How aware is safe enough? Situational Awareness is higher in safer teams doing Simulated emergency airway cases.

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References

Conflicts of Interest and Funding.

This program has received financial support from New Brunswick Trauma Program in the form of research grant. This program has received in-kind support from New Brunswick Trauma Program in the form of logistical support.

Background:
Situational Awareness (SA) is the ability to identify, process, and comprehend the critical elements of information about patient condition, stability, the team and operational environment and an appropriate clinical course. The New Brunswick Trauma Program delivers a Simulation Based Medical Education (SBME) program to 20 acute hospitals. The simulation program is embedded in a translational research program in collaboration with the Department of Emergency Medicine, Saint John Regional Hospital. www.sjrhem.ca/research. The priorities for the SBME program are Inter Professional Education (IPE), developing resilient practitioners, and improve teamwork. SBME is part of an education program www.nbtrauma.ca/education

Methods:
The Team Situational Awareness Global Assessment Technique (TSAGAT- Figure 1.) is a validated tool for measuring situational awareness in simulated trauma scenarios 1.

The TSAGAT tool was used to measure situational awareness at the end of simulation sessions during a series of standardized high fidelity advanced airway management simulations. This is different from previous TSAGAT methods stop scenarios at preselected points. For this analysis situational awareness was considered for physician team leaders. Thirty eight simulated emergency airway cases (Figure 2) were performed from September 2015 to October 2017. TSAGATs are reported for Physician Team Leaders. Eight standardized cases were used whose educational objectives were to develop the optimization of critically ill patients prior to induction, to deliver patient centred anasthesia and to choose an appropriate airway strategy. Cases were divided into two groups; those that contained critical errors and those that did not based on video assessment. Video Assessment was conducted by 1 reviewer. Critical errors were defined as failure of Oxygenation, Shock correction, Induction dose estimation or Choice of airway management paradigm. TSAGAT 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:
38 Physicians lead 38 cases. The majority of the cases were team lead by a family doctor (n = 30, 78 %). Of the 38 cases, 14 contained one more critical errors (37%). The median TSAGAT score in the group that contained critical errors was 8 +/- 2 (IQR). The median TSAGAT Score in the group that contained no critical errors was 11 +/- 2 (IQR). The median scores we significantly different with a p-value of 0.02.

Discussion:
Limitations. This study has the following limitations: 1 Only one video reviewer was used to identify errors. 2. These are simulated and not real cases, 3. The whole group is small 4. Important confounders were not considered because of small subgroup sizes. Conclusion. In this study in simulated emergency cases higher TSAGAT scores were associated with teams leaders that did not commit safety critical errors. Safety critical error were also prevalent in the whole cohort. Further work. This is the initial analysis to develop standards for simulation performance in Emergency Department teams. Scenarios need further video review by and inter-professional team. The influence on SA and safely critical errors by other factors needs to be considered including prior training, knowledge, skill, team leadership and teamwork.

Acknowledgements
New Brunswick Trauma Program, Saint John Regional Hospital Emergency Department.