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Research Abstracts

Tele-mentorship Versus In-person Mentorship for Trainee Procedural Coaching of Cricothyroidotomy

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Introduction: Physicians may find themselves in situations where they cannot intubate, cannot ventilate, and have little help available. We aimed to compare in person mentoring by an emergency physician to tele-mentoring by trauma surgeon for emergent surgical airway.

Methods: 30 emergency medicine (EM) residents were randomized to cricothyroidotomy on a simulation model with in-person mentoring (IPM) versus tele-mentoring (TM). The IPM preceptor was an EM attending, and TM preceptors were trauma surgeon attendings. The procedure was timed and graded on a Global Rating Scale (GSR) by a third observer. Post-procedure, mentor and trainee completed a NASA Task Load Index (TLX).

Results: There was no difference in procedure success, however the IPM group took significantly longer (163.6 v. 107.6 seconds, $p<0.05$). TM trainees experienced more temporal demand (4.27 v. 2.73, $p=0.03$). Telementors recorded higher performance compared to in-person mentors (2.30 v. 4.17, $p<0.05$) while in-person mentors felt more time pressure than telementors, though not statistically significant (3.67 v. 4.63, $p=0.09$). Comparing mentors and trainees in each arm, IPM trainees felt more temporal demand than their mentors (4.63 v. 2.73, $p<0.05$) while TM trainees felt they had worse performance than their mentors perceived (4.23 v. 2.3, $p=0.01$).

Conclusions: Procedural performance based on GRS between trainee groups was equal, however those with telementors secured the airway more rapidly. Telementors reported higher performance and lower time pressure than in-person preceptors. This data suggests that tele-mentoring is effective for precepting cricothyroidotomy training, and there may be certain settings in which it is the superior option.

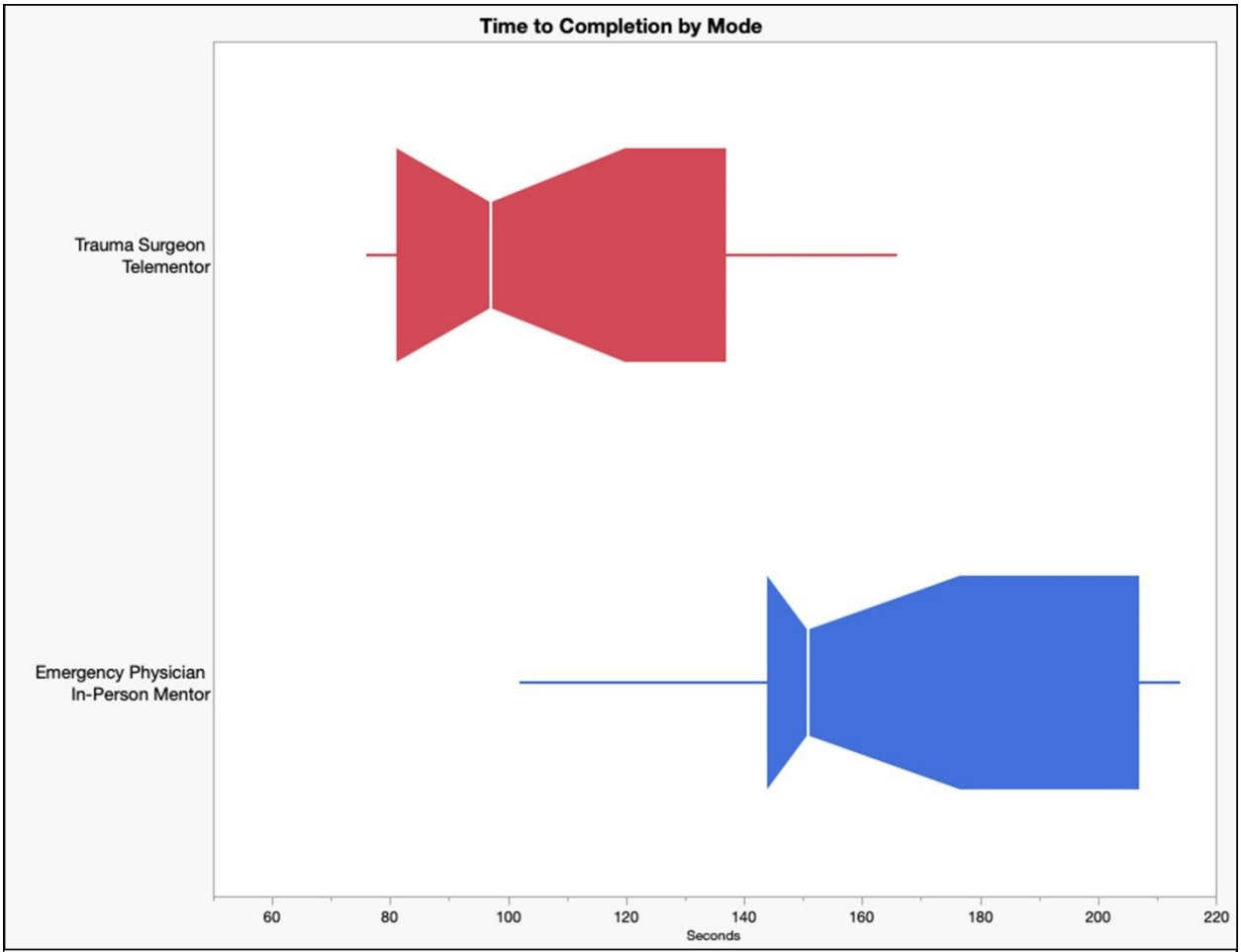

Figure 1: Box and whisker plot of time to completion of cricothyroidotomy, defined as initial incision to ventilation, by modality of preceptorship. Blocked colors represent the interquartile range with the horizontal white line representative of the mean.