Background: The cuff pressure for optimal airway sealing with the LMA Supreme with the LMA Unique in infants and children. To compare the clinical performance of the LMA Supreme with the LMA Unique, incidence of gastric insufflation, and complications were also assessed.

Results: Airway leak pressure at an intracuff pressure of 60 cm H₂O for the Supreme was 17.4(5.2) vs. LMA at 18.4(6.6) cm H₂O and did not differ when compared with an intracuff pressure of 40 cm H₂O. Supreme 17.2(5) vs. LMA at 17.7(6) cm H₂O. The LMA was associated with higher first-attempt success rates. The Supreme was associated with less gastric insufflation than the LMA.

Conclusions: There was no statistically significant difference in the airway leak pressures between the devices at the two intracuff pressures. No clear benefit was shown at the higher intracuff pressure of 60 cm H₂O, and 40 cmH₂O may be sufficient for use of the Supreme in children. Additionally, the Supreme may be preferred over the LMA when mechanical ventilation is utilized for its lower rates of gastric insufflation and access for evacuation of gastric contents.

Table 1: Comparative data for the LMA Supreme and LMA Unique. Values are mean (SD) [range], number, or number (proportion).

Table 2: Analysis of airway leak pressures, gastric insufflation rates, and mechanical ventilation data between device sizes. Values are mean (SD) [range] or number (proportion).

Figure 1: LMA Supreme. Frontal (left) and side (right) views. EF = epiglottic fins; FT = fixation tab.