



MRI SAFETY

PROTECTING PATIENTS AND PROFESSIONALS

M

MRI Department

The MRI team is a great source of specialist knowledge regarding safety queries - please get in touch.

R

Responsibility

The MRI referral must be completed fully and all necessary information provided to adhere to policies and guidelines.

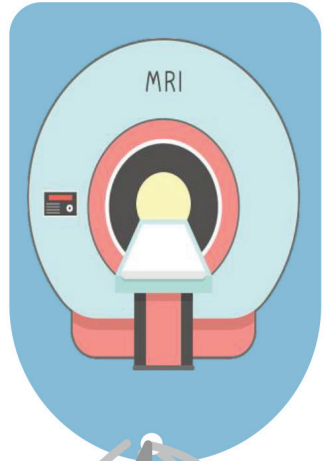
I

Implants

Are they active or passive?

Provide a make & model

Where & when were they implanted?



BEST PRACTICES FOR REFERRERS

S

Safety Questionnaire

Familiarise yourself with your department's questionnaire.

Check previous imaging.

A

Attachments

Monitoring	Drips
Pumps	Drains
Dressings	Patches

F

Factors

Does your patient have:

- Any additional needs?
- An inability to cooperate?
- A body habitus > 120kg?

E

Extras

Renal Function (egfr)
 Metal in eyes (IOFB)
 Oxygen
 Sedation / GA
 Interpreter

Produced for MRI Safety Week

Promoting practices that keep patients and staff safe.
 MRI Safety Poster Competition: organised by the SoR
 Magnetic Resonance Advisory Group.

Winner

Lisa Cox

Senior Research & MRI Radiographer
 Newcastle-upon-Tyne NHS Trust



WHY DO I NEED HEARING PROTECTION?



MRI SOUND LEVELS CAN REACH UP TO 130 DECIBELS, MAKING IT LOUDER THAN.....



Alarm clock

70 decibels

Construction jackhammer

130 decibels



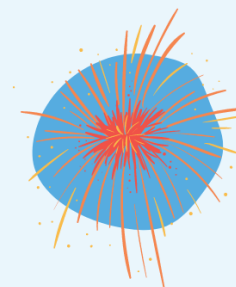
Food processor

94 decibels



Fireworks

120 decibels



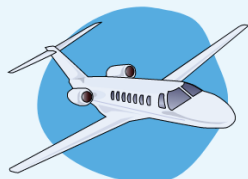
Fire Alarm

97 decibels



Rock concert

112 decibels



Jet plane take off

120 decibels



The noise in an MRI scanner is produced by parts of the equipment (gradient coils) which have rapidly changing currents and this produces vibrations/the noise!

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Runner up

Alice Milligan

Deputy Clinical Lead Radiographer MRI, Somerset Foundation Trust

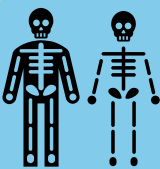
MRI SAFETY WEEK

DANGER BEWARE!
REMEMBER TO DECLARE...



Cardiac devices including pacemakers & ICD's

Brain & eye surgeries, clips, coils, stimulators



Orthopaedic implants, stents, artificial limbs,
any penetrating metal injuries & shrapnel

Medicinal & hormone patches, diabetic
monitoring devices, silver backed dressings



THE MAGNET IS ALWAYS **ON!**



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Runner up

Katie Bagshawe
MRI Radiographer

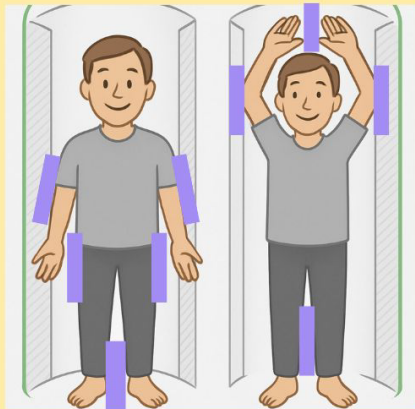
Sheffield Teaching Hospitals NHS Foundation Trust

PADDING SAFETY

FOAM PADS

Foam pads come in a variety of shapes and sizes, and are often used in MRI to maximise patient comfort, reduce movement and thus improve image quality.

They are also essential to use for patient **safety** and should be 1-2cm thick to ensure injuries are avoided.

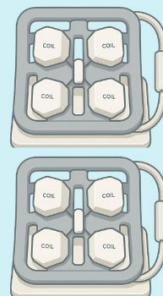


SKIN TO SKIN



RF energy can create electric currents in the body. If there is skin to skin contact this forms a loop which the electric currents can flow through. By using foam pads these loops can be broken.

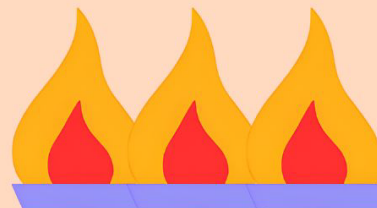
COILS



RF coils can generate heat which can cause injuries if in direct contact with skin. By using the insulated foam pads provided by manufacturers, heating and burns to the patient can be avoided.

PREVENTS BURNS

Reducing patient heating in the MRI scanner is one of the most important safety precautions to take. Appropriate insulated padding is an effective way to prevent heating and burn related injuries to the patient.

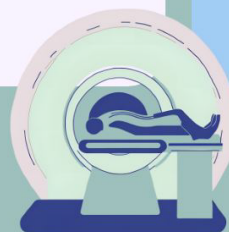


PADDING POSITIVES

- Patient safety
- Patient comfort and support
- Reduce movement

RESULT

Optimal patient safety and experience achieved, whilst producing best possible image quality.



MOCK, B.J. (2021) POTENTIAL BURN HAZARD FROM GENERAL ELECTRIC MRIS, ANESTHESIA PATIENT SAFETY FOUNDATION. AVAILABLE AT: <https://www.apsf.org/article/potential-burn-hazard-from-general-electric-mris/#:~:text=FIGURE%202,USED%20TO%20SCAN%20THE%20PATIENT>. (ACCESSED: 30 APRIL 2025).

GRAINGER, D. (2021) SAFETY GUIDELINES FOR MAGNETIC RESONANCE IMAGING EQUIPMENT IN CLINICAL USE. AVAILABLE AT: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/958486/mri_guidance_2021-4-03c.pdf. (ACCESSED: 30 APRIL 2025).