

Winner

Working Together in MRI SAFETY



Patient Centred Communication

Communication should be tailored to each patient's needs.

By providing clear information, checking understanding, and encouraging questions, we support patients to make informed choices about their MRI care.

Building Trust



Open, honest, and compassionate communication helps build trust between patients and MRI staff.

When patients feel comfortable sharing information and concerns, we can work together to support safe MRI care.



Why Patient Involvement matters

Their knowledge of their own medical history, implants, devices, and previous procedures helps us identify and manage potential risks.

Active patient participation improves safety, reduces errors, and supports better outcomes.



Together We Make MRI Safer

Patients, carers, healthcare professionals and MRI staff each have an important role in creating a safe, positive MRI experience.

Working together improves safety for everyone.



Patients are an important part of the MRI safety team



Sarah Jones
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A winner of the MRI Safety Poster Competition 2026.
Organised by the SoR Magnetic Resonance Advisory Group.

PLAY, PREPARE, PERFORM: A SAFER MRI EXPERIENCE

Creating a safe and child-friendly MRI environment can improve patient experience, scan compliance, and image quality. These patient-centred approaches may reduce the need for MRI scans under general anaesthesia or alternative imaging modalities that use ionising radiation, while still enabling accurate diagnosis.



THERAPEUTIC PLAY SESSIONS

NHS ENGLAND AND STARLIGHT RECOMMEND THE USE OF THERAPEUTIC PLAY SERVICES TO IMPROVE THE EXPERIENCES AND OUTCOMES OF PAEDIATRIC PATIENTS RECEIVING HEALTHCARE. WITHIN MRI, THERAPEUTIC PLAY HAS BEEN SHOWN TO INCREASE SCAN SUCCESS RATES, REDUCING THE NEED FOR REPEAT EXAMINATIONS AND EXPOSURE TO THE RISKS ASSOCIATED WITH GENERAL ANAESTHESIA.



PREP LETTER AND APP

NOT ALL HOSPITALS HAVE ACCESS TO PLAY THERAPISTS BEFORE AN MRI SCAN. HOWEVER, PROVIDING PATIENTS AND FAMILIES WITH PRE-APPOINTMENT INFORMATION LEAFLETS, APPS, AND RECORDINGS OF MRI SCANNER SOUNDS CAN HELP FAMILIARISE THEM WITH THE PROCEDURE. BETTER PREPARATION CAN REDUCE ANXIETY RELATED MOVEMENT, DECREASING THE LIKELIHOOD OF INCOMPLETE SCANS, REPEAT IMAGING, AND ASSOCIATED DELAYS IN DIAGNOSIS AND TREATMENT.



DVD/AUDIO

TO HELP PATIENTS TOLERATE THE SCAN AND FEEL COMFORTABLE AND SAFE, FAMILIAR MUSIC, AUDIOBOOKS, OR FILMS CAN BE PROVIDED DURING THE EXAMINATION. THESE CAN REDUCE THE IMPACT OF SCANNER NOISE, PROMOTE RELAXATION, AND MINIMISE PATIENT MOVEMENT. AS A RESULT, IMAGE QUALITY MAY IMPROVE, REDUCING THE NEED FOR REPEAT IMAGING AND GENERAL ANAESTHESIA.

PLAY + PREPARE = SAFE SCAN

IN AN EMERGENCY
SLOW IS SMOOTH,
SMOOTH IS FAST!

MRI EMERGENCY PROCEDURES

STOP • ASSESS • REMOVE • ESCALATE

Winner

EMERGENCY STEPS

- 1 STOP STOP SCANNING**
press stop / pause
- 2 ASSESS FOR DANGER**
to patients, staff and others
- 3 REMOVE PATIENT FROM MR SCAN ROOM**
if safe to do so
- 4 CALL FOR HELP**
Use departmental emergency numbers
- 5 FOLLOW EMERGENCY PROCEDURE**
as per your Trust

EMERGENCY QUENCH
Only if life is in immediate danger and no other options possible

MR DESIGNATED AREAS

MR Controlled Area
An area of restricted access that is big enough to contain the MR environment. Suitable warning signs should be displayed at all entrances

MR Environment
A 3D space surrounding the MR magnet containing both the faraday cage and 5 gauss line. An item may pose a hazard within this region

REFERENCES

1. MHRA Safety Guidelines for Magnetic Resonance Imaging Equipment in Clinical Use (2021).

QUENCH / LOW OXYGEN LEVEL ALERT

- Helium leak / quench
- Low oxygen levels
- Asphyxiation risk

Risk: Catastrophic

CARDIAC ARREST / MEDICAL EMERGENCY

- Patient collapse
- Unresponsive
- No pulse/breathing
- Seizure

Risk: Catastrophic

RF BURN / INJURY

- Heating of leads, cables or implants
- Patient reports burning/ pain
- Visible burn / skin erythema

Risk: Moderate

PROJECTILE / ENTRAPMENT

- Ferromagnetic object pulled into magnet
- Person pinned or trapped
- Potential for catastrophic injury

Risk: Catastrophic

FIRE

- Any fire in or near the MR scanner
- Smoke/burning/smell
- Electrical fault

Risk: Catastrophic

METALLIC FOREIGN BODY MOVEMENT

- Orbital / intracranial FB
- Shrapnel/bullet
- Movement risk
- Potential for injury/death

Risk: High / Catastrophic

IMPLANT / DEVICE MALFUNCTION

- Pacemaker / ICD
- Neurostimulator
- Cochlear implant
- Unexpected symptoms

Risk: Moderate

CONTRAST REACTION

- Mild / moderate/severe
- Follow departmental contrast reaction / anaphylaxis protocol

Risk: Moderate

PERIPHERAL NERVE STIMULATION

- Twitching
- Painful contraction
- Unexpected movement

Risk: Low

ACOUSTIC NOISE INJURY

- Loud noise exposure
- Hearing loss or ringing

Risk: Low

QUICK CHECKLISTS

CARDIAC ARREST

- Stop scan & ask for help
- Remove patient from MR environment
- Call MET team
- Commence BLS
- Defibrillator outside MR environment at all times
- Lock MR scanner door
- Debrief and document after event

PROJECTILE / ENTRAPMENT

- Stop scan
- Prevent further entries
- Assess patient/staff
- Call MRI Lead/MRSE
- Consider quench ONLY if life threatening

FIRE

- Remove patient
- Alert emergency services
- Consider quench if directed (fire in MR environment)

QUENCH/OXYGEN DEFICIENCY ALERT

- Evacuate immediately
- Close MR scanner door
- Call MR Lead, estates & scanner manufacturer engineers

RF BURN / INJURY

- Stop scan
- Remove source/cables
- Cool affected area
- Document and escalate to MR Lead / MRSE

ALL OTHER EVENTS

For all other events refer to departmental local rules

USEFUL QR CODES



MHRA



BAMMR



SOR(MRI)

MRI Safety week



Leonardos Papadopoulos
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