Use of Alternative Airway Devices in an Academic Emergency Department

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Objectives: The number of devices for performing endotracheal intubation has increased tremendously over the past few years. The purpose of this study is to determine the frequency of use and success rate of these alternative airway devices for intubation in the emergency department (ED).

Methods: The study is a retrospective observational review of all patients requiring emergency intubation at a University Level 1 Trauma Center between July 1, 2007 and December 31, 2007. Many optical, fiberoptic, videoscopic and supraglottic airway devices were available during the study period. The device selected for use was determined by the ED attending and EM resident. Dependent variables were the frequency of use and the success rate. Data were analyzed using descriptive statistics.

Results: Two hundred eleven intubations were performed during the study period. The direct laryngoscope (DL) was the most frequently used device to perform intubation (52%). The success rate of DL was 87% (110/126). The next most commonly used device was the GlideScope Video Laryngoscope (GVL) which was used 42% of the time. The success rate of the GVL was 83% (89/107). The success rate for other airway devices were as follows: Airtraq Optical Laryngoscope 100% (4/4), Flexible Fiberoptic Scope 100% (3/3), Intubating-LMA 100% (3/3), AirQ 100% (1/1), Cric 100% (1/1), McGrath Video Laryngoscope 50% (3/6), Pentax Airway Scope 33% (1/3) and Res-Q-Scope 0% (0/2).

Conclusion: DL was the most frequently used device in this academic ED, followed by the GVL. Both devices had comparable success rates. Other airway devices were used infrequently. Further study is necessary to determine the role of these alternative airway devices for use in ED intubations.