Correspondence

Size matters!

To the Editor:

Harnett *et al.* described a higher incidence of airway obstruction when using the LMA in infants in the first year of life compared with the facemask and oral airway.¹ The authors attribute this to the anatomical differences between infants and older children and conclude that in infants, the LMA is less reliable than the facemask-oral airway. However there is an alternative explanation for their findings.

Both the current and earlier edition of the Instruction Manual for the LMA lists the appropriate patient weight for the size 1 as "< 5 kg". In fact the size 1 LMA has been used effectively in infants from as little as 1000 g body weight³ and it appears that, in premature infants, it can provide a clear airway in the weight range 1.3-2.3 kg.⁴ When designing the LMA, the author examined many infants as well as adult cadaveric specimens and noted that in both humans and animals, the hypopharyngeal space into which the mask fits is a remarkably constant shape, unlike the well-known differences in laryngeal anatomy. Mizushima's 1992 paper⁵ which the authors quote in support of their findings, reported 12 cases of delayed airway obstruction using the size 1 LMA in 50 patients, but in the problem group, 7/12 weighed between 6.6 and 10 kg and 7/12 were inserted using a non-recommended insertion technique. The size 1.5 LMA was not available in 1992; indeed it was in response to such findings that this intermediate size was developed. Harnett *et al.* mention that they did not have the size 1.5 LMA, which is designed for infants of 5-16 kg. However, this size has been available in Ireland (where the study was carried out) since October 1997. Since the mean weight of the infants they studied was 8.12 ± 2.4 kg, the #1 LMA was too small and the #2 LMA was too big for most of the cases studied. It might be of interest to repeat this study using the appropriate sizes, before drawing conclusions regarding the efficacy of the device in infants.

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References

- 1 Harnett M, Kinirons B, Heffernan A, Motherway C, Casey W. Airway complications in infants: comparison

of laryngeal mask airway and the facemask-oral airway. *Can J Anesth* 2000; 47: 315-9.

- 2 Brimacombe JR, Brain AIJ, Berry AM. The LMA Instruction Manual, 4th ed. Intavent Orthofix, UK.
- 3 Albertsen P, Eschen C, Verder H. Laryngeal mask used as a guideway for brief access to the intratracheal space in premature infants. Abstract 3-8th International Workshop on Surfactant Replacement, Oslo - May 20-22 1993.
- 4 Lönnqvist PA. Successful use of laryngeal mask airway in low-weight expremature infants with bronchopulmonary dysplasia undergoing cryotherapy for retinopathy of the premature. *Anesthesiology* 1995; 83: 422-4.
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REPLY:

We would like to thank Dr. Brain for his interest in our article. As stated in our paper, our study was carried out before the #1.5 LMA was available for use in Ireland.¹ We agree with Dr. Brain that the #1.5 LMA may be a more appropriate size for airway management in many of the children in the age group that we studied. However, we are still concerned that the large floppy epiglottis of the infant remains a cause for potential airway obstruction during airway maintenance with the LMA in this age group.

In our paper we focused on the high incidence of intra-operative airway obstruction during maintenance of anesthesia with the LMA. However, we also found a higher incidence of all other airway complications studied - breath-holding, coughing, larynospasm and secretions - in the LMA compared to the facemask-oral airway group. We feel that it is unlikely that these complications were related to the size LMA in use.

Again we thank Dr. Brain for his comments.

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Reference

- 1 Harnett M, Kinirons R, Heffernan A, Motherway C, Casey W. Airway complications in infants: comparison of laryngeal mask airway and the facemask-oral airway. *Can J Anesth* 2000; 47: 315-8.