

We have a few questions for the authors to clarify their study.

In the scoring system, did the authors give consideration to the sequence in which the trainees performed items on the checklist? We believe this is important. For example, in a bronchospasm scenario, we believe administering 100% oxygen at the beginning of the crisis is more important than having it done toward the end of the crisis management. Did timing of performance of an action by the trainee affect the score they received?

Having previous exposure to pediatric anesthesia simulation could improve the trainees' performance and their comfort level in the simulated setting.<sup>2</sup> Did the trainees have previous exposure to pediatric simulation before their 2-h session described in the study?

Some of the scenarios seem to have less discrimination between the trainees with less than 2 months or those with more than 2 months of pediatric training. These scenarios, *i.e.*, malignant hyperthermia, bronchospasm, and accidental extubation, are common to both the pediatric and adult anesthesia experience. Could this have a role in their lack of discrimination?

Interestingly, there is a lack of difference in performance between anesthesia fellows and residents. This could also mean that these scenarios would be less discriminating for pediatric anesthesia practitioners. Was there any feedback from the fellows and experienced residents that some of the tasks were not necessary for the management of the crisis scenarios? Such feedback could help tailor the items in the checklist on which future trainees would be scored while participating in these crisis management scenarios.

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## References

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2. Park CS, Rochlen LR, Yaghmour E, Higgins N, Bauchat JR, Wojciechowski KG, Sullivan JT, McCarthy RJ: Acquisition of critical intraoperative event management skills in novice Anesthesiology residents by using high-fidelity simulation-based training. *ANESTHESIOLOGY* 2010;112:202-11

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### In Reply:

We appreciate the comments of Gurnaney *et al.* regarding the design and scoring of simulation scenarios. As Gurnaney *et al.* indicate, the sequence of actions is often important. The scoring checklist in this study did not incorporate a sequential approach for actions to be credited and did not involve the subtraction of points for actions that should not have been performed. Although a variety of scoring methods have been used and their reliability reported, we selected a check-

list scoring method in this study and reported the reliability of scores. The primary reason not to incorporate a sequential approach or a weighted scoring was to simplify the scoring mechanics. These are some of the challenges that have been described in scenario design and checklist creation.<sup>1</sup>

Regarding the potential bias introduced by prior exposure to simulation, the trainees in this program had extensive simulation experience during their training, but at the time of this study it had been limited to adult mannequins and task trainers. Their pediatric specific simulation experience was therefore limited.

As Gurnaney indicates, some of the scenarios, such as malignant hyperthermia and asthma, are common to adult practice. Experience garnered in the adult realm can certainly translate into pediatric practice. We agree this may explain why these scenarios were not effective at differentiating participants with more from those with less pediatric training experience. An important observation from this study is that some participants did not perform at the highest levels despite having greater clinical experience.<sup>2</sup> Even though some scenarios might not be as discriminating, the recognition and management of these conditions is considered essential to pediatric anesthesia practice and add to the catalog of scenarios that can be utilized to assess an individual's performance in a stressful but standardized situation. The feedback obtained from participants as well as the scenario discriminations are helpful in selecting and designing a set of pediatric scenarios that could be used in a multiple-scenario pediatric anesthesia assessment.

Simulation holds the promise of being a component of multi-modal assessment of the ability of residents and fellows at pediatric anesthesia skills, providing reproducible scenarios that do not put our most vulnerable patients at risk.

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## Cover Art Commentary for the ANESTHESIOLOGY March 2012 Issue

### To the Editor:

I was disheartened to see the March 2012 cover image of a single gray-haired female featured with the tagline "Ad-

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