

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

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**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 (SpO<sub>2</sub>); 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 SpO<sub>2</sub> and GCS on-site and at hospital arrival were: SpO<sub>2</sub> = 31.8% → 87%; and GCS = 3 → 13 respectively. In those patients with respiratory arrests: SpO<sub>2</sub> = 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 (SpO<sub>2</sub> = 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  
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### Use of Visual Analogue Scale for Measurement of Pain in the Prehospital Setting

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**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 (T<sub>0</sub>), and again at the hospital of destination (T<sub>end</sub>). This study reports mean changes in score, and the percentage of cases in which the difference between T<sub>0</sub> and T<sub>end</sub> 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 (T<sub>0</sub> - T<sub>end</sub>) 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 (T<sub>0</sub>) pain score for the no-analgesia group was 53.5 ± 25.6 mm, with the mean change in VAS (T<sub>0</sub> - T<sub>end</sub>) = 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<sub>end</sub> (T<sub>0</sub> - T<sub>end</sub> < 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  
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## Free Papers: Global Sharing: Medical Response to Terrorism

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### Mass Casualty Terrorist Bombings: Comparison of Outcomes by Bombing Type

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