Myocardial Perfusion Imaging

Exceptional healthcare, personally delivered
This leaflet explains what a Myocardial Perfusion Scan is and how it is performed.

What is a Nuclear Medicine Scan?

Nuclear medicine is the name given to the use of radioactive isotopes linked to certain pharmaceuticals to produce an image of different parts of the body. These isotopes emit gamma rays, which are similar to x-rays. The gamma rays are detected by a gamma camera and an image produced on a television screen. Nuclear medicine can be used to show how well certain organs or structures are working as well as what they look like.

What is Coronary Artery Disease?

Coronary Artery Disease is caused by an inadequate blood supply to the heart, usually caused by blocked arteries.

What is a Myocardial Perfusion Imaging Stress Test?

A Myocardial Perfusion Imaging stress test is performed in the Cardiology Unit and Nuclear Medicine Department. The test involves an injection of a slightly radioactive pharmaceutical, administered through a vein in your arm or hand and is delivered to the muscle of the heart (myocardium). This shows if your heart muscle is receiving an adequate blood supply under stress and/or rest conditions. The radioactive injection is also called the isotope.
How safe is a Myocardial Perfusion Stress Test?

The stress procedure may have some minimal risks. The benefit to you of having the procedure to help with a diagnosis will outweigh any risk from the stress test.

Are there any risks from the radiation?

The amount of radiation you receive is small. We can assure you that all safeguards to minimise radiation are taken. The benefit to you of having the scan to help with a diagnosis will outweigh any risk from the radiation.

Why would my doctor suggest a Myocardial Perfusion Imaging Stress Test instead of a regular stress test?

Under certain circumstances, a regular stress test may yield inconclusive results. To improve the diagnostic accuracy, your physician may request a Myocardial Perfusion Stress Test.

How is the test performed?

Before the test it is essential that you:

- STOP ALL CAFFIENE for 24 hours
- Have nothing to eat from midnight (it is ok to drink).
  
  Unless you are diabetic, in which case have an early light breakfast at 7am
- Stop any medication that we ask you to stop (this maybe longer than 24 hours)
This test may be carried out over 1 or 2 days.

- The first day involves the stress study followed by the imaging.
- The second day (if appropriate) will involve imaging without the stress study. Some patients will not need to come back for the second day. The Radiographer will tell you whether you need to return or not after your first scan.

**On the day of the test**

Firstly the radiographer will explain the procedure and insert an intravenous (I.V.), line into your arm or hand, which will be removed when the examination is complete.

As in a regular stress test, ECG electrodes will be attached to your chest. A blood pressure cuff will be placed on your arm to monitor your blood pressure during the stress test.

The output of your heart needs to be increased and this can be done with a drug or with exercise, for those patients able to use the treadmill so please wear appropriate footwear. The cardiac technologists will decide with you which is best on the day. You will be closely monitored throughout.

After the test, you will be taken to another waiting room or back to your ward and asked to eat a fatty meal, usually cheese sandwiches (Ham or egg with mayonnaise is acceptable), chocolate and a milky drink. You will need to provide the food and drink yourself.

Approximately 1 hour after eating, pictures will be taken of your
heart using a gamma camera that is able to trace the isotope that has localised in your heart. You will be asked to sit in a chair with your arms supported at shoulder height, if you are unable to do this it is possible to lie down on a special table with your arms above your head or strapped by your side. If you have any mobility issues please phone us on 0117 4141814, so we can choose the appropriate scanner for you. The camera will rotate around your chest while the scan is being performed. This takes approximately 20-30 minutes to complete. You may breathe normally while the pictures are being taken. It is very important that you stay still while the camera takes the pictures of your heart.

If you are asked to come back for the second day, a second injection of isotope will be given, but you will not have to repeat the stress test. The resting pictures are taken in the same way as the previous pictures.

You should allow about 3 hours from your appointment time on both days.

**What about caring for children and pets?**

We ask that you avoid prolonged close contact with children or pregnant women for the rest of the day following your nuclear medicine scan. Close contact means not sitting with children on your knee or next to someone who may be pregnant. If you have sole care of small children, it may be advisable to ask someone to help you on the day of your examination. If this is difficult, please ring the department for advice. Your pets will not be affected.
What about pregnancy?

If you are or you think you may be pregnant, please contact us before your appointment date by ringing the number on your appointment letter. Becoming pregnant soon after a nuclear medicine scan is not a cause for concern.

What about breast-feeding?

If you are breast-feeding, it is important to contact us as soon as you receive your appointment and we will give you simple guidance about what to do. Although for this examination there is no secretion in breast milk, feeding would have to be interrupted for 24 hours due to the close physical contact.

What if I am receiving renal dialysis?

Please ring us as soon as you receive your appointment if you are undergoing renal dialysis. It may be necessary to alter the days you have your treatment to fit in with the scan.

What about my normal medication?

It may be that you need to stop some medication. This will be made clear in the paperwork that arrives with your appointment letter.

How will I get the results?

The results will not be available at the time of your scan. The images will be examined in detail after your visit. A written report will then be sent out to the Doctor who sent you for the scan in 2-3 weeks. You will get the results from this Doctor.
What will happen if I do not want to have this test?

If you do not have this test we will not be able to pass important diagnostic information to the doctors. This may affect the medical treatment that you receive.

Finally

Please remember that the isotope preparation required for this examination is ordered especially for you. If you are not able to attend, please let the department know at least the day before your appointment to ensure that it does not go to waste.

References and Sources of Further Information


NHS Constitution. Information on your rights and responsibilities. Available at www.nhs.uk/aboutnhs/constitution
If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.