NHS Greater Glasgow and Clyde

ID: DR-GGC-RISK-032

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:	John McLean	**Post Held:**	MR Safety Expert
Department:	**Imaging**	**Date Initial review:**	**12/04/2017**

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

Scanning patients in MRI with clip-in hair extensions or hair extensions which are attached using metal 'micro rings' who can't or won't remove them.

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

Hair extensions can be attached through a variety of methods which include metal clips or rings.

Metal objects pose a hazard within the MRI scanner. If the object is ferrous, it will be attracted towards the static magnetic field of the magnet and can move. If the metal object is in contact with the patient's skin burns can occur as it absorbs RF energy and heats up.

If they are not able to removed prior to a scan, and on testing with a hand held magnet they are found to be non-ferrous, then the primary risk is from heating leading to burns to the patient.

Patients may attend their MRI appointments with hair extensions in place without realising these are an MRI safety concern. Moreover, there can be a significant cost to having hair extensions removed and re-applied. In addition, postponing a patient with hair extensions for a scan may delay their on-going management or treatment which in itself may carry a risk to the patient. Thus, it is worth considering carefully whether the risk is such that it is necessary to reject or delay patients with hair extensions from MRI.

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.

The patient with hair extensions with metallic attachments is at risk. Clip-in hair extensions can be easily removed by the patient, whereas hair extensions attached with 'micro rings' are designed to last between three to four months and should be removed by a hairdresser (1). A user manual for micro ring hair extensions recommends that users inform their doctor they are wearing extensions prior to an MRI scan (2). Micro rings may be made from a variety of different metals, including alloys (3).

To-date, no adverse incident has been published of a case where any patient with hair extensions with metallic attachments has come to harm as a result of entering or being scanned in the MRI environment. This situation continues to be monitored. Thus, there is no evidence to suggest scanning a patient with hair extensions with metallic attachments presents a significant risk of injury to the patient.

Existing Precautions	**Describe how they might fail to prevent adverse outcomes.**

Radiographers are aware they should consider the safety of patient hair extensions (4). When patients attend for their MRI examination they are taken through an extensive MRI safety checklist. This asks questions relating to body accessories such as body piercing or jewellery. If found to be wearing hair extensions, the patient is asked to remove them. If the patient is unable or unwilling to remove then, the hair extensions can be tested with the hand held magnet to establish if they are ferrous. If there is significant pull towards the magnet, scanning must not proceed and the scan should be rescheduled to after the product has been removed. In the more likely event is that there is no pull towards the hand held magnet, the patient must be informed of the risk of heating from proceeding with their extensions in place. We deem this a low risk. If the patient wishes to proceed with their scan then they are asked to press the buzzer when inside the scanner if they experience any heating. 1. Bell & Blackley Hair & Beauty. Hair Extensions. Available from <http://www.belleandblackley.com/hair-extensions>. Accessed 12/04/17. 2. Klix Hair Extensions. User Guide 2014. Available from <http://www.klixhair.com/_livesite/wp-content/uploads/2012/10/KLIX_USERS_MANUAL_2014.pdf> Accessed 12/04/17. 3. Simply Hair. Metal Allergies. Available from <ttps://www.simplyhair.co.uk/micro-ring-hair-extensions-allergies/> Accessed 12.04.17. 4. Society of Radiographers. Safety in Magnetic Resonance Imaging. 14.03.2014 ISBN: 1-871101-95-6.	. The patient may fail to declare they are wearing hair extensions.

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