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Defining the Learning Curve for Paramedic Student Endotracheal Intubation

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Abstract

Background. Proficiency in endotracheal intubation (ETI) is assumed to improve primarily Standard Paramed at least five live ETIs effects of cumulat ting on PS ETI profi om 60 param comes (succ emergency departm pital settings. cutive ETI efforts b uthors evaluate nber of ETIs, adjusted unter,

andthe interaction (cumulative ETIs × elapsed days). Predicted probability plots were constructed depicting the “learning curve” overall andfor each clinical setting. Results. Between one and74 ETIs (median 7; IQR 4–12) were performed by each of 802 PSs. Of 7,635 ETIs, 6,464 (87.4%) were successful. Stratified by clinical setting, 6,311 (82.7%) ETIs were performed in the OR, 271 (3.6%) in the ED, 64 (0.8%) in the ICU, 86 (1.1%) in other in-hospital settings, and903 (11.8%) in the prehospital setting. For the 7,398 ETIs included in the multivariate analysis, cumulative number of ETI was associated with increased adjusted odds of ETI success (odds ratio 1.067 per ETI; 95% CI: 1.044–1.091). ETI learning curves were steepest for the ICU andprehospital settings but lower than for other clinical settings. Conclusions. Paramedic student ETI success improves with accumulated live experience but appears to vary across different clinical settings. Strategies for PS airway education must consider the volume of live ETIs as well as the clinical settings used for ETI training. Key words: intubation; intratracheal; emergency medical services; learning; allied health personnel.

Keywords: intubation intratracheal emergency medical services learning allied health

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