

# Myocardial Perfusion Test

Information for patients, relatives, and carers

① For more information, please contact:

## **Radiology Department**

The York Hospital  
Wigginton Road, York, YO31 8HE

Nuclear Medicine

Telephone: 01904 725936

Or

Scarborough Hospital  
Woodlands Drive, Scarborough, YO12 6QL

Nuclear Medicine

Telephone: 01723 342073

Caring with pride

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## **About this leaflet**

This leaflet will tell you about the procedure known as a myocardial perfusion test. It explains what is involved and what the possible risks are. The information in this leaflet is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

## What is a Myocardial Perfusion Test?

This is a nuclear medicine diagnostic test that uses a radioactive tracer to enable us to assess the blood supply to your heart muscle. The test can show how well the heart is pumping blood, and whether the heart has any damaged muscle.

Coronary artery disease is caused by inadequate blood supply to the heart, often caused by blocked coronary arteries. A myocardial perfusion scan is a non-invasive procedure used to assess this.

There are two parts to the test, your heart is looked at under stress and at rest and performed on two separate days. The stress part of the test is always performed first because on occasions, the rest test may not be required. This will be decided by the cardiologist, who looks at the scans.

## Are there any alternatives?

There are a number of options to test for coronary artery blockages.

- The gold standard is coronary angiography, however, this is an invasive procedure, and myocardial perfusion tests are often used first, to see if a coronary angiogram is needed.
- A treadmill test can be used to stress the heart but this is not suitable for everyone, as it is a physical test.
- An echocardiogram can be performed with ultrasound to show the size, structure and blood flow in the heart.

Nuclear Medicine scans use radioactive tracers to get information about tissues and organs that cannot be obtained using other scanning techniques.

The doctor has decided this test is the most appropriate for you.

## **Stress Test – First Appointment**

### **What preparation is needed before the Stress scan?**

You must not

- Have anything containing caffeine for 24 hours before your appointment.

This includes, but is not limited to tea/coffee (including decaffeinated), cola, chocolate, cakes, biscuits, cocoa or Lucozade.

Certain over-the-counter medications contain caffeine, so please read the ingredient list printed on the container.

- Eat for four hours prior to your appointment

Certain medications must be stopped before the stress test. Please see list on your appointment letter.

If you are diabetic please contact the nuclear medicine department on 01723 342073.

Please wear flat shoes for the stress test.

## What happens on arrival?

You should let staff at the reception desk in radiology know you are here. Staff will show you where you can wait until a member of the nuclear medicine team collects you.

The procedure will be explained and a number of questions asked before a tube (cannula) is inserted into a vein in your arm. You will have opportunity to ask any questions about the test

The test is led by either a specially trained radiographer or a cardiology doctor.

Before the test begins, you will have your blood pressure and your hear beat rhythm (an ECG) taken to ensure the test is safe to proceed.

There are two drugs, which can be used to stress your heart depending on your medical history, they both work in similar ways and the result is the same. The stress drugs are called Adenosine and Dobutamine.

The stress drug will be put into your blood stream through your cannula and during the adding of the drug, you may experience exercise type symptoms. Symptoms include shortness of breath, flushing, and some tightness in your chest, neck, and jaw. These symptoms are a normal response to the stress drug. Your heart rate, oxygen saturation, and ECG is monitored throughout the test.

This part of the test will last between 6-20 minutes, depending on which medication is used.

During the procedure, the radiographer will administer the radioactive tracer through the cannula. This is taken to your heart muscle, so it can be seen on the scan. There are no added side effects from the tracer and will not alter how you are feeling during your stress test.

During the Adenosine stress test, if you are able you will be asked to do some gentle cycling on an exercise bike. This does not add to the stress test but help alleviate some symptoms you may experience from the drug.

Once the stress test has finished you are able to resume a normal diet.

You will be given a time to return for your scan, during this time you will be given two chocolate biscuits to eat. If you would rather not to have chocolate biscuits please bring a sandwich to eat after your test as this enables us to be able to scan you quicker. **You must not leave the hospital during this time.**

## **Rest Test – Second Appointment**

### **What Preparation is needed before the Rest test?**

There is no special preparation required, you can continue to eat and drink normally. All medication can be taken as normal.

### **What happens on arrival?**

You should let staff at the reception desk in radiology know you are here. Staff will show you where you can wait until a member of the Nuclear Medicine team collects you.

When collected by the radiographer, the procedure will be explained to you and you will have opportunity to ask any questions you may have about the test.

A small needle will be inserted directly into a vein, usually in your arm and an injection of a radioactive tracer will be given. This is taken by your blood supply to your heart muscle, so we can detect it on the scan.

You will then have an hour to wait before we do your scan. You will be given some biscuits to take with you, which will help with the scan.

For both appointments you will have a scan

## **What does the scan involve?**

The scan is done using a machine called a gamma camera. It is not a tunnel and you will not need to remove your clothes for the scan.

You will be asked to lie on your back with your arms above your head on a rest; three ECG leads will be connected to your chest

This scan takes around 20 minutes to acquire. It is important you lie still throughout.

## **What happens after the scan?**

After the scan, you will be free to leave the nuclear medicine department.

We recommend that you do not have a blood test for 24 hours, due to having the radioactive tracer.

## **Results**

The cardiology doctor will make a report on your scan and follow you up in clinic. This process can take some time, if you have any queries regarding your results you will need to contact your cardiology doctor. You will not be given the results on the day of your scans.

## **Are there any risks or complications?**

Nuclear medicine procedures are among the safest diagnostic imaging tests. Side effects from the radioactive tracers are extremely rare and usually mild, for example a rash, itching, or nausea. If you are to have any side effects, it would normally be within a couple of hours of the injection and may last up to 48 hours.

The amount of radioactive tracer injected is very small and after 24 hours the majority of the radioactive tracer will have passed out of your body.

The scanning procedure is not painful.

This scan is not recommended for pregnant women. If you are pregnant, or might be pregnant, or if you are breastfeeding, please let us know before your appointment.

## **What if I have any other questions?**

If you have any worries or questions about your scan, please feel free to telephone us on the telephone numbers below and we will be happy to answer any questions you may have.

Scarborough Nuclear Medicine: 01723 342073

## **Tell us what you think of this leaflet**

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:

Y Jenkinson, Nuclear Medicine, Radiology Department,  
Scarborough General Hospital, Woodlands Drive,  
Scarborough, YO12 6QL or telephone 01723 342073.

## **Teaching, Training and Research**

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

## **Patient Advice and Liaison Service (PALS)**

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262 or 01723 342434, or email [pals@york.nhs.uk](mailto:pals@york.nhs.uk).

An answer phone is available out of hours.

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