

I firmly believe a more prevalent application of this maneuver during management of a difficult airway might decrease the maternal morbidity from asphyxia due to multiple prolonged unsuccessful attempts at endotracheal intubation at the expense of the original and primary goal of simply attaining a protected route for ventilation and oxygenation.

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A New Method for Inhalation Induction in the Child

To the Editor:—The induction of anesthesia by inhalation in a young child is often terrifying and noisy for both the patient and the anesthetist. I have been using a method that works rapidly and that diverts the child's attention from the pharmacodynamics at work. It is effective for patients from 3 through 10 years of age.

After placing the child on the operating table and before placing the mask on his face, I ask him if he can count. The child often remains sitting for the induction. I then start counting slowly with the child, while fixing his gaze with my eyes. The mask is then placed on the

child's face while counting. Although children have various numeric abilities, they invariably take a breath in between each number. The patient drifts off to sleep quietly, calmly, and as quickly as one, two, three.

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Epinephrine and Epidural Narcotics

To the Editor:—Professor Bromage and his colleagues¹ recently have demonstrated that epinephrine added to epidural morphine solutions enhances the effectiveness of the narcotic when administered to volunteers, and they have raised questions about its clinical use. Our findings, in a series of 20 obstetric and gynecologic patients who received 2 mg preservative-free epidural morphine in 10 ml normal saline with the addition of freshly prepared epinephrine (5 µg/ml), were similar to those reported earlier by Bromage *et al.*² in that there was no significant prolongation of pain relief postoperatively, when compared with epinephrine-free solutions. The mean duration of analgesia was 15.7 ± 8.2 h (\pm SD) following plain morphine (20 patients) and 14.6 ± 10.0 h

after epinephrine-containing solutions had been used. However, the side effects following the addition of epinephrine were exactly as described in the volunteers for Bromage *et al.*,¹ being "more frequent, more severe and more prolonged." In fact, the high incidence and severity of adverse effects caused us to abandon the use of epinephrine-morphine mixtures, despite excellent analgesia obtained in 95% of patients. Seventeen of the 20 patients (85%) complained of distressing symptoms, as compared with 40% after plain morphine. Persistent vomiting was the main complaint reported by 60% of patients, (30% with plain morphine) and troublesome itching in 45% (25% with plain morphine).

Bromage *et al.*¹ went on to speculate that more lipid-

soluble narcotics such as meperidine might produce better clinical results when combined with epinephrine, and this has proved to be the case in 40 of our patients. The addition of epinephrine (5 μ g/ml) to 25 mg meperidine in 10 ml normal saline prolonged the mean period of postoperative analgesia from 4.7 ± 4.4 h (40 patients, plain meperidine) to 7.2 ± 4.4 h; although this difference was not statistically significant. Again, the incidence of vomiting was doubled by the addition of epinephrine (30% vs. 15%), but vomiting was not persistent and there were no other adverse effects.

It would appear from these two small studies that epinephrine may be a useful adjunct to epidural meperidine, but not to epidural morphine, due to the serious potentiation of side effects. It may be worth pointing out that our incidence of adverse effects following plain epidural morphine (2 mg) in over 400 cases is much higher than

that published in most investigations around the world, and it may be that some difference in the local manufacturing process for morphine solutions is playing a part.

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A Case for Using Disposable Anesthesia Circuitry

To the Editor:—We read with interest the article by du Moulin *et al.*¹ on hospital-associated viral infection and the anesthesiologist. The authors of this article suggest that the anesthesia machine may be a source of cross-infection and so recommended the use of disposable equipment when anesthetizing patients known to have active hepatitis B infection. Their references to prior controlled studies showing no decreased incidence of postoperative pneumonia with the use of disposable circuits are in conflict with an earlier study.² This difference could be due to the fact that in recent years there has been improved treatment of preoperative infection and also to the increased use of antibiotics during the perioperative period. No such prophylaxis is currently available for viral infections. Besides, the infectivity period of viral infection may occur before the disease is clinically manifest. These concerns as well as the proven growth of organisms in the circle absorber³ have caused us to use disposable circuits regularly and for all patients for several years. The authors' recommendation of use of disposable equipment in known infected cases further strengthens our case, as this implicates the anesthetic circuit as a possible source of cross infection. We currently use the DISP CO₂ SORB® (Dryden Corp, Indianapolis, IN) and disposable breathing tubes. This system is relatively inexpensive (approx. \$12), provides high humidity⁴ and in addition can be used for transportation of critically ill patients.⁵

It is our opinion that until scientific studies are carried

out to prove the innocuous nature of the anesthesia circuitry, particularly with regard to viral infection, low-cost disposable equipment should be used on all patients. This practice also would protect against litigation in cases of postoperative infection, particularly now that this article has created a sense of awareness of cross-infection possibly occurring via the anesthesia machine.

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