Title

Does an Educational Interactive Airway Lab Change Residents Choice of Airway Device and Comfort Level?

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Impact/Effectiveness: EAP appointments are nearly complete at one site; zero residents opted-out. Of those surveyed, 100% felt the program should be continued in future years. Ratings for "how likely would you be to attend EAP in the future if needed" were 5.17 +/- 1.68 before and 7.14 +/- 0.99 after the appointment, with a PGY-2+ rating of 4.38 +/- 1.93 (1 = not likely, 9 = very likely). These preliminary results suggest that this intervention may be effective in increasing the likelihood of future EAP use for residents who attend an appointment compared to those who do not. We plan to have additional data from the other participating sites by the 2019 CORD Academic Assembly.

37 Does an Educational Interactive Airway Lab Change Residents Choice of Airway Device and Comfort Level?

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Background: Securing a difficult airway is a critical skill in emergency medicine (EM). Practicing these skills, improving confidence, and knowing backup techniques during residency training are critical.

Educational Objectives: We aimed to assess the impact of an interactive airway lab on resident's comfort with and choice of different airway devices.

Curricular Design: EM faculty developed a two-part, three-hour interactive course for medical students, EM residents, and pediatric emergency fellows (PEMF) to improve airway management skills. The first part was a 30-minute faculty led discussion on approaching the difficult airway with difficult airway algorithms. The second part included eight hands-on stations employing direct laryngoscopy (DL), video laryngoscopy, laryngeal mask airway (LMA), bougie use, fiberoptic laryngoscopy, retrograde wire-guided intubation, pediatric airway, and cricothyrotomy. Learners circulated in 15-minute intervals to each skills station in small groups learning with various simulation mannequins using the latest equipment under direction of faculty preceptors and equipment vendors. Additional material was provided via social media and online teaching modules. Participants were surveyed before and immediately after the session to assess their primary and back-up airway preferences and comfort with each type of airway device covered in the session.

Impact/Effectiveness: A total of 46 participants took part in this course including 11 MS4, 11 PGY-1, 11 PGY-2, 8 PGY-3, and 5 PEMF. Prior to the course, learners stated their initial airway preference as follows: 20 DL, 20 Glidescope, and one LMA. After the course, 18 chose DL, 23 Glidescope, and one LMA. For rescue airway choice before the course, learners stated 5 DL, 14 Glidescope, and 11 LMA; after the course the choices were 6 DL, 12 Glidescope, and 8 LMA. Overall,

learners reported a significant improvement in comfort for each airway modality after the course. This level and change in comfort level varied with level of training. An interactive airway course improves learners' confidence and skill with difficult airways, but may not significantly impact their choice of device used. This effect is strongest for junior-level trainees.

Table 1. Mean comfort level with each airway device on VAS (10 point) for participants before and after course.

Airway type	Mean Comfort Level Before Course (95%CI)	Mean Comfort Level After Course (95%CI)
Direct Laryngoscopy	5.2 (4.5-5.9)	7 (6.5-7.5)
Glidescope	5.5 (4.7-6.3)	7.5 (6.9-8.1)
Laryngeal Mask Airway	5.6 (4.8-6.4)	7.3 (6.7-7.9)
C-Mac	3.8 (3.1-4.5)	6.8 (6.3-7.3)
Bougie	3.6 (3.0-4.2)	6.2 (5.7-6.7)
Fiberoptic Assisted Airway	2.7 (2.1-3.3)	5.9 (5.3-6.5)
Cricothyrotomy	1.9 (1.3-2.5)	5.3 (4.7-5.9)
Retrograde Wire Intubation	1.5 (1.0-2.0)	5.1 (4.4-5.8)
Pediatric Airway/Needle Cric	3.3 (2.6-4.1)	6.2 (5.6-6.8)

Table 2. Mean comfort level on VAS (10 point) stratified by experience level for different airway devices before and after airway course.

Airway Device	MS4			PGY1			PGY2			PGY3			PEMF		
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
Direct Laryngoscopy	3.1	5.3	2.2	5.4	7.4	2	5.5	6.5	1	6.9	6.9	0	6.2	8	1.8
Glidescope	4.9	7.1	2.2	4.7	7.2	2.5	4.2	6.2	2	5.9	7.3	1.4	8.2	8.5	0.3
Laryngeal Mask Airway	4.2	6.7	2.5	6.7	7.5	0.8	5.1	6.7	1.6	5.2	7.2	2	6.6	7.4	0.8
C-Mac	3.5	6.2	2.7	3.2	6.6	3.4	2.7	6.4	3.7	4.1	6.2	2.1	5.9	8.2	2.3
Bougie	3.5	5.9	2.4	3.1	5.9	2.8	2.7	5.6	2.9	3.5	6	2.5	5.9	6.3	0.4
Fiberoptic Assisted Airway	2.8	5.7	2.9	1.7	5.1	3.4	1.8	5.7	3.9	2.6	5.4	2.8	5	7.4	2.4
Cricothyrotomy	1.6	4.8	3.2	1.1	4.4	3.3	1.9	5.1	3.2	1.8	5.6	3.8	3	5.8	2.8
Retrograde Wire Intubation	1.6	4.7	3.1	0.8	4.1	3.3	1.3	5.2	3.9	1.6	5.4	3.8	2.4	5.4	3
Pediatric Airway/Needle Cric	2.2	5.1	2.9	3.8	5.9	2.1	2.8	6.2	3.4	3	6.2	3.2	5.5	6.4	0.9

38 Foundations EKG I and EKG II: Open-Access Flipped-Classroom Critical EKG Curricula

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