time incurred by tube change and the higher gas flow required when using uncuffed tubes[8] also adds cost, not to mention the stress of tube change on the patient. Finally, there is always a higher theoretical risk of dispersion of infectious droplets when ventilating with an uncuffed tube a child with a highly communicable respiratory ailment. This was a consideration during the SARS outbreak in Hong Kong in 2003.

The availability of cuffed pediatric endotracheal tubes adds versatility to anesthesia practice. There is no doubt that cuffed pediatric tracheal tubes will continue to improve and their full potential will be realized. Meanwhile, we agree with Dr. Cox that the choice between cuffed and uncuffed pediatric endotracheal tubes should not be routine; that is just another reason why pediatric anesthesia can be so challenging and interesting.

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Proper preparation of the Trachlight™ and endotracheal tube to facilitate intubation

To the Editor:

While the Trachlight™ (Laerdal Medical Corp., Wappingers Falls, NY, USA) has been shown to be an effective and safe device for tracheal intubation,[1] occasionally following the retraction of the internal stiff stylet, the tip of the endotracheal tube (ETT) seems to get "hung up" and cannot be readily advanced into the trachea. This is likely due to the fact that when an ETT is loaded along its natural curvature onto the Trachlight™, the tip of the ETT has a tendency to bend anteriorly upon retraction of the internal stiff stylet (Figure A). With this anterior bending, the tip of the ETT may be trapped or pushed against the anterior aspect of the cricoid ring or tracheal cartilaginous rings, making it difficult to further advance the ETT into the trachea. We would like to report two modified preparations of the Trachlight™ and ETT which may help to overcome this difficulty.

Firstly, immersing the ETT in warm saline solution prior to tracheal intubation will reduce its stiffness and the memory of its natural curvature, thus facilitating the advancement of the ETT into the trachea. Secondly, reverse loading of the ETT onto the Trachlight™ may minimize the tendency of the ETT tip to bend anteriorly while retracting the internal stiff stylet of the Trachlight™ (Figure B). With the reverse loading, the tip of the ETT is more likely to be directed down the trajectory of the trachea, making it easier to advance. The combination of softening and reverse loading of the ETT may potentially overcome the problems with "hang up" during intubation with the Trachlight™.

Over the last six months, we have used these modified preparations of the Trachlight™ and ETT for successful tracheal intubation in 160 patients. The "hang up" occurred in only two of the intubations (1.25%). This contrasts with our previous experience (from the log book of one of the authors, ORH) in which a "hang up" during Trachlight™ intubation occurred in 12 of 82 patients (14.6%). Thus, it appears that softening and reverse loading of the ETT can help to overcome the "hang up" while using the Trachlight™.

It should be emphasized that this concept of reverse loading of the ETT is not a novel one. Similar reverse loading has previously been described with the use of a regular ETT for intubation through the Fastrach (intubating) laryngeal mask airway. Joo *et al.* found that blind tracheal intubation through the Fastrach can

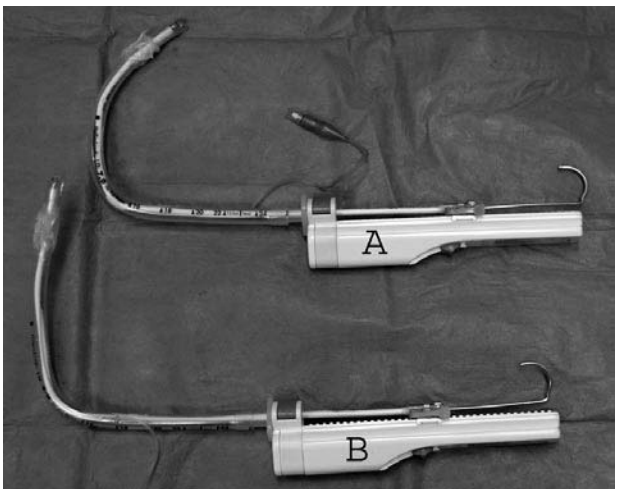

FIGURE The degree of anterior bending of the endotracheal tube (ETT) following the retraction of the internal stiff stylet of the Trachlight™. The tip of the ETT has a tendency to bend more anteriorly if the ETT is loaded along its natural curvature onto the Trachlight™ (A) as compared to the reverse loading of the ETT onto the Trachlight™ (B).

readily be achieved with the inverted insertion (i.e., with the concave surface facing backward) of a polyvinyl chloride endotracheal tube.[2] They attributed their success, in part, to the more anatomic direction of the tube on emergence from the Fastrach laryngeal mask airway with the inverted tube insertion technique.

A similar "hang up" is often seen during tracheal intubation using the Bullard laryngoscope or the Glidescope together with a styletted ETT. It is our experience that softening of the ETT together with the reverse loading of the ETT on the stylet can also substantially minimize the problem with "hang ups" encountered during tracheal intubation with these devices. In order to optimize the effectiveness of reverse loading, we recommend that the bending of the ETT (70°–90°) be employed immediately prior to intubation. Otherwise, we have found that within a short period of time, the ETT will untwist itself around the well lubricated stylet.

In conclusion, the ease of Trachlight™ intubation or intubation using other devices can be enhanced by warming as well as reverse loading of the ETT onto the device or an accompanying stylet.

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Improving patient safety by design - a new spinal/intrathecal injection safety system

To the Editor:
Giving the wrong drug by the spinal, epidural or *iv* route can cause serious morbidity or be fatal.[1–3] Such drug injection errors arise in part because Luer tapered fit connectors used for a wide range of medical devices are the same size and can be incorrectly identified and erroneously connected together. Increasing patient safety will require the replacement of existing Luer connectors with incompatible alternatives [4,5]

A multidisciplinary group including the British Columbia Institute of Technology has designed a

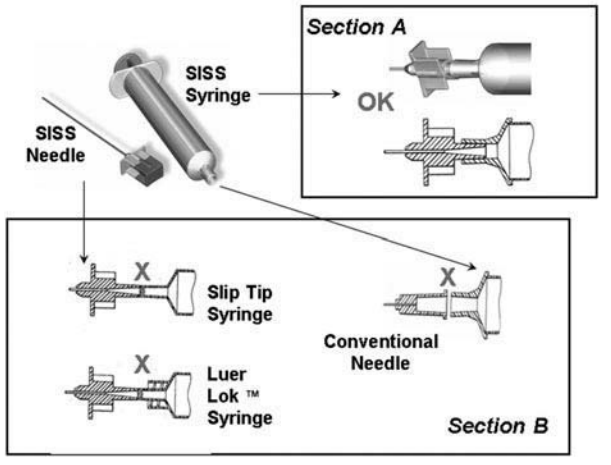

FIGURE shows an engineering image of the spinal injection safety system (SISS) syringe and needle. Section A shows the engineering drawing of the spinal syringe and needle. Section B technical drawings showing incompatibility of the syringe with existing slip tip, Luer Lok™ syringes and a conventional needle. Adapted with permission from Can J Hosp Pharma 2004; 57: 176–9.