To the Editor:

We read with interest Dr. Richard Cooper's excellent recent report on using the GlideScope® in the management of a patient with a difficult airway.[1] In addition to Dr. Cooper's series of 80 cases using the Glidescope®, we have used the Glidescope® in over 170 of our own cases in the five months we had the unit, including ten cases of awake intubation and several "airway rescues" where we were called in for assistance. One of the rescue cases was a failed direct laryngoscopy, failed fibreoptic intubation attempted following the induction of general anesthesia.

Referring to patients known to be difficult to intubate by conventional means, Dr. Cooper writes that use of the Glidescope® "challenges the prevailing wisdom that such patients must be managed by awake fibreoptic intubation". We wholeheartedly agree. Like Dr. Cooper, our experience with the unit has been highly favourable, and we fully expect that the Glidescope® will ultimately have a profound impact on clinical airway management.

One point that was not emphasized in Dr. Cooper's report bears mentioning. We found that the principal limitation in using the Glidescope® was not in getting a good view of the glottis, but rather in manipulating the endotracheal tube (ETT) through the vocal cords. We also found that successful ETT placement was usually best achieved using a stylette formed in the shape of a "hockey stick" (with a 90° bend) to help ensure that the ETT could be directed sufficiently anteriorly to enter the glottis.

Finally, Dr Cooper writes "This case is the first publication describing the use of the GlideScope® videolaryngoscope". Unfortunately, while this was true at the time the article was in review, a prior report of 15 cases slipped into publication.[2]

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References

1 *Cooper RM.* Use of a new videolaryngoscope (GlideScope®) in the management of a difficult airway. Can J Anesth 2003; 50: 611–3.

2 *Agro F, Barzoi G, Montecchia F.* Tracheal intubation using a Macintosh laryngoscope or a GlideScope in 15 patients with cervical spine immobilization (Letter). Br J Anaesth 2003; 90: 705–6.

Reply:

I agree with Drs. Kaplan and Berci regarding the value of a video display while performing laryngoscopy. As they stated, this is particularly useful when teaching or supervising the procedure. I have also had the opportunity of using the Storz Video Macintosh Laryngoscope. With this device, the technique and laryngeal view are very similar to that seen by direct laryngoscopy, making it ideal for teaching purposes.

I am pleased that the experience of Dr. Doyle and colleagues has been similar to our own. The GlideScope® is proving effective in routine and difficult airways. At the time this intubation occurred (May 2002), my personal experience was limited to approximately 80 cases. We have now collected data on over 700 consecutive uses of this videolaryngoscope (manuscript in preparation) in a wide range of clinical settings. It is interesting to observe that many users have rapidly acquired the necessary confidence to choose this as a first-line management tool. Compared with conventional (i.e., direct) laryngoscopy, it appears that little force is required to obtain a good laryngeal view on the monitor. This may be less stimulating than direct laryngoscopy in the awake patient.

Dr. Doyle correctly points out that a good laryngeal view does not necessarily result in an easy, or indeed successful intubation. Several of the unsuccessful intubations in our series, occurred despite a Cormack-Lehane grade I or II view. Since this is not line-of-sight laryngoscopy, the use of a stylet is strongly advised to deliver the endotracheal tube (ETT) to the glottis. Unlike Doyle and colleagues, I configure the stylet to the same shape of the GlideScope® blade (approximately a 60° bend). In our series, most failures resulted from difficulty inserting the blade into the patient's mouth or the inability to deliver the ETT to a visualized glottis.

As stated by Dr. Doyle, Agrò and colleagues' interesting article[1] had not been submitted at the time my report[2] was accepted for publication. These authors have demonstrated the utility of the GlideScope® to improve laryngeal exposure and facilitate tracheal intubation in patients with simulated cervical immobilization.

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References

1 *Agro F, Barzoi G, Montecchia F.* Tracheal intubation using a Macintosh laryngoscope or a GlideScope in 15 patients with cervical spine immobilization (Letter). Br J Anaesth 2003; 90: 705–6.

2 *Cooper RM.* Use of a new videolaryngoscope

(GlideScope®) in the management of a difficult airway. Can J Anesth 2003; 50: 611–3.

Warming the tracheal tube and kinking

To the Editor:

We read with interest the letter on intratracheal kinking of an endotracheal tube by Lee *et al.*[1] The authors highlighted that, in addition to various known causes of obstruction of the endotracheal tube, intratracheal kinking at the site where the inflating lumen opens into the cuff can also cause its obstruction. Their observation is similar to that of Singh *et al.*[2] where the authors could barely pass the endotracheal tube through the nasal cavity following soaking it in warm water. It is well known that thermal softening of the polyvinyl chloride tracheal tube can lead to its distortion and obstruction.[3] In the case reported by Lee *et al.*, we postulate that warming the tube to soften it contributed to kinking at the tube's weakest point, i.e., the site where the inflating lumen opens into the cuff.

We feel that the practice of softening the endotracheal tube should be avoided. If one is unable to intubate with a particular size tube it is better to use a smaller size that can be inserted without causing trauma.

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2 *Singh B, Gombar KK, Chhabra B.* Tracheal tube kinking (Letter). Can J Anaesth 1993; 40: 682.
3 *Alaya JL, Coe A.* Thermal softening of tracheal tubes: an unprecedented hazard of the Bair Hugger active patient warming system. Br J Anesth 1997; 79: 543–5.

Nasotracheal intubation, epistaxis and atelectasis in a patient with anhidrotic ectodermal dysplasia

To the Editor:

Anhidrotic ectodermal dysplasia (AED) is a rare hereditary disorder affecting ectodermally-derived tissues and organs. It is characterized by hypohidrosis, hypodontia and hypotricosis.[1]

A five-year-old boy (26 kg, 116 cm) with AED was scheduled for extraction of impacted teeth under general anesthesia. A nasotracheal tube (inner diameter, 5.0 mm) was softened with warm saline before intubation. Anesthesia was induced with 5% sevoflurane in combination with nitrous oxide and oxygen via a face mask. After venous cannulation, 3 mg vecuronium bromide was used to facilitate tracheal intubation. The tube was inserted into the right naris. Resistance was not felt during transit of the tube through the nasal passageway. However, blood was found in the pharynx and hindered intubation under direct laryngoscopic visualization. Aspiration resulted in the immediate removal of a considerable quantity of blood. As we could visualize the vocal cord with a laryngoscope, the tube was placed in the trachea with the aid of a Magill forceps. A decrease in SpO_2 was noted following the induction of epistaxis by the nasotracheal intubation with diminished respiratory sounds being evident in the right upper lung field. A chest *x-ray* indicated atelectasis and an obstructing clot was removed by bronchoscopy from the right upper lobe bronchus. This resulted in an improvement in SpO_2. In the ward three hours after extubation, the atelectasis was no longer evident on a chest *x-ray*. On the first postoperative day, hematological examination revealed a mild inflammatory state and the patient was treated with antibiotics. There was no evidence of a respiratory tract infection and the exact cause of the inflammatory state was not determined. He was discharged on the fifth postoperative day.

Patients with AED are predisposed to epistaxis because of poor humidification of inspired air leading to generalized drying and crusting of the airway.[2] To our knowledge, our case is the first report of epistaxis and atelectasis following nasotracheal intubation in a patient with AED. We believe that imperfect suctioning of blood in the pharynx resulted in blood entering the bronchus when tracheal intubation was performed. The alpha-adrenergic agonist oxymetazoline is effective for the prevention of epistaxis associated with nasotracheal intubation[3] and may, therefore, be useful in a patient with AED.

In conclusion, specially in patients with AED, it is necessary to perform nasotracheal intubation very delicately in order to prevent epistaxis and associated complications.

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