

*The* ROYAL MARSDEN

NHS Foundation Trust

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# Having a multi-gated (MUGA) scan

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## **Nuclear Medicine**

### **Patient Information**



**NHS**



## Introduction

Your doctor has recommended that you have a MUGA scan (multi-gated). This is a nuclear medicine test. A scan of your blood is taken as it travels through your heart, which shows us how well your heart is working.

## What is nuclear medicine?

Nuclear medicine helps doctors to check how well different parts of your body are working. A small amount of a radioactive substance (tracer) is given, usually by injection into a vein. The tracer gives off gamma rays, so we can measure the distribution of that tracer in your body. This measurement is usually done using a gamma camera, although occasionally blood samples may be needed.

## Is there any risk from the radiation?

We will expose you to ionising radiation when we carry out this examination. We are all exposed to ionising radiation from naturally occurring sources such as cosmic rays, certain types of soil and rocks and even food we eat. Ionising radiation can cause cell damage that in turn, after many years, may turn cancerous. The radiation associated with your exam will therefore carry a small risk which is less than 0.01%. This risk will be far outweighed by the benefits of having this exposure. **However, it is essential that you read the *Important points* section below. If you have any concerns, please contact us.**

## What preparation do I need for my MUGA scan?

There is no special preparation for this test. You can eat and drink as normal.

You can continue to take any medication that has been prescribed for you by your doctor. It is also safe for you to take 'over the counter' medicines.

## How is my MUGA scan carried out?

When you arrive at the department, we will give you a small injection of a substance called stannous medronate through a needle directly into one of your veins. This substance will circulate through your body, preparing your red blood cells for the next injection. About 30 minutes later, we will give you a second injection containing the radioactive tracer. The second injection has to be given into a different vein. This may be through a 'butterfly' (a small needle with a plastic tube attached to one end) or possibly an existing cannula. The two injections have to be given into separate veins in this way to achieve an accurate result.

Once the radioactive tracer has been injected, we can start the scan. You will not need to remove any clothes for the scan but you will have to remove any metal objects (for example, jewellery) from your chest area. We will ask you to lie on your back on the scanning couch for the scans to be taken. We will attach an ECG (heart) monitor to you, so that we can use your heart beat to help us get all the information we need. The whole procedure should take about one hour.

## Are there any side effects?

Neither of the injections that we give you will produce any side effects. You can continue with your usual daily activities.

In particular, they will not make you drowsy and so will not prevent you from driving a car.

## What happens after my MUGA scan?

Once your MUGA scan is completed you may leave the department immediately. You will be able to eat and drink as normal. You may go anywhere you wish, but we ask you to avoid prolonged close contact with children and pregnant individuals for the rest of the day. This is to avoid exposing children to unnecessary radiation.

## How will I get the results of my MUGA scan?

Your MUGA scan will be reported by the nuclear medicine consultant within 48 hours of completion. The results of your test will then be made available to the doctor who referred you.

### Important points

- Due to the nature of these investigations, we advise that **you should not be accompanied by anyone who is pregnant and should not bring young children to the department.** With most of these investigations, the level of radioactivity will have decreased to a safe level by the time you arrive home after the scan. However, some investigations need more specific restrictions with regards to contact with young children and these will be explained.
- We are committed to ensuring patients are free from discrimination regardless of their gender or sexual orientation. If your gender was female at birth and you are transgender or non-binary, please inform a member of staff as we legally need to rule out the possibility of pregnancy before we can go ahead with some of our examinations. This information will not be recorded or shared without your consent.
- If you are afraid of needles you can ask for a spray to numb the area before your injection.
- If you are **pregnant or breastfeeding**, please contact the department as soon as possible to find out if you can have this test. Generally, nuclear medicine tests are not carried out on pregnant individuals unless absolutely necessary and then the dose of radioactivity will probably be reduced.

## Contact us

If you have any questions please contact us:

### **Nuclear Medicine Department**

Sutton: 020 8661 3286 / 3762

Chelsea: 020 7811 8541

Email: [rmh-tr.rmuclearmedicine@nhs.net](mailto:rmh-tr.rmuclearmedicine@nhs.net)

Alternatively, please call:

**The Royal Marsden Macmillan Hotline: 020 8915 6899**

You can ring the hotline 24 hours a day, 7 days a week.

Call us straight away if you are feeling unwell or are worried about the side effects of cancer treatments.

This service provides specialist advice and support to all Royal Marsden patients, as well as to their carers, and both hospital and community-based doctors and nurses caring for Royal Marsden patients.

## References

This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre  
Freephone: 0800 783 7176  
Email: [patientcentre@rmh.nhs.uk](mailto:patientcentre@rmh.nhs.uk)

No conflicts of interest were declared in the production of this booklet.

Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

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[royalmarsden.org](http://royalmarsden.org)

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