

Impact of a Trauma Boot Camp on Nurse Knowledge, Skills and Confidence, and Frequency of Unplanned Intensive Care Admissions

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Background & Purpose

- Limited research exists on the impact of trauma-focused education for inpatient nurses on quality outcomes.¹⁻²
- The purpose of this study is to explore the impact of a trauma boot camp on inpatient nurse trauma knowledge, self-confidence, and skills and on the frequency of unplanned intensive care (UICU) admissions in trauma patients over the 3 months prior vs. the 3 months after training.

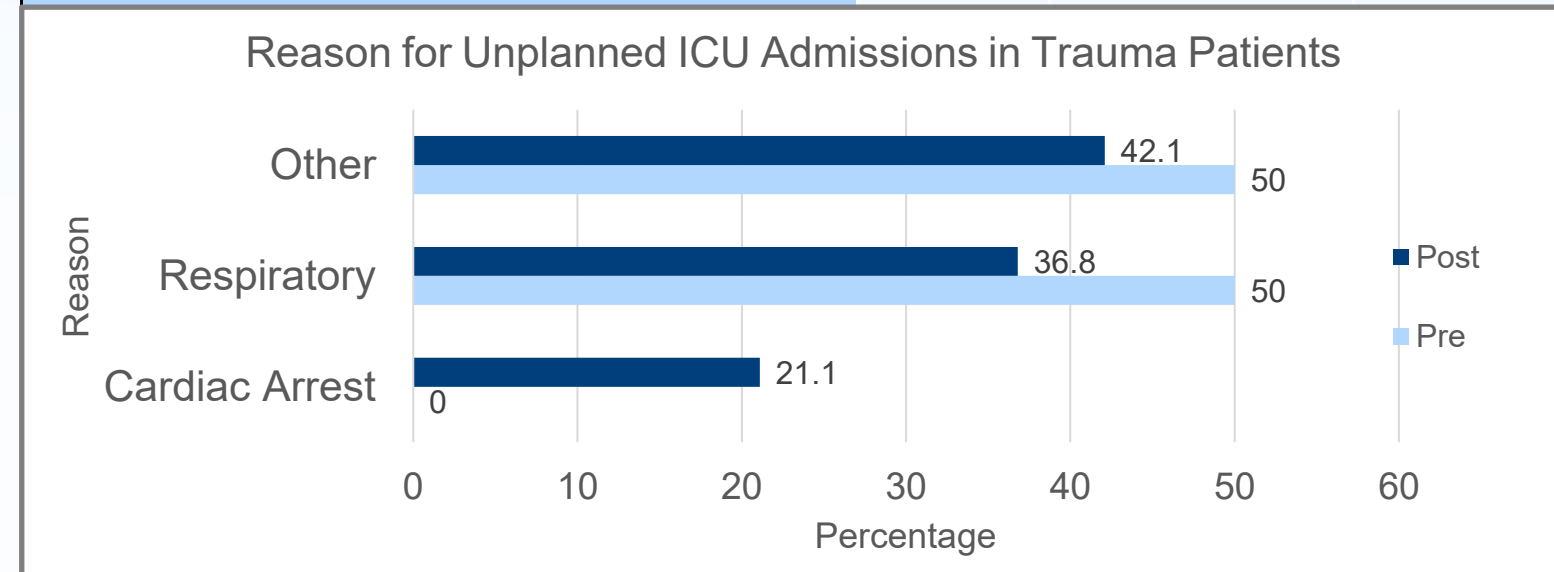
Methods

- A quasi-experimental, pre- and post-intervention with repeated measures design was used.
- Convenience sample comprised of nurses with <3 years experience employed on inpatient surgical units at a Level I Trauma Center.
- The Trauma Boot Camp intervention included 4 simulation scenarios with debriefing, followed by a brief focused lecture. A final simulation scenario with debrief incorporated all learning objectives completed the curriculum.
- Knowledge and confidence were measured pre- and immediately post-boot camp, and 30, 60, and 90 days later. Skills were scored by a trained evaluator the day of the boot camp.
- Unplanned ICU admission data was compared 90 days pre- and post-intervention.
- Analyses used Fisher's Exact Test and Wilcoxon Signed-Rank Test with alpha set at 5%.

Results

- 20 nurses attended training, four completed all the study pre/post knowledge and confidence, and demographic data measures. Due to lack of participation the repeated measures at 30, 60, and 90 days were not evaluated.
- All post-intervention self-confidence scores demonstrated significant improvement (see table).
- Skill level showed no improvement from the first to the final simulation, however, five of the seven simulation groups had an increase in their scores ($p \leq 0.05$).
- UICU admissions significantly increased from pre- to post-boot camp (4.8% vs 10.9%, $p \leq 0.05$). However, unplanned ICU admissions due to respiratory decline decreased pre-to post-intervention, which was a focus of the trauma boot camp (see bar chart).

Nurse Self-Confidence In Ability to Recognize & Manage Deteriorating Trauma Patients (n=20)	Pre-Median	Immediately Post-Median	P-value
Recognize deterioration	3	4	$p=0.0001$
Perform assessments	3	4	$p=0.0002$
Intervene appropriately	3	4	$p=0.0003$
Describe bladder management for SCI	3	5	$p=0.0001$



Conclusions

- This study contributes additional evidence to support the positive impact of simulation-based training on increased nurse confidence in recognition and management of acutely ill patients.
- A Trauma Boot Camp designed for new inpatient nurses may reduce UICU admissions related to respiratory decline in trauma patients.
- Further research using experimental designs are needed to determine the effects on retention of knowledge, skill, and patient outcomes related to UICU admissions.



References

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