Having a lung perfusion scan (Q scan): information for pregnant patients

A Q scan is a Nuclear Medicine test that looks at your lungs and how they are working. This scan looks at the blood flow to your lungs (this is called the perfusion). It is used to detect a pulmonary embolism (PE). This is a blockage of one of the arteries in the lung caused by a blood clot. It can be one of the causes of chest pain or shortness of breath. During pregnancy, this condition is more likely to occur although still very rare. A lung scan can detect the presence of blood clots. The result of the lung scan will allow your doctor to give you the correct treatment.

Is it safe for me to have the scan?

For this scan it is necessary to inject a small amount of radioactive tracer, called a radiopharmaceutical, in order to take the pictures. The small risk from this radiation dose is outweighed by the information that will be gained by having the scan. There is a table attached to the end of this leaflet that shows some common radiation exposures to put this into context. Ask if you want any more information.

All investigations involving radiation, especially those undertaken during pregnancy, are vetted by multiple doctors to make sure this is the appropriate test for you. If you don't understand why you need to have this scan, please speak to the doctor who referred you.

Does my baby receive a radiation dose from this test?

Your baby will receive a very small dose of radiation from the radioactive tracer injected into your body. To keep this dose as low as possible we only inject half the amount of tracer usually given to adult patients (men and women). The radiation dose received by your baby is very low – at least 10 times smaller than the radiation dose we all receive each year from natural background radiation in the UK. The background radiation comes from the earth, the atmosphere and what we eat.

Exposure to radiation during pregnancy comes with a very small increased risk of childhood cancer. However, your doctor has decided that the small risk from this radiation dose is outweighed by the information that will be gained by having the scan. It may be more harmful to your baby if you do not have the test and do not receive appropriate treatment as a result.

It is vital that you understand why the test is being done and that you feel it is in your baby's best interests. Please feel free to discuss this with a member of staff.

Can I do anything to reduce the radiation dose my baby receives?

Drink plenty of fluids and empty your bladder more frequently than normal to help the radioactivity leave your body. It will disappear naturally from your body and will be gone within 24 hours.

Do I need to prepare for the scan?

You will be asked to have a chest x-ray, if you haven't had one recently. No other preparation is needed for the scan. You will be able to eat and drink as normal on the day of your scan. There is no need to get undressed for the scan.

There is no need to stop any of your medication prior to your scan.

What does the scan involve?

The scan usually takes 30 minutes. To begin with, a radioactive tracer is injected into a vein in your arm. It will feel similar to a blood test, and it should not make you or your baby feel any different. This will allow us to see the blood flow to your lungs and identify if there is a blood clot. You will be sat in a chair or lying on your back while three pictures are taken. The camera does not make any noise and you won't be left on your own.

How will I get the results of my scan?

The results will be sent to the hospital consultant who referred you for the scan. If you are an inpatient, you will be asked to return to the department that referred you and a report will be generated as soon as possible after the scan, usually within one hour.

How safe is the injection and procedure?

The injection contains a small amount of radioactive tracer which emits gamma rays (these are similar to X-rays). We use the smallest dose possible to provide as much information as we can about your condition. As mentioned on page 1 the radiation dose is very low and is similar to the natural background radiation we all receive from the environment over a period of 10 weeks.

The results of your scan will give your doctor useful information about your condition and will help them to plan your treatment.

Further guidance has been published by Public Health England Visit website - https://www.gov.uk/government/publications/ionising-radiation-from-medical-imaging-examinations-safety-advice/exposure-to-ionising-radiation-from-medical-imaging-safety-advice and from Medical Physics.

Contacting us

Medical Physics Department, Level 1 North Block, Monday to Friday, 9.00 am to 5.00pm.

If you have any questions about your treatment, please ask the staff looking after you or telephone 0118 322 7355 or email: rbb-tr.physics@nhs.net

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

RBFT Physics & Clinical Engineering Department, April 2024
Next review due: April 2025

The table below is a simple guide to the levels of radiation risks for various examinations. These are measured in millisieverts (mSv).

Source of exposure (using RBFT local diagnostic reference levels (DRLs) for Nuclear Medicine)	**Dose**
Having a chest x-ray	0.014 mSv
Taking a transatlantic flight	0.08 mSv
Lung perfusion (pregnant patients)	**0.44 mSv**
UK average annual radiation dose	**2.7 mSv**
CT scan of the chest – CT scan of whole spine	6.6 mSv – 10 mSv