



Information Sheets: Clinical investigations

National Prion Monitoring Cohort

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MRI Scan

What is MRI?

MRI stands for Magnetic Resonance Imaging. This is a scanning procedure that uses a combination of a strong magnet, radiowaves and a computer to produce very detailed pictures of your body. The scan will not hurt and has no long-term effect on your body once it is over.

What does an MRI scan show?

An MRI scan provides pictures of the inside of your body. Whereas an ordinary x-ray produces very good pictures of the bones, an MRI scan can show details of the brain, muscles, nerves, cartilage and other internal organs.

Preparation for an MRI scan

As the MRI scanner uses a very strong magnet, there are some safety guidelines that must be followed. Let the staff in the scanning department know as soon as possible if any of the following applies to you:

- you have a pacemaker
- you have an artificial heart valve
- you have ever had surgery on your head or spine
- you have any metallic implants, for example joint replacement
- you have ever had metal in your eyes, for example from welding or metalwork
- you may be pregnant

In some of these cases you may need to have an X-ray to make sure that it is safe for you to have an MRI scan. The staff in the MRI Department will discuss this with you. You will also be asked to remove personal belongings such as your watch, jewellery, keys, credit cards and coins. This is because if you go into the scan room with loose metal objects in your pockets they may be pulled out by the strong magnetic field and fly into the scanner. If you wear your watch into the scanner it may not work when you come out and if you have credit cards in your pocket the information held on the magnetic strip will be wiped off. Metal fastenings on your clothes are all right because the magnetic field is not strong enough to pull them off. However, if they are close to the part of your body you are having scanned they may interfere with the pictures and you may be asked to change into a gown.

What happens during the scan?

You will be asked to lie on the scanner couch where you will be made as comfortable as possible. The position will vary depending on the part of the body that is being scanned. For example, for a scan of the head you will be asked to lie with your neck in a specially shaped support. You should tell the staff if you are not comfortable as you will need to keep very still during the scan which may take up to 45 minutes to complete. There will be an intercom in

the scanning room or some other means of communicating with the staff during the scan. Once you are ready to start you will be moved into the scanner. The scanner is a long tube, and the part of your body being scanned must be completely inside this tube. During the scan you will feel nothing, however you will hear the scanner working. Typically, you'll hear knocking sounds when the procedure is going on. Despite the loud noise, the staff operating the scanner from another room can hear you, if you need to talk to them. Although the staff will be able to reassure you during the scan, some people do find this unpleasant and slightly frightening. Each set of pictures takes about five minutes and while the pictures are being taken you will hear a knocking sound. This noise means the scanner is collecting information to produce the pictures and therefore you must keep very still. If you move while the pictures are being taken they will be blurred and the scan may need to be repeated. Several sets of pictures may be taken during each examination and there will be a short pause between them. The scanner will go quiet between pictures; during this time the staff will be setting up ready to start the next set.

Will I need an injection?

When certain areas of the body are scanned, you may need an injection of a special dye known as a contrast agent that helps to see more detail on the pictures. If you need an injection it will be given into a vein in your arm by a radiologist or one of the radiographers trained to give injections. Sometimes several scans will be taken before the dye is injected and then further scans are taken after the injection.

Can anyone be with me during the scan?

As there are no harmful rays, a friend or relative can stay in the room with you during the scan. Anyone coming into the scan will also be asked questions about pacemakers and metal objects in their body, and will be asked to remove all metallic objects such as watches and jewellery.

What happens after the scan?

There are no after effects from the scan so you can carry on with your normal activities immediately.

When will I receive the results of the scan?

For each scan as many as 50 images may be produced which need to be carefully studied by the radiologists. The radiologists will produce a detailed report that will be sent to your specialist, usually within 7 to 14 days. More complicated analyses comparing information from different scans over long periods of time will only be carried out at the end of the trial, so the results will not be available to you for example, at your routine clinic visits.