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In Reply—I would like to thank Feingold and Rosenberg for their questions and comments. In our report, the injection into the shunt in the operative field was performed by a surgeon. The only situation for which I can imagine it would be appropriate for an anesthesiologist to inject contrast material is for a test of epidural or other catheter placement. A nonionic low-osmolality contrast agent such as iohexol (Omnipaque) should be used for this purpose. Nonionic low-osmolality contrast agents are used in radiology much more frequently than they were when Feingold *et al.* published their report. I suspect that, after more than 20 yr of increasing clinical use, very few radiologists are unaware of their indications and potential complications; however, most anesthesiologists rarely use them.

The other comments serve to underline the importance of reporting avoidable but infrequent intraoperative complications, both to avoid their repetition and to stimulate discussion of other conditions with which they might be confused, malignant hyperthermia in this circumstance.

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## Proper Placement of the Esophageal Tracheal Combitube

To the Editor:—Green and Beger¹ reported two cases in which malposition of the esophageal tracheal combitube (ETC) resulted in inability to ventilate a patient's lungs. As alternatives to tracheal intubation, devices such as the ETC and the laryngeal mask airway are used more frequently in clinical practice. Thus, verifying the proper placement of these devices becomes a source of legitimate concern.

We evaluated the effectiveness of the self-inflating bulb (SIB) in identifying the location of the ETC and facilitating its proper positioning in anesthetized patients.2 In all patients studied, the SIB reliably identified either correct (43) or improper (3) positioning of the ETC. When the ETC is in proper position (fig. 1), a compressed SIB reinflates immediately when connected to the proximal lumen (which permits ventilation via pharyngeal perforations) and will remain compressed when connected to the distal lumen (which leads into the esophagus). In three patients, delayed reinflation (2-4 s) or absence of reinflation was noted when the compressed SIB was connected to the proximal lumen. This corresponded with the inability to ventilate adequately through either lumen. In these cases, slowly withdrawing the ETC 1-2 cm resulted in instantaneous reinflation of the SIB when retested, suggesting proper ETC positioning. Subsequent easy ventilation via the proximal lumen confirmed correct positioning. Based on our findings, we suggested a simple algorithm for use of the SIB to facilitate proper positioning of the ETC.

The SIB has been shown to be a useful adjunct in differentiating between esophageal and tracheal intubation in anesthetized pa-

tients.<sup>3–5</sup> Its usefulness in assisting the correct positioning of other airway devices shows promise as well. Preliminary investigations at our institution suggest the SIB also may facilitate proper positioning

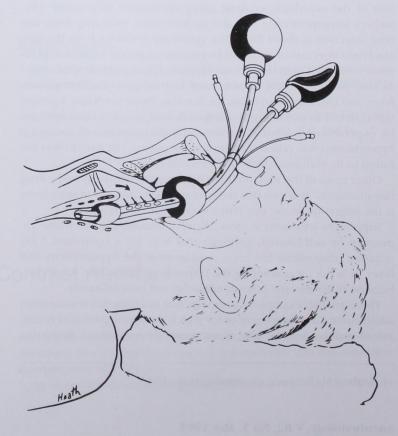


Fig. 1. When properly positioned, a compressed self-inflating bulb instantaneously reinflates when connected to the proximal lumen by aspirating gas from the lungs *via* the perforations (arrows) and will remain compressed when connected to the distal lumen.

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