[A-8] A Validated Tool That Assesses Pediatric Airway Skills

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Purpose: To develop and validate an assessment tool for evaluating pediatric airway skills for physician trainees. Background: The Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Pediatrics (ABP) have initiated the Pediatrics Milestone Project with the goal to "refine the six ACGME competencies and to set performance standards as part of the continued commitment to document outcomes of training and program effectiveness."[1] Pediatric patient crises are often rooted in problems with airway. While there are courses that teach pediatric airway skills, there are no validated assessment tools specific for competency in pediatric airway management. Methodology: We modified the Airway Section of the TRACS tool from the Brett-Fleegler et al study which assesses pediatric residents' resuscitation skills.[2] The new version is called Modified TRACS. The original tool evaluates airway skills using a yes/no question style. Modified TRACS has a 5-point scale with descriptive anchors for each point. We are using a Delphi process to establish expert consensus on the importance of airway skills. Our multidisciplinary, multi-institutional panel was chosen based on each individual's expertise in 1 or more of the following areas: pediatric airway management, resuscitation medicine, graduate medical education, and simulation education research. This process will provide face and content validity. The 1st questionnaire asked the expert questions related to the evaluation of airway skills and to compare the 2 tools. It was sent via email on Nov 6th 2013 and each expert was given 3 weeks to respond via email. We will use analysis of the 1st-round responses to prepare the 2nd and final questionnaire. We will then produce the finalized validated version of the tool. Result: A tool that assesses competency in pediatric airway management has been developed and is being validated using expert consensus. The tool has 11 sections. Fig 1: Sample section on effectiveness of bag-valve-mask ventilation. Conclusion: We have developed a validated tool that assesses competency in pediatric airway management. Training Programs can use this tool to ensure that its graduates have mastered such a life-saving skill set as proper pediatric airway management or to determine those struggling with airway skills in order for a timely and appropriate intervention to be made. This tool will be used in a future study entailing simulated scenarios to evaluate airway skills in trainees at different levels, further validating the tool by assessing feasibility, construct validity, inter-rater and intra-rater reliability, and test-retest reliability. [1] Mainiero, MB., Lozirenco AP. The ACGME Core Competencies: Changing The Way We Educate And Evaluate Residents. Medicine & Health Rhode Island 94.6 (2011): 164-166.[2] Brett-Fleegler MB, et al. A simulator-based tool that assesses pediatric resident resuscitation competency. Pediatrics. 2008;121:e597-e603.

MODIFIED TRACS

Effectiveness of Bag-valve-mask ventilation

[1] Unable	[2] Somewhat Unable	[3] Somewhat Able	[4] Able	[5] Very Able
Does not establish chest rise with bagging and does not make any adjustments. Does not bag at an appropriate rate. Does not confirm effectiveness of bagging by auscultation or end-tidal CO_2 monitoring.	Does make adjustments to achieve good seal (adjust mask, use oral or nasal airway, use 2-person bagging technique). Does not establish chest rise with bagging. Does not bag at an appropriate rate. Does not confirm effectiveness of bagging by auscultation or end-tidal CO_2 monitoring.	Does make adjustments to achieve good seal (adjust mask, use oral or nasal airway, use 2-person bagging technique). Does establish chest rise with bagging but with significant delay. Does bag at an appropriate rate. Does not confirm effectiveness of bagging by auscultation or end-tidal CO_2 monitoring.	Does make adjustments to achieve good seal (adjust mask, use oral or nasal airway, use 2-person bagging technique). Does establish chest rise with bagging in a timely manner. Does bag at an appropriate rate. Does confirm effectiveness of bagging by auscultation; does not bag with end-tidal CO_2 monitoring.	Does make adjustments to achieve good seal (adjust mask, use oral or nasal airway, use 2-person bagging technique). Does establish chest rise with bagging in a timely manner. Does bag at an appropriate rate. Does confirm effectiveness of bagging by auscultation; and does bag with end-tidal CO_2 monitoring.