S.T.A.R.T.T. plus: addition of prehospital personnel to a national multidisciplinary crisis resource management trauma team training course

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SUMMARY

The Simulated Trauma and Resuscitation Team Training (S.T.A.R.T.T.) course is a unique multidisciplinary trauma team training course deliberately designed to address the common crisis resource management (CRM) skills of trauma team members. Moreover, the curriculum has been updated to also target the specific learning needs of individual participating professionals: physicians, nurses and respiratory therapists. This commentary outlines further modifications to the course curriculum in order to address the needs of a relatively undertargeted group: prehospital personnel (i.e., emergency medical services). Maintenance of high participant satisfaction, regardless of profession, suggests that the S.T.A.R.T.T. course can be readily modified to incorporate prehospital personnel without losing its utility or popularity.

The Simulated Trauma and Resuscitation Team Training (S.T.A.R.T.T.) course was designed to teach crisis resource management (CRM) skills, such as teamwork, problem solving, situational awareness, communication, leadership and resource management, to multidisciplinary trauma teams. The course has been associated with high satisfaction ratings among participants, improved attitudes toward CRM training and improved CRM performance.^{1,2} To date, multidisciplinary participants have included physicians (general surgeons and emergency medicine doctors, registered nurses (RNs) and respiratory therapists (RTs)). Here we discuss the design and results from a new pilot course integrating prehospital personnel into the S.T.A.R.T.T. curriculum.

The basic S.T.A.R.T.T. course design has been described previously.^{1,2} Briefly, it is a 1-day course beginning with a short introductory lecture discussing basic CRM principles and trauma team structure. For the remainder of the 8-hour day, participants are divided into “trauma teams,” consisting of 4–6 physicians, 2–3 RNs and 1–2 RTs. These teams rotate through 4 high-fidelity trauma simulations. Simulations last approximately 15 min followed by 45 min of debriefing. The content of the simulation scenarios vary with each course, but the 4 simulations follow the same template:

- a delayed-entry scenario;
- a multicase scenario;
- a distance resuscitation scenario; and
- a “wild-card” scenario, as described later in this article.

Each scenario is specifically designed to focus on 1 or more specific CRM skills.²

PILOT COURSE

In a new pilot course we embedded 2 prehospital personnel within each trauma team. Specifically, we included 1 flight nurse and 1 flight paramedic from our local Helicopter Emergency Medicine Service (HEMS). In order to

accommodate the additional learning needs of the HEMS crews we adapted the course design and scenarios. First, each scenario was increased in duration to 30 min, followed by the same 45-min debrief. Second, given the growing acknowledgement of the patient safety implications of handoff (i.e., the transfer of pertinent patient information from one team to another),³ the scenarios were modified to stress communication and teamwork between the prehospital and in-hospital teams. The teams rotated through 3 scenarios in the morning followed by a large mass casualty scenario in the afternoon.

Delayed entry scenario

In this scenario the HEMS crew entered the room first, simulating the pickup of a trauma patient at a small rural centre. The HEMS crew had to assess and stabilize the simulated patient and then “transport” the patient across the hall to another simulation suite, where the remainder of the trauma team was awaiting to receive the patient. After handover from their HEMS crew, the trauma team carried on with the resuscitation of the patient.

Multicasualty scenario

In this scenario the HEMS crew was integrated directly into the trauma team, having been told they were completing a “training day” in the local trauma centre emergency department. They participated as additional personnel, aiding with procedures where necessary during this multi-casualty resuscitation.

Distance resuscitation scenario

In this scenario the RNs and RTs participated in “hands-on resuscitation,” having been told that they were working in a

northern remote nursing station with no physicians available within the community. The physicians and HEMS crew were located in an adjoining simulation room and were reachable only by phone, meaning that they could give only verbal guidance (i.e., “verbal resuscitation”⁴) and advice to the RNs and RTs. The HEMS crew, after hearing the initial patient description were then “mobilized” to the nursing station and seconded to a third room to simulate their travel to that station. At the end of the scenario the HEMS crew arrived at the nursing station and received handover from the RNs and RTs. They then had 10 min to prepare the patient for flight before their flight window closes.

Wild-card scenario

The afternoon “wild-card” scenario consisted of a mass-casualty simulation for all participants. Twenty-eight volunteers were moulaged in order to simulate a gang fight at a rave. In mass-casualty triage terms using the Simple Triage And Rapid Treatment (START) system, there were a total of 2 “black” (i.e., “deceased”) patients and 5 “red” (i.e., “immediate care”) patients; the remaining patients were “yellow” (i.e., “delayed care”) or “green” (i.e., “ambulatory care”).⁵ The HEMS crews were dispatched and told to secure the scene, triage the patients and transport the most appropriate patients back to the simulation centre, where their respective trauma teams were waiting to receive and to continue the resuscitation. The HEMS crews could communicate via hand-held radios with their respective trauma teams, updating them on the situation at the scene and on the status of the patients.

Evaluation

The course was evaluated by all participants using the same 5-point Likert satisfaction survey used in previous publications.^{1,2} We added 3 additional questions to

Fig. 1. Participant response to satisfaction survey, by background. HEMS = helicopter emergency medicine service; MD = medical doctor; RN = registered nurse; RT = respiratory therapist.

explore the success (or failure) of integrating the HEMS crews into the course and the overall success of the mass casualty simulation.

Course participants included 6 general surgery residents, 6 emergency medicine residents, 9 emergency nurses, 6 respiratory therapists and 6 HEMS crew members. Satisfaction was excellent across all participants, with no differences among professional disciplines (Fig. 1). All participants, regardless of base specialty, reported that incorporation of prehospital personnel added to, rather than detracted from, the learning experience.

We have demonstrated how to develop unique scenarios to address the learning objectives of a group that has been relatively ignored up until now: prehospital personnel. This was done without detracting from the learning needs of core participants. We have illustrated how incorporation of prehospital personnel into the S.T.A.R.T.T. curriculum is feasible and well received and how it may even offer putative benefits to all team members. Given that one of the strengths of simulation compared with traditional didactic or unidisciplinary training is that simulation mimics multidisciplinary trauma care, this is important and reassuring. Our work suggests that rather than fearing or loathing multidisciplinary training, there is hunger for training that resembles everyday practice.

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