



Information for
patients and
carers

**Having a Lung Perfusion (V/Q) scan
or a Computed Tomography
Pulmonary Angiogram (CTPA) scan
of your lungs whilst pregnant**

Introduction

This leaflet has been written to provide information about two different types of lung scan used within the hospital:

- Lung Perfusion (V/Q) scan
- Computed Tomography Pulmonary Angiogram (CTPA) scan of your lungs whilst pregnant

This is so you are informed about the amount of radiation and associated risks that you and your unborn child will receive when you have one of these scans.

Your doctor, together with a radiologist (doctor specialising in imaging), will decide which type of scan is most appropriate for you to have. They will take into account your medical history and the stage of your pregnancy.

Whichever scan is performed, there is the possibility it may not give a definitive answer and depending on the results, it is possible that you may need to have the alternative scan, which will be discussed with you at your consultation.

Why do I need a Lung Scan or a CTPA Scan?

Your consultant has requested a scan to look at your lungs. This scan will show whether or not there is a blood clot in your lungs.

There are two types of scan that can be performed to look at your lungs:

- The first is a Lung Perfusion Scan (often referred to as a V/Q Scan) and is performed in the Nuclear Medicine Department
- The second type of scan is a Computed Tomography Pulmonary Angiogram (CTPA) scan and is performed in the CT Scan Department

Both scans involve the use of ionising radiation and an injection.

Please read this information leaflet for an overview of each type of scan.

The benefits and risks of examinations that use ionising radiation

Examinations using radiation are only performed when absolutely necessary. This means the clinical benefit to you (and your unborn child) of having the examination outweighs the risk of not having it as follows:

- You may have a blood clot in your lungs
If this is not found and therefore not treated, it could lead to life threatening conditions such as pulmonary hypertension or stroke
- By not having a scan, you may be given blood thinning treatment for a greater length of time than is necessary

The request for a lung scan has been discussed with the senior medical team looking after you and they consider that the risks to you and your baby from a lung scan are very small and that the benefits from knowing what is causing your symptoms outweigh the risk.

You should be fully informed of all the risks and benefits involved in the procedure.

What are the radiation risks to me?

The radiation doses from both examinations are 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 are 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 Nuclear Medicine	CTPA Scan Computed Tomography (CT)	Natural Risk
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

Data from HPA report: Protection of Pregnant Patients during Diagnostic Medical Exposures to Ionising Radiation, March 2009

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 2.3mSv, but it is up to 10mSv in some parts of the country
- A CTPA scan will give you a radiation dose of 3mSv and a radiation dose to your baby of 0.04mSv
- A Lung Perfusion scan will give you a radiation dose of approximately 0.5mSv and a radiation dose to your baby of 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, the radiation dose from either scan is small.

Are there any other risks?

A CTPA scan uses an iodine-based contrast agent, called 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 prior to your scan to check your kidney function (if you have not already had one in the previous three months). This is because it is possible for the dye to cause a reduction of kidney function, especially in patients whose kidneys are not working properly. This is extremely rare and is only significant if your kidneys are not working well already.

In this situation, the specialist doctor (radiologist) will assess whether this risk to your health is greater than the risk of an untreated pulmonary embolism. In most patients, the benefits of the dye injection outweigh the risk of reduced kidney function. To further reduce these risks, it is important that you are well hydrated and continue to drink plenty of fluids (around 2 litres) over the 48 hours following the test.

CTPA scans are not suitable for everyone. If you have previously had a reaction to x-ray dye, have an allergy to iodine or have poorly functioning kidneys, it may not be possible for you to have a CTPA.

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.

Contact details

Should you require further advice or information please contact Nuclear Medicine on 01772 522381.

Sources of further information

www.lancsteachinghospitals.nhs.uk

www.nhs.uk

www.patient.co.uk

www.accessable.co.uk

www.gov.uk/government/collections/medical-radiation-uses-dose-measurements-and-safety-advice

[X-Rays: How safe are they? Radiological Protection Board](#)

All our patient information leaflets are available on our website for patients to access and download:

www.lancsteachinghospitals.nhs.uk/patient-information-leaflets

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If you want to stop smoking you can also contact the Quit Squad Freephone 0800 328 6297.

Please ask if you would like help in understanding this information. This information can be made available in large print and in other languages.

Gujarati:

આ માહિતીને સમજવામાં સહાયતા જોઈતી હોય તો કૃપા કરીને પૂછો. આ માહિતી મોટા છપાણામાં અને અન્ય ભાષામાં ઉપલબ્ધ કરી શકાય છે.

Romanian:

Vă rugăm să întrebați dacă aveți nevoie de ajutor pentru înțelegerea acestor informații. Aceste informații pot fi puse la dispoziție în format mare și în alte limbi."

Polish:

Poinformuj nas, jeśli potrzebna jest ci pomoc w zrozumieniu tych informacji. Informacje te można również udostępnić dużym drukiem oraz w innych językach

Punjabi:

ਜੇ ਤੁਸੀਂ ਇਹ ਜਾਣਕਾਰੀ ਸਮਝਣ ਵੱਲੋਂ ਮਦਦ ਲੈਣੀ ਚਾਹੋਗੇ ਤਾਂ ਕਰਿਪਾ ਕਰਕੇ ਇਸ ਬਾਰੇ ਪੁੱਛੋ। ਇਹ ਜਾਣਕਾਰੀ ਵੱਡੇ ਪ੍ਰਿੰਟ ਅਤੇ ਹੋਰਨਾਂ ਭਾਸ਼ਾਵਾਂ ਵੱਲੋਂ ਮੁਹੱਈਆ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ।

Urdu:

دوسری زبانوں اور ریڈی اگر آپ کو ہی معلومات سمجھنے کے لیے مدد کی ضرورت ہے تو
پوچھنا میں یہ ابی دست ہو سکت ہے براے مہر بیان پوری چھدی۔ معلومات

Arabic:

مطبوعه بأحرف كبيرة و بلغات إذا كنت تريد مساعدة في فهم هذه المعلومات يرجى أن
أخبري يملكن تو فير هذه المعلومات

Department: Nuclear Medicine, Radiology

Division: Diagnostics and Clinical Support

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