

# **A pediatric comparative study of the Ambu-LMA versus the classic-LMA: Ease of insertion and Seal Pressure**

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**Introduction:** The new single-use Ambu-LMA may have features that make it favorable to use over the classic LMA. The Ambu-LMA has a built in curve that eases insertion and may facilitate lower seal pressure for ventilation. Data in adults demonstrate the Ambu-LMA had 92% placement on first attempt and obtained a  $24 \pm 5.5$ cm H<sub>2</sub>O seal pressure (1). This study was undertaken to evaluate the ease of placement and seal pressure of the Ambu-LMA versus the classic LMA in young children.

**Methods:** With IRB approval and informed consent from parents, 118 children aged 2-12years were enrolled in the study. The patients were randomly assigned to receive either the Ambu-LMA or the classic-LMA for intraoperative airway management. Anesthesia was induced and maintained with sevoflurane with or without isoflurane in all cases. The anesthesia provider chose whether to insert the LMA while inflated or deflated and then scored as easy or difficult. A leak pressure was measured with the cuff at 60cm H<sub>2</sub>O using the Posey cufflator device (Arcadia, CA). The following data were also recorded: demographics, number of attempts at placement, whether the LMA was intact for duration of the case, timing of removal (i.e. awake or deep), and perioperative adverse events including cough, laryngospasm and bronchospasm. A follow-up call was made the next day to see if the child had complained of a sore throat.

**Results:** 60 children received the Ambu-LMA and 58 the classic LMA. Children had undergone a variety of procedures including orthopedic, pediatric general surgery, urology, ophthalmology, plastics, and otolaryngology. The ease of placement was scored as easy for 100% Ambu-LMA's but only 93% for the classic-LMA's, 54/58 cases ( $p=.055$ ). The leak pressure for the Ambu-LMA was  $21.47 \pm 7.9$  compared to  $20.72 \pm 6.9$  for the classic-LMA, which was not significant. There was no difference in the incidence of respiratory complications between the Ambu-LMA versus classic-LMA groups which included cough (8.3% and 5.2% respectively), laryngospasm (5% vs. 8.6%), and bronchospasm (1.7% vs. 0). Additionally, the incidence of sore throat was similar between the two groups (10% in the Ambu-LMA group and 13% in the classic-LMA).

**Discussion:** Data from this study demonstrates that the Ambu-LMA is an acceptable alternative to the classic-LMA for airway management in children and may be easier to place.

## **Reference:**

(1) Hagberg, C. A. et al, Anesthesia & Analgesia, December 2005.