NHS Greater Glasgow and Clyde

ID: DR-GGC-RISK-049

Risk Assessment Form

Use this form for any detailed risk assessment unless a specific form is provided. Refer to your Summary of Hazards/Risks and complete forms as required, including those that are adequately controlled but could be serious in the absence of active management. The Action Plan and reply section is to help you pursue those requiring action.

Name of Initial Assessor/Reviewer:	John McLean	**Post Held:**	MR Safety Expert
Department:	**Imaging**	**Date (Initial Review):**	**17/3/2015**

Subject of Assessment: E.g.: hazard, task, equipment, location, people

MRI cryogens

Hazards (Describe the harmful agent(s) and the adverse consequences they could cause)

MRI scanners are kept cool by very cold substances.

Description of Risk
Describe the work that causes exposure to the hazard, and the relevant circumstances. Who is at risk? Highlight significant factors: what makes the risk more or less serious – e.g.: the time taken, how often the work is done, who does it, the work environment, anything else relevant.

Coming into contact with the liquid helium or subsequent gas form of helium would present a risk. Staff or patients within or entering the MRI Magnet Room would be at risk of asphyxiation (from oxygen depletion) or frostbite.

Existing Precautions

Summarise current controls In place	**Describe how they might fail to prevent adverse outcomes.**
1. Quench pipe installed to vent cryogenic gases to atmosphere.	There is a possibility that the quench pipe is blocked or otherwise fails to adequately vent the gas (see precaution 2 to mitigate this risk)
2. Oxygen monitor in scan room to detect oxygen depletion, the alarm panel for which is in the console room. This should activate the emergency extract fan to extract cryogenic gases from scan room.	Oxygen monitor may fail to alarm and/or trigger the emergency extract fan (see precaution 3 to mitigate these risks)
3. The emergency extract fan can be switched on manually. If the oxygen monitor does not alarm, staff have been encouraged to be vigilant in recognising physical symptoms of asphyxiation. Furthermore, all patients are given a buzzer to alert a staff member if there are any issues.	It is highly unlikely that both the quench pipe and the emergency extract would fail
4. MR equipment is on a maintenance contract.	
5. Helium levels are monitored by manufacturers as part of maintenance contract and/or staff	
6. Restricted access to MRI suite to authorised staff or those supervised by authorised staff.	

7. Local rules state that the MRI Controlled Access Area must be evacuated if a quench occurs or if helium leak suspected until the MR Responsible Person or Designated Person authorises it is safe to return, in consultation with an MR Safety Expert or MR manufacturer's Service Engineer 8. Regular review of local rules and safety procedures in accordance with the latest version of the MHRA Safety guidelines for magnetic resonance imaging equipment in clinical use	

Level of Risk - Is the control of this risk adequate?
Give more than one risk level if the assessment covers a range of circumstances. You can use the 'matrix' to show how 'likelihood' and 'consequences' combine to give a conclusion. Also, be critical of existing measures: if you can think how they might fail, or how they could be improved, these are indications of a red or orange risk.

Risk Matrix

Likelihood	**Impact/Consequences**				
	Negligible	**Minor**	**Moderate**	**Major**	**Extreme**
Almost Certain	Medium	High	High	V High	V High
Likely	Medium	Medium	High	High	V High
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	**Low**	Medium	Medium

Very High **High** **Medium** **Low**

Current risk level

Given the current precautions, and how effective and reliable they are, what is the current level of risk? **Green** is the target – you have thought it through critically and you have no serious worries. Devise ways of making the risk green wherever you can. **Yellow** is acceptable but with some reservations. You can achieve these levels by reducing the inherent risk and or by effective and reliable precautions.
High (Orange) or Very High (Red) risks are unacceptable and must be acted on: use the Action Plan section to summarise and communicate the problems and actions required.

Action Plan (if risk level is **High (Orange) or Very High (Red)**

Use this part of the form for risks that require action. Use it to communicate, with your Line Manager or Risk Coordinator or others if required. If using a copy of this form to notify others, they should reply on the form and return to you. Check that you do receive replies.

Describe the measures required to make the work safe. Include hardware – engineering controls, and procedures. Say what you intend to change. If proposed actions are out with your remit, identify them on the plan below but do not say who or by when; leave this to the manager with the authority to decide this and allocate the resources required.

Proposed actions to control the problem List the actions required. If action by others is required, you must send them a copy	**By Whom**	**Start date**	**Action due date**

Action by Others Required - Complete as appropriate: (please tick or enter YES, name and date where appropriate)

Report up management chain for action	
Report to Estates for action	
Contact advisers/specialists	
Alert your staff to problem, new working practice, interim solutions, etc	

Reply

If you receive this form as a manager from someone in your department, you must decide how the risk is to be managed. Update the action plan and reply with a copy to others who need to know. If appropriate, you should note additions to the Directorate / Service Risk Register.

If you receive this as an adviser or other specialist, reply to the sender and investigate further as required.

Date of last review	As per QPulse record	**Next review date:**	As per QPulse record