**INTRODUCTION**

- Despite the overall increase in safety during pediatric operative procedures, critical events and emergencies still occur, and often practitioners are unprepared to manage these events. Checklists have been proposed as a solution to address knowledge gaps and failures to adhere to standards of treatment that occur during these crisis situations.
- The current study tests the adherence and usability of newly developed pediatric emergency checklists in both electronic and paper formats.

**METHODOLOGY**

- Participants (anesthesia residents and SRNAs) took part in 6 high fidelity, simulated emergency scenarios in one of three conditions.
- The participants were provided with paper checklists (Figure 1), electronic checklists (Figure 2), or neither.
- The scenarios tested included: VF>PEA arrest, SVT, VAE, MH, Hypotension and Hypoxemia.
- The participant’s adherence to emergency protocols as described on the checklists was coded via video analysis.
- Upon study conclusion, the participants completed a usability questionnaire for both checklist formats.

**RESULTS**

- The majority of participants had less than two months experience in pediatric anesthesia (N=55.8%). Participants used the checklist only 67.4 % of the time; this was similar for both types of checklists.
- The protocol adherence score for the paper checklist was 61.1%, electronic was 68.4% and no checklist was 61.5% (n.s.).
- The subjective usability ratings were better for the paper checklists than the electronic checklists ($t(36)=2.49$, $p<.05$).

**DISCUSSION**

- Our preliminary results did not show an improved adherence to practice standards when checklists were used by inexperienced pediatric anesthesia providers.
- In one third of scenarios, trainees failed to use a readily available checklist.
- The apparent preference for the paper version of the checklist is interesting and may inform the design and development of cognitive aids.
- Final analysis may lead to an improved understanding of why participants failed to use the readily available checklists and why the presence of a checklist failed to improve adherence to protocols.

**CONCLUSION**

- Preliminary findings failed to show an improvement in protocol adherence with the implementation of a new pediatric emergency checklist despite overall favorable usability ratings.
- Further investigation is needed to address why trainees choose to ignore checklists during critical events.

**REFERENCES**