

"S.A.V.E." MRI Time Out protocol for reducing zone 4 safety infractions

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Background

- FDA's MAUDE Database previously reported more than 389 significant MRI safety events during a 10 year period
- 114% procedure volume growth (2000-2013) resulted in an overall 487% increase in MRI related accidents.
- Accidents include "missile injuries", burns, and implant malfunctions


Rhode Island Hospital

- ▀ Level 1 trauma center, tertiary care hospital
- ▀ One 3.0T and three 1.5 T MRI systems
- ▀ Overall MRI scan volume >20,000 exams per year.



Goals

- ▀ Integrate a simple "time-out" safety protocol immediately prior to patient transfers to Zone 4
- ▀ Reduce the incidence of MR related safety infractions.



"S.A.V.E." acronym

- **S-Screening:** Has the patient been screened by an MR Technologist and approved for the scan?
- **A- Ancillary Staff:** Has all ancillary staff potentially entering Zone 4 been screened and all ferromagnetic objects removed from their person?
- **V- Visual Inspection** with ferromagnetic detection: Has all non-MR personnel, including the patient been visually inspected and passed metal detection?
- **E-Equipment:** Has all medical equipment entering Zone 4 been confirmed MR Safe or conditional?



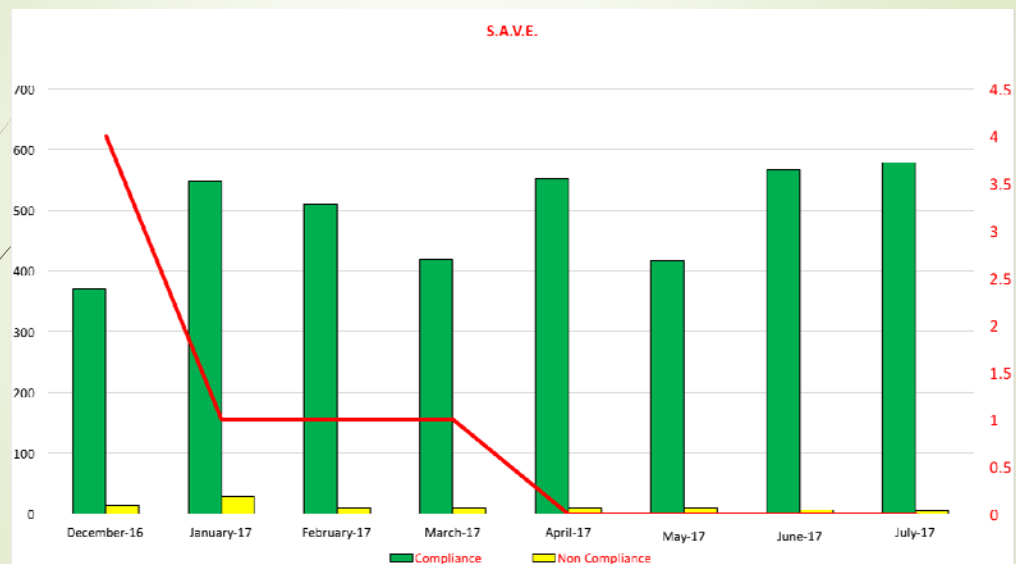
Methods

- Open prospective trial
- All inpatient, emergency department and sedated patients
- Monthly retrospective data collection was performed by our section manager and compared with patient volume to ensure data collection integrity

"S.A.V.E." time out

- Completion of the recommended MR Safety Screening (ACR Guidance Document on Safe Practices- 2013)
- Scanning MR Technologist, while in Zone 3, immediately prior to planned patient transfer to Zone 4, calls a mandatory "S.A.V.E. time-out"
- Verbal review with a second level 1 or 2 level MRI Technologist

Results





Results- Secondary detection

- Metallic chest wall tissue expander
- Telemetry box
- Rectal temperature probe
- Hearing aides
- EKG electrodes
- Medication patch
- Undetected metallic object on ancillary staff member



Conclusions

- The S.A.V.E. safety timeout is effective in decreasing MR related safety infractions
- Rapid integration with high staff compliance

