Reviewer's report
Title: Assessing anesthesiology residents' out-of-the-operating-room (OOOR) emergent airway management

Version: 0 Date: 27 Apr 2017

Reviewer: Kurt Ruetzler

Reviewer's report:
Thanks very much for giving me the opportunity to review this nice written and interesting manuscript. I do have some minor questions/ suggestions:

1. line 115-116: I am also working in a major academic hospital in the US and residents are NEVER allowed to intubate a patient without direct supervision by a staff. For my impression, this sentence is too strong and is not adequate as a general statement.

2. line 198: when was the post-simulation survey performed? It might be interesting, if the post-simulation survey differs, if performed after the simulation, but before and after the performance feedback by the researcher?

3. line 355/ table 1: Interestingly, senior residents were more likely to do not attempt bag-mask ventilation the patient? How did these residents call for a cannot ventilate/ cannot intubate situation?

4. once the residents received the email invitation, the residents were aware of the goals of the study. It might be possible, that residents with less familiarity with airway management did not voluntarily participate in this study (as only 63 out of 90 residents participated!?). I actually think, that this is a classic example of inclusion bias? Please add this as a limitation.
5. another limitation might be, that residents were potentially talking with residents and communicated essentials of the simulation scenario. Did you advice the residents, to do not share their experience with other residents (although you might not avoid it)? Again, please add this as a limitation.

6. Did any resident request any medication at all? It is for example well known, that neuromuscular blocking agents ease endotracheal intubation. I hope that I understood the simulation scenario correctly... the patient experienced desaturation, but was still spontaneously breathing and more or less awake?

7. The C-spine was not cleared at the time of intubation. Was the c-spine immobilized? If yes, how and/or which device? If not, did you investigate (but not report) c-spine movements?

8. I fully agree, that airway competence is one of the most important competences of anesthesiology providers. Did any one of the residents have any previous experience with simulation of a difficult airway? In many institutions, airway management and simulated difficult intubation is more or less intensively taught during the first clinical year. The airway management course is on a voluntary base at your institution. How many residents participated in this course before this simulation scenario?

This is an important study and clearly demonstrates, that there is lack of education of airway management during residency. Although this study is underpowered and the findings are not generally valid (due to major differences between the residency programs), this study adds important and interesting results. I perceive this study as an important "wake up" call!

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.
Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.
Yes
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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I am able to assess the statistics

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