

Assessing Airway Management Education for Non-Anesthesiologists

Ira Todd Cohen, M.D.

Children's National Medical Center, Washington, D.C.

Introduction: Approximately 30 non-anesthesiologists trainees (ICU, ED, OMF, EMT, Surgery, Pediatrics, and Dentistry), rotate through our pediatric anesthesiology department each year. This study assessed a 10-day program designed to increase the airway management (AM) proficiency of fellowship level trainees.

Methods: A 10-day pediatric AM course included pre/post rotation evaluation, readings, didactic lectures, and intra-operative teaching. The pre/post rotation evaluation consisted of a 15-question MCQ quiz and six-step OSCE. Participants also reported pre/post-experience with AM and confidence levels (5-point Likert Scale¹) for each skill. Results were compared using the Fischer Exact and t-tests.

Results: After IRB approval, 10 Fellows (7 ICU, 2 ED, 1 Surgery) completed the course. Table 1 contains the results. The passing rate ($\geq 60\%$) was 1% pre and 60% post-course ($p = 0.029$).

Discussion: Initial results demonstrate that a 10-day course significantly improved Airway Management skills and knowledge of non-anesthesiology fellows. Previous studies have shown that trainees require between 50 to 70 intubations to achieve proficiency.^{2,3} We report a similar finding for critical number and a close relationship between OSCE success and confidence scores.

References

1. Simon et al. Confidence in performance of pediatric emergency medicine procedures. *Pediatr Emerg Care.* 1996;12:336-9.
2. Konrad et al. Learning manual skills in anesthesiology: Is there a recommended number of cases? *Anesth Analg.* 1998;86:635-9.
3. Mulcaster JT, Mills J, Hung OR et al. Laryngoscopic intubation: learning and performance. *Anesthesiology.* 2003;98:23-7.

Table 1 Results of Non-Anesthesiologist Airway Management Course

Evaluation Categories	MCQ (Out Of 15) (Mean \pm SD)	OSCE (Out of 20) (Mean \pm SD)	Total Score (Out of 35) (Mean \pm SD)	Number of Maneuvers (Median)	Confidence (Out of 25) (Median)
Pre-course	8.3 \pm 2.8	7.1 \pm 2.0	15.4 \pm 4.0	14	10
Post-course	12.7 \pm 1.5	10.1 \pm 3.1	22.8 \pm 3.9	107	16
t-test	$p < 0.05$	$p < 0.05$	$p < 0.05$	NA	NA