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Extirpation of Endotracheal Tube Secretions with a Fogarty® Arterial Embolectomy Catheter

To the Editor:—Secretions that accumulate in the tracheobronchial tree and endotracheal tube traditionally are removed by suctioning. This maneuver can be ineffective in certain patients and is also associated with complications. A catheter with too small a diameter may not reliably remove viscid secretions,¹ and one too wide may push secretions from the endotracheal tube down into the lung. Mucosal damage, including hemorrhage and erosion, has been reported to consistently occur with tracheal suction, in spite of meticulous technique.² Furthermore, withdrawal of the catheter when applying suction may strip the tracheal mucosa.¹ Hypoxemia is another important complication of airway suctioning. When a vacuum is applied to a catheter in the airway, oxygen-enriched air is replaced with entrained ambient air, a process that can result in severe hypoxemia³ and hypoxemia-induced cardiac arrhythmias.⁴ When a large catheter is inserted into a small endotracheal tube, there is insufficient space for air to entrain around the catheter, and the lung may collapse.⁵ In addition, the beneficial effects of PEEP may be negated.

We were prompted to assess the value of a Fogarty® arterial embolectomy catheter as a means of extirpating secretions from an endotracheal tube. This catheter was chosen because it possesses the desirable properties of being fairly rigid, passing easily down an endotracheal tube, and also having a tapered balloon that acts as an excellent squeegee.

Used endotracheal tubes containing secretions served as the experimental model. A 6F Fogarty® catheter was passed down the tube and the balloon inflated. The catheter then was withdrawn such that the inflated balloon with the secretions were removed from the tube. The final result of this action is a clean endotracheal tube.

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Early clinical trials have demonstrated the effectiveness of Fogarty® catheter secretion removal in the operating room. We feel that this approach to removal of tracheal tube secretions is worthy of further investigation, because, in addition to reliably removing secretions, it will not result in hypoxemia from air entrainment or pulmonary collapse. While the method is limited by the cost of such catheters, continued favorable results may promote the development of shorter, cheaper catheters.

BASIL C. LEIMAN, M.B.B.CH., F.F.A.S.A.
Assistant Professor of Anesthesiology

IAN D. HALL, M.B.B.S., F.F.A.R.C.S.
Assistant Professor of Anesthesiology

*The University of Texas Medical School
Houston, Texas 77030*

THEODORE H. STANLEY, M.D.
*Professor of Anesthesiology
University of Utah School of Medicine
Salt Lake City, Utah 84132*

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Sympathetic Blockade Cannot Explain Bronchospasm Following Interscalene Brachial Plexus Block

To the Editor:—This letter is in regard to the recent clinical report in *ANESTHESIOLOGY* concerning two cases of bronchospasm after interscalene brachial plexus block.¹ The authors attributed bronchospasm to a neurohumoral imbalance with parasympathetic nervous system predominance because of interruption of the sym-

pathetic nerve supply to the lung by the interscalene block.

This would be a reasonable explanation if the human lung had abundant sympathetic innervation. However, sympathetic innervation to the lungs is sparse or even nonexistent.²⁻⁴ The sympathetic nervous system exerts