

Navigation of the Major Treatment Room: A Look at Performance Improvement



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STATEMENT OF THE PROBLEM

- Providing timely care to patients experiencing life-threatening events from trauma or illness is critical to successful patient outcomes
 - Patients require multiple interventions simultaneously - chaotic environment
 - Not all nursing and medical staff were proficient or comfortable functioning in the Major Treatment (MT) room
 - Staff identified need for more education and experience practicing in the MT Room
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PURPOSE

To determine if education about the location of supplies and equipment improve nursing and medical staff's knowledge and function in the MT room



REVIEW OF LITERATURE

- Majority of references were outdated and referred to use of scavenger hunts for student or new hire orientation, as well as promotion of interdisciplinary collaboration (Virgin, S. et al. (1996). *Nurse Educator*, 21(5), 32-34)
 - Examples supporting the use of educational activities in the healthcare environment using scavenger hunts in various capacities to improve environmental awareness (Nurse.com, October 10, 2011)
 - To maximize efficiency, standardized organization allows for easy identification of critical items during different phases of the stabilization and maintenance of life support efforts by clinicians (Hohenhaus, S. et al (2005). *Pediatric Emergency Care*, 21(1), 71-75)
 - Major gap in literature regarding the use and/or effectiveness of using this method to improve performance of staff practicing in a MT room in a Children's ED
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METHODS

PROJECT DESIGN

- Test retest design in 3 PDSA cycles
- Each cycle – 3 phases
 - Preparation
 - Education
 - Evaluation
- Participants (N = 168)
 - RNs
 - ED Technical Associates
 - Physician/Licensed Independent Practitioner (MD/LIP)



PREPARATION PHASE

- Focus on the environment of care



PREPARATION PHASE

- **Identify individual, environmental and system barriers that contributed to inefficient MT room functioning**
 - **Determine which items staff had most trouble locating**
 - **Assure optimal placement of critical equipment and supplies**
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Identified Barriers

- **Lack of access to MT room – due to role on unit (charge, triage, float, trauma, casual/full time, MD)**
 - **Knowledge gap:**
 - **Inconsistent orientation of new staff to MT environment**
 - **Infrequent assignment to MT room**
 - **Updating, addition, and relocation of supplies**
 - **Reluctance of certain staff to work in MT room (uncomfortable or nervous)**
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12 Items Difficult to Find Items

<i>Item</i>	<i>Location</i>
Little Sucker	Cabinet 2
Sterile Instruments	Cabinet 2
Pressure Cable/Kits	Cabinet 3
60cc Cath Tip Syringe	Cabinet 4
Duncan Kit	Cabinet 11
LP Tray	Cabinet 11
500ml Mannitol	Cabinet 11
Umbi Tray	Cabinet 11
Peep Valve	Broselow Cart
Pacer Magnet	Burn cabinet
Dispensing Pin	IV cabinet
Transport Box	Top of Pyxis

Preparation Cycles

Cycle 1

- Based interventions on identified barriers
- Inventoried MT room supplies
- Organized supplies
- Numbered cabinets and drawers

Cycle 2

- Solicited feedback from staff
- Identified top 12 hard to find items
- Used information to reorganize MT room for optimal placement of supplies

Cycle 3

- Reviewed additional feedback from staff
- Identified new supplies
- Fine tuned supply location based on new information

EDUCATION PHASE

- **Created educational program for all nursing and medical staff**
 - **Established creative methods to disseminate educational materials**
 - **Provided 1:1 demonstrations of new MT room environment**
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Education Phase Cycles

Cycle 1

- Created self-directed learning tool using PowerPoint slides
- Used email to disseminate PowerPoint
- Provided on-unit hard copy of learning tool for staff reference
- 1:1 tours

Cycle 2

- Updated self-directed learning tool – hard to find items
- Oriented new staff members
- Used informal knowledge sharing among staff for hard to find items
- 1:1 tours

Cycle 3

- Reviewed additional feedback from staff
- Designated location for all new supplies
- Fine tuned supply location based on new information
- 1:1 tours

Example Self-Learning Tool information



**Surgical Trays and Emergency Supplies
Cabinet 11 – Hard to find items**

Top Section of Cabinet 11

Duncan Kit

Umbi Lines

Thoracotomy Tray

LP Tray



Central line kits

EZ IO Supplies

Venasection tray

Pleuravac

Chest Tube Suction

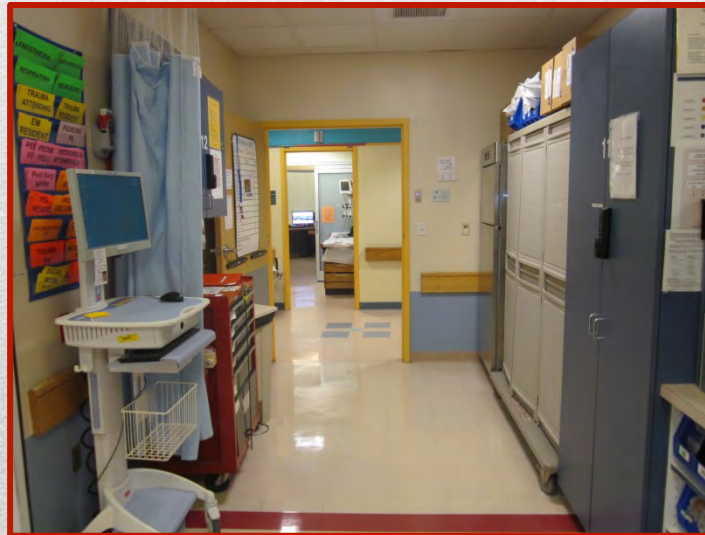
Repeat Cycles: What's Different?

- Equipment moved to accommodate computers (WOWs)
- New placement and location highlighted
- Opportunity to communication other relevant updates



EVALUATION PHASE

- Identify measures of success
- Create tools for measuring outcomes
- Repeat evaluation every 6 months



TESTING

- Created multiple *Randomized Scavenger Hunt Tools* to measure staff competency
- Each staff member selects a randomized list of 5 items from 75 combinations

Example

Name: _____ Role: _____ Date: _____

Time: _____ (5 minute limit)

- 4.5 OETT
- Suction tubing
- Duncan kit
- End tidal
- T&A hemorrhage tray

Evaluation Phase Cycles

Cycle 1

- Created Scavenger Hunt Tool – 5 randomly selected items per tool
- Established baseline performance

Cycle 2

- Repeated measurement at 6 month
- Created and updated standard set for Scavenger Hunt Tool.

Cycle 3

- Repeated measurement at 12 month



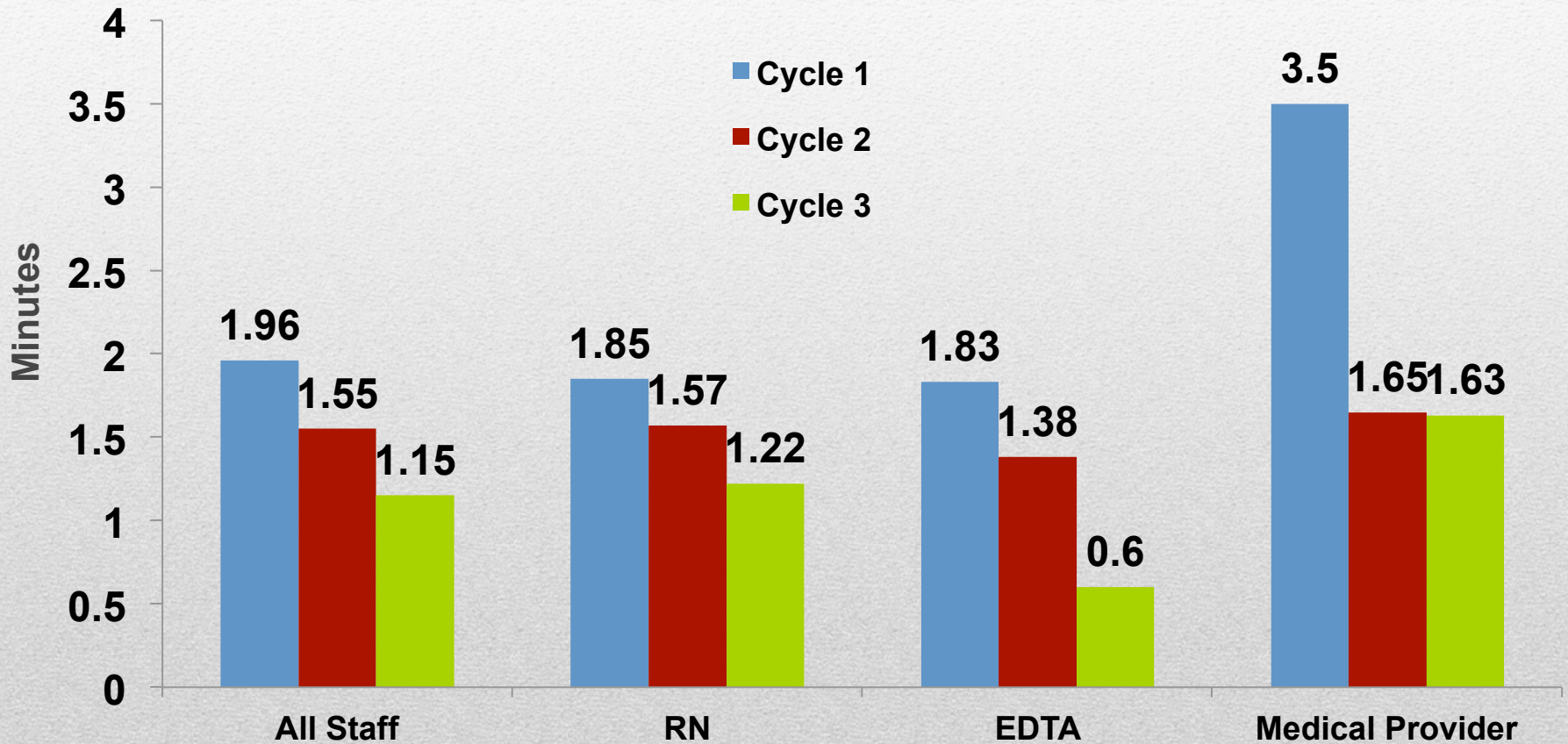
RESULTS

Scavenger Hunt Duration in Minutes By Participants (range)

Sample	Cycle 1 Minutes	Cycle 2 Minutes	Cycle 3 Minutes
	0.47 - 5	0.30 - 5	0.25 - 4.1
RN	43	28	29
EDT	15	12	9
MD	5	16	11
Total	63	56	49

Scavenger Hunt Duration by Staff Type

Cycles 1 to 3 (Mean Minutes)



SUMMARY OF RESULTS

Times for all staff improved from 1.96 minutes (mean) to 1.15 minutes (mean)

- **RNs:(N=100) 0.63 min (1.85 min to 1.22 min)**
 - **EDTA:(N=36) 1.23 min (1.85 min to 0.6 min)**
 - **MD/LIP:(N=32) 1.87 min (3.5 min to 1.63 min)**
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STAFF PERSPECTIVE

Staff report this project has led to:

- **Increased desire to perform well during emergencies**
 - **Increased comfort and efficiency in role/ functioning in MT room contributing to the overall safety of patients**
 - **More teamwork and collaboration among all disciplines**
 - **Fun and interactive method of learning**
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STAFF PERSPECTIVE

Project has helped to identify staff who require:

- **More time assigned to the MT Room**
 - **Additional mentoring/education**
 - **Coaching to mentor others in the MT Room**
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DISCUSSION

- **Use of a Scavenger Hunt technique is an effective interactive educational tool to increase the knowledge of supplies and equipment in a MT room of a pediatric ED.**
 - **Repeated use of this technique enhances improvement over time**
 - **Shared knowledge may lead to improved teamwork and enhanced efficiency in the provision of timely care to acutely ill children**
 - **Project interventions are readily transferrable to other patient care areas throughout Yale-New Haven Health System and other organizations**
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Questions and Answers
