



Oxford University Hospitals
NHS Foundation Trust

Nuclear Cardiology Imaging

MUGA scan

Information for patients



What is Nuclear Cardiology?

Coronary Artery Disease (CAD) is caused by the narrowing of the blood vessels that supply the heart (the coronary arteries). It is one of the main causes of heart failure.

Nuclear Cardiology tests use a small dose of a radioactive substance, which is injected into the bloodstream. This substance shows up on the screen during a scan, as it travels around the body. This allows us to look at the blood flow through the heart cavities and assess the contraction and the pumping function of the heart.

What is a MUGA scan?

A MUGA (multiple gated acquisition) scan tells doctors how well your heart is pumping blood. This is known as the **ejection fraction**, which is the amount of blood pumped out of your heart's lower chambers (ventricles) with each heartbeat.

A radioactive substance, called technetium, is injected into the vein in your arm and allows us to see the pumping action of your heart using a special scanner called a 'gamma camera'.



DSPECT gamma-camera

Preparing for the scan

You can have a light breakfast or snack before the scan, but not a heavy meal.

If you are pregnant or think you may be, please telephone us before your scan as we may be able to arrange an alternative test for you.

Please do not bring children with you, to avoid unnecessary radiation exposure.

Please contact the department if you are breastfeeding, on dialysis, incontinent, claustrophobic or require assistance with mobility.

What happens when you arrive?

When you arrive in the department you will be taken into the preparation room. We will ask you some questions about your medical history and about any medications that you are taking.

The Cardiac Physiologist will then apply some electrodes onto your skin and put a blood pressure cuff on your arm so that we can monitor your heart rate and your blood pressure. A fine tube (cannula) will be put into a vein in your hand so that we can give you injections during the test.

What happens during your test?

- We will give you two separate injections, 20 minutes apart, into the cannula (thin plastic tube) in your hand. The second injection is radioactive.
- After the second injection, we will take a series of images using a gamma-camera. The stationary detector will be placed around your chest. Your head will be outside the scanner. The scanner is quiet when it is working.
- The ECG (electrocardiogram) electrodes allow the images to be triggered by your heartbeat so that we can look at your heart muscle movement.

How long is the test?

The resting MUGA test takes between 60-90 minutes.

After your study

After your scan there will be some radioactivity left in your body, this will not present a significant risk to other people around you.

There is no need to stop giving children essential love and care entirely, however for 24 hours after your test we advise you try to keep any time that you spend close to others, especially pregnant women, and children as short as possible.

Is this test safe?

There are no side or after effects from the injection of the radioactive agent. You will not feel drowsy, and you will be able to drive home after the test.

There is a small risk from the radiation exposure, which is similar to a CT (computerised tomography) scan. This small risk is outweighed by the information that will be gained by taking the scan.

A doctor will have checked the request for the MUGA scan to make sure this is the appropriate test for you.

Travelling abroad

It is perfectly safe for you to travel abroad the day after your scan, but many airports and seaports are now equipped with very sensitive radiation detectors. So, it is possible that the very small amount of radioactivity left in your body could set off a detector as you pass through security.

Therefore, if you intend to travel abroad within a week following your scan, it could be helpful to take with you something to explain that you have recently had a nuclear medicine scan. This could be your appointment letter or some other official confirmation from the department where you had your scan.

How will I get the results?

The results of your examination should be available within two weeks of your scan. We will then send a report to the consultant or doctor who requested it. They may have arranged to see you again to discuss the results or may have told you how you will get the results - for example, by letter or via your GP.

Please note - we cannot discuss your results with you in person or on the telephone. This is because we have to report your examination results to the person who referred you to us. If you do not hear anything within two weeks from the person who referred you, please contact them directly.

Transport

If you are eligible and need hospital hospital transport, please telephone the transport team on: **0300 100 0015**. Please tell the transport team:

* That the procedure will take 60-90 minutes.

* Inform them that you are a Nuclear Cardiology patient (so that drivers are aware to keep their distance).

If you have any problems with booking transport, please contact the department on **01865 221 979**.

How to contact us

If you have any other questions or concerns, please contact us. We want your visit to be as pleasant as possible.

You can find the Nuclear Cardiology Department in the main building of the John Radcliffe Hospital. We are situated on Level 1, opposite the entrance to the Cardiac Investigation Annexe.

Nuclear Cardiology
Cardiac Department
The John Radcliffe Hospital
Oxford OX3 9DU

Tel: **01865 221 979**

Email: **orh-tr.nuclearcardiology@nhs.net**

Feedback

If you would like to tell us anything about your experience, staff, students and facilities, please speak to a member of the team. Alternatively, you can contact the patient advice and liaison service (PALS).

Telephone: 01865 221 473 or 01295 229 259
Email: PALS@ouh.nhs.uk or feedback@ouh.nhs.uk
For more information, please visit: www.ouh.nhs.uk

Further information

For a translation of this document, or a version in another format such as easy read, large print, braille or audio, please telephone: 01865 740 892 or email: patientexperience@ouh.nhs.uk.

If you would like help preparing for your visit, arranging an interpreter, or accessing the hospital, please visit Patient guide - Oxford University Hospitals (ouh.nhs.uk)



What did you think of your care?

<https://www.ouh.nhs.uk/patient-guide/feedback/friends-and-family-test.aspx>



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