

# RISK ASSESSMENT RECORD FORM

Please refer to the accompanying guidance when completing this form

## Section 1: Administrative Details

Name of Assessor: Job Title: Date of Assessment:

## Section 2: Activity/Task

### Activity /Task

Provision of an MRI service

### Risk:

Acoustic noise in MRI

### Area affected:

MRI

### Source of Risk (Background):

In order to produce images, magnetic field gradients are turned on and off very rapidly producing high levels of acoustic noise (can exceed 100dB) which have the potential to affect the hearing of the patient and, if the patient is pregnant, the hearing of the foetus. Staff or patient relatives in the scanner room during imaging will also be exposed to these noise levels. The hazard is greater in 3T scanners than 1.5T, since noise levels are generally higher.

### Supporting Evidence:

Published data on hazards of MRI scanners, MRI manufacturers' instructions for use, MHRA guidelines on safe use of MRI [1].

### Factors the risk contains: (if for COSHH include route of exposure, length of exposure time and exposure limits)

Level of exposure depends on choice of MRI pulse sequences and hence on clinical presentation. Levels could exceed the limits given in the Control of Noise at Work Regulations 2005.

### Potential Consequence if risk is realised:

- Damage to hearing, which could be either temporary or permanent.

## Section 3: Current Control Measures

Patients, staff and accompanying relatives are given ear defenders and/or ear plugs in line with MHRA guidelines [1]. Suitable alternatives are provided for neonates. All MR scanning staff are trained to provide ear protection to anyone who has to stay in the magnet room during scanning.

The hearing of the foetus cannot be protected in this way. Consequently where scanning of pregnant women occurs, sequence parameters should be chosen to find an optimal solution that minimises the exposure of the fetus to acoustic noise and mechanical vibration consistent with the required image quality [1]. Pregnant staff/carers are not allowed into the scanning room when scanning is underway.

## Section 4: Risk Rating

Use the consequence, likelihood and risk score tables in the accompanying guidance to identify the scores below.

Consequence Score:

Likelihood Score:

Risk Score:

**Initial Risk Grading:**

**Section 5: Risk Reduction Options**

Options	Revised Risk Score	Cost
No further reduction needed		

**Section 6: Agreed Actions**

Actions	Lead	Target Date

**Section 7: Risk Grading**

	Consequence	Likelihood	Score	Grade
Initial:				
Current (will be the same as initial to begin with):				
Residual:				

**Section 8: Review**

Risk Owner:

Planned Review Date:

**Reference**

[1] D. Grainger, "Safety Guidelines for Magnetic Resonance Imaging Equipment in Clinical Use," Medicines and Healthcare Products Regulatory Agency, Mar. 2015.