



WHAT WE LEARNED

The Intraoperative MRI Suite (IMRIS) includes a newly formed multidisciplinary team. A collaborative effort between the team members was essential for success despite their unfamiliarity as separate teams. The teams were divided into subgroups to address the multifaceted challenges and safety requirements. Simulations, walkthroughs and workflow discussions ,and ongoing assessment of the workflow were all part of the process to bring the teams together as one, in this new **magnetizing** workflow.

BACKGROUND

- Newly formed multidisciplinary team
- Assimilation of Neuroradiology into the perioperative environment
- New patient pavilion with new perioperative space
- New technology and procedures
- Integration of MRI intraoperatively

IMRIS Procedure

- Intraoperative Magnetic Resonance Imaging Surgery uses magnetic imaging while the patient is undergoing surgery
- The intraoperative scan gives the surgeon real time visualization of resection
- The imaging confirms complete resection or if further resection is needed
- Configuration of the hybrid suite with the state-of-the –art technology is such that the surgical team can move the patient safely into the MRI intraoperatively
- Specialized safety features : operating table with removable top to slide patient safely onto MRI stretcher ,locks built in floor to secure the stretcher for patient movement, garage doors that open to the scanner and secure outer doors when opened.



PLANNING

- Perioperative leadership identified need to innovate a new workflow for the new specialized hybrid suite
- Formulation of focus groups
- Small team of knowledgeable nursing staff were identified for the groups
- Focus groups included all entities involved in development and implementation of new workflow
- Education on MRI environment, safety and the procedures started the process
- Team building was also a key component of the focus groups
- Nurse Manager and Service Line Coordinator researching the procedure and possible workflows
- Roles were identified for the procedure including the role of the safety nurse
- Based on research safety checklists specific to the procedure were developed and workflows
- Safety nurse role and responsibilities defined
- Safety nurse would perform all the safety timeouts and checklists and assist with keeping environment free of any possible dangers
- Walkthroughs the new suite gave the teams a better understanding of the space and workflow to be involved
- Simulations began as new patient pavilion and hybrid suite were completed
- Separate focus groups came together as one team
- Navigation of the new space and workflow provided increased knowledge and understanding of process
- The teams were being **drawn** into the process
- Hands on training with new environment and equipment proved invaluable.
- The teams were able to identify areas for improvement and made changes to the workflow



IMPLEMENTATION

- The planning, simulations and walkthroughs **energized** the team as the first case was scheduled
- Each team member knew their role, the other team roles and the importance of each role
- Application of the new work flow demonstrated that the team worked as one
- When challenges became evident the team was able to work through the challenges for a successful outcome
- Safety nurse role was critical in assuring the safe workflow
- Safety Checklists were implemented and evaluated
- Understanding that the safety checklists will continue to evolve was evident
- Each team member knew their role, the other team roles and the importance of each role
- After the first case adjustments were made to the workflow to improve the workflow
- When challenges became evident the team was able to work through the challenges for a successful outcome
- After the first case adjustments were made to the workflow to improve the workflow

CONCLUSIONS

- Planning, simulations and walkthroughs proved to be key in the success of new workflow
- Staff were and are able to navigate the workflow despite unforeseen obstacles that arise
- The procedures are lengthy and technically advanced.
- Maintaining a small pool of knowledgeable staff will provide consistency
- Creating a resource team for newer staff to assist in knowledge and education of environment and procedure will be invaluable
- Understanding that the workflow is an ongoing learning process and will continue to change
- Acknowledgement of the dedication and drive of the staff to succeed

References

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- Kobayashi M, Fussell SR, Xiao Y, et al. Work coordination, workflow, and workarounds in a medical context. Proceedings of CHI 2005, Conference on Human Factors in Computing; pp. 1561–4.

