**CI and MRI Compatibility - Survey of Information given to Patients and Implications.**

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**Introduction:**

Cochlear implants have revolutionized the management of patients with severe to profound sensorineural losses. Preoperative investigations involve radiological assessment of the cochlea by MRI scan, CT imaging, or both. For parents and patients, one of the main focuses is understanding and, hopefully, having surgery. In our unit patients have choice of devices. The reasons for choices are quite varied. Issues such as accessories and water compatibility appear to be significant factors to the patients and families. Clinically, it is clearly understood that the magnetic components, and to a certain degree the internal electronics, have a compatibility issue with MRI scanning. Some devices require removal of magnets. Others are conditional to 1.5 Tesla. No matter what system is used, significant voids and distortions are produced by the magnet when imaging the brain. There is a high chance that a child would require an MRI during his/her lifetime. Information from Germany indicates 114 MRI/1000 inhabitants, with head scans using CT vs MRI being fairly equal (55% vs 45%). Spine and extremities have a higher proportion of MRI. The aim of this paper is to investigate what information is given pre-implant to ensure informed consent is given. How issues are managed in the acute and non-acute situation will be reviewed.

**Methods:**

A survey was sent to all UK implant centres asking them about the giving of information, formal surgical consent, their experience of dealing with patients potentially needing and actually having MRI scans. Final questions focused on any subsequent issues that arose. Results were used to compare our practice and subsequent management.

**Results:**

22 centres were approached and 18 replied.

-Is departmental information given about MRI scanning? No 69%

-Which/how is MRI-related information given? Verbal 38%, BCIG safety guidelines 35%, Manufactures literature 23%, No specific advice 4%.

-Specifically mentioned at surgical consent? Yes 46%

-In the past 12 months (median-range)

-what external request for advice has been received? 3 (1 - 25)

-what number of actual known MRI scans have your patients had? 2 (1 - 10) several centres did not know.

-what reported issues have been reported? demagnetised 1; displacement 2

**Conclusion:**

MRI scanning can be performed without side effects. However, there does seem to be a range of patient experiences and varied outcomes. As a result of our own experience we have developed a mould to cover the implant and offer local anaesthetic before firm head bandaging. From the survey, reasons behind the need for an MRI scan should always be investigated. Would other imaging, such as CT +/- contrast, be more appropriate? Also, clearly we need to pay more attention to consenting with future MRI scanning.