



MRIs and cochlear implants

This leaflet is for patients with cochlear implants who have been asked to have an MRI scan and applies to having an MRI of any part of your body. Further general information about the MRI scan is available in your appointment letter. If you have any other queries please call the Radiology Department on 0118 322 7941.

Things to know before your MRI scan

An MRI scan uses a powerful magnet to make images of your body. As your cochlear implant contains metal and uses a magnet to attach the external part of the device to the internal part, the internal magnet of your cochlear implant can be pulled towards the powerful magnet in the MRI scanner. There are different designs of internal magnets used in cochlear implants. **It is important to know which type your implant has.** For some internal magnets, it is safe to have an MRI scan as normal. For some types, additional safety precautions may be needed to have the scan safely. For other types, it is not possible to have an MRI scan at all.

At the Royal Berkshire Hospital we have procedures set up to support MRI scanning for patients implanted with **self-aligning cochlear implants** of the models listed below:

- **Cochlear brand non-bandaging implants:**
 - Nucleus CI600 series (models CI6xx)
 - Baha BI300 (with BI400 magnet), BA210, BIA400, BIA300 & BIA310
 - Osia OSI300
- **MED-EL brand non-bandaging implants:**
 - SYNCHRONY models
 - SONATA 2
- **Advanced Bionics brand non-bandaging implants:**
 - HiRes Ultra 3D

Other brands of cochlear implants may be scanned using this process but we will need to seek advice from the Medical Physics Department before making a decision on whether the scan can go ahead or not.

How do I prepare for my appointment?

Please make sure you know what type of implant you have – check with your cochlear implant centre if you are not sure!

It is important to tell your cochlear implant centre that you are having an MRI scan.

What does the procedure involve for cochlear implant wearers?

- You may be asked to attend the MRI department up to 30 minutes before your appointment to prepare for the scan.
- You will be asked some safety questions and then we will ask you to remove your cochlear implant sound processor before entering the scanning area.
- You may be asked to sit on the most outer edge of the scanner and slide up the scanning table into position. This is to safely align your cochlear implant to the magnetic fields.
- The process is reversed at the end of the scan.
- Everyone having an MRI scan is given an emergency button to hold. If you experience pain or discomfort, you can push the button to stop the scan. Radiology staff will explain this to you. Further information about possible risks and complications can be found in the table below.
- We will return your sound processor to put back on after the scan.

What are the possible risks and complications of MRI scans for cochlear implant wearers?

Complication	Information	Frequency (estimated)
Discomfort or pain	The scanner can cause some pulling on the internal implant. If you feel significant pain or discomfort during the scan, please tell your radiographer immediately.	Occasionally
Sensation of heat or warmth around the implant site	Some people feel heat or warmth around the implant site, which can be uncomfortable. If this happens, please tell your radiographer immediately.	Occasionally
Inability to complete scan	Some people find the scan too uncomfortable to carry on. The images may then be incomplete, or the radiographer may not be able to get any images.	Occasionally
Poor-quality images (Brain MRI only)	The implant and internal magnet will cause some distortion of the images close to the implant (within about 10cm). This may mean the scan does not give useful information in this area. Scans of other parts of your body will not be affected.	All cases

Although there are some risks of having an MRI scan with a cochlear implant, it is very important that an MRI is done to provide essential information for medical professionals about health issues you may have.

In the unlikely event that you have any problem with your implant when you return home after the scan, please contact your local cochlear implant centre as soon as possible.

Your consent to have an MRI scan

I have read and understood the information above:

Patient signature: _____ Date: _____

Print name: _____

My brand and model of cochlear implant: _____

I have discussed the above with the patient and they have had a chance to ask questions:

Radiographer signature: _____ Date: _____

Print name: _____

Further information

British Cochlear Implant Group: MRI Scanning https://www.bciq.org.uk/safety_and_mri.aspx

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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