

Video vs Direct Laryngoscopy Success Rates in the SRNA

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Problem

- Prior studies on endotracheal intubation success with VL have been studied, but the populations consist of airway experts, such as anesthesiologists, ENT surgeons, and ER and ICU providers with varying results of success.
- There are a lack of studies that examine the success rates of VL vs DL in the SRNA population.
- Studies demonstrate that failed and multiple attempts at intubations can lead to patient complications, such as injury and hypoxia.
- Findings of this scholarly project could have significant results on patient outcomes as SRNAs are responsible for many intubations each year.

Methods

- Scholarly project design was quantitative, prospective and experimental.
- Independent variable: intubation tool (VL or DL); dependent variable: first-attempt intubation success.
- Recruitment of 14 study participants from the 2024 SRNA Cohort at AHU DNAP.
- The Data Collection Tool was sent out to each SRNA prior to the study period in which they they answered whether a VL, or a DL device was used, and if the intubation was successful on the first-attempt.
- The first-attempt success rate for the VL group and the DL group was compared using a non-parametric Wilcoxon Signed Rank Test.

Intubation Success Rates

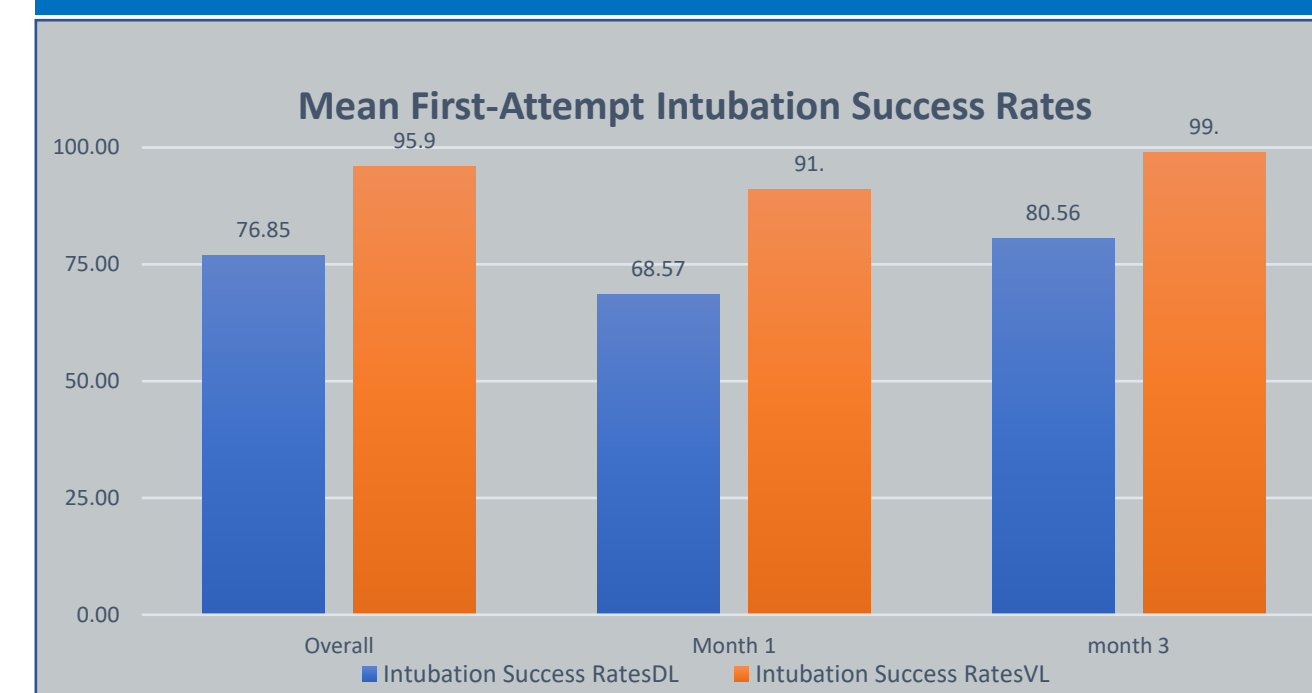


Fig A: Intubation success rate: Overall, Month 1 and Month 3

Discussion & Implications

- Comparing intubation success overall, month 1 and 3, the success of both DL and VL improved, with a more significant increase in with DL (17.5%) compared to VL (8.8%).
- Results suggest SRNAs become more successful with both intubation modalities. Perhaps, over time and with initial preferential use of VL, SRNAs knowledge of airway anatomy and airway management increases.

More Results

- Overall, a DL blade was used 28.6% of the time, and a VL device was used 71.39% of the time, indicating a preferential use of a VL device over DL.
- In the 1st month, DL was used 19.55%, while the VL device was used 80.44% of the time.
- By the 3rd month, DL usage increased to 35.06% whereas the VL usage decreased to 64.94%

Conclusions

- Overall, results indicate that VL promotes a significant advantage over DL in intubation success, thus improving patient safety and decreasing complications of repeated, failed, or prolonged intubation attempts.
- The results of this scholarly project fill in gaps in the literature and provide the best practices for SRNA training and education
- Full scholarly project can be viewed here: file:///Users/rhonniegeyrozaga/Desktop/111022_Daniel,%20Rachel,%20Rhonnie%20Paper_webpage.html

Literature Review

- 8 Randomized Controlled Trials (RCT):
- 3 out of 8 articles studied novice providers
 - They demonstrated that first-attempt intubation success rate of VL (84%) was higher when compared to DL (50%)
 - (Baek et al., 2018; Nouruzi-Sedeh et al., 2009; Sainsbury et al., 2017)
- 7 Systemic Review/Meta-Analysis:
- 4 of the 7 systemic reviews studied novice providers
 - When the risk ratio was averaged from only the systemic reviews that studied novice provider, a risk ratio of 1.44 was obtained (50% higher).
 - (Griesdale et al., 2012; Hoshijima et al., 2018; Jiang et al., 2017; Savino et al., 2017).

Results

- Mean first-attempt success rate for VL (0.96) compared to DL (0.75).
- A total of 216 DL attempts were made during the study period. 166 DL attempts were successful (76.85%), and 50 DL attempts were unsuccessful (23.15%).
- There was a total of 539 VL attempts during the study period. 517 VL attempts were successful (95.92%) and 22 VL attempts were unsuccessful (4.08%).
- Wilcoxon Test statistic resulted in a p-value of 0.0017. The results demonstrated that there was a significant difference in median success rates between VL (96%) and DL (81%) intubation techniques.

Device Utilization

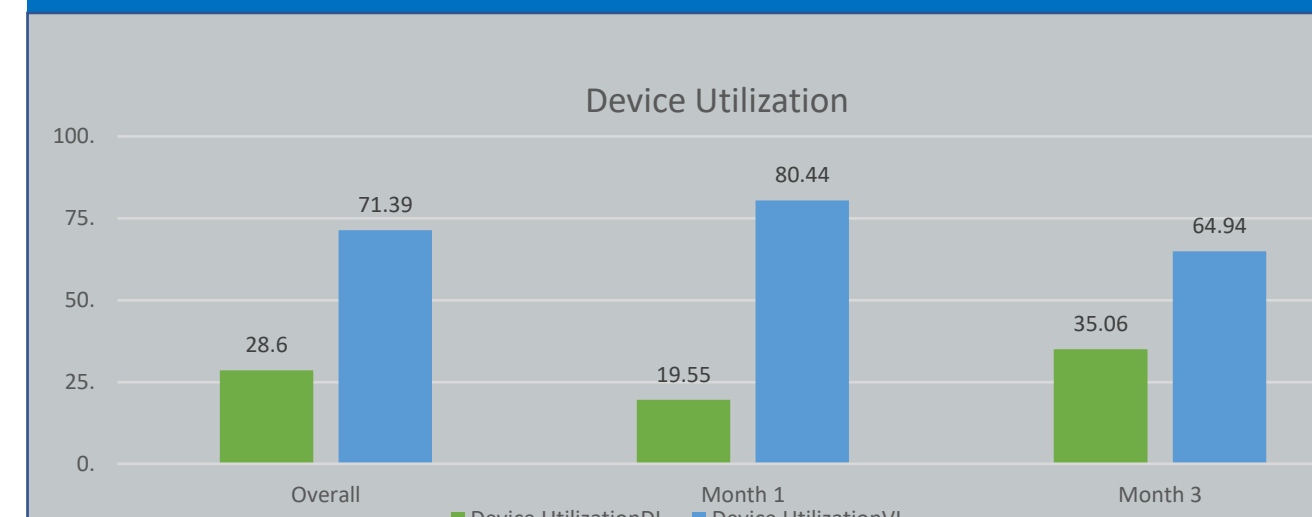


Fig B: Device Utilization: Overall, Month 1 and Month 3

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