pregnant.

There may be some bruising where you inject which will usually fade in a few days. One or two women in every 100 (1–2%) will have an allergic reaction when they inject. If you notice a rash after injecting, you should inform your doctor so that the type of heparin can be changed.

What should I do when labour starts?

If you think that you are going into labour, do not take any more injections. Phone the triage line on 0118 322 7304l immediately and tell them that you are on heparin treatment. They will advise you.

If the plan is to induce labour, you should stop your injections 12-24 hours before the planned date. An epidural injection (given into the space around the nerves in your back) cannot usually be given until 12-24 hours after your last injection. Alternative pain relief options will be discussed. An individual plan will be made with you.

What if I have a planned (elective) Caesarean birth?

Your last heparin injection should be 12-24 hours before the planned caesarean birth. The heparin will usually be re-started within 4 hours of the birth.

What happens after birth, and can I breastfeed?

Treatment should be continued for at least six weeks after birth. There is a choice of treatment after birth – either continuing with injections of heparin or using warfarin tablets. Your doctor will discuss your options with you.

Both heparin and warfarin are safe to take when breastfeeding.

After birth, you will usually be given an appointment with your GP, obstetrician (birth specialist) or haematologist (blood specialist).

At your appointment, the doctor will:

- Ask about your family history of thromboembolism and discuss tests for conditions that make thromboembolism more likely (thrombophilia). These should ideally be done before any future pregnancies.
- Discuss your options for contraception (you should be advised not to take any contraception that contains oestrogen, for example, the 'combined pill').
- Discuss future pregnancies: you will usually be recommended heparin treatment during and after your next pregnancy.
- Give you information about compression stockings: it is recommended that you should wear this on the affected leg/s for two years.

Sources

For further information see:

- www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-reducing-the-risk-of-vt-in-pregnancy.pdf
- www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg37a

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