

training is routinely used to achieve excellence in competitive sports, martial arts, military operations, and music. Surgical cricothyrotomy is a rarely performed safety critical task. **Methods:** Two doctors and three nurses developed stepwise team microskills checklists from case review, simulations and published evidence. The checklist was tested, evaluated and developed during four days of simulation faculty team training. The final 30 item checklist was used to facilitate skills training for doctors, nurses, respiratory therapists and ACPs in one level 2, and two level 3 trauma centers from April 2017 to October 2017. Commonly available airway trainers were retrofitted with the 3-D printed larynx. The microskills checklist was used in four phases: 1. Group discussion of each microskill step; 2. Groups of three team members; operator, assistant and microskill facilitator (using the checklist) to enable the deliberate analysis of the teams current performance. Each subtask is performed with immediate peer and where necessary faculty feedback - changes are recorded; 3. Total task run through without interruption - changes are recorded; 4. Repetition and feedback using different team members, manikins, including time pressure. User satisfaction surveys were collected after the skills training session. **Results:** Teams were composed of Registered Nurses (8), Physicians (9), and Respiratory Therapists (2). All of the teams experienced a change in practice. The median number of microskills changed for MDs 12/21, RNs 6/12. The commonest changes in practice were equipment preparation (all teams). All professions agreed strongly that the approach produces a positive change in practice (median score 5/5). **Conclusion:** Microskills checklists facilitate cricothyrotomy skill development in interprofessional teams in this provisional analysis.

Keywords: innovations in emergency medicine education, airway management, deliberate practice

P049

Changes in situational awareness of emergency teams in simulated trauma cases using an RSI checklist

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Introduction: Situational awareness (SA) is the team understanding patient stability, presenting illness and future clinical course. Losing SA has been shown to increase safety-critical events in multiple industries. SA can be measured by the previously validated Situational Awareness Global Assessment Tool (SAGAT). Checklists are used in many safety-critical industries to reduce errors of omission and commission. An RSI checklist was developed from case review and published evidence. The New Brunswick Trauma Program supports an inter-professional simulation-based medical education program. **Methods:** Simulations were facilitated in three hospitals in New Brunswick from April 2017 to October 2017. Learner profiles were collected. The SAGAT tool was completed by a research nurse at the end of each scenario. SAGAT scores were non-normally distributed, so results were expressed as medians and interquartile ranges. Mann Whitney U tests were used to calculate statistical significance. To understand the effect of the RSI checklist a comparison was made between SAGAT scores at baseline in scenario 1, and the same first scenario completed after a washout period. A Poisson regression analysis will be used to account for the effect of confounding variables in further analyses. **Results:** The group was composed of Registered Nurses (8), Physicians (7), and Respiratory Therapists (2). Situational awareness increased significantly with the use of an RSI checklist after 1 day of 4 simulations. The washout period ranged between 5 weeks and 8 weeks. The baseline situational awareness of the whole group during scenario 1 was 9 +/- 0.5 (median,

IQR), and with the RSI checklist was 12 +/- 1 (median, IQR). The difference was highly statistically significant, $p \leq 0.001$. This level of situational awareness using checklist is comparable to the SAGAT scores after 10 scenarios. **Conclusion:** In this provisional analysis, the use of an RSI checklist was associated with an increase in measured situational awareness. Higher levels of situational awareness are associated with greater patient safety. A Poisson regression model will be used to understand the confounding effects of user expertise and the likely interaction with simulation exposure.

Keywords: quality improvement and patient safety, airway management, checklist

P050

How aware is safe enough? Situational awareness is higher in safer teams doing simulated emergency airway cases

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Introduction: Situational Awareness is the ability to identify, process, and comprehend the critical elements of information about the patient condition, stability, the operational environment and an appropriate clinical course. The Situational Awareness Global Assessment Tool (SAGAT) is a validated tool for measuring situational awareness. The SAGAT tool was measured during a series of standardized high fidelity advanced airway management simulations in multidisciplinary teams in New Brunswick Emergency Departments delivered by two simulation programs. **Methods:** Thirty eight simulated emergency airway cases were performed in situ in Emergency Departments and in learning centers in Southern New Brunswick from September 2015 to October 2017. Eight standardized cases were used whose educational objectives were to develop the optimization of critically ill patients prior to induction, to deliver patient-centered anesthesia and to choose an appropriate airway strategy. Learner profiles collected. Cases were divided into two groups; those that contained critical errors and those that did not based on video assessment. Critical errors were defined as failure of 1) Oxygenation, 2) Shock correction, 3) Induction dose estimation, 4) Choice of airway management paradigm. The SAGAT has a maximum score of 13 and was assessed by research nurses after each case for all participants. SAGAT scores were non-normally distributed, so results were expressed as medians with interquartile ranges. Mann Whitney U tests were used to calculate statistical significance. **Results:** Results. Of the 38 cases, 14 contained one or more critical errors. The median SAGAT score in the group that contained critical errors was 8 +/- 2 (IQR). The median SAGAT Score in the group that contained no critical errors was 11 +/- 2 (IQR). The median scores were significantly different with a p-value of 0.02. **Conclusion:** In this study in simulated emergency cases, higher SAGAT scores were associated with teams leaders that did not commit safety critical errors. This work is the initial analysis to develop standards for Simulated team performance in Emergency Department teams.

Keywords: innovations in emergency medicine education, simulation, human factors

P051

Management of subcutaneous abscesses in the emergency department

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