



FIG. 1. Tip of a 37 Fr Broncho-Cath® with carinal hook.

cally be easier to treat; since the hook prevents excess caudal movement, if the tube becomes dislodged, it should merely be advanced until gentle resistance to movement is felt, indicating that the carinal hook has been resealed. I found these tubes a bit more difficult to

Anesthesiology
69:150, 1988

In Reply:—Dr. Alfery suggests that the addition of a carinal hook to a left-sided double-lumen tube may protect against left upper lobe obstruction and may provide a solution to the problem of not having an appropriately sized fiberoptic bronchoscope for positioning double-lumen tubes. I have three difficulties with this line of reasoning. First, I believe that hospitals (however large) in which double lumen tubes are used should have a fiberoptic bronchoscope that fits down the lumens of double-lumen tubes. Second, the carinal hook is set approximately 8 mm proximal to the cephalad surface of the endobronchial balloon, thereby allowing an 8 mm deeper insertion into the left mainstem bronchus compared to having the cephalad surface of the left cuff just

Anesthesiology
69:150–151, 1988

pass than the Broncho-Cath®, but not excessively so. Of course, a bronchoscope can still be used to confirm proper tube position. However, if a bronchoscope is not available, I believe this tube may offer an increased margin of safety when blindly positioning (or repositioning) a left-sided double-lumen tube.

DAVID D. ALFERY

Member, Anesthesiology Consultants of Nashville
Staff Anesthesiologist
St. Thomas Hospital
Nashville, Tennessee

REFERENCES

1. Benumof JL, Partridge BL, Salvatierra C, Keating J: Margin of safety in positioning modern double-lumen endotracheal tubes. *ANESTHESIOLOGY* 67:729–738, 1987
2. Saito S, Dohi S, Naito H: Alteration of double-lumen endobronchial position by flexion and extension of the neck. *ANESTHESIOLOGY* 62:696–697, 1985
3. Benumof JL, Alfery DD: Anesthesia for thoracic surgery. *Anesthesia*, 2nd edition. Edited by Miller R. New York, Churchill-Livingston, 1986, pp 1371–1462

(Accepted for publication April 1, 1988.)

below the tracheal carina; this may increase the incidence of left upper lobe obstruction. Third, and as Dr. Alfery hinted, double-lumen tubes with carinal hooks are harder to insert. In summary, the best chance of not causing left upper lobe obstruction is to see the cephalad surface of the blue left cuff just below the tracheal carina with a fiberoptic bronchoscope.

JONATHAN L. BENUMOF, M.D.
Professor of Anesthesia
Department of Anesthesiology
University of California, San Diego
La Jolla, California 92093

(Accepted for publication April 1, 1988.)

Is Coronary Vascular Reserve Really Not Affected by Volatile Anesthetics?

To the Editor:—Hickey *et al.*¹ have recently described coronary blood flow autoregulation and coronary vascular reserve in dogs. The advantage of the study is, as the authors point out, that chronic instrumentation allowed determination of physiologic pressure/flow relationship in the coronary vasculature in normal, awake animals, which was then compared with recordings obtained during halothane, enflurane, and isoflurane an-

esthesia. However, several questions and a few reservations are raised with respect to their conclusions. The authors measured coronary reserve as the absolute increase in left circumflex coronary artery (LCCA) blood flow during adenosine infusion at a diastolic LCCA pressure of 40 mmHg. Using their mean values for baseline and peak flow during maximum coronary vasodilation (their tables 2, 3), I have calculated the ratio