

CORRESPONDENCE

of kinking caused by the weight of the heat and moisture exchanger, y-piece, and breathing tubes.

To avoid kinking of the ETT as described previously, we would recommend using a commercially available special support (Holder Ulm Pattern, Rusch Incorporated, GA; fig. 1), which is fixed to the standard rails of the operation table with a clamp. The level of this support is adjustable according to the length of the protruding part of the tube. This guarantees that the ETT can be guided straight, regardless of its length.

In addition, the Holder Ulm Pattern carries the weight of the heat and moisture exchanger, y-piece, and breathing tubes. Electrocardiogram, pulse oximetry, and other lines can be fitted comfortably at the holder's recesses. In our experience, the Holder Ulm Pattern is an extremely useful device in clinical anesthetic routine as it completely avoids the problem of kinking the ETT.

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In Reply:—I very much appreciate Dr. Preis's thoughtful comments and agree with all of them. I had previously been unaware of the existence of the Holder Ulm Pattern; based on Dr. Preis's letter, I also agree that this device is a more general and functional solution to the problem of kinking of the proximal end of a nasal RAE tube inserted through a LMA. However, and as a relatively minor additional consideration, stabilization of the proximal end of the nasal RAE tube by a tightly tensioned connection to a nonmoveable fixation point incurs the risk of accidental extubation if the head (and airway) is turned or moved away from the fixation point. As with the use of a metal "Christmas tree" holder, a loosely tensioned connection of the

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Laryngotracheal Lidocaine Administration

To the Editor:—We read with some interest the recent description of the use of intravenous tubing connectors to administer bronchodilators to intubated patients.¹ We have found this device to be equally useful to administer tracheal lidocaine to intubated patients with the goal of decreasing their tendency to cough or "buck" on the endotracheal tube during emergence. Approximately 15 min before extubation and while the patient is still deeply anesthetized or paralyzed, the cuff on the endotracheal tube (ETT) is deflated, and 4 cc of 4% lidocaine is injected into the lumen of the ETT via the capnography port of the elbow connector. Continued positive pressure ventilation causes the

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References

1. Benumof JL: Laryngeal mask airway and the ASA difficult airway algorithm. *ANESTHESIOLOGY* 1996; 84:686-99
2. Roth DM, Benumof JL: Intubation through a laryngeal mask airway with a nasal RAE tube: Stabilization of the proximal end of the tube. *ANESTHESIOLOGY* 1996; 85:1220

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endotracheal tube to the support minimizes the risk of accidental extubation by allowing the existing slack to compensate for sudden increases in distance between the airway and the fixation point on the support.

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lidocaine to bubble up around the deflated cuff producing good laryngotracheal anesthesia. We then reinflate the cuff and allow the patient to emerge from anesthesia in the usual fashion. This technique probably should not be attempted in patients with significant risk factors for regurgitation and aspiration, but we have found it to markedly smooth the emergence of many patients in whom it is desirable to minimize coughing during emergence.

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In Reply:—Drs. Burton and Zornow have provided a cost-effective method to institute tracheal anesthesia to the intubated patient, thus facilitating a smooth nonstimulating extubation. This method should provide an alternative to “deep extubation” in appropriate surgical candidates and will probably allow more rapid emergence and extubation with fewer respiratory problems. The suggested methodology may facilitate emergence from intubation to compare with the minimal stimulation found with the use of the laryngeal mask airway, and a comparative study would be welcomed. Optimal timing of lidocaine

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Hybrid Intravenous Infusion Connections and Potential Flow Reduction

To the Editor:—I read with interest Dr. Kempen's description of the use of the Lever Lock cannula (Becton Dickinson and Company, Franklin Lakes, NJ) to connect a rapid infusion system to any existing intravenous access without the need to disconnect from the cannula (ANESTHESIOLOGY 1996; 85:1492). Although I share his concerns regarding possible inadvertent removal of the existing cannula and the need to avoid blood spillage, I am concerned by his assertion that flow resistances are not significantly increased. It is unclear on what evidence this statement is based. I have previously described the *in vitro* effects of the Lever Lock on fluid delivery.¹ Even though the Lever Lock cannula is short and of a relatively large bore (15-gauge), it does cause a 10% reduction in flow rates through 16- and 14-gauge cannulae when it is included within the access system. It is in such settings as trauma and obstetrics that one often wishes flow to be maximal and to not be restricted by an unnecessary component. Additionally, it should be assumed that the length of intravenous tubing that remains between the Y-port and the access cannula provides additional resistance to flow because of its smaller internal diameter compared with blood or trauma tubing. Perhaps the practice he describes may be useful while other intravenous access is

Reference

1. Vu H, Kempen PM: Administering metered dose bronchodilators during general anesthesia (letter). ANESTHESIOLOGY 1996; 85:691

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administration may be paramount, as in my experience, tracheal anesthesia typically lasts only 15 to possibly 20 min, although definitive studies of this aspect remain unknown to me.

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being established. If no other access can be established, then the flow through the existing cannula should be optimized and not limited by the Lever Lock cannula. Nevertheless, the assumed benefits of accessing an intravenous system in the way described by Dr. Kempen should be balanced against the potential for reduced flows compared with those achievable by connection of a high-volume infusion set directly to the intravenous cannula.

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Reference

1. McHugh GJ: InterLink™ and the Lever Lock cannula—potential flow reduction. Anaesth Intensive Care 1996; 24:512-3

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