In summary, endotracheal tubes with monitoring lumens are useful, but they are not without hazards. It is important for the anesthesiologist to be aware of these potential problems, along with selecting the appropriate size ET tube to ensure an adequate leak pressure around the tube.[3] The monitoring lumen should be properly stabilized to avoid tension on the ET tube and be completely untethered during patient positioning.

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In Reply:—Since the four points listed by Dr. Miller may also represent questions in the minds of others, we would like to provide some additional information:

1. *Outside Diameter.* The American National Standard for tracheal tubes (Z79.14–1983)* requires that the OD (outside diameter) be marked on pediatric tubes so that clinicians have the information needed in selecting the size tube to be used, and we agree with Dr. Miller that this dimension must be considered carefully. The package insert for this product includes the precaution that "Expert clinical judgement should be exercised in the selection of the appropriate size tracheal tube for each individual patient."

2. *Obstruction of Monitoring Lumen.* The package insert also cautions that "To insure continued patency of the monitoring lumen, a purge of air/oxygen should be applied as required to clear any accumulation of mucus or moisture," and, for this reason, the monitoring system is supplied with an attached three-way stopcock to facilitate the purging.

3. *Absence of Murphy Eye.* When Murphy[1] defined the ideal tracheal tube, he included a lateral eye to provide an alternative pathway in the event of obstruction by mucus. Later, others thought that the Murphy eye had been incorporated to provide aeration in the event of a right main bronchus intubation, and, therefore, inferred that the eye should be on the left side rather than the right side of the tube, contrary to the current practice of all U. S. manufacturers. However, as Fink has noted,[2] this latter role is rarely called into play.

The general issue of tracheal tube obstruction in children has been studied by Redding *et al.*,[3] with the conclusion that "there was no correlation of obstruction with duration of intubation, the presence of a Murphy-eye side hole, or small tube size." Indeed, for patients less than 1 yr old, Gregory[4] has expressed the opinion that a side hole should not be present ". . . because secretions tend to accumulate there and obstruct the tube." Since current medical opinion is divided on the merits of the Murphy eye, we are considering the possibility of offering both styles.

4. *Stabilization of Tracheal Tubes.* We certainly concur with Dr. Miller's final point on the need for stabilizing the tracheal tube and breathing circuit system, as is true for all tracheal tubes, to prevent unintended disconnects and extubations.

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* American National Standard for anesthetic equipment—Tracheal tubes. ANSI Z79.14-1983, section 3.3:10

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