

Anesthesiology 2008; 109:356

Copyright © 2008, the American Society of Anesthesiologists, Inc. Lippincott Williams & Wilkins, Inc.

In Reply:—We commend Hosokawa *et al.* and the University Hospital, Kyoto Prefectural University of Medicine, Kyoto, Japan, for the professional actions undertaken relating to patient care and incident reporting after postprocedural discovery of a plastic fragment separated from the rail portion of a Trachlight Tracheal Lightwand handle.

Details of the event have been sent to health authorities as prescribed under local country regulations and in accordance with international regulatory agreements. Both the handle and the plastic fragment were forwarded through Laerdal Medical Japan, Ltd., to the device manufacturer, Laerdal Medical AS of Stavanger, Norway, for technical evaluation.

Laerdal Medical was pleased to receive advice that no complications or adverse health effects to the patient have been realized. This event has heightened awareness within the reporting institution, and its examination of all similar devices constitutes a responsible protective action. Periodic review of the Trachlight Directions for Use, with special attention paid to cautions and warnings, inspections and functional checks/tests, would be another positive precautionary measure for users.

Upon examination of the subject handle, it was observed to have multiple signs of mechanical damage to its other plastic components as well as to the rail teeth. It is likely that the damage exhibited was incurred during its term of institutional use. In addition, microscopic examination revealed residues of unknown chemical origin on another remaining rail gear of the handle.

Trachlight handles are made of polycarbonate/acrylonitrile butadiene styrene polymer, a material with many desirable characteristics that is widely chosen for use in medical device applications. However, it is known that exposure to certain chemical compounds can cause it

to become brittle. For this reason, a specific caution message appears several times throughout the Directions for Use: "Caution: The lubricant used on the endotracheal tube and the wand should not contain any topical anesthetics or other active ingredients. These chemicals will degrade the plastic in the handle." Note: The 70% isopropyl alcohol is recommended for cleaning Trachlight handles because it is both compatible with polycarbonate/acrylonitrile butadiene styrene polymer materials and also capable of facilitating removal of noncompatible chemical residuals unintentionally deposited on handles during clinical use.

At this time, it is not possible to conclude exactly why the rail tooth broke away from the subject handle, but we believe it is most likely the result of a combination of unintended exposure to some chemicals, and some earlier mechanical impact. Although no trend has been observed for this type of damage, Laerdal will maintain its surveillance of all reports on Trachlight products and continue to promptly investigate any and all incidents related to its devices.

In conclusion, we thank Hosokawa *et al.* for their letter to the editor reporting this occurrence, for providing a constructive product design suggestion, and for raising user awareness, thus reinforcing the importance of familiarity with and adherence to manufacturers' instructions, cautions, warnings, preuse inspections, and functional tests for any medical device, and the importance to check that all handling processes within the user institution also support such compliance.

Frode Liland, M.Sc., Laerdal Medical AS, Stavanger, Norway.
frode.liland@laerdal.no

(Accepted for publication April 16, 2008.)

Anesthesiology 2008; 109:356-7

Copyright © 2008, the American Society of Anesthesiologists, Inc. Lippincott Williams & Wilkins, Inc.

Use of the *LMA-Supreme*TM for Airway Rescue

To the Editor:—The requirement for airway control in hypoxic and unconscious emergency patients in a ward environment is both common and challenging. The situation is further complicated if the likelihood of successful direct laryngoscopy and tracheal intubation is low and if the risk of regurgitation and pulmonary aspiration is high. We describe such a case, which was managed successfully using a new laryngeal mask airway with an esophageal access port (fig. 1).¹

A 59-yr-old, obese man (120 kg) was admitted to a general medical ward having experienced recurrent generalized tonic-clonic seizures secondary to alcohol withdrawal. The combination of the postictal state and benzodiazepine treatment rendered him unconscious, hypoxic, and with a partially obstructed airway despite conventional airway maneuvers and a nasopharyngeal airway. When the anesthesia team arrived, the Glasgow Coma Score was 6/15, and oxygen saturation was 70% on 100% oxygen *via* a reservoir mask. Further airway maneuvers failed to further open the airway, and the patient resisted jaw opening. Preoxygenation was poorly effective, and it was clear that a rapid sequence induction would be high risk because of a judgment that emergent intubation was likely to be very challenging (the patient was obese and had a short, thick neck and a perceived reduction in mouth opening—although neck circumference and interdental gap were not formally measured). There were also limited facilities, and skilled assistance was not immediately available in the ward environ-



Fig. 1. The *LMA-Supreme*TM (Laryngeal Mask Company, San Diego, CA).

ment. The *LMA-Supreme*TM (Laryngeal Mask Company, San Diego, CA) had recently been introduced into the hospital for both elective and emergency patients and was immediately available. A 50-mg bolus of propofol was administered intravenously, and a fully deflated and lubricated size 4 *LMA-Supreme*TM was placed by the attending junior doctor (who had 12 months of anesthetic experience and had received previous teaching on the use of the *LMA-Supreme*TM). Manual ventila-

Support was provided solely from institutional and/or departmental sources. The author's institution has received free laryngeal mask airways, and Dr. Young has received consultancy fees and academic financial support from the Laryngeal Mask Company, Jersey, United Kingdom.

tion with oxygen *via* the device was immediately successful, and a lubricated 14-CH (french gauge) gastric tube was easily placed down the esophageal drainage channel. Suction on the gastric tube produced 250 ml heavily bile-stained fluid, and this was then left on free drainage. The patient was rapidly transferred to the critical care unit, where the availability of the difficult intubation trolley and skilled assistance were immediately at hand. In the critical care unit, the patient was now fully preoxygenated *via* the *LMA-Supreme*TM, and a proportion of the fluid content of the stomach had been removed. With satisfactory control of the airway, 100 µg fentanyl, 80 mg propofol, and 50 mg atracurium were administered. After 5 min, the gastric tube and *LMA-Supreme*TM were removed, and an initial grade 3 Cormack and Lehane laryngoscopy was improved to grade 2 by use of a McCoy blade laryngoscope and backward and upward manipulation of the larynx. Intubation was performed using an endotracheal tube introducer (bougie).

Supraglottic airways are increasingly being used for airway rescue in emergency situations and in hostile environments, particularly when tracheal intubation may be challenging or may delay oxygenation. There are potential advantages of supraglottic airways with integral esophageal drainage tubes for airway rescue and rapid oxygenation in selected patients. In this case, the *LMA-Supreme*TM airway was easily placed when tracheal intubation would have been challenging. The fixed curve and elliptical cross-sectional design of the airway tube allowed placement without the need for the clinician's digits to be

placed in the mouth, and the airway passed satisfactorily through the narrowed interdental gap. Other brief reports have shown satisfactory use of this airway in elective cases¹ and in one case during cardiopulmonary resuscitation,² but clinical studies are required before formal recommendations can be made. First responders outside of the operating room and critical care may not have the opportunity to regularly practice advanced airway skills, may have limited assistance, and may not have immediate access to their preferred equipment, and yet may still be faced with the most challenging airways in time-critical situations. Ideally, a supraglottic device for airway rescue should also be easily placed by relatively novice users, and formal studies are needed to confirm whether the *LMA-Supreme*TM will satisfy this requirement.

Darcy M. Pearson, M.R.C.P., M.B., Ch.B., Peter J. Young, M.D., F.R.C.A., M.B., Ch.B.* *Queen Elizabeth Hospital, King's Lynn, United Kingdom. peteryoung@lotrach.com

References

1. van Zundert A, Brimacombe J: The LMA Supreme: A pilot study. *Anaesthesia* 2008; 63:209-10
2. Murdoch H, Cook TM: Effective ventilation during CPR *via* an LMA-Supreme. *Anaesthesia* 2008; 63:326

(Accepted for publication May 18, 2008.)