Active Shooter in the Children’s Hospital: A Simulation Curriculum

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Background

- Active shooter (AS) and targeted gun violence incidents are increasing in healthcare settings in the United States.\(^1\)\(^2\)
- Traditional training for AS involves passive learning such as classroom or web lectures. AS simulations have been conducted in clinics, emergency departments and hospital wards, but not in an operating room (OR).
- Events involving vulnerable children, such as those under general anesthesia, present unique ethical and legal dilemmas. Loma Linda University Medical Simulation (sim) Center and the Department of Anesthesia developed three active shooter OR sim scenarios in conjunction with local police to better prepare anesthesia providers react to these situations.

References:

Methods

The AS scenarios were conducted after hours at Loma Linda University Surgical Hospital and included actors, manikins, and local police officers. The sim evaluated the anesthesia physician’s response to the shooter as well as the patient care provided during the encounter. Participants were given a pre-sim questionnaire to assess:
- Background knowledge of AS situation
- Anticipated response to a shooter
- Perceived ethical responsibilities

Post-sim questionnaires evaluated:
- Educational benefit
- Personal response to the scenario
- Effectiveness of the scenario
10 residents and 1 pediatric anesthesiology fellow participated in the AS sim.

Results

Pre-Simulation Questions (% Yes)

- Previous AS Training: 0%
- Training Essential: 82%
- Legal Responsibility to Stay: 36%
- Ethical Responsibility to Stay: 91%
- Abandon Patient if Own Life at Risk: 45%

Post-Simulation Questions: Simulation Effectiveness (% Yes)

- Simulation Realistic: 90%
- Felt Fear/Axiety: 90%
- Better Prepared: 90%
- Simulation Essential: 100%

Discussion

- AS sim provides a valuable opportunity to teach ethical and legal principles pertaining to caring for pediatric patients in extremis when the provider’s safety is also threatened. Physicians may experience a conflict of conscience when asked to leave a patient behind.
- Partnering with local police allows active duty officers to train on AS response within a healthcare setting and also trains physicians on how to safely interact with responding law enforcement personnel. This interaction is especially important in the OR setting with limited escape routes and the need to attend to anesthetized patients under duress.

Conclusion

- Medical simulation is appropriate for AS education in the OR.
- AS simulation scenarios involving pediatric patients present ethical and moral dilemmas, which may also arise in natural disasters and require similar management principles.