

Information for Adult Patients Having an MRI Scan

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This leaflet has been produced by the Clinical Radiology Patients' Liaison Group of the Royal College of Radiologists. It has been modified for use for patients referred for MRI scan of the cardiovascular system to the Harefield Hospital.

Please note: Cardiovascular MRI scans referred to Harefield Hospital are currently being performed at the Paul Strickland Scanner Centre located in Mount Vernon Hospital, Northwood, Middlesex. Please check on your appointment letter for directions to the Centre.

Patient information

What is an MRI?

MRI (Magnetic Resonance Imaging) is the name given to a technique which builds up pictures of an internal cross-section of the part of the body under investigation. The large machine contains a 'tunnel', about four feet long, through which a patient lying on the attached couch can pass. It uses a magnetic field and radio waves, together with an advanced computer system to build up a series of images, each one showing a thin slice of the area being examined. These images are very detailed and can show both bones and soft tissues in the body and can therefore give a great deal of information. By means of the computer, the 'slices' can also be obtained in any direction.

Who performs the MRI scan?

These scans are carried out by highly trained radiographers either under direct supervision or by a protocol specified by a radiologist or The radiologists are doctors specially trained to interpret the results and carry out some of the more complex examinations.

Are there any risks?

As far as is known at present, this is an extremely safe procedure. It does not involve the use of X-rays. You are placed in a very powerful magnetic field, and consequently if you have any small pieces of metal inside your body, you should inform the radiographer as in some cases you may not be able to have the examination. If you have had a history of **metal fragments in your eyes**, it is necessary to have an ordinary X-ray done to prove there are no bits left. If you have a **pacemaker, internal defibrillator or a metallic clip on an artery at the base of your brain**, then there is a risk that these may move during an MR scan, and a different examination will need to be arranged instead. However, any shrapnel or metal sutures, i.e. stitches, that have been in place for a long time may not create a problem. Similarly you can undergo MRI scan safely after about 4 weeks of a heart surgery or stent insertion in the arteries of your heart

For female patients, if you are or might be pregnant you must make sure the doctor referring you or a member of staff in the Radiology Department knows as soon as possible in advance. MR scans may not be advisable in early pregnancy, unless there are special circumstances.

Are you required to make any special preparations?

Usually you don't need to make any special preparation for an MR scan. Unless you have been told otherwise, you may eat and drink normally before and after the scan.

Please bring with you a comfortable dressing gown and a music CD of your choice.

Can you bring a relative/friend?

Yes, you may be accompanied.

When you arrive

Please go to the reception desk of the Department where MR scanning is carried out, after which you will be shown where to wait until collected by a radiographer or other member of staff. You may be asked to fill in a questionnaire about your health and medical history, and to sign a consent form.

Within the Department the toilets and public phone are clearly signposted, should you need to use them at any time.

Upon collection

You will be shown to a private cubicle where you may be asked to take off your outer garments and remove jewellery (except your wedding ring), cash, keys, credit cards and watches etc. You will be asked to put on your dressing gown, otherwise one can be provided by us. You should place your clothes and personal belongings either in a basket, which you will keep with you, or in a secure locker.

Who will you see?

You will be cared for by a small team including a radiographer who will perform the examination. The radiologist may look at the results on the computer screen, as it is happening, or may simply look at a recording of the images later, before writing a report.

What happens during the MRI?

Your height and weight will be initially recorded. You will then be taken into the MRI room and made to lie comfortably lying on the scanner table. Four ECG leads will be placed on your chest (not if you are having a scan other than that of heart) to monitor your heart rhythm and also to acquire the scans accordingly. A small needle may be placed in the vein of your arm at this stage for giving a contrast medium (a dye) at a later stage. A coil (like a pad) will be placed and secured round your chest. You will be given headphones through which you will be able to listen to your music and also communicate with the radiographer (who will also continuously be in touch with you).

The couch will be moved slowly to position the relevant part of your body within the 'tunnel'. The staff will retire to the control room but you will be able to talk to them via an intercom and they will be watching you all the time the scan is being done. During the scan hearth noise of the machine which has been reduced by the headphones. If you feel uncomfortable or worried do mention it immediately to the radiographer.

During the scan the radiographer will repeatedly ask you to breath in and out and hold your breath for a period of 8 to 15 seconds at a time. The breath has to be normally held during expiration. The radiographer will explain to you before hand and make a judgement of your

breath-holding capacity. After the radiologist/radiographer is satisfied with the scan of each section, you will be advised when a new scan is starting.

Upon completion you may put on any clothes you have taken off, but may be asked to wait a little longer while the radiologist is satisfied that the scans have been successfully completed.

Will it be uncomfortable?

Apart from any machine noise you will not be aware of anything happening. Most patients do not mind lying with their body within the ‘tunnel’, but some find it claustrophobic. If this makes you feel worried do tell the radiographer straight away. However, if you suffer badly from claustrophobia you should talk to the Radiology Department as soon as possible ahead of your appointment. The Radiologist may give you some intravenous sedation before the scan. However, in such a situation you should be accompanied with someone who can take you home back.

How long will it take?

The process of performing the scan usually takes about 20 minutes to an hour. Unless you are delayed by an emergency patient, your total time in the Department is likely to be about 45 to 90 minutes.

Are there any side effects?

No. You can drive home afterwards, and return to work as necessary (unless you have received sedation)

Can you eat and drink afterwards?

Yes, do so normally.

When will you get the results?

After the scan, the images will be examined further by the radiologist, who will prepare a report on his/her findings. This may take some time to reach your referring doctor, but is normally less than 7 days. You could ask the radiographer or radiologist for some indication of timing.

If you have a query?

If you have a query about having the MRI, please ring the Department between 9am and 5pm, Monday to Friday.

For details of contact telephone numbers and directions, please refer to your appointment letter.

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This leaflet has been prepared by the British Society of Interventional Radiology (BSIR) and the Clinical Radiology Patients’ Liaison Group (CRPLG) of the Royal College of Radiologists.

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