Initiation of a Zone 4 Time Out Procedure for MRI Safety

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DISCLOSURE

I have no personal or financial relationships to disclose
ROOT CAUSE

• Near-miss incident in which an incompletely MRI-screened patient underwent an MRI examination under general anesthesia

  – The patient suffered no harm, but a root cause analysis revealed a communication deficit during the MRI screening process
QUALITY IMPROVEMENT

• **PLAN**
  - Are Hartford Hospital’s proposed diagnostic imaging standards for MRI being adhered to?
  - What policy can be implemented to ensure patient safety prior to undergoing an MRI examination?

• **DO**
  - Zone 4 Time Out Procedure

• **STUDY**
  - Successful

• **ACT**
  - Implementation of Zone 4 Time Out MRI Checklist
BACKGROUND

• ROOT CAUSE ANALYSIS
  • Joint Commission: “Root cause” is a finding related to a process or system that has a potential for redesign to reduce risk
  
  – Multidisciplinary method to analyze adverse events
    • Identify underlying problems that increase the likelihood of errors

  – Interpret data with the ultimate goal of preventing future harm by eliminating errors that underlie these events
BACKGROUND

HARTFORD HOSPITAL MRI POLICY

Patients arriving for an MRI must complete an MRI safety screening form. If the patient is unable to, the patient representative must fill out the form.

The patient will be asked to sign the form to verify the provided information. If the patient is unable to sign, then the patient representative will sign the form.

Two individuals will ask the patient the MRI safety questions.

JOINT COMMISSION MRI STANDARD

Staff providing MRI service participate in safe practices in the MRI environment including: Patient screening criteria for ferrous-based items

The hospital must manage safety risk in the MRI environment associated with: claustrophobia, anxiety, patients who require urgent or emergent medical care, metallic implants and devices, and ferrous objects entering the MRI environment.

The hospital must manage safety risks by doing the following: restricting access of everyone not screened by staff to an area that immediately precedes the entrance to the MRI scanner room.
PURPOSE

- To ensure that diagnostic imaging safety standards for patients receiving MRI examinations are followed to avoid patient or personnel harm within Zone 4 of the MRI department

MATERIAL/METHODS

- Retrospective analysis of the information provided on 120 MRI patient screening forms (60 inpatient and 60 outpatient) before and after a “time out procedure” at Zone 4 with calculation of percentage of deficient information
  
  - Information reviewed: neurological status, allergies, metallic implants and confirmation of communication represented by two separate screeners and a patient/representative signature

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RESULTS

- Decrease in incomplete sections of the MRI screening forms prior to Zone 4 entry for outpatients only
- Second screener and patient/representative signature is least likely to be completed

<table>
<thead>
<tr>
<th>SCREENING CRITERIA</th>
<th>PRE PQI IMPLEMENTATION</th>
<th>POST PQI IMPLEMENTATION</th>
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<td>Inpatient</td>
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<tr>
<td>Neurological Status</td>
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<td>0%</td>
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<tr>
<td>Outpatient</td>
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<tr>
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<tr>
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**RESULTS FOR ADDITIONAL DATA**

- Decrease in incomplete sections of the MRI screening forms prior to Zone 4 entry for both inpatients and outpatients
- Second screener and patient/representative signature is least likely to be completed

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<tr>
<th>SCREENING CRITERIA</th>
<th>PRE PQI IMPLEMENTATION</th>
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<th>5 MONTHS POST PQI IMPLEMENTATION</th>
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CONCLUSIONS

• The Zone 4 Time Out Procedure is derived from and affirms the importance of the Joint Commission’s Universal Protocol Time Out

• A Time Out Procedure MRI checklist promotes completion of MRI screening forms prior to Zone 4 in patients undergoing MRI examinations

• A Time Out Procedure MRI checklist is beneficial in preventing harm and ensuring patient and personnel safety prior to Zone 4
REFERENCES


Screening of patients or individuals who will be entering the MRI scan suite policy. *Hartford Hospital Policies*; 1-3, 2013.