requirements. The dose for each patient needs to be individualized to such variables as body weight, physical status, underlying pathologic condition, use of other drugs, and type of surgical procedure.

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Difficult Pediatric Intubation

To the Editor:—We would like to offer several comments on the recent report by Berthelsen *et al.*[1] The intubation technique described is based on the contention that available fiberoptic bronchoscopes are too large for use in over-the-scope intubation in infants. This is not correct. A scope of 2.7 mm external diameter is available from the Olympus Corporation (Olympus PF®, Type 27M) and it allows intubation with a 3.0 mm internal diameter endotracheal tube.

This report describes an infant in whom "a diagnosis of laryngomalacia was proposed." It also states that "blind nasotracheal intubation with or without a stylet is the ordinary way of handling difficult pediatric intubations" but that their described technique "can be attempted even with minimal previous experience with fiberoptic laryngoscopies." In our institution, management of infants with incompletely diagnosed upper airway pathology includes full examination of the nares, pharynx, larynx, and trachea under light sedation and topical anesthesia using a fiberoptic instrument. This can be followed by over-the-scope intubation. Because these procedures are not without complications, and diagnosis and evaluation require experience, they should be performed by or under the supervision of a skilled endoscopist.

We believe that the technique proposed by Berthelsen *et al.* carries the risk of tracheal damage by the impaction of a too large endotracheal tube at the laryngeal opening. If a small bronchoscope is not available, we prefer to use the technique described by Stiles,[2] in which a soft catheterization wire is passed under direct vision through the biopsy port of a fiberoptic bronchoscope into the trachea, the scope removed, and an endotracheal tube passed over the wire.

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In reply:—At the time this patient was treated, the only available fiberoptic instrument in our institution was the Olympus ENF-P® fiberlaryngoscope. The technique we developed proved to be simple, fast, and uncomplicated.

Today, we also have the Olympus BF 3C4® fiberbronchoscope (3.7 mm OD, 60 cm) with an incorporated suction port. This instrument is very suitable for the Seldinger-type approach to difficult endotracheal intubation first proposed by Stiles in 1974.[1] We are now using the two methods interchangeably and find them equally expedient.

In Denmark, the Olympus BF 3C4® is priced at $10,000—approximately three times as much as the Olympus ENF-P® fiberlaryngoscope.

The Olympus PF 27M® (2.7 mm OD, 55 cm, $10,000) allows over-the-scope endotracheal intubation with a 3.5 mm ID tube, but not a 3.0 mm ID tube. The instrument cannot, however, be recommended for the procedure due to the high risk of fracturing its very fragile light-transmitting fibers.

Finally, it has not been our intent to suggest that infants with upper airway pathology should be managed by inexperienced anesthesiologists. On the contrary, our policy is to treat these infants like the hedgehog's mate—with great caution.

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Continuous Intercostal Nerve Block

To the Editor:—I read with interest the report by Middaugh *et al.* (ANESTHESIOLOGY 63:214–216, 1985) of the use of continuous intercostal nerve blockade for pain relief in a patient with multiple rib fractures. The clinical course of this patient was typical of the course of patients I described in a previous study* in terms of both quality of analgesia and onset of tachyphylaxis. I can find no fault with the described technique but was somewhat surprised to see that the authors considered the effect to be based on epidural blockade. I believe that the major benefits of this technique over thoracic epidural block are its simplicity, the lessened danger of serious adverse effects, and in particular, the complete lack of autonomic effects—likely if analgesia is produced over a large number of dermatomes with epidural block.[1]

In my study, using intercostal nerve blockade, patients with up to eight fractured ribs were rendered pain free without hemodynamic disturbance. In most cases, these patients could not delineate the extent of local anesthetic spread, unlike the patient described by Middaugh *et al.* The extent of the sensory block described seems inconsistent with the volume of local anesthetic used, and the minimal accompanying autonomic disturbance makes one suspicious of the ability of the patient truly to appreciate these sensory changes. In many of my patients, hyperesthesia was appreciated, which further complicated sensory denervation mapping.

To study the distribution of such large volumes of local anesthetic after intercostal blockade, I undertook a study in cadavers and investigated this distribution (of India ink) under direct vision.[2] In brief, these studies indicated that this block occurred due to subpleural tracking of local anesthetic and not by spread of solution to the epidural space. This would appear to be in direct conflict with the results of Middaugh *et al.*, and one must therefore question the sensitivity of their technique for flow study in their patient. I believe it is particularly important that epidural block be refuted in continuous intercostal nerve blockade, as otherwise one of the major safety benefits of this technique would be called into question.

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