Developing the Emergency Department Advanced Practice Provider Role for Trauma Activations Through In Situ Simulation

Children's Hospital of Philadelphia

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Innovation Aim

- Children's Hospital of Philadelphia (CHOP) is an urban tertiary pediatric hospital and an accredited Level 1 Pediatric Trauma Center.
- Trauma resuscitations are a low volume, high risk event requiring unique skills and knowledge. Comprehensive training is imperative.
- Aim of practice innovation was to develop a program for Emergency Department (ED) Advanced Practice Providers (APPs) to increase confidence & competence in trauma resuscitations.

Background/Significance

- Unique & complex ED environment requires APPs to receive education and skills to provide care for variable populations including trauma to effect positive outcome ⁰.
- CHOP ED APP role has evolved significantly from 1 APP caring for patients in Urgent Care only to over 37 APPs treating all acuities including the most critically ill or injured.
- Optimizing the ED APP role in Trauma Resuscitations was next step for role expansion.
- In 2009, various educational modalities to prepare APPs for trauma resuscitations included Advanced Trauma Life Support (ATLS) certifications, airway management and primary/secondary survey skills stations, annual Trauma Boot Camp attendance, monthly mock Trauma/ED simulations, and selected trauma related CEUs.
- Barriers still exist in many EDs limiting the APPs ability to function to their full extent of practice and license ².

New Model of Collaboration

- A variety of simulation methodologies are directed at improving trauma care and reducing errors both in technical & non-technical skills.³ Choice of simulation is largely dependent on desired outcome.
- Mock Trauma simulations already occurred in ED involving many disciplines including APPs.
- Trauma Simulation Planning staff collaborated and surveyed APPs for feedback to ascertain lack of participation in trauma resuscitations.
- Based on feedback, in 2016, single discipline simulations were developed to meet specific APP educational needs & decrease potential intimidation experienced in larger multi-discipline simulations.
- First APP Focused Trauma Simulation occurred March 2017.
- ED RN staff and respiratory therapists were then included to allow for a shared mental model and improve overall critical thinking skills in trauma management.
- Planned focused APP Simulations occur 4 times/year & represent a standard educational forum.
- Focused sessions included selected trauma injuries and mechanisms of injury (MOI) with emphasis on skills such as:
  - Primary/Secondary survey
  - GCS Calculations
  - Airway Management
  - Team Leading
  - Communication
  - Critical Thinking

Specific Barriers Decreasing APPs Confidence and Participation in Trauma Resuscitations Per CHOP APP Survey

- APPs limited opportunity & involvement in real time Trauma Activations
- Competing educational needs of rotating residents/fellows
- Pediatric Emergency Medicine (PEM) physician preference or reluctance
- Lack of trauma education related to caring for trauma patients
- Unfamiliarity with ED resuscitation equipment
- Unfamiliarity with trauma role

Value To Practices/Outcomes

- Survey results continue to illustrate increase trauma knowledge base & critical skills including feedback of future topics and skills
- Trauma Video Review demonstrates increased APP participation and comprehensive ATLS assessments and management.

References

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Background

Children’s Hospital of Philadelphia (CHOP) is an urban tertiary hospital and a Level 1 Pediatric Trauma Center. Annually, CHOP’s Emergency Department (ED) treats approximately 100,000 children including 12,850 trauma patients, 1200 trauma admissions, and 140 trauma resuscitations. ED Advanced Practice Providers (APPs) role has greatly evolved from 1 APP to now 37 APPs managing acutely ill and injured patients throughout the ED, including trauma and medical resuscitations. As APPs were already treating patients with various trauma diagnoses, optimizing and promoting their participation in trauma resuscitations allowed continued expansion of their role.

Aims of Service Change:

Due to competing educational needs of rotating residents/fellows at monthly mock Trauma/ED simulations and limited opportunity and involvement in real-time trauma resuscitations, APP providers reported lack of confidence in trauma resuscitations. Trauma resuscitations are a low volume, high risk event therefore adequate and comprehensive training is imperative. Our aim was to develop and increase ED APPs competence and confidence to function as an integral Trauma Resuscitation Team member.

Details of Innovation:

In fall 2016, Trauma, ED nursing, and simulation staff collaborated to create in-situ trauma simulations specifically for APPs. Single discipline simulations were developed to meet specific ED APP educational needs and decrease potential intimidation experienced in larger multi-discipline simulations. ED RN and respiratory staff were included to allow for a shared mental model and improve critical thinking skills in trauma management. The first APP/RN Focused Trauma Simulation occurred March 2017. Since inception, Focused APP trauma simulations have included various trauma injuries and mechanisms of injury (MOI) with objectives to practice skills such as airway management, primary/secondary survey, GCS calculations, team collaboration, and team leading for decision-making interventions.

Outcome:

Simulation evaluations are overwhelmingly positive and continue to illustrate increase in knowledge base and critical skills improving competence and confidence. Future topics/skills are selected through simulation evaluation feedback and video review of trauma resuscitations. Bi-Monthly Trauma Video Review demonstrates increased APP participation and organized ATLS assessments. Planned focused APP Simulations now occur 4 times/year and represent a standard educational forum for ED APPs.

Implications:

APPs are better prepared to participate in trauma resuscitations that require a unique set of knowledge and skills to care for this specific population. Additionally, leadership and decision making skills were enhanced. The knowledge and skills gained through these focused simulations have allowed the ED APPs to practice competently and confidently as an essential member of the health care team.