

Comparison of success rates with LMA-Classic and LTS by inexperienced users

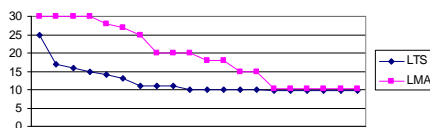
Background and goal of study:

Materials and Methods



Results and Discussions

Maximum number of attempts per participant



Conclusion(s):

References

Training requirements for airway devices may vary and influence the decision on device recommendations for a certain group of users for ventilation during cardiopulmonary resuscitation (CPR).

LMA-Classic (LMA Company) and Laryngeal Tube Suction (LTS, VBM Medizintechnik) are compared in terms of success rate and insertion time by final year medical students and paramedics without prior experience with either device.

After a short practical instruction (1 attempt with each device), 10 students and 10 paramedics placed LMA and LTS (size 4) in a manikin (Ambu megacode trainer).



To achieve 10 consecutive successful attempts with a tidal volume of at least 400 mL, considered the minimal requirement for ventilation during CPR (1), a maximum of 30 attempts was allowed. Ventilation was performed and evaluated by an independent observer with a bag-valve device.

Time was measured from picking up the device until putting down the syringe used for cuff inflation. Participants rated handling of each device on a linear 10-point scale (0 = unsuitable, 10 = optimal) afterwards. The t-test was used for comparison of data were applicable.

Number of attempts (mean \pm standard deviation, range) in the medical student group was 19.7 ± 8.1 (10-30) for LMA and 11.8 ± 2.7 (10-17) for LTS ($p < 0.01$), in the paramedic group 18.9 ± 8.1 (10-30) for LMA and 12.5 ± 4.8 (10-25) for LTS ($p < 0.03$).

Four participants (two in each group) were unable to perform 10 consecutive insertions of the LMA with 30 attempts. Placement times were comparable in both groups for LMA and LTS: medical students 24.3 ± 3.2 s vs. 24.7 ± 4.9 s, paramedics 23.9 ± 4.7 s vs. 21.3 ± 3.5 s. Subjective evaluation of the devices showed a significantly better acceptance of the LTS in both groups: rating by medical students 8.4 ± 0.6 vs. 5.7 ± 2.1 , in the paramedic group 8.8 ± 1.5 vs. 5.9 ± 2.6 ($p < 0.01$).

With the LTS, both medical students and paramedics were able to perform 10 consecutive successful attempts with fewer attempts. Acceptance by the users reflects the success rates. Insertion times for LMA and LTS were comparable.

(1) ILCOR, Circulation 2000; 102: 186-89