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Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

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Permalink

<https://escholarship.org/uc/item/6rj6x52x>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 23(1.1)

ISSN

1936-900X

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Publication Date

2022

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15 Comparison of Intubation Barrier Devices in a Simulated Airway Task Trainer

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Learning Objectives: We aim to demonstrate a preferred device to be used for physician protection during the intubation of Covid-19 patients using a simulated model. In addition, we wish to demonstrate which device causes the least interference with the intubation process.

Background: With the advent of the SARS-CoV2 (Covid-19) pandemic, there have been significant concerns regarding transmission of the disease to Healthcare Professionals, particularly during intubation procedures. Several forms of barrier protection aimed at decreasing the spread of aerosolized droplets were developed during the early onset of the pandemic.

Objectives: Using a simulated airway task trainer, we examined the impact that 3 separate barrier devices had on intubation time and success using both direct and video laryngoscopy. We hypothesized that lighter and more simplistic devices would be preferred and would provide faster intubations.

Methods: The subjects of this study comprise of attending level emergency physicians and anesthesiologists employed at a community hospital who were asked to fill out surveys regarding their experience with the barrier devices from previous simulated intubations. In addition, 10 attending level emergency physicians participated in a Just in Time training session in which they performed both direct and video laryngoscopies on an airway task trainer using each of the devices. An independent observer recorded the time it took for each physician to set up the device and to successfully intubate the task trainer.

Results: The main results of the survey are depicted in Figure 1a-d. 97 percent of respondents indicated a preference for video laryngoscopy for Covid-19 positive patients. In general, this cohort preferred a plain clear plastic drape or clear plastic drape with PVC cube for direct laryngoscopy and video laryngoscopy set ups (Figure 2a-d). Use of these two

devices resulted in significantly faster times to intubation when compared with the fiberglass box.

Conclusion: In general, a simple, plastic sheet was the preferred barrier device using video laryngoscopy. Although set up times were faster using the fiberglass box, intubation times were significantly faster using the plastic drape or PVC frame.

Figure 2.

Barrier Device Type	Plastic Drape		PVC Cube with Plastic Drape		Fiberglass Box	
	Direct	Indirect	Direct	Indirect	Direct	Indirect
Average Time (s)						
Device setup	32	30	42	39	10	9
1 st pass intubation	46	39	46	41	57	52
BVM	49	42	48	42	63	65

16 Continuing Professional Development: A Needs Assessment for Emergency Medicine Faculty

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Background: To date, there has been one needs assessment which appraised both the clinical and non-clinical domains of continuing professional development (CPD) for EM faculty, and none in the United States (US).

Objectives: The primary goal of this study is to assess the perceived needs and desirability of various CPD activities for EM faculty within both the clinical and non-clinical spheres of EM.

Methods: This was a prospective, exploratory study using survey methodology. A previously validated survey with minor modifications was distributed anonymously online to 67 EM faculty members at a university tertiary referral center. Participants were questioned about the desirability of CPD in the following areas: procedures, clinical emergency topics, diagnostics, management, teaching, and research skills. The survey incorporated a mixed-methods design with both Likert-scale response options as well as some qualitative, open-ended questions. The survey was available for completion from 11th December 2019 – 15th January 2020.

Results: The survey was completed by 47 faculty members (70% response rate). Of the procedural skills, more than 90% of respondents desired CPD in ventilator use, advanced airways, and regional anesthesia. Of the clinical EM topics, greater than 90% of attendings were interested in toxicological emergencies and cardiac emergencies. Of the diagnostic skills, more than 85% of respondents desired to learn more about CT interpretation. Of the listed management skills, more than 80% of faculty members desired more CPD in giving feedback and appearing in court. In the domain of teaching and

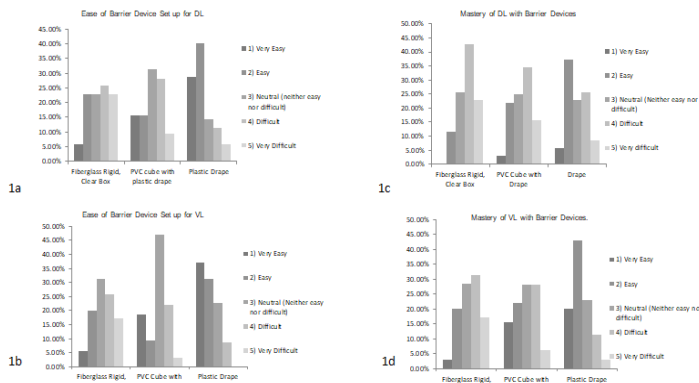


Figure 1.