

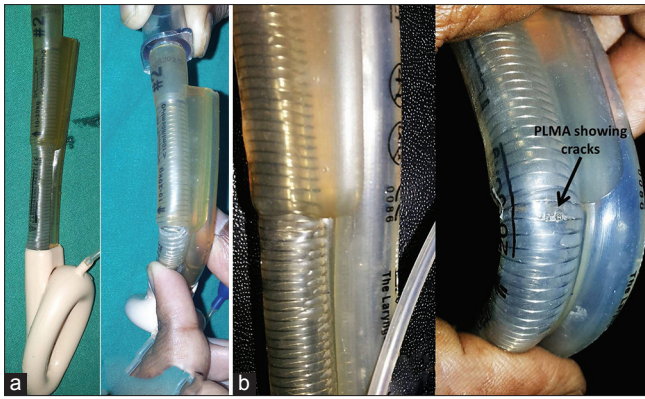
---

## Difficulty in diagnosing physical damage to the airway tube of the ProSeal laryngeal mask airway

Sir,

A 27-month-old boy weighing 12 kg was scheduled for cystoscopy and evaluation. Preoperative evaluation was unremarkable. In the operating room, standard anaesthesia monitoring was established. Following intravenous (IV) induction of anaesthesia, a size 2 ProSeal laryngeal mask airway (ProSeal LMA™; The Laryngeal Mask Company Limited, Osprey House, Old Street, St. Helier, Jersey JE2 3RG Channel Islands) was inserted and the position confirmed by observing coordinated movement of the reservoir bag with spontaneous breathing efforts of the child. Anaesthesia was maintained with sevoflurane in a mixture of oxygen and nitrous oxide with the child breathing spontaneously. Subsequently, the child was shifted to the distal end of the operating table and

placed in lithotomy position. Till this time, the child was breathing spontaneously, and a good capnogram trace (EtCO<sub>2</sub>) was observed. When the cystoscope was inserted, the child started making grunting noises. A propofol bolus (20 mg IV) was administered following which the child developed apnoea. Manual positive pressure ventilation (PPV) with both the circle system and Jackson Rees modification of Ayre's T-piece revealed the absence of observable chest expansion, absence of EtCO<sub>2</sub> and inability to fill the reservoir bag despite occluding the expiratory valve completely. We suspected a significant leak or a displaced laryngeal mask airway (LMA). Further evaluation of the breathing circuit and the LMA revealed a horizontal slit in the airway tube of the LMA [Figure 1a]. In view of this, we considered either replacing the LMA with another one or performing tracheal intubation. However, since the child was in an unfavourable position for airway instrumentation, we passed a well lubricated uncuffed 4.0 mm ID tracheal tube into the airway tube of the ProSeal LMA™ till its tip bypassed the portion that contributed to leak. The breathing circuit was then connected to the tracheal tube which



**Figure 1:** (a) A normal appearing size 2 ProSeal LMA™ on external evaluation (left image) and the same ProSeal LMA™ when bent reveals significant crack just below its bite block portion (right image) (b) A normal appearing size 21/2 ProSeal LMA™ on external evaluation (left image) and the same ProSeal LMA™ when bent reveals two tiny cracks just below its bite block portion (right image). LMA – Laryngeal mask airway

enabled us to provide PPV through the ProSeal LMA™. One anaesthesia technician held the tracheal tube and the LMA together till the surgical evaluation was completed. Further management was uneventful.

Physical damage to reinforced tubes resulting in intraoperative leak and inability to ventilate is a well-recognised complication necessitating their replacement with either another supraglottic device or by a tracheal tube.<sup>[1-3]</sup> However, we managed our situation in a unique way because of the possibility of difficulty in handling the airway as the child was placed midway on the operating table in the lithotomy position. Prior knowledge about the usefulness of a ProSeal LMA™ for intubation and correct knowledge of the maximum size tracheal tube that might pass through a size 2 ProSeal LMA™ helped us in rapidly resolving the problem.

As per the current practice to ensure safety in cases of reinforced tubes,<sup>[1-4]</sup> internal as well as external evaluation of the reinforced airway lumen of ProSeal LMA™ was done by both the anaesthesia technician and the anaesthesiologist preoperatively. However, both could not identify the damage because the horizontal slit in the lumen of the reinforced tube was difficult to notice when the device was in its anatomical position. As a result of this experience, we started gently flexing the reinforced portion of such devices in multiple directions during preoperative check. In the following 3 months, another ProSeal LMA™ [Figure 1b] with damage at the same location as the previous one (just beneath the bite block portion of the airway tube) was identified. When soap solution was applied at the damage site with 6 L oxygen flow passing through the ProSeal LMA™ with

its laryngeal end partially occluded, bubbling of gases through the damaged portion confirmed leak. The damage could be because the concerned devices on both occasions were used >50 times.

We suggest that the lumen of reinforced tubes be bent in multiple directions preoperatively to enhance the possibility of detecting any physical damage to the device.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

**Kaur Jasvinder, Goneppanavar Umesh**

Department of Anaesthesia, Dharwad Institute of Mental Health and Neurosciences, Dharwad, Karnataka, India

**Address for correspondence:**

Prof. Goneppanavar Umesh,  
Department of Anaesthesia, Dharwad Institute of Mental Health and Neurosciences, Dharwad, Karnataka, India.  
E-mail: drumeshg@gmail.com

**REFERENCES**

1. Matic A, Arndt GA. Intubation using the ProSeal LMA™ laryngeal mask airway and a cook airway exchange catheter set. *Can J Anaesth* 2001;48:932.
2. Ladi SD, Aphale S. Accidental transection of flexometallic endotracheal tube during partial maxillectomy. *Indian J Anaesth* 2011;55:284-6.
3. McLean R, Houston P, Carmichael F, Bernstein M. Disruption of an armoured endotracheal tube caused by biting. *Can Anaesth Soc J* 1985;32 (3 Pt 1):313-4.
4. Mesa A, Miguel R. Hidden damage to a reinforced LMA-Fastrach™ endotracheal tube. *Anesth Analg* 2000;90:1250-1.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

Access this article online	
Quick response code	Website: www.ijaweb.org
	DOI: 10.4103/0019-5049.195504

**How to cite this article:** Jasvinder K, Umesh G. Difficulty in diagnosing physical damage to the airway tube of the ProSeal laryngeal mask airway. *Indian J Anaesth* 2016;60:963-4.

© 2016 Indian Journal of Anaesthesia | Published by Wolters Kluwer - Medknow