Mri scanners for neurosurgery suite

Health & Medicine

Root causes of the Problems on Safety. MRI accidents are 100% preventable (MRI safety video) and the key root cause of any problems is human fallibility. Assuming that the MRI facility is designed and run according to best practice guidelines, staff training is the single most effective way of addressing safety issues. The deficits that staff training aims to address are the following:

1. A lack of knowledge about the potential risks associated with the equipment. [Proposed response: general training for all staff, plus specific training for different groups of staff. Responsibility: corporate training team]
2. Absent or incomplete rules and protocols for activities in the vicinity of the equipment [Proposed response: research into best practice elsewhere and design of new rules, protocols, signage, and incident reporting scheme. Responsibility: Health and safety team to produce revised documentation, corporate training team to assist line managers in their introduction]
3. Failure to adhere to above-mentioned rules and protocols in the vicinity of the equipment. [Proposed response: monitoring targets to be built into job specifications and appraisal scheme for management staff. Regular briefing sessions for all staff. Responsibility: corporate training team]

Detailed education plan for employees working in the MRI suite.

Senior management staff development

The Medical Director to be funded to attend a conference on MRI safety and risk management and required to produce a report to senior management team on lessons applicable to the local context.

Orientation and safety session for all staff.

All staff to attend one mandatory orientation and safety session (two hours). This session to be delivered on 8 or more occasions, at different times of the

day and different days of the week, until every staff member has completed it. Safety video to be viewed. Handbooks issued, and self-test to be set as homework following the session. Exercise with scenarios and case studies based on real and potential incidents, such as a near miss accident involving portable equipment. Main message of the session: “ human error and communication lapse are by far the most important hazard in the MRI suite.” (Zimmer et al., 2004).

Timescale for completion: six weeks.

Thereafter this session to be offered as part of orientation program for all staff new to the MRI working area.

Surgical and specialist workshop

Surgical Teams and MRI staff to attend this workshop (half day)

Program:

Half hour presentation by Medical Director (based on report on local context issues)

One hour brainstorming in two teams to identify best practice on eliminating risk of specific injuries.

Dislodged ferromagnetic implants : Surgical team

Burns : Surgical team

Failure to attend to patient support systems : Surgical team

Acoustic noise: MRI staff

MRI contrast agents: MRI staff

Missile effect/projectile : MRI staff

Break

Team one (Surgical team) presents best practice ideas

Team two (MRI staff) presents best practice ideas

Corporate training team closes session.

References

MRI Safety Video. Available online at: http://www. mrisafetyvideo. net/

Shellock, F. G. and Crues, John V. III. (2002) MR Safety and the American College of Radiology White Paper. American Journal of Roentgenology 178, 1349-1352. Available online at: http://www. ajronline. org/cgi/content/full/178/6/1349

Shellock, F. G and Spinazzi, A. (2008) MRI Safety Update 2008: Part 2, Screening Patients for MRI. American Journal of Roentgenology. 191, 1140-1149. Available online at: http://www. ajronline. org/cgi/content/full/191/4/1140

Zimmer, C. et al. (2004) Near-miss Accident during Magnetic Resonance Imaging by a “ Flying Sevuflurane Vaporizer” due to Ferromagnetism Undetectable by Handheld Magnet.