Emergency Medical Services Congress 2019 Abstracts

1 SOILED AIRWAY TRACHEAL INTUBATION AND THE EFFECTIVENESS OF DECONTAMINATION (SATIATED) BY PARAMEDICS: A RANDOMISED CONTROLLED MANIKIN STUDY

¹R Pilbery*, ²MD Teare. ¹Yorkshire Ambulance Service NHS Trust, UK; ²University of Sheffield, UK

10.1136/bmjopen-2019-EMS.1

Background In more than 20% of out-of-hospital cardiac arrests, the patient's airway is soiled.^{1 2} If the airway cannot be cleared, the patient will die. A new method of clearing the airway, suction assisted laryngoscopy and airway decontamination (SALAD) has been developed, but it's not known whether this method can assist paramedics to intubate.³ This study aims to determine whether paramedics can intubate a simulated soiled airway more often on their first attempt, using SALAD.

Method A modified airway manikin, with the oesophagus connected to a reservoir of 'vomit' and bilge pump, was used to simulate a soiled airway. The intervention was a brief SALAD training session with a demonstration and opportunity to practice. Participants were randomly allocated into two groups: AAB who made two pre-training intubation attempts and one post-training attempt, and ABB, who made one pre-training and two post-training attempts, to adjust for improvement due to repetition.

Results 164 paramedics took part in the study. First-pass intubation success with and without SALAD was 90.2% and 53.7% respectively, a significant difference of 36.6% (95%CI 24%–49.1%, $p < 0.001$). The mean successful intubation time for each attempt and patient group (AAB and ABB) was as follows: 61.8 (95%CI 55.8–67.8) and 59.4 (95%CI 53.6–65.1) s on the first attempt, 50.8 (95%CI 45.7–55.9) and 51.5 (95%CI 48.6–54.4) s on the second attempt and 53.5 (95%CI 50.4–56.6) and 46.6 (95%CI 44.0–49.1) s on the third attempt.

Conclusion In this study, paramedics were able to intubate a simulated soiled airway on their first attempt, significantly more often when using the SALAD technique.

REFERENCE

1. Voss S, Rhys M, Coates D, Greenwood R, Nolan JP, Thomas M, *et al.* How do paramedics manage the airway during out of hospital cardiac arrest? *Resuscitation*. 2014 Dec;**85**(12):1662–6.
2. Simons RW, Rea TD, Becker LJ, Eisenberg MS. The incidence and significance of emesis associated with out-of-hospital cardiac arrest. *Resuscitation*. 2007 Sep;**74**(3):427–31.
3. DuCanto J, Serrano KD, Thompson RJ. Novel Airway Training Tool that Simulates Vomiting: Suction-Assisted Laryngoscopy Assisted Decontamination (SALAD) System. *West J Emerg Med*. 2017 Jan;**18**(1):117–20.

Conflict of interest R. Pilbery is a research paramedic at Yorkshire Ambulance Service NHS Trust. MD. Teare has no conflicts of interest.

Funding This research was funded by a College of Paramedics small research grant.

2 AMBULANCE NON-CONVEYANCE TIME

¹F Malm, ^{1,2}E Höglund*, ¹A Elfström, ^{1,2}E Ohlsson-Nevo. ¹University Health Care Research Center, Faculty of Medicine and Health, Örebro University, Örebro, Sweden; ²Örebro University, Örebro, Sweden

10.1136/bmjopen-2019-EMS.2

Background The aim was to describe time consumption when patients are non-conveyed by the ambulance service. Ambulance assignments have increased over time worldwide and 16%–31% of the care seekers encountered by the ambulance service have been assessed as not being in need of its services. To meet this growing demand for ambulance services in relation to a limited amount of resources there is a need for prioritization. This study was conducted in the Region Örebro County, Sweden with a population of 295 000 spread over 8504 km². There are three emergency departments in the region with 90 000 visits a year. The ambulance service attends about 26 000 patients per year where about 10 percent were non-conveyed during the study period.

Method A prospective descriptive design and a consecutive sample was used. All ambulance journal data concerning time aspects on non-conveyed patients by the three ambulance departments in the Region, from February 2016 until February 2017, were included in the study.

Results A total of 2615 patients were included in the study, 50.0% male, 48.9% and 1.1% unknown. The age ranged between 0–99 years (mean 49.6 years). In total the mean non-conveyance time was 26 min, median 25 min (Q1=18, Q3=32, min 4 - max 169 min). Patients involved in traffic accidents took the least and patients with epistaxis the most amount of time to non-convey.

Conclusion The results might guide ambulance organizations and policy makers in revising non-conveyance guidelines so that the ambulance service can be available for patients with greater need of care.

REFERENCES

1. Hjalte, L., Suserud, B. O., Herlitz, J., & Karlberg, I. (2007). Why are people without medical needs transported by ambulance? A study of indications for pre-hospital care. *European Journal of Emergency Medicine*, 14, 151–156. <https://doi.org/10.1097/MEJ.0b013e3280146508>
2. Norberg, G., Wireklint Sundström, B., Christensson, L., Nyström, M., & Herlitz, J. (2015). Swedish emergency medical services' identification of potential candidates for primary healthcare: Retrospective patient record study. *Scandinavian Journal of Primary Health Care*, 33, 311–317. <https://doi.org/10.3109/02813432.2015.1114347>
3. Tohira, H., Fatovich, D., Williams, T. A., Bremner, A., Arendts, G., Rogers, I. R., ... Finn, J. (2016). Which patients should be transported to the emergency department? A perpetual prehospital dilemma. *Emergency Medicine Australasia: EMA*, 28, 647–653. <https://doi.org/10.1111/1742-6723.12662>

Conflict of interest The authors declare no conflict of interest.

Funding This research received funding support from the Research Committee and the county council of Örebro.

3 CPR BY FIRST RESPONDERS IMPROVES ACID-BASE BALANCE AND PROGNOSIS IN OUT-OF-HOSPITAL NON-TRAUMATIC CARDIAC ARREST

A Hernández-Tejedor*, E Corral, R de Elías, R Suárez. SAMUR-PC, Madrid, Spain

10.1136/bmjopen-2019-EMS.3

Background Early basic-CPR has been shown to be effective. However, its effect on homeostasis in non-traumatic out-of-hospital cardiac arrest (OHCA) is unknown. We analyze pathophysiological and prognostic consequences of basic-CPR performed by first responders (FR) previous to EMS arrival.

Method Prospective observational cohort study including all patients treated for OHCA by an EMS from 2015 to 2017. Basic-CPR by FR and venous blood gas by Epocal (Ottawa, Canada) at the beginning of advanced-CPR were covariates.