

BACKGROUND

Magnetic Resonance Imaging (MRI) safety is critical in pediatric intensive care units (PICUs), where patients are often medically complex and require urgent diagnostic imaging.

Lapses in MRI safety can result in severe patient and staff harm and financial costs due to equipment damage.

Nurse residents identified gaps in MRI safety knowledge among PICU nurses, contributing to potential safety risks and inconsistencies in pre-MRI screening documentation.



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PURPOSE STATEMENT

To increase PICU nurse knowledge of MRI safety by at least 10% over a 2-month period through targeted education and real-time practice support.

IMPLEMENTATION STRATEGIES

The Plan-Do-Study-Act (PDSA) method was used:

- P Partnered with MRI technologists and PICU leaders to identify knowledge gaps and assess prior near-miss events. A pre-survey was used to determine the nurses' baseline knowledge.
- D Conducted educational rounding, interactive flashcard-based knowledge checks, and documentation training using test patient profiles built in the electronic health record (EHR). Flyers were posted throughout the PICU.
- S A post-survey was used to assess perceived knowledge improvement and identify areas for further focus..
- A Based on findings, the team recommended ongoing reinforcement and integration of MRI safety content into onboarding and annual education for PICU nurses.

OUTCOMES

Nurses reported a 25% increase in their ability to address unknowns on the MRI screening form.

Most nurses (92%) agreed that the training improved their overall knowledge of MRI safety.

Lessons learned included the importance of:

- timing of training sessions,
- multidisciplinary collaboration, and
- brief, targeted education for nurses.

CONCLUSION

Improving nurse knowledge of MRI safety directly supports safe imaging practices in critically ill children.

Point-of-care education can address knowledge gaps, enhance safety culture, and prevent adverse events.

Similar strategies may be adapted for other high-risk processes in pediatric acute care settings.

