

Finally

The pictures taken during the examination are studied carefully and a detailed report is produced. The results will be sent to the person who referred you for the test. They will discuss the results with you and any treatment you may need.

You may already have an appointment with the team who referred you. If not, please contact them to arrange one to discuss the results of this test. If you have any further questions, please do not hesitate to call the radiology department, via the number given on your appointment letter.

As this is a teaching hospital there may be students and observers present during your examination as part of their ongoing training. Please let the staff know if you do not wish any students to be present during your attendance.

Whiston Hospital
Warrington Road,
Prescot, Merseyside, L35 5DR
Telephone: 0151 426 1600

St Helens Hospital
Marshalls Cross Road,
St Helens, Merseyside, WA9 3DA
Telephone: 01744 26633

Southport Hospital
Town Lane, Kew, Southport,
Merseyside, PR8 6PN
Telephone: 01704 547 471

Ormskirk Hospital
Dicconson Way, Wigan Road,
Ormskirk, Lancashire, L39 2AZ
Telephone: 01695 577 111

www.MerseyWestLancs.nhs.uk

Having a Lung perfusion scan or Computed Tomography Pulmonary Angiogram (CTPA) scan

Information for pregnant patients

If you need this leaflet in a different language or accessible format
please speak to a member of staff who can arrange it for you.

اگر به این بروشور به زبان دیگر یا در قالب دسترسی پذیر نیاز دارید،
لطفاً با یک از کارکنان صحبت کنید تا آن را برای شما تهیه کند.

Jeśli niniejsza ulotka ma być dostępna w innym języku lub formacie,
proszę skontaktować się z członkiem personelu, który ją dla Państwa przygotuje.

Dacă aveți nevoie de această broșură într-o altă limbă sau într-un format accesibil,
vă rog să discutați cu un membru al personalului să se ocupe
de acest lucru pentru dumneavoastră

如果您需要本传单的其他语言版本或无障碍格式，请联系工作人员为您安排。

إذا احتجت إلى هذه النشرة بلغة أخرى، أو بتنسيق
يسهل الوصول إليه، يرجى التحدث إلى أحد الموظفين لترتيب ذلك لك.

Author: Radiology Quality & Accreditation Lead
Department: Radiology
Document Number: MWL2770
Version: 001
Review Date: 30/09/2028

Introduction

This leaflet gives you information about 2 types of lung scans. It tells you about the benefits of having a scan and the risks to you and your unborn baby.

Why do I need a lung scan?

Your doctor has asked for a scan, to see if there is a blood clot in your lungs. A blood clot in the lung is called a Pulmonary Embolism (PE).

It happens when all or part of a blood clot blocks the blood supply to your lungs. Having a PE can be very serious. The scan will help doctors decide what treatment you need, if any.

There are 2 types of scans that can be performed to look at your lungs, a lung perfusion scan (also called a Q scan) or a Computed Tomography Pulmonary Angiogram (CTPA). Both are performed in the radiology department.

- A lung perfusion scan is a nuclear medicine test, which uses a gamma camera to detect radioactivity. A radioactive tracer is injected into your arm or hand through a needle or cannula, which travels to the blood vessels of your lungs. The gamma camera then takes pictures of your lungs soon after.



Are there any other risks?

A CTPA scan uses an iodine-based contrast agent, called a dye. It is injected into a vein to highlight the blood vessels. The dye is filtered from your blood stream by your kidneys. You may need a blood test before your scan to check your kidney function.

If you have previously had a reaction to X-ray dye or have poor functioning kidneys, it may not be possible for you to have a CTPA.

There is a very small risk of thyroid suppression in the fetus after receiving X-ray dye. This can be identified in the newborn blood spot test completed when your baby is five days old.

We recommended you discuss this with your midwife. A lung perfusion scan also uses an injection into a vein to administer the radioactivity. The radioactivity is attached to a drug that is made from a human albumin solution, taken from blood donations. It is screened and is safe to use. However, some people may refuse to take a human blood product because of religious beliefs. This may mean that a lung perfusion scan is not suitable for you and you may be offered a CTPA as described earlier in this leaflet.

If the scan chosen by your doctor and radiologist does not give a clear result, you may need a second scan.

How much radiation is involved?

Whole body radiation dose is measured in units called milliSieverts (mSv). We are all exposed to natural background radiation every day of our lives. This comes from the ground and building materials around us, the air we breathe, the food we eat and even outer space.

- The average background radiation dose per year from naturally occurring radiation in the UK is 2.7mSv, but it is up to 10mSv in some parts of the country.
- A CTPA scan will give you a radiation dose of approx. 3mSv and a radiation dose to your baby of approx. 0.04mSv.
- A lung perfusion scan will give you a radiation dose of approx. 0.5mSv and a radiation dose to your baby of approx. 0.2mSv.

We keep this dose as low as possible by reducing the normal amount of radioactivity by half, as you are pregnant. As can be seen, this shows the radiation dose from either scan is small.

The table below is a simple guide to demonstrate levels of radiation received when undergoing radiologic exams of the chest and natural background radiation. These are measured in millisieverts (mSv).

Source of exposure	Dose (mSv)
Having a chest X-ray	0.014
Lung Perfusion (pregnant patients)	0.44
CT scan of chest (to rule out PE)	4.34
100grams of brasil nuts	0.01
Taking a transatlantic flight	0.08

- A CTPA is a type of Computed Tomography (CT) scan. A dye is injected into your arm or hand through a cannula, which travels to the blood vessels in your lungs and a CT scan is performed of your chest area. A CT scan works by taking X-rays to create a highly detailed image of the inside of your body.



Which scan will I have?

Both of these scans use ionising radiation. The CTPA scan works by taking X-rays to create a highly detailed image of the inside of your body. The perfusion scan uses an injection that contains a small number of radioactive particles.

Your doctor and a radiologist who specialises in X-rays and scans will decide which type of scan will be best for you, depending on your medical history, the results of your chest X-ray and the stage of your pregnancy.

The benefits and risks of scans that use ionising radiation

Scans that use ionising radiation are only performed when really needed. This means the clinical benefit to you (and your unborn child) of having the scan outweighs the risks of not having it.

You will be fully informed of the risks and benefits involved with having the scan. The most suitable test is chosen, balancing the benefits for your diagnosis, against the risks at that point in time. The test is then carried out in a way that keeps the radiation dose to you and your baby as low as possible.

What are the risks of not having the scan?

The risks (to you and your baby) of not having a lung scan are:

If you have a blood clot in your lungs, but it is not found or treated, it could lead to serious conditions such as high blood pressure in the blood vessels that supply the lungs (pulmonary hypertension) which can damage the heart, stroke or even death.

You may be given medication to treat a blood clot when you do not need to be treated. You may have another problem that is causing your symptoms. This might go undiagnosed if you do not have the scan.

What are the radiation risks to me?

The radiation dose from both examinations is small. The only known effect to the exposed individual at these low doses is a very slight increase in the chance of cancer occurring, many years or even decades after radiation exposure.

To put this into context, it is important to realise that there are risks in everyday life and the extra risks by having medical radiation are low when compared to these existing risks.

What are the radiation risks to my baby?

The risks to your baby from the small amount of radiation is extremely low. The table below gives an idea of the size of the risks involved compared to the natural risks (with no scan performed).

	Lung scan	CTPA scan	Natural risk (with no scan performed)
What is the risk of causing cancer in childhood?	Very small 1 in 100,000 to 1 in 10,000	Very small 1 in 1,000,000 to 1 in 100,000	About 1 in 500
What is the risk of causing significant hereditary disease?	Very small about 1 in 435,000	Very small about 1 in 5,500,000	About 1 in 50