

2019

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Effect of Suction Assisted Laryngoscopy Airway Decontamination (SALAD) Training on Intubation Quality Metrics

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Introduction

- VCU Health Critical Care Transport Network paramedics and nurses provide emergency scene response and interfacility transport through Virginia
- Pre-hospital RSI is a high-risk procedure employed by these providers
- A quality assurance review of pre-hospital intubations determined issues with suction to be a key area for improvement¹
- SALAD technique has been shown to improve trainee's confidence in managing airway of vomiting patient²

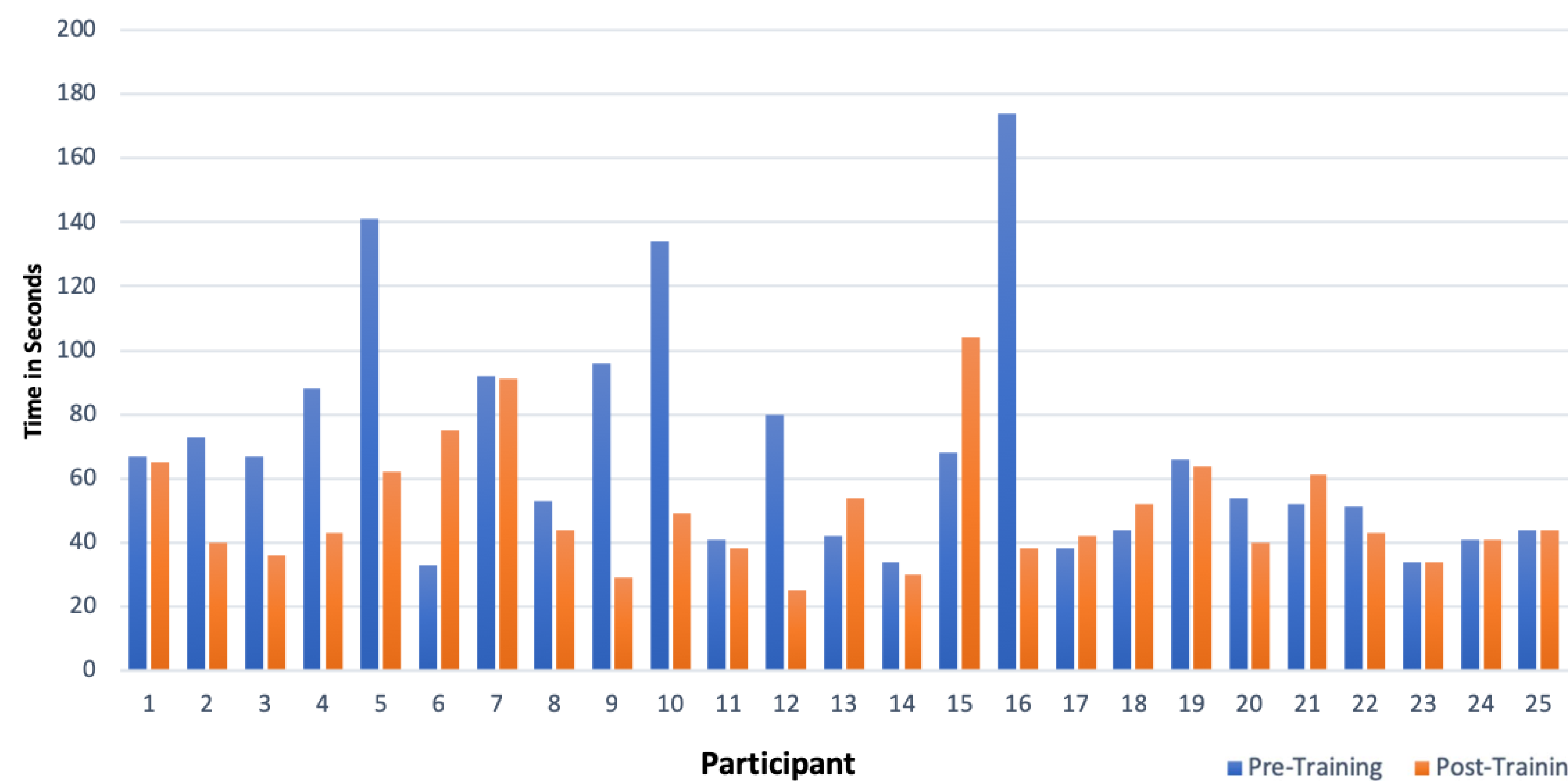
Methods

- SALAD was introduced during a scheduled quarterly training session
- Hypothesis: time to intubation would decrease post-SALAD training
- In attendance were 15 nurses and 10 paramedics, for a total of 25 participants
- Each participant attempted intubation using video laryngoscopy on a custom high-fidelity training mannequin
- Participants were then instructed on SALAD technique
- Participants then had another opportunity to intubate the mannequin using SALAD technique
- Data was collected on number of attempts and time to successful intubation before and after training

Figures



Time to Successful Intubation



	All Participants	Pre-Training	Post-Training
Median time (sec) to intubation for all groups		54.0	43.0
Median time (sec) to intubation for slowest 50%		80.0	43.0
Successful intubation on first attempt		88%	100%

Results

- Differences were not normally or symmetrically distributed
- Median time to successful intubation improved from 54 seconds to 43 seconds for all groups (p=0.026)
- Median time to successful intubation improved from 80 seconds to 43 seconds for bottom 50th percentile group (p=0.002)
- Pre-training, 88% of participants successfully intubated on first attempt
- Post-training, 100% of participants successfully intubated on first attempt
- 96% of participants stated they would use SALAD technique in the future

Discussion

- SALAD training improved first pass success rates and total time to intubation
- SALAD training had greatest improvement on bottom 50th percentile group
- SALAD technique has potential for improving successful intubations in real life scenarios
- Limitations include small sample size, lack of wash out period, several outliers, simulation environment
- Further research is needed to determine skill retention and generalizability to an uncontrolled environment
- Testing in other pre-hospital providers is an opportunity for further research

References

1. Louka, Amir, et al. "Intubation Success after Introduction of a Quality Assurance Program Using Video Laryngoscopy." *Air Medical Journal*, vol. 37, no. 5, 2018, pp. 303-305.
2. DuCanto, James et al. "Novel Airway Training Tool that Simulates Vomiting: Suction-Assisted Laryngoscopy Assisted Decontamination (SALAD) System." *Western Journal of Emergency Medicine* vol. 18,1 (2016): 117-120.