

Laryngeal Mask: Experience from Prehospital Use at EKAB in Heraklion, Crete

D. Vourvahakis, M. Zeaki, M. Zervopoulos, A. Zigoura, D. Pyrros
EKAB, National Center of Prehospital Emergency Care, Heraklion Crete, Hellas

Purpose: To investigate the use of laryngeal mask (LM) in Prehospital Emergency Medicine, to document the experiences with the device, and to develop a staff-training program.

Materials: From 01 January 2000 through 31 December 2002, doctors and paramedics placed the LM in victims of respiratory or cardio-respiratory arrests or victims of multiple traumatic injuries. Paramedics were trained in LM placement for a total of 12 hours (video, manikin).

Methods: The following information was recorded for each patient: (1) Vital signs (systolic and diastolic arterial blood pressures (SAP, DAP), heart rate (HR); ventilatory rate (RR), pulse oximetry readings (SpO₂); Glasgow Coma Scale score, (GCS)), Rapid Acute Physiology Score (RAPS) on-site and at the Emergency Department, Hector Emergency Scale (HES), and therapeutic interventions.

Results: The LM was placed in 221 cases (140 cardio-respiratory, 70 respiratory arrests, 9 multi-trauma patients, and 2 burn episodes). In 147 episodes, it was placed by paramedics without a doctor present, and in 77 cases with a doctor present. In 94% of the cases, the LM was placed in the first attempt.

For the 140 victims of cardio-respiratory arrests, 47 patients had return of spontaneous circulation (ROSC, heart rhythm and arterial pressure). In these cases, the mean SpO₂ and GCS on-site and at hospital arrival were: SpO₂ = 31.8% → 87%; and GCS = 3 → 13 respectively. In those patients with respiratory arrests: SpO₂ = 61% → 96.5% and GCS = 7 → 14. In victims of multi-trauma, the intubation was impossible in four patients. For another four patients, the LM was a temporary airway, and in three cases, the patient was intubated via the LM with handle after general Anesthesia (SpO₂ = 65% → 97% and GCS = 6 → 12). No aspiration was observed in patients who recovered from respiratory and cardio-respiratory arrests as well as in multi-trauma patients.

Conclusions: This 3-year experience shows that crew training is easy and practice using the device indicates that only rarely are there side effects. The LM is a valuable tool during the recovery process and for establishing a temporary airway in the prehospital setting.

Keywords: aspiration; arrest, cardiorespiratory, ventilatory; laryngeal mask; prehospital; training, trauma
Prehosp Disast Med 2002;17(s2):s47.

Use of Visual Analogue Scale for Measurement of Pain in the Prehospital Setting

Mr. Bill Lord,¹ Mr. Brian Parsell²

1. School of Public Health, Charles Sturt University, Australia
2. Ambulance Service of New South Wales, Australia

Objectives: The aim of the study was to use a visual analogue scale (VAS) to measure pain severity in the prehos-

pital setting, and to compare changes in pain score with a clinically significant benchmark reduction of 20 mm.

Methods: This prospective, observational study used a VAS to record pain severity for patients requiring ambulance transport. Patients used a VAS to score pain severity during the initial patient assessment process (T₀), and again at the hospital of destination (T_{end}). This study reports mean changes in score, and the percentage of cases in which the difference between T₀ and T_{end} in the study population achieves or exceeds the 20 mm benchmark. A survey also was administered to ambulance officers participating in this study to identify attitudes, values, and beliefs that may influence their use of the VAS.

Results: A total of 262 patients were enrolled in this study. The mean reduction in VAS (T₀ - T_{end}) was 18.2 ± 23.9 mm [±SD] (median = 14.0 mm, 95% CI = 15.3–21.1 mm). Eighty-six patients (32.8%) did not receive analgesia. The mean initial (T₀) pain score for the no-analgesia group was 53.5 ± 25.6 mm, with the mean change in VAS (T₀-T_{end}) = 3.1 mm (median = 0; 95% CI = -2.3–8.5). Forty-six patients (17.6%) recorded some deterioration in their pain score at T_{end} (T₀-T_{end} < 0 mm). Survey results identified significant attitudes that may affect pain management decisions and the use of pain scales.

Conclusions: The results suggest that oligoanalgesia is an issue in this setting. Effective analgesia requires formal protocols or guidelines supported by effective analgesic therapies, along with regular audits as part of a clinical quality assurance program. However, such programs rely on data derived from patient self-assessment using a recognised pain measurement tool.

Keywords: ambulances; pain measurement; prehospital care; visual analogue scale
Prehosp Disast Med 2002;17(s2):s47.
E-mail: bilord@csu.edu.au

Free Papers: Global Sharing: Medical Response to Terrorism

Co-Chair: Dr. Jeffrey Arnold;¹ Dr. Per Örtengren²

1. Assistant Professor of Emergency Medicine, Tufts University School of Medicine, Springfield, Massachusetts USA; Co-Chair: WADEM Task Force on Medical Response to Terrorism
2. Centre for Prehospital and Disaster Medicine, Gothenburg, Sweden; Co-Chair: WADEM Task Force on Medical Responses to Terrorism

Mass Casualty Terrorist Bombings: Comparison of Outcomes by Bombing Type

Jeffrey Arnold, MD;¹ Pinchas Halpern, MD; Ming-Che Tsai, MD, MPH; Howard Smithline, MD¹

1. Department of Emergency Medicine, Baystate Medical Center, Tufts University School of Medicine, Springfield, MA, USA
2. Department of Emergency Medicine, Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel
3. Department of Emergency and Trauma Service, National Cheng-Kung University Hospital, Tainan, Taiwan, ROC

Study objective: The epidemiologic outcomes of terrorist bombings that produced 30 or more casualties and resulted