tion is performed once the tip of the LMA cuff has entered the hypopharynx and is accompanied by a "distinctive pop felt by the introducing hand". Our concern is that immediately anterior to the hypopharynx are the arytenoid cartilages. We postulate that rotation of the bulky LMA cuff in such close proximity might cause arytenoid dislocation, a major complication commonly requiring surgical correction. We suggest that those who prefer the "Charlottetown Twist" follow-up their patients for speech problems, particularly if the "distinctive pop" is accompanied by a "catastrophic click".

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REPLY:

Dr. Brimacombe did not contest our contention that our insertion technique may be less traumatic. He also agreed that it makes the insertion of the LMA easier on occasion. He condemned us on a motive that would condemn all blind methods of tracheal intubation such as the use of the light wand or the fibreoptic bronchoscope. It is our belief that the soft, blunt, inflated distal cuff of the LMA probably causes less trauma than direct laryngoscopy on laryngeal structures. We did not come across any cases of arytenoid dislocation in our extensive use of the LMA.

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Does smoking really increase the requirements for rocuronium?

To the Editor:

We read with interest the recent article by Rautoma and Svartling[1] but we would like to add some comments. On the basis of the data presented, the headline stating "Smoking increases the requirement for rocuronium" seems not to be justified because the changes observed failed to reach statistical signifiance ($P = 0.0504$). We started a similar study four months ago, using target controlled infusions of rocuronium to determine the dose requirements in smokers and non-smokers and expect to be completed by the end of 1998. A preliminary power analysis based on the data of a study from Latorre *et al.*[2] revealed a minimum of at least 37 patients per group to find a statistical significant effect of rocuronium in smokers. We, therefore, speculate that the number of patients in the study of Rautoma and Svartling was too small. In addition, we would like to point out that rocuronium, in contrast to vecuronium, is eliminated through the liver without undergoing metabolism.[3] Therefore, the P-450 mixed oxidase pathway should not be of any influence in the elimination of rocuronium .

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Anesthesia in Poland syndrome

To the Editor:

We read with interest the case report "Anaesthesia in Poland syndrome."[1] Since the authors focused on potential respiratory problems associated with anesthesia in children with musculo-skeletal disease of the thoracic cage, we would like to stress another major potential risk factor. Children with musculo-skeletal diseases show an exceptional risk of developing succinylcholine-related complications including cardiac arrest. The addition of halothane to maintain anesthesia potentiates the risk for malignant hyperthermia.

Sethuraman *et al.* described Moebius syndrome as an extreme expression of Poland anomaly; the association between both syndromes has been emphasized in several reports.[2,3] While succinylcholine is contraindicated in degenerative diseases of cranial nerve motor nuclei such as Moebius syndrome,[4] the association between this disease and Poland syndrome should raise concern about the use of depolarizing muscle relaxants under these circumstances. Reports of trismus in neonates as part of developmental

defects[5] and the possible association between Poland anomaly and muscle weakness[6] yield further evidence supporting the contraindication of succinylcholine in these cases.

Positive pressure ventilation might have been the appropriate way to avoid respiratory complications in this patient, as proposed by the authors, but achieving this by giving succinylcholine and halothane is an unsuitable barter exchanging one hazard with another.

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Missed cuff herniation despite fibreoptic bronchoscopy

To the Editor:

Cuff herniation is a rare and often difficult to diagnose cause of airway obstruction. We report a case of endotracheal tube obstruction due to cuff herniation mistakenly attributed to secretions.

A 20-yr-old man underwent a 12 hr operation for excision of an osteogenic sarcoma. Integrity of the cuff was assessed preoperatively and no contact occurred between the cuff and teeth during intubation. The patient was placed in the lateral position and anesthesia was maintained with isoflurane/N_2O. Airway pressure increased from 16 to 35 cm H_2O. A suction catheter was passed beyond the tip of the endotracheal tube and secretions were aspirated. Ballottement of the pilot balloon indicated that the cuff pressure was not excessively high. Subsequent fibreoptic bronchoscopy revealed a collection of "mucous" on the distal wall of the tube which were aspirated with transient improvement in airway pressure. Postoperatively, an aneurysm of the cuff was evident. In retrospect, the "mucous" was likely the cuff herniating through the Murphy eye. The distended cuff might also have caused the tube to abut against the tracheal wall, partially occluding the tip.[1–4]

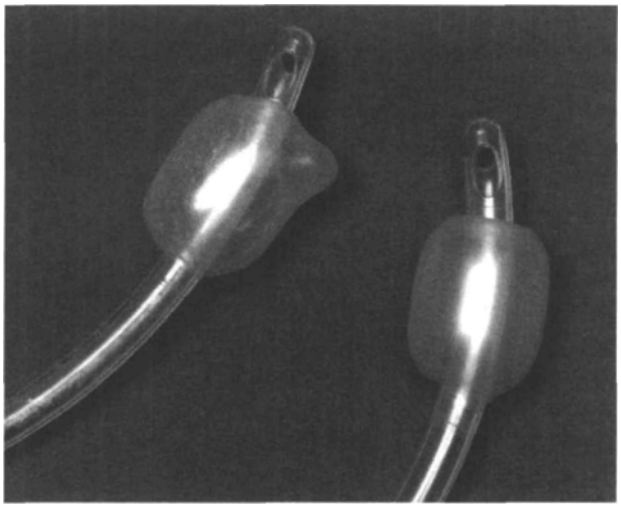

FIGURE Endotracheal tube, size 8.0 mm internal diameter (Mallinckrodt Hi-Lo, St. Louis, MO)

Cuff herniation is rare: we identified 17 cases from the Medical Devices Reports of the United States FDA (1984-1997), eight associated with airway obstruction. The algorithm for the management of high airway pressure includes the passage of a catheter down the tube. If the tube is obstructed, the cuff should be deflated and patency reassessed. The tube may be replaced or repositioned but retained for later inspection. Deflation of the cuff will alleviate the obstruction and alert the clinician to diagnosis.

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