# ASA 2007 Annual Meeting

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**Presentation Agreement:** Agree

**Abstract Categories:** 16.1. PEDIATRIC ANESTHESIA - General Pediatrics

**Oral Poster Session:** Yes

**Abstract could be categorized as:** None yet selected

**Journal Symposium:** No

**Special Resident Session :** Not applicable

**IRB/AUCC Approval:** Yes

**Learning Track 1:** Pediatric Anesthesia
**Learning Track 2:** Ambulatory Anesthesia

**As the Presenting Author, who has obtained the assent of all the other authors, I hereby confirm the Disclosure information below is accurate at the time of this submission:** Agree

**Disclosure:**
**A. Financial Relationship:** Yes -
Ambu A/S - Funded Research, Honoraria

VBM - Honoraria

Boehringer Ingelheim Pharma KG - Funded Research, Honoraria

**B.** Accept **C.** Yes **D.** No animal subjects were involved in the research. **E.** Accept **F.** Yes
**Presentation will be Unbiased:** Yes.

**Title:** Comparison of Ambu AuraOnce and LMA-Classic in pediatric patients undergoing ambulatory surgery

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Objective: The single-use laryngeal mask Ambu AuraOnce (Aura, Ambu A/S, Denmark) and the reusable LMA-Classic (LMA, LMA Company, Netherlands Antilles) are compared for ventilation in pediatric patients undergoing elective ambulatory surgery. Ease of insertion and quality of airway seal were assessed.

Methods: 100 ASA I/II patients, age 2 to 8 years, scheduled for elective ambulatory interventions were randomized to be ventilated with LMA or Aura after approval of the local ethics committee and written consent of the guardians. Size selection was based on the respective manufacturer´s recommendation. Following standardized induction of general anaesthesia, the completely deflated airway devices were placed according to

manufacturer´s instructions. Cuffs were inflated with 10 ml for size 2, 14 ml for size 2.5 and 20 ml for size 3. Number of attempts (maximum 2), time until first tidal volume, and intraoperative tidal volumes (goal: $petCO_2$ of 35 mmHg) were recorded. Cuff pressures were adjusted to 60 $cmH_2O$ for measurement of airway leak pressure. Devices were inspected for traces of blood after removal. Patients were questioned for postoperative complaints.

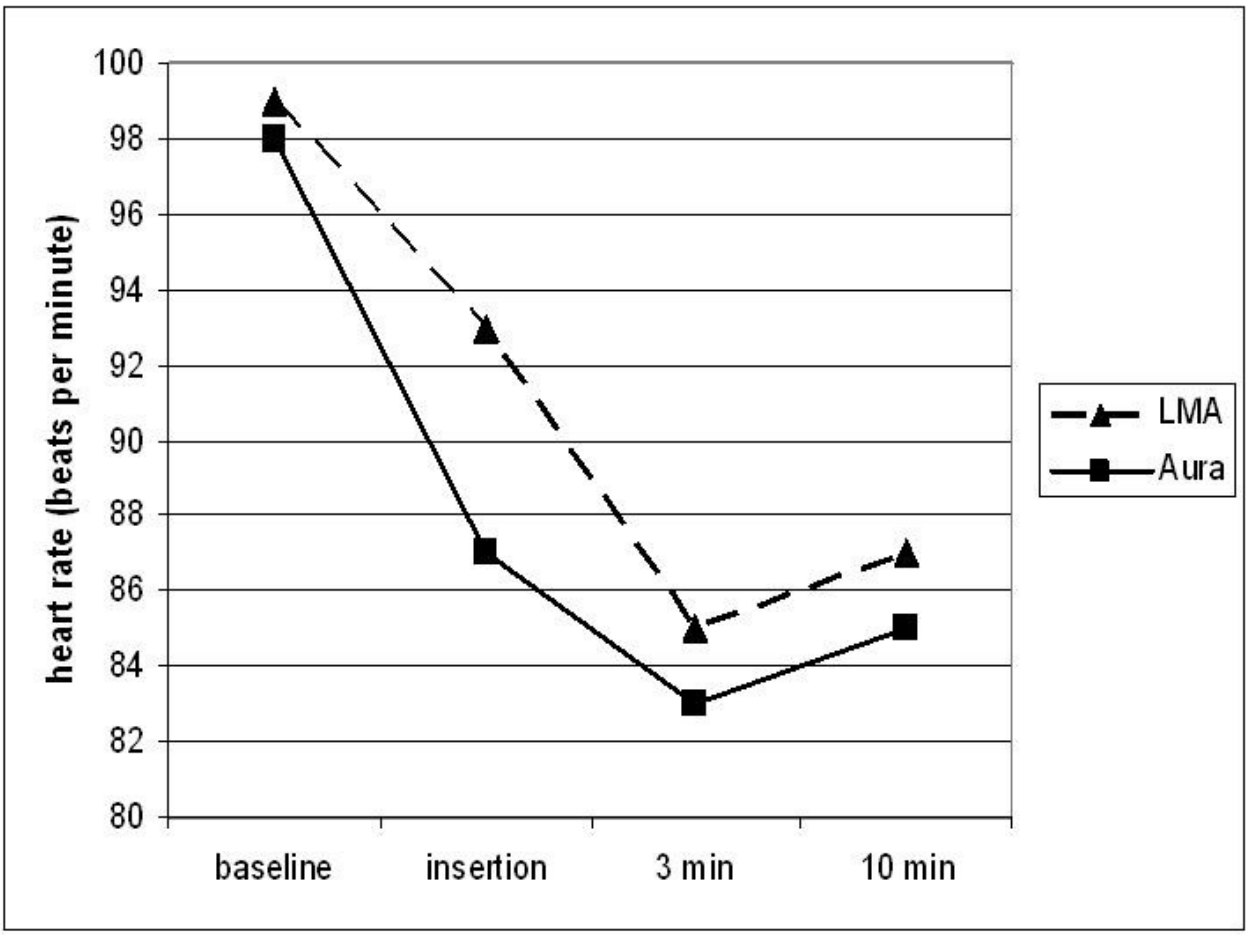
Results: 50 patients were included in each group. Demographic data are listed in table 1. Baseline heart rate, blood pressure and oxygen saturation as well as the respective parameters after insertion, at 3 and 10 minutes were comparable for both groups [figure 1]. Size 2 was used in LMA/Aura in 7/4 patients, size 2.5 in 41/45 patients and size 3 in 2/1 patients. Insertion was successful in all patients after 2 attempts (first attempt LMA 45, Aura 47). Time until first tidal volume for LMA and Aura was 8.7±2.3 and 8.0±2.3 seconds. Tidal volumes were 8.7 and 9.1 ml kg per kg for LMA and Aura. Cuff pressures resulting from recommended maximum inflation volumes were adjusted to 60 $cmH_2O$ (reduction in 49 LMA patients and 34 Aura patients) for measurement of airway leak pressure (LMA 32.7±9.4 $cmH_2O$, Aura 34.1±8.4 $cmH_2O$). Intraoperative dislocation occurred in 1 LMA patient. No traces of blood were found after removal of the devices. No postoperative complaints were stated.

Conclusion: In pediatric patients undergoing elective ambulatory surgery, the single-use Ambu AuraOnce and the reusable LMA-Classic are found to be comparable as far as insertion success after a maximum of two attempts and quality of airway seal are concerned.

Demographic data

| | LMA-Classic | Ambu AuraOnce |
|---|---|---|
| Age (years) | 5.1±1.7 (2.2-8.5) | 5.1±1.3 (2.5-7.9) |
| Gender (male/female) | 48/2 | 44/6 |
| Height (m) | 1.11±0.12 (0.91-1.34) | 1.12±0.10 (0.94-1.32) |
| Weight (kg) | 19.7±5.1 (11.6-36.0) | 19.6±3.7 (13.0-30.0) |
| Anesthesia time (min) | 44.2±14.8 (25-100) | 41.8±7.8 (30-70) |
| Duration of surgery (min) | 25.3±14.4 (12-85) | 22.7±7.0 (10-50) |

Data are mean±standard deviation (range)




**Summary:** Single-use Ambu AuraOnce and reusable LMA-Classic are compared in 100 children (average age 5 years). Insertion success after 2 attempts and quality of airway seal are comparable.

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