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Enhancing SRNA Confidence: Simulation-Based CRM Training for the Management of Intraoperative Cardiac Arrest

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Abstract

Intraoperative emergencies in the operating room (OR) are rare but necessitate early recognition and intervention.

↑ Stress of SRNA's
↓ Confidence & delayed intervention

Research indicates that simulation-based education (SBE) is effective in improving overall clinical confidence and intraoperative emergency management skills

Background

Acute stress adversely affects learning performance, student self-confidence, and hinders the ability to complete complex tasks

Nurse anesthetists are gaining higher levels of autonomy, exposing SRNAs to more complex patients, increasing performance demand.

Less than 50% of nurse anesthesia programs address the non-technical aspects of crisis management

Introduction

Inconsistent occurrence of perioperative cardiac arrest decreases training for novice anesthesia providers.

Typical training in anesthesiology follows an apprenticeship model, requiring students to practice skills on real patients in the clinical setting.

SBE complements experimental learning by exposing SRNAs to relevant clinical scenarios in a setting that is functional and familiar

Literature Review

Inclusion Criteria

- Meta-Analyses, systematic reviews, and literature reviews
- Studies including – healthcare training, anesthesia education, SBE, intraoperative crisis resource management, student competency and skill development

Findings Summary

↑ Clinical knowledge

↑ Student confidence

↑ Non-technical skills

Problem Identification

Clinical Problem

- SRNA's lack exposure to emergent clinical scenarios
- Delayed intervention, diminished confidence, and increased clinical related stress

Significance

- Successful management of intraoperative cardiac arrest depends on provider experience, clinical knowledge, and the ability to recognize patient deterioration

Clinical Needs

- The COA recommends simulation education as a required curriculum component of practice doctorate standards.

PICO Question

(P) For student registered nurse anesthetists in a doctoral prepared nurse anesthesia program

(I) Is simulation-based crisis resource management training in addition to didactic education

(C) When compared to didactic only education

(O) Beneficial in improving student confidence in intraoperative recognition of deteriorating patient conditions, interdisciplinary communication and crisis management during uncommon clinical scenarios, such as cardiac arrest?

Project Design

Objectives

- 1 Evidence-based guidelines to enhance SRNA confidence during Intraoperative cardiac arrest
- 2 Develop simulation-based curriculum and implementation plan.
- 3 Monitor the impact of SBE crisis management training in improving student confidence and clinical competence
- 4 Adjust guidelines to achieve the desired outcomes by continuous evaluation

Immersion Site

- Nurse anesthesia program located at a 449-bed level one trauma center in central Ohio

Metrics

- Pre-implementation survey
- ANTS Observational audit form
- Post-implementation survey

Implementation

Pre-Simulation

- Pre-Implementation survey – baseline student confidence levels
- Crisis resource management lecture

Simulation

- Students participate in a simulation activity
- Simulation leaders complete ATNS observational audit

Post-Simulation

- Debrief session focused on highlighting strengths and weaknesses of CRM use.
- Simulation leaders discuss ATNS audit scores with students individually.
- Completion of post-simulation survey – used to measure changes student self-reported confidence levels

The Iowa Model Revised:
Evidence-Based Practice to Promote Excellence in Health Care

- Framework for implementation of EBP interventions
- Evidence Appraisal
- Guide for sustainable integration of practice change

Outcome Evaluation

Measured Outcomes

- Confidence
- Recognition of patient deterioration
- Crisis management skills

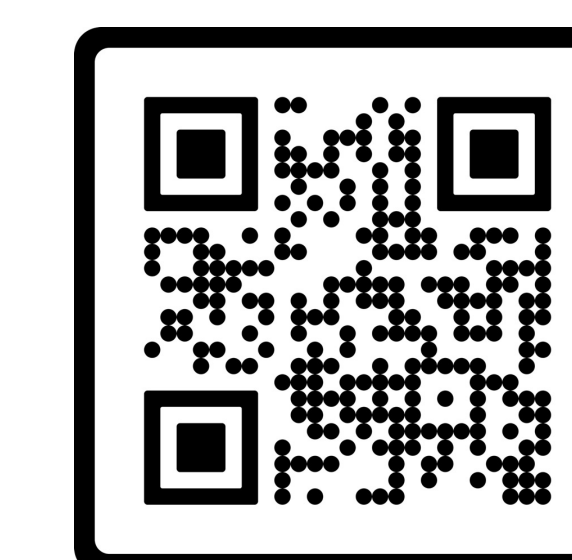
If desired outcomes are met:

- Interdisciplinary communication
- Simulation guidelines will be recommended for public use

If desired outcomes are not met:

- Applicable changes made to simulation guidelines
- Additional CRM classroom education
- Increased frequency of simulation exercises.

Guideline & Surveys



SCAN ME



Conclusion

The integration of SBE for SRNA students enhances confidence in the management of intraoperative cardiac arrest

SBE combined with CRM training enhances clinical competency.

SBE provides a non-threatening learning environment improving decision making skills.

CRM in anesthesia improves task management, vigilance, reaction time, and communication.

References



SCAN ME

