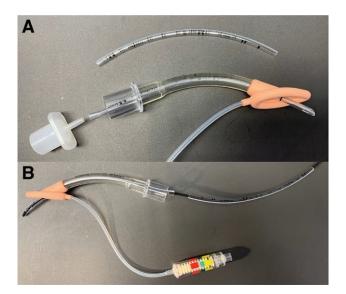
Difficult Airway Management in Neonates: Fiberoptic Intubation *via* Laryngeal Mask Airway

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The incidence of difficult direct laryngoscopy is higher in patients younger than one *versus* older patients. In neonates with an anticipated or unanticipated difficult airway, a laryngeal mask airway (LMA) is an acceptable temporary airway, because management with an LMA in neonates has been shown to be successful and safe. After stabilization with an LMA, securing the airway with an endotracheal tube (ETT) becomes paramount.

Although an LMA Unique size 1 (Laryngeal Mask Company Limited, USA) has a limited internal diameter, an uncuffed 2.5-mm or 3-mm ETT will fit inside (fig, panel A). An LMA Unique size 1 is only a few centimeters shorter than an uncuffed 2.5-mm ETT, so advancing the ETT into the trachea through the LMA is impossible without assistance. Devices like the Aintree Intubation Catheter (Cook Critical Care, USA) are too big for this patient population,³ and, although an air-Q LMA would work in this situation, they may not be available in every anesthesia site. Using another 2.5-mm ETT and cutting off both ends creates a "pusher" (not a Food and Drug Administration—approved device) for the intubating ETT, allowing more control in placement.

With the "pusher" placed over a flexible video bronchoscope followed by the intubating ETT, all can be passed through the LMA, taking caution not to advance the ETT too far, which can result in injury or pneumothorax (fig, panel *B*). Once the flexible video bronchoscope is in the trachea, the intubating ETT can be pushed into place and held there while the LMA and flexible video bronchoscope are removed (Supplemental Digital Content, http://links.lww.com/ALN/C972).

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Competing Interests

The authors declare no competing interests

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Supplemental Digital Content

Supplemental Video, http://links.lww.com/ALN/C972

References

- 1. Heinrich S, Birkholz T, Ihmsen H, Irouschek A, Ackermann A, Schmidt J: Incidence and predictors of difficult laryngoscopy in 11,219 pediatric anesthesia procedures. Paediatr Anaesth 2012; 22:729–36
- Pejovic NJ, Myrnerts Höök S, Byamugisha J, Alfvén T, Lubulwa C, Cavallin F, Nankunda J, Ersdal H, Blennow M, Trevisanuto D, Tylleskär T: A randomized trial of laryngeal mask airway in neonatal resuscitation. N Engl J Med 2020; 383:2138–47
- Wong DT, Yang JJ, Mak HY, Jagannathan N: Use of intubation introducers through a supraglottic airway to facilitate tracheal intubation: a brief review. Can J Anaesth 2012; 59:704–15

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