

Testing for Blood Clots during or after Pregnancy

You have been given this leaflet because you are pregnant or have recently been pregnant and it is suspected that you may have a blood clot in your legs or your lungs.

If you have any further questions, please speak to a doctor or nurse caring for you.

Pregnancy / recent pregnancy and blood clots

Risk of having blood clots increases in pregnancy as your blood becomes stickier due to natural changes in your body as a protective mechanism. This therefore increases your risk of developing blood clots. The risks are low, 1-2 pregnant women in 1,000 but the risks are there at any stage of pregnancy and up to 12 weeks post delivery.

Terminology you may hear and what they mean

Thrombus or thrombosis: A clot that forms in blood vessels.

Embolus or embolism: When a part of a thrombus breaks off and travels through a blood stream to another part of the body.

Deep vein thrombosis (DVT): A clot in deep vein most commonly in the legs.

Pulmonary embolism (PE): A clot that has broken off and has travelled up to the blood vessels in the lungs.

A chest radiograph (CXR): An X-ray of your chest which captures the lungs, heart and bones.

An electrocardiograph (ECG): A trace of the electrical activities of heart - a bedside test.

Arterial blood gas (ABG): ABG is a blood test usually at the wrist to measure levels of oxygen in blood.

Doppler ultrasound scan (Doppler US): Ultrasound technology used to detect blood clots in the legs.

Computerised tomography pulmonary angiography (CTPA): A diagnostic imaging test that helps in confirming or excluding the diagnosis of PE.

Ventilation/perfusion scan (V/Q): Another diagnostic imaging test that helps with confirming or excluding the diagnosis of a PE.

What is a DVT, what are its symptoms and how is it diagnosed?

A blood clot formed in the deep veins in the legs more commonly than other places.

The symptoms may include any or all or sometimes none of the following:

- Pain in the leg
- Swelling in the leg
- Warmth and / or redness.

We use doppler US to make the diagnosis. This uses the same technology as the one when assessing your baby during your pregnancy. Sometimes if your clinical team suspects that the blood clot may be higher up in your leg, other scans may be used such as MRI (magnetic resonance imaging).

What is PE, what are its symptoms and how is it diagnosed?

A PE or pulmonary embolism is a blood clot that has travelled from another part of the body to a part of a blood vessel in the lungs. This can then stop blood flow to that part of the lung and stop oxygen from getting to that area. The symptoms may include any or all the following:

- Sudden unexplained difficulty in breathing
- Chest pain or tightness
- Coughing up blood
- Feeling unwell or collapsing.

It can be a life-threatening condition, so it is important to rule it out or confirm the diagnosis.

We use imaging techniques to make the diagnosis. In most cases this will be in a form of a CTPA, however depending on clinical picture, individual risk factors and other medical conditions we may choose to do V/Q scan. Each of these tests are explained in detail below.

What happens if I am suspected to have a DVT?

After taking a medical history and examining you, the clinician looking after you will ask for some blood tests and arrange for a doppler US. You will be started on treatment for this condition which is a blood thinning injection.

If the DVT is confirmed, you will need to continue this treatment for the rest of your pregnancy and some weeks post delivering (your clinical team will make that decision). If you are diagnosed after you have given birth, you will remain on it for at least three months; again this will be decided by your clinical team.

If the scan shows you don't have a DVT, then you will stop your injection and be discharged. In some cases, if the scan is negative but your clinical team still suspects a DVT, they may advise you to come back the following week and have a repeat doppler US.

What happens if I am suspected to have PE?

After taking a medical history and examining you, the clinical team looking will also perform some blood tests, a chest X-ray, an ECG and maybe an ABG. If CXR results show another reason for your symptoms, you may not need any further testing.

However, if the above tests still don't come up with an explanation for your symptoms, we would offer to do a CTPA at St. George's Hospital to exclude PE. It may be more appropriate in your case to have a different type of scan such as a V/Q scan, due to careful consideration of your past medical history and or having some contraindications for CTPA scan.

What happens during CTPA

You will have a cannula (a narrow plastic tube) inserted in a vein in your arm and will be taken into the CT scan area where you are asked to lie on a stretcher. There is a donut-like ring which is the scanner surrounding the stretcher and you. You will be asked to stay still. You are attached to a small syringe from which the dye is injected to the cannula.

The scanner then will start taking pictures. The dye is injected into the cannula. This helps us to see the blood vessels in the lungs when pictures are taken.

What happens during V/Q scan?

You will have a cannula (a narrow plastic tube) inserted into a vein in your arm. There are two stages to the scan.

- First part: breathing a low dose of a tasteless and odourless radioactive substance through a small plastic mask.
- Second part: an injection of a low dose radioactive substance through a cannula in your arm.

The radiation from each of these substances is picked up by a special camera which then creates images of the blood supply to your lungs. In pregnancy, the second part is carried out first and if it is normal then you won't need the first part. If not, then you will have the first part as a follow on.

Risks of radiation to me and my baby

In both types of scans if you are pregnant, you and your baby will get a small amount of radiation.

Ionising radiation can sometimes cause cell damage and after many years or decades may lead to changes that cause cancer. We are all exposed to background radiation around us in the environment.

Below are approximate radiation doses associated with each of the tests.

- 1) A CXR \approx 10 days of background radiation living in London
- 2) A CTPA \approx Two years of background radiation
- 3) A VQ scan \approx Eight months of background radiation

The baby receives lower levels of radiation than you in both CTPA and V/Q scans. The CTPA will expose your baby to lower dose of ionising radiation than a V/Q scan. Both are still very low doses.

If your baby is already born, s/he will not be exposed to any radiation.

If I am breastfeeding, can I still feed my baby?

Before the scan you can continue normally.

CTPA

You can continue as normal with your breast feeding afterwards and no precaution is needed. In this test the radiation comes from the scan and not the injection.

V/Q scan

After the scan, it is recommended that you don't breastfeed your baby for 12 hours. You should express your breastmilk and discard it. You may wish to follow the plan below:

If you are able

- Express one feed before the scan and store appropriately to feed the baby with it.
- Breast feed just before the scan.
- Three to four hours after injection of dye, express milk as completely as possible and **discard, use an alternative to feed your baby.**
- Express and discard for 12 hours after the scan.
- After 12 hours you can breast feed.

Do I need to take any other precautions?

No other precautions are required before or after a CTPA. Please ensure you have good oral fluid intake. For V/Q scan all that is needed is the breastfeeding advice as above.

We advise that pregnant staff avoid looking after you for 12 hours. Although the dose from you is very small, our staff may be looking after many patients who have been exposed to radiation for their investigation or treatment; therefore the total dose during their pregnancy may be higher.

You can continue to have physical contact with your baby and other members of the family as normal.

Which scan will I have?

Here at St. George's Hospital, we recommend CTPA in most cases. However, everyone is assessed according to their clinical needs, risks and other medical conditions before a scan. For example, there may be a history of kidney disease or allergies to the CTPA dye or family history of breast cancer. Your clinician will discuss this with you.

V/Q scans are not performed out of hours. If you have an underlying chest disease this is not an appropriate test.

Can I not just have the treatment without the scan?

The treatment you would be receiving is an injection that thins your blood and this would continue for a few weeks. It has an increased risk of bleeding. It is the balance between the risks and benefits. The risks associated with scans are lower than risks of continuing treatment without a confirmed diagnosis.

There are also other medical conditions that can cause very similar symptoms. Thus ruling out PE and ruling in other conditions is just as important and the correct test will help us to come to the correct diagnosis.

How to contact us

If you have any further questions, please speak to a clinical team looking after you.

Useful sources of information

[Radiation Risk of Medical Imaging During Pregnancy - InsideRadiology](#)

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.stgeorges.nhs.uk

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you on-the-spot advice and information when you have comments or concerns about our services or the care you have received. You can visit the PALS office between 9.30am and 4.30pm, Monday to Friday in the main corridor between Grosvenor and Lanesborough wings (near the lift foyer).

Tel: 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS Choices

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health.

Web: www.nhs.uk

NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

Tel: 111

AccessAble

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website (www.accessable.co.uk). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.



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