

MRI Safety Questionnaire Explanation for Operators

Version 2

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Document History

Version	Comments	Author(s)	Date
2.0	Updated to reflect new definitions of Level 1, 2 and 3 operators	A Gouws	October 2016
1.0	Initial Release	R Devlin / M Hymers	May 2014

Referenced Documents

Title	Type
Safety Questionnaire and Consent for Participants: Modality - MRI	Form

MR Safety Questionnaire Explanation for Operators

Detailed below are questions from the safety questionnaire along with a brief explanation of their relevance and subsequent action to be taken dependent upon participant answer.

Level 0, 1 and 2 operators should NEVER proceed with scanning if ANY of the following contraindications arise. Additional prior approval will be necessary and can only apply to certain contraindications. If in any doubt, consult a Level 3 operator.

1. Do you have a cardiac (heart) pacemaker or pacing wires?

Pacemakers are an absolute contra-indication. No participant who answers yes to this question are permitted into the inner controlled area.

2. Have you ever had any operations on your heart, head or spine?

Certain operations will result in the placement of haemostatic clips or other metal objects or devices which may be affected by the magnetic or RF fields. Unless the operation was superficial and the participant can be 100% certain nothing was implanted during the operation then they should not be permitted to enter the inner controlled area. Level 1 and Level 2 operators must not scan people who answer yes to this question.

3. Do you have or have ever had a spinal or other neuro stimulator?

Spinal or other neurostimulators are an absolute contra indication. No participant who answers yes to this question are permitted into the inner controlled area.

4. Have you had any surgery which involved the use of metal implants?

E.g. Hip or knee replacements, breast or penile implants or any procedure involving metal stents; e.g. coronary arteries.

Heating and to a lesser extent movement are potential side effects of the MR system. Where ever possible persons with any metallic implant should be excluded from research examinations. Level 1 and Level 2 operators must not scan participants who answer yes to this question.

5. Do you have a programmable hydrocephalus shunt?

Programmable hydrocephalus shunts can have their settings altered by strong magnetic fields. Persons with this type of shunt are not permitted to enter the inner controlled area.

6. Do you have a cochlear (ear) implant?

Cochlear implants are contra-indicated in MR and persons with such a device should not be permitted in the inner controlled area.

7. Do you have a fixed dental brace?

Dental braces which cannot be removed should not be permitted in the scanner. They represent an unknown length of wire which could potentially heat up (resonant length) very rapidly. Persons with such metalwork **must** be excluded from MR experiments.

8. Have you had any surgery in the last 3 months?

Further detail will be required. 3 months is generally accepted as the time taken for fibrosis of any implanted clips or sutures to be completed rendering movement/displacement unlikely.

9. Have you ever, at any time, had an injury to your eye involving metal fragments?

Metallic intra orbital foreign bodies can inflict serious injury to the eye. At least one person has been blinded as a result of an MR scan. Unless the participant can be 100% sure that any metallic fragments have been removed they should not be permitted to enter the inner controlled area.

10. Do you have any shrapnel in your body?

Participants with shrapnel injuries should be excluded from MR examinations. There is a significant risk that shrapnel could rotate in the magnetic field and cause localised tissue or blood vessel damage.

11. Do you have any piercings?

All piercings must be removed. They represent a risk of heating and burns

12. Do you have any tattoos?

Although there is documentary evidence that a subject can receive a burn associated with a tattoo this is extremely rare. Participants should always be made aware there is a very small risk of them receiving a burn and that they should press the emergency button should they experience any discomfort in the area that is tattooed.

13. Do you have any medicinal patches? Including nicotine, hormone.

Some medical patches have a metallic backing which can cause a burn. For this reason all patches should be removed prior to scanning.

14. Are you a close relative of any of the investigators? ie; spouse, sibling, parent, grandparent, child or grandchild?

No operator or other person who is a close relative of the participant should be present in the scan control room during scanning.

15. Do you have epilepsy? Have you ever had a fit or seizure?

If the participant answers yes to this question appropriate safeguards must be put in place to ensure their safety during the scan. Level 1 and Level 2 operators should not scan participants with a history of epilepsy.

FEMALE PARTICIPANTS ONLY

16. Do you have an Intra-Uterine Contraceptive Device?

Certain types of IUD are not MR-compatible. Level 1 and Level 2 operators must not scan participants with an IUD without approval by a Level 3 operator and the appropriate documentation being completed.

17. Are you, or could you be pregnant?

Participants who are pregnant are not to be scanned.