A New Method for Positioning Endotracheal Tubes

To the Editor:—We read with interest the article by D. J. Cullen et al. (Anesthesiology 43:596–599, 1975) in which the authors list three current methods for determining proper endotracheal tube location and describe a new electromagnetic sensing technique. They believe that their new technique is advantageous because it is non-invasive, inexpensive, and assures proper placement of the endotracheal tube.

In skilled hands, endotracheal intubation with proper placement of the tube is generally not a serious problem except in infants and in patients whose airways are abnormal or compromised. While this new technique is non-invasive, and appears to be inexpensive, it does not offer any advantage for proper tube placement in problem patients or in infants. It may be advantageous during blind nasal intubations in normal patients, but offers no advantage over placement of an endotracheal tube under direct vision. Using direct-vision laryngoscopy one can easily place the endotracheal tube cuff 1 to 2 cm below the cords.1 Auscultation then allows confirmation that the tip is above the carina. If doubt exists, the location can be clarified by roentgenogram or simply by advancing the tube until breath sounds are lost in either the left or right chest. Gradual withdrawal of the tube to 1 to 2 cm beyond the point at which breath sounds are bilaterally equal indicates that the tip is safely above the carina. The tube should be firmly anchored, and auscultation repeated at intervals to detect displacement.2 This technique of endobronchial intubation with withdrawal to mid-trachea is particularly advantageous in proper placement of an endotracheal tube in infants and children.

In their presentation, the authors have assumed that the tracheobronchial tree of the patient in whom this technique is used is normal. When a patient has an anatomic deformity, such as an abnormally short trachea, endobronchial intubation may occur. Esophageal intubation may also occur, although the authors feel their technique will permit early recognition of this.

The authors state that roentgenograms of the chest may be unnecessary with their technique. We disagree. The roentgenogram of the chest is the ultimate guarantee of proper endotracheal tube placement and should not be dispensed with. It may be expensive, inconvenient, and frequently not immediately available, but it is the ultimate safeguard in tube placement.2

In essence, gadjetry does not seem to be a useful substitute for common sense and skilled airway management.

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REFERENCES
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Cardiologic Monitoring of Operating-room Personnel Suggested

To the Editor:—The now-familiar report by Vaisman (1967) of an increased incidence of reproductive failures among female personnel in operating rooms sparked a growing interest in the potential hazards associated with occupational exposure to waste anesthetic gases.

More recently, Speizer et al. (1975) reported an increased incidence of palpitations and supraventricular arrhythmias among frozen-section workers exposed to haloalkane aerosol refrigerants. The particularly disturbing implication of the Speizer report was that the arrhythmogenic propensity appeared to be