

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:

Peripheral nerve stimulation in patients

Area affected:

MRI

Source of Risk (Background):

Exposure of patients to intense and rapidly switched magnetic field gradients results in induction of electrical currents in conductive tissue. At sufficiently high exposure levels, this can induce peripheral nerve stimulation (PNS), a mild sensation at the onset level building, potentially leading to significant discomfort and even intolerable pain at higher levels of exposure.

Supporting Evidence:

Published data on hazards of MRI scanners, 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)

Time-varying magnetic fields.

Potential Consequence if risk is realised:

- Unpleasant sensation, pain.

Section 3: Current Control Measures

MRI scanners are constructed according to IEC standard 60601-2-33 [2], which uses a direct determination method to minimise the risk of exceeding the threshold for PNS. In normal operating mode, scanners are limited in gradient output to 80% of the median PNS onset threshold, and given the tight distribution of biological variation this should avoid PNS in almost all cases. In the first level controlled operating mode this is relaxed to 100% of the median threshold, so mild PNS could occur in some patients. Practically, PNS is rarely an issue. PNS is discussed in staff safety training, so they are aware that it could occur in patients and how to reduce it.

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		
Section 6: Directorate/Divisional 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.			
[2]	IEC (2015) standard 60601-2-33, ed 3 am 2			