

## Heart – Exercise Myocardial Perfusion Scan

### What is a Myocardial Perfusion Scan?

This is a test in which a small amount of radioactivity is used to obtain pictures of your heart with a gamma camera. These pictures will show how well your heart muscle (myocardium) is supplied with blood, which it needs to function properly, and it will help your doctor make a diagnosis.

A myocardial perfusion scan can be used to try to find the cause of unexplained chest pain, or chest pain brought on by exercise. It may also be done to:

- Show blood flow patterns to the heart walls.
- See whether the heart (coronary) arteries are blocked and by how much.
- Determine the extent of injury to the heart following a heart attack (myocardial infarction).

### Why do I need to phone to arrange my appointment?

It is very important that you call to arrange this appointment as soon as you can as we have a long waiting list for this test and it is very difficult to arrange at short notice. When arranging your appointment you will be asked for your weight and a list of your medication, which a member of our staff will check. You will be advised what medicines you will need to stop and for how long. At this stage you will be advised to stop caffeine for 12 hours before the test. This is also a good time to ask any questions that may concern you about the procedure. It is advisable that you have breakfast on the morning of the test.

### What is involved?

The first visit to the department is for a stress scan. This scan will show how well the heart is supplied with blood when it is working hard. On this day you will be asked to attend the Cardio-Respiratory Department for a small injection and then the Nuclear Medicine Department for a scan.

Most patients also require a second scan which is performed on a separate day and shows how well your heart is supplied with blood when it not working hard. This we call a rest scan. You will usually be told whether a rest scan is required for you before you leave the department on the first day.

### What is involved in the Cardio-Respiratory Department?

For this injection we will have to make your heart beat fast. This is normally done by asking you to walk briskly or jog on a treadmill. If you have previously had a treadmill exercise test, as most of our patients have, then there is very little difference in that part of the procedure. The main difference is that you will have a venflon (plastic needle) sited in a vein, in your arm for the duration of this part of test, normally less than 30 minutes. This is needed to give you the small amount of radioactive tracer, when your heart is beating at a predetermined rate. This whole procedure is supervised by a specially trained senior technician. After the injection we will monitor your heart while it returns to its normal heart rate. You will be given a



time to come to the Nuclear Medicine Department for the scan, one hour after the injection.

## **What should I do between the injection and the scan appointments?**

This time may vary but is normally no less than 30 minutes. During this time there is no restriction on your activities, although please stay within the hospital. It does improve the quality of our images you are able to walk around before the scan and if you eat or drink something fatty. You will be offered full fat milk to drink. If you cannot tolerate milk please bring something to eat e.g. cheese or bacon sandwich, pastry or chocolate. About 10 minutes before the imaging starts you will be asked to drink 250ml of water.

## **What is involved in the Nuclear Medicine Department?**

For the scan you will be asked to lie on a bed whilst the gamma camera obtains the images. You will be expected to lie fairly flat on your back with both arms raised and extended above and behind your head. This can sometimes prove more difficult than it sounds and **we would recommend that you practise this for at least 10-20 minutes a day for the week before your appointment.**

You do not normally have to undress but we will ask you to remove any metal objects such as jewellery. We will also connect you to an ECG monitor (which monitors your heart beat) during the scan. You will have a CT scan as part of this test. This is not a diagnostic CT scan and is just acquired to help interpret your heart images. The imaging normally takes around 30 minutes.



## **What about the second 'rest' scan?**

Most patients also require a rest scan which is performed on a separate day and shows how well your heart is supplied with blood when it is not working hard. A suitable date for this scan will be discussed with you before you leave the department on the first day.

For this second appointment (normally the following week) you will go straight to the Nuclear Medicine Department where you will again be given a small radioactive injection. Again the injection is no more painful than a blood test.

After a wait of about one to two hours you should return to the department for the scan which will be similar to that performed on the first day.

By comparing the images obtained on the two different occasions we will be able to see if there are any problems with the blood vessels that supply your heart muscle with blood.

## **Is the radiation dangerous?**

The amount of radiation you receive is small. The substance we inject is non-toxic and will not make you feel sick or drowsy. However, for radiation safety reasons pregnant

women and children **should not** be brought to the Nuclear Medicine Department unless they are the patient.

### **What about pregnancy or breastfeeding?**

Please tell us as soon as possible before the injection if you are pregnant or think that you may be pregnant. All female patients between the ages of 10 - 55 years will be asked to complete a form on arrival.

Radioactive substances can come out in breast milk. Please phone the Nuclear Medicine Department before your test if you are breastfeeding, so that we can advise you if you need to stop feeding for a period of time.

### **Can I bring a friend or relative with me?**

A friend or relative can attend with you but they will not be able to accompany you for the injection or scan. Please do not bring pregnant women or children to accompany you.

### **Do I need to do anything after the scan?**

You should drink more than usual for the rest of the day to help wash the tracer out of your body.

### **Can I still look after children and pets?**

Please try to avoid prolonged close contact with small children and babies for the rest of the day; this is to avoid exposing children to unnecessary radiation. The radioactive material you will be given will not affect any pets you may have.

### **Can I return to work after my scan?**

There is usually no problem, however if your work involves radiation or close contact with children or pregnant women please ask Nuclear Medicine staff for advice.

### **What about my result?**

We are unable to tell you the result of the test. The scans are reported by a team including a doctor, a scientist and a radiographer. The result is sent to the doctor, normally a cardiologist, who requested the test. However, the staff performing the test are fully qualified and will be happy to answer any other questions you may have.

### **Where can I get more information?**

If you have any further questions after reading this information, please contact:

**The Nuclear Medicine Department**

**Telephone number: 01202 442499**

**Email address: [nuclear.medicine@poole.nhs.uk](mailto:nuclear.medicine@poole.nhs.uk)**

**We can supply this information in other formats, in larger print or have it translated for you. Please call the Patient Advice and Liaison Service (PALS) on 01202 448499, text 07758 272495 or email [pals@poole.nhs.uk](mailto:pals@poole.nhs.uk) for advice.**

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