

A suitably "springy" stethoscope placed about the base of the neck distends the EJV of most patients (figs. 1A and 1B). Repositioning of the stethoscope may be required to "pop up" the vein. The stethoscope is left on the patient's neck during cannulation and then removed to prevent back bleeding and to relieve venous obstruction. Patient acceptance is good, the equipment is readily available, and complications are absent. It is now a routine part of the preoperative exam in patients in whom the possibility of EJV cannulation is raised.

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### Responsibility for Equipment Failure: Consumer vs. Manufacturer

*To the Editor:*—One should take exception with the spirit of the Anderson and Rendell-Baker letter,<sup>1</sup> which would appear to be "let us make George take of it!!"

After looking at the photograph which accompanied the letter, one notices that the two instruments on the shelf of the anesthesia gas machine are not anchored properly by means of bolts, screws, or "T" or "B" bars; one also notices that provisions have not been made for all cables, to and from the instruments, to be equipped with an appropriate strain release chain (this is a device tightly anchored to the cable at one end and to the supporting frame at the other end in such a manner that any pull on the cable is both transmitted and absorbed by the frame and does not dislodge the instrument).

Since it would appear that the photograph was taken after the accident, the inference would have to be that not much was learned from the accident.

I would submit that the real issue is not the damage

to the O<sub>2</sub> flush knob, which occurred this time, but rather, the fact that any piece of equipment sitting *unsecured* on a shelf is a general hazard (the next time a patient's head might be injured or a fire may be started).

Before blaming the manufacturer for any mishap, and thereby forcing new standards and regulations as well as costly modifications one should take a much closer and harsher look at the real culprit which is "us, the users."

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### Thiopental Anesthesia for Cesarean Section

*To the Editor:*—We were astounded to read the recent recommendation regarding intermittent thiopental injections as the sole anesthetic for cesarean section.<sup>1</sup> This method may have been acceptable in 1974, but it is no longer appropriate in 1982 when mother and father, obstetrician and neonatologist demand newborn conditions that facilitate parent-infant interaction.

Based on umbilical vein and artery blood thiopental concentrations, the authors concluded that, with their method, "thiopental levels in the fetus and newborn . . . are not excessive." However, umbilical cord blood values are indicative only of the condition at birth. A study of thiopental pharmacokinetics in cesarean section has revealed a neonatal elimination half-life from 11 to

42.7 hours.<sup>2</sup> Granted that not all of the drug is distributed to the brain, the cerebral concentration, nevertheless, suffices to depress neonatal neurobehavior significantly. In healthy infants born at term by elective cesarean section, thiopental induction (4 mg/kg) gave lower neurobehavioral scores than ketamine induction (1 mg/kg) on both the first and second days of life.<sup>3</sup>

The authors voiced concern about the potential side effects of ketamine and the volatile inhalation agents. Such side effects are dose-related. One "low" dose of ketamine produces analgesia and amnesia without increasing uterine activity<sup>4</sup> or causing postanesthetic hallucinations.<sup>5</sup> Halogenated agents inhaled in concentrations of less than 0.5 MAC potentiate N<sub>2</sub>O anesthesia without decreasing uterine activity,<sup>6</sup> and are exhaled rapidly by the newborn.<sup>7</sup>

Limitation of peripartum exposure to long-acting drugs is the wave of the future!

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### A Simple Maneuver to Verify Proper Positioning of an Endotracheal Tube

*To the Editor:*—There are several methods available to determine proper positioning of an endotracheal tube: 1) placement of an endotracheal tube under direct vision 1 to 2 cm below the cords, 2) confirmation by auscultation of breath sounds that the tip of the tube is above the carina, 3) rapid inflation and deflation of the cuff with palpation in the suprasternal notch, 4) chest x-ray, 5) electromagnetic sensing technique, and 6) technique of endobronchial intubation with gradual withdrawal of the tube to 1 to 2 cm beyond the point at which breath sounds are bilaterally equal.

Method 1 is obviously an integral part of the procedure of endotracheal intubation under direct vision, and verification that the tip is above the carina is provided by method 2 and often by method 3. Method 4 is used only in indicated cases for obvious reasons. Method 5 has been described,<sup>1</sup> but is not commercially available. Method 6 may be useful when in doubt and for proper placement of an endotracheal tube in infants and children.<sup>2</sup>

All the above methods, however, have some limitations. Method 1, for example, cannot be used in blind nasal intubation; furthermore, possible downward dis-

location after proper placement of the tube may occur. Method 2 may be inaccurate and may not insure the proper distance of the tip of the tube from the carina. The usefulness of method 3 is doubtful in the case of obese patients and with low pressure, large-volume pre-stretched cuffs; in addition, deflation of the cuff even for a short time may not be wise in some instances. Methods 4 and 5 are either inconvenient, expensive, not readily available, or not available. Method 6 may not insure that a safe distance from the carina has been achieved and may precipitate bronchospasm.

It, therefore, appears beneficial to be able to utilize a combination of methods to verify proper positioning of the endotracheal tube. Along this line, we propose an additional simple maneuver using the pilot balloon of the cuff as a sensor. Constant pressure is applied to the pilot balloon of the inflated cuff by the index finger and thumb (about halfway compression) while the trachea is palpated downward from below the cricoid cartilage. When the region of the trachea with the inflated cuff is explored, a distinct increase in pressure is felt. We find this maneuver more sensitive than method 3 since pressure changes are sensed directly and not