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Video-assisted intubation: A case of best evidence practice

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Introduction: Emergency intubation outside the operating room (O.R.) is often performed by non- anesthesia providers and is associated with a higher rate of complications. In our institution we recently introduced the Glidescope Cobalt (Verathon, Bothell, WA) for use in emergency intubations outside the O.R. but it was unclear what impact this introduction would have on intubation outcomes when they were performed by non-anesthesia providers. Therefore the purpose of this study was to evaluate the efficacy of the Glidescope for emergency intubations performed by non- anesthesia personnel.

Methods: After IRB approval a total of 92 subjects (70 Glidescope (GS); 22 Conventional Laryngoscopy (CL)) requiring emergency intubation by non-anesthesia providers (Respiratory Therapists (RT), attending ER and ICU physicians and resident physicians) outside the O.R. were enrolled in this prospective, descriptive study. RT's were required to use the GS exclusively, whereas attending or resident physicians could choose between GS or CL to facilitate the intubation. All personnel were trained on proper use of the GS prior to implementation of the study.

Results: No difference in demographic patient variables, reasons for, or place of intubations was noted between groups. Intubations were primarily performed by attending ER and ICU physicians (44%), medical and surgical residents (31%), and respiratory therapists (RT) (25%). Time to place ETT was 202 ± 297 seconds in the GS group as compared to 560 ± 544 seconds in the CL group ($p < 0.001$). ETT placement was more successful in one attempt in the GS group (79%) as compared to the CL group (50%) ($p = 0.009$).

Discussion: This study suggests that GS enables a wide range of providers to perform emergency intubations with a higher ratio of success on first attempt. Avoidance of multiple intubation attempts promotes favorable patient outcomes. GS may therefore be useful for emergency airway management in facilities lacking 24 hour anesthesia coverage.

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