

# Evidence-Based Practice (EBP) - E175

Oral

## **Abstract Title:**

The Trauma Crash Course: Impact of an Evidenced-based Training Program on Nurse Knowledge and Confidence in Trauma Team Performance

## **Authors:**

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## **Background & Purpose:**

The registered nurse (RN) is an essential member of the trauma resuscitation team. Nurse knowledge, confidence in practice, and team communication skills are essential components for optimal patient outcomes in the trauma resuscitation setting. The purpose of this project was to evaluate the impact of an evidence-based TeamSTEPPS® simulation-based training (SBT) program on RN knowledge and confidence in performance in the trauma resuscitation setting.

## **Study/Project Design:**

This IRB approved quality improvement study utilized a pre/post intervention design.

## **Setting:**

:A 767-bed, Level 1 Trauma and academic medical center, ANCC Magnet designated facility.

## **Sample:**

: A convenience sample of emergency department RNs practicing in a Level 1 trauma center resuscitation setting

## **Procedures:**

All RNs in the study completed the Trauma Crash Course (TCC), a one-day program on trauma care, resuscitation skills and practice, and feedback using SBT. The TeamSTEPPS® Essentials course, an evidence-based program aimed at optimizing performance among teams of healthcare professionals, was the content for the teamwork curriculum. Pre/post participation in the TCC, RNs completed a 22-item multiple-choice test comprised of questions extracted from the Society of Trauma Nurse e-library test bank and TeamSTEPPS® Master Trainer Examination. A 5-point Likert scale (very low to very high) questionnaire asked RNs to rate confidence in trauma patient assessment and management, before and after SBT. Analysis with paired samples t-test ( $\alpha=.05$ ) results were reported.

## **Findings/Results:**

Eighty-two RNs participated in the study 2011-2013. Self-confidence increased significantly in all areas pre to post: airway/breathing/circulation management ( $t(81)=-11.717, p<.000$ ), neurologic assessment ( $t(80)=-9.539, p<.000$ ), exposure ( $t(80)=-10.017, p<.000$ ), vital signs ( $t(81)=-5.308, p<.000$ ), rapid infuser ( $t(81)=-15.970, p<.000$ ), vocalizing clinical findings to the trauma team ( $t(81)=-10.936, p<.000$ ), rescue airway ( $t(80)=-10.193, p<.000$ ), pharmacology ( $t(81)=-13.606, p<.000$ ), fluid warmer ( $t(67)=-11.549, p<.000$ ), chest tube insertion ( $t(67)=-11.262, p<.000$ ), massive transfusion ( $t(69)=-11.976, p<.000$ ), and arterial line set up ( $t(69)=-12.689, p<.000$ ). Nurses stated course objectives were met (100%) and would recommend the TCC to a colleague (100%). There was a statistically significant increase in knowledge scores from the pretest ( $M=68.29, SD=18.35$ ) to post-test ( $M=88.48, SD=5.44$ ),  $t(65)=1.997, p<.0000$  (two-tailed).

## **Discussion/Conclusions/Implications:**

The combination of SBT with traditional teaching methods has enhanced the knowledge base and confidence of RNs delivering care to an injured patient in our acute trauma care setting. This study is one piece of a comprehensive multidisciplinary TeamSTEPPS® SBT curriculum contributing to improved processes and outcomes of care in the resuscitation setting at our Level I trauma center. Use of this innovative TeamSTEPPS® SBT model may serve as an effective approach for RN trauma training in other high-risk settings.