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Fostering A Culture Of Safety For An Out-patient Musculoskeletal Radiology Interventional Service : A Standardized Approach To Pre-procedure Preparation

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Disclosures

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None

Background

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Our team felt there was significant variability in pre procedure safety evaluation by residents for MSK procedures, despite traditional monthly orientation, resident hand-offs and rotation “Goals and Objectives.”

Purpose

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- Foster a culture of safety through a quality improvement project
- Develop a practical and sustainable system to reduce unexplained variance in pre-procedural preparation for a busy out-patient musculoskeletal interventional radiology service

Institute for Healthcare Improvement

Methodology

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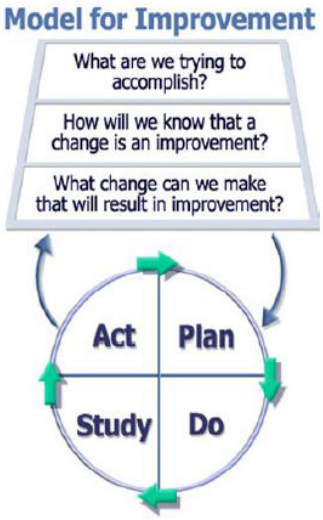

Institute for Healthcare Improvement

Methods

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- The project leaders initially met to perform a needs assessment, define the scope of the project and identify potential barriers.
- A failure mode and effects analysis (FMEA) was performed to identify potential issues that could result in patient harm.
- We identified key safety items, including: patient identification, marking the site of the procedure, reviewing prior imaging, laboratory results (PT/INR, PTT, CBC), allergies, anticoagulants and safety timeout as being important for these procedures.

Stakeholders

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- Patients
- Staff
- Residents
- Technologists
- Clerks
- Administration
- Informatics/IT

Team

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- Resident
- Staff
- Technologist supervisor
- Administrative Director
- Informatics

AIM Statement

Developing a sustainable system to reduce unexplained variance in pre procedural preparation for image-guided MSK procedures within 3 months

How will we know a change is improvement?

- Reduction in variance in pre-procedural preparation
- Following the National Patient Safety guidelines:
  - 2 forms of patient identification
  - Safety time out

Measure

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A staff radiologist and lead technologist performed a prospective quality evaluation on 11 musculoskeletal procedures, a similar role to “secret shoppers”, collecting data regarding resident compliance with checking, verifying and performing each of the safety items (labs, allergies, anticoagulants and safety timeout).

Measure

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During the initial FMEA, we identified that identification wrist bands had not been added to the out-patient MSK workflow when they previously had been added to the body IR and neuro IR workflows per Joint Commission guidelines.
Administration quickly corrected this workflow oversight.

What change can we make that will result in improvement?

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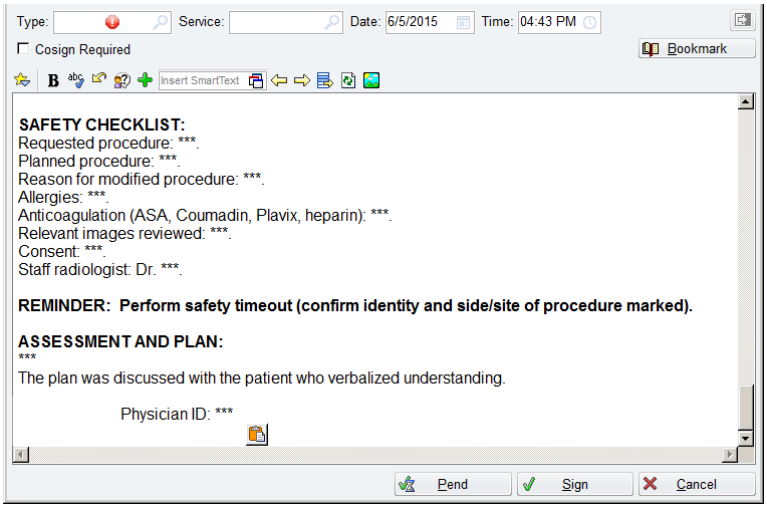
- Developing a safety check list in the electronic medical record note template



What change can we make that will result in improvement?

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- Wrist bands

http://www.p3-medical.com/P3-Medical-Products/Patient-Identification-Wristbands

Plan

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- A post-intervention quality evaluation was performed by the same staff radiologist and lead technologist, also using a “secret shopper” approach. The first pre and post data collection were performed at the beginning and end of the same month while the same residents were on service. The post-intervention observation was on 11 procedures.

Plan

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Each month, the on-coming residents are oriented to the new system by the rotation supervisor. To assess the sustainability of the method, third and fourth round of quality evaluations were performed 2 months later on 8 MSK procedures and 4 months later on 12 MSK procedures by different group of residents.

Do

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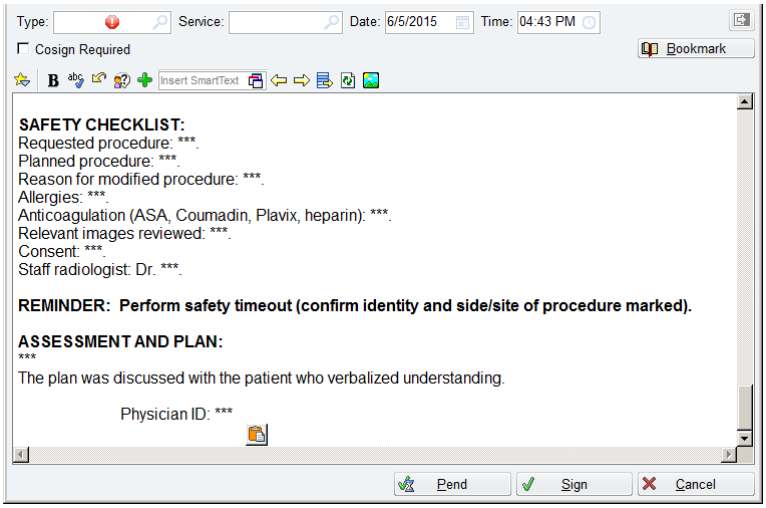

Results

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For both the pre and post checklist analysis, the relevant data were evaluated based on total number of procedures and subsets of targeted safety items to safely perform out-patient musculoskeletal interventional procedures. On the pre-checklist analysis, only 18 out of 44 (41%) safety items were addressed by the resident performing a procedure.

The most common information not reviewed prior to the procedure before implementing the checklist were the relevant laboratory results.

On the post-checklist analysis, the safety items were addressed 100% of the time, both the month of the initial implementation and three months later with a different group of rotation residents.

Results

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Evaluation by the staff

	# of Patients	Prior Images	Labs	Anticoagulation	Allergies	Total Procedures	Total Data
Pre-Checklist	11	11	0	9	8	11	18/44 (41%)
Post-Checklist (Same month)	11	11	11	11	11	11	44/44 (100%)
Post-Checklist (2 months later)	8	8	8	8	8	8	32/32 (100%)
Post-Checklist (8 months later)	10	10	10	10	10	12*	40/40 (100%)

*: 2 patients had bilateral procedures

Results

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Evaluation by the senior technologist

	# of Patients	Wrist band	Site Marked	Safety Time Out	Total Procedures	Total Data
Pre-Checklist	11	0	0		11	0/33 (0%)
Post-Checklist (Same month)	11	11	11	11	11	33/33 (100%)
Post-Checklist (2 months later)	8	8	8	8	8	24/24 (100%)
Post-Checklist (8 months later)	10	10	10	10	12*	30/30 (100%)

*: 2 patients had bilateral procedures

Results

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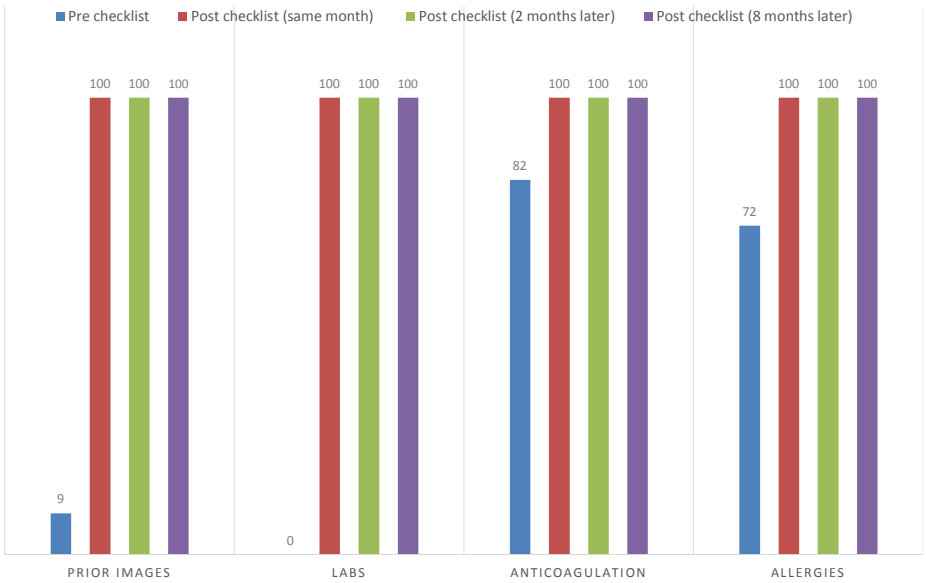

Results

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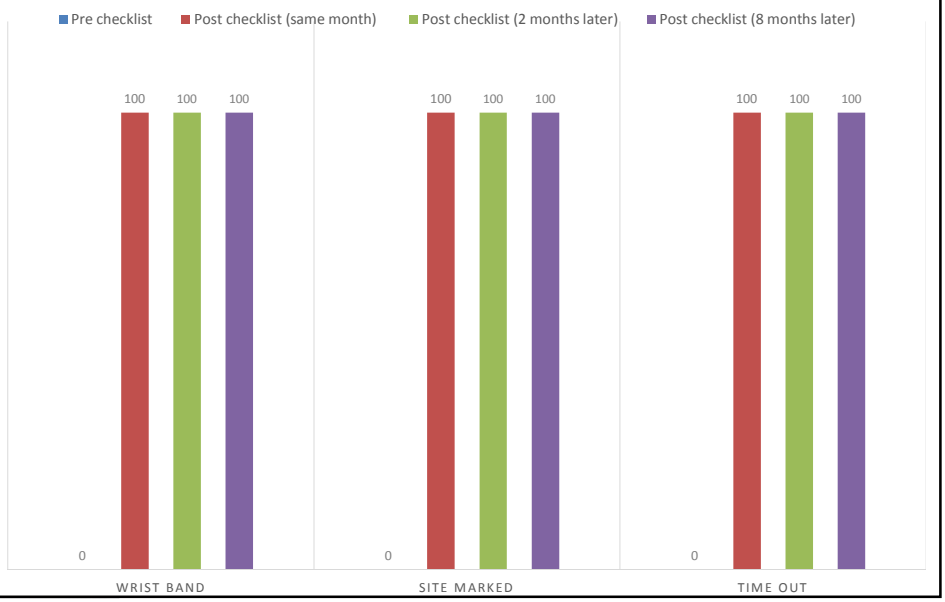

Act

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Implement a sustainability plan

Sustainability Plan

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- A safety checklist was developed and incorporated in the pre-procedure note in the electronic medical record system for each of the key safety items targeted for this project.
- Staff and supervisors routinely educate new residents, technologists and clerks
- Multiple reminder signs were placed at the entry point into the procedure rooms.

To perform procedure:

A- Check patient's identity:
1. Wrist band
2. Name
3. DOB

B- Perform time-out:
1. Correct patient
2. Correct site
3. Correct procedure

Conclusion

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We demonstrated at a large teaching hospital with a busy musculoskeletal interventional radiology service, a quality improvement project can successfully implement a systematic approach to procedure preparation via standardized safety checklist, pre-procedure documentation and safety timeouts, laying the foundation for building a culture of safety.

References

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http://www.jointcommission.org/standards_information/npsgs.aspx
http://www.ihi.org/

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Thank you