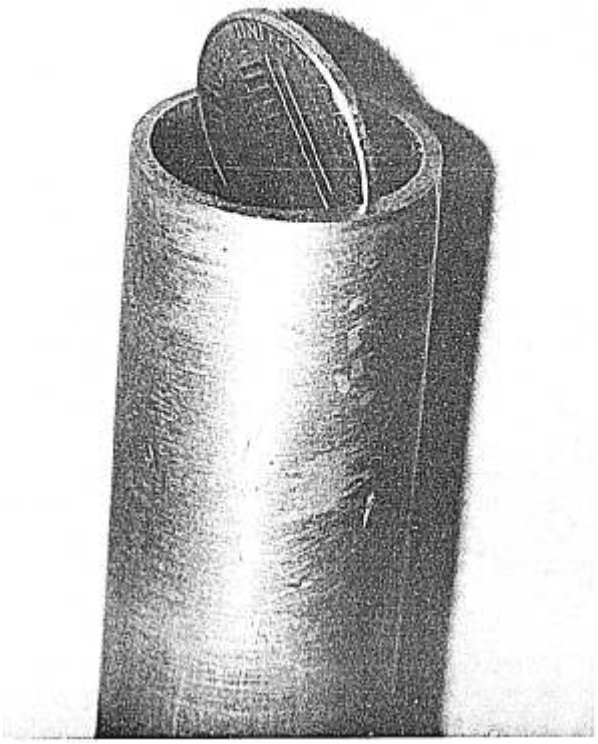

FIG. 1. An American penny is of the exact color and diameter of the metal connector.

structing its lumen. The coin was removed, and the circuit was reestablished. The remainder of the anesthetic procedure was uneventful.

It is mere coincidence that the United States penny is of the diameter and color of the copper connector (fig. 1). A smaller coin would pass through; a larger coin would not enter. A copper coin lightly caught inside the tube might not be seen or heard. Airway obstruction might not occur at first but just might occur at a least suspected time. A large tidal volume, a cough, or a jerk on the breathing circuit might misdirect an anesthesiologist's attention to secretions, bronchospasm, light anesthesia, or any other "usual" causes of airway obstruction,[1] when, in fact, the cough and jerk probably just turned the coin sideways. Needless to say, a patent inspiratory limb with a totally obstructed expiratory limb in the breathing circuit may rupture the lungs unless corrected immediately. A clear lesson we learned is that one can not be too careful and that very unusual causes of airway obstruction do exist. An extension tube connector does not belong to the anesthetist's pocket where coins might be kept nor does a coin belong in the anesthetist's equipment box where the tube connectors might be stored.

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Pulmonary Edema Following Laryngospasm

To the Editor:—I read with interest the recent report by Lee and Downes,[1] in which the authors state that no cases of pulmonary edema associated with laryngospasm have been reported in adults. I wish to report that I have recently encountered such a case.

REPORT OF A CASE

A 60-year-old woman with a history of carcinoma of the posterior pharynx, previously treated by a posterior pharyngectomy and radiotherapy, was admitted for endoscopy and vocal cord stripping under general anesthesia. The anesthetic was uneventful except for some difficulty with intubation. Because of distorted anatomy, the larynx was not visualized and the patient was intubated blind. Following extubation she developed intense laryngospasm, not relieved by 100% oxygen and positive end-expiratory pressure. The patient was reintubated, however, she still had obvious respiratory distress, despite relief of the upper airway obstruction, and intermittant positive-pressure ventilation (IPPV) was commenced. A chest x-ray taken shortly after reintubation showed bilateral pulmonary edema. A pulmonary artery catheter was inserted; the right atrial, pulmonary artery and pulmonary artery wedge pressures were within normal limits, as was the cardiac output. Ventilation was continued for 24 h, by which time repeat

chest x-ray showed clearing of the pulmonary edema and the patient was weaned off IPPV uneventfully.

On reviewing the literature, I found three such cases had been reported previously. A 14-year-old, 74-kg boy developed laryngospasm and pulmonary edema following extubation after anesthesia for a simple mastectomy.[2] A 62-year-old man with carcinoma of the larynx developed laryngospasm and pulmonary edema following several unsuccessful attempts at intubation during induction of general anesthesia for endoscopy.[3] A 33-year-old woman developed laryngospasm and pulmonary edema following unsuccessful attempts at intubation during induction of general anesthesia for tubal ligation.[4]

The mechanisms of the formation of pulmonary edema associated with upper airway obstruction are discussed in the above reports. The main factors are hypoxia and the large subatmospheric transpulmonary pressure gradients generated while trying to breathe against a closed glottis. We should be aware that pulmonary edema may occur in adults, albeit rarely, following laryngospasm.

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Further Modifications of the Miller Blade for Difficult Pediatric Laryngoscopy

To the Editor:—Many innovative modifications of straight Miller blades (sizes 0–1) recently have been suggested to facilitate pediatric laryngoscopy and provide supplemental oxygen (O_2) during endoscopy and tracheal intubation. Such modifications have included widening the distal end of the blade,[1–3] reducing the width of the C-shape flange,[3] placing a strip of rough adhesive tape along the blade's lingual surface,[4] increasing the angle between the blade and handle,[2] and adapting blades for continuous gas insufflation by taping,[5] threading,[6] or soldering[7,8] extra insufflation channels alongside. Many of these individual modifications have proven quite beneficial clinically and have prompted commercial development of such new laryngoscope lines as the Foregger Oxyscopes

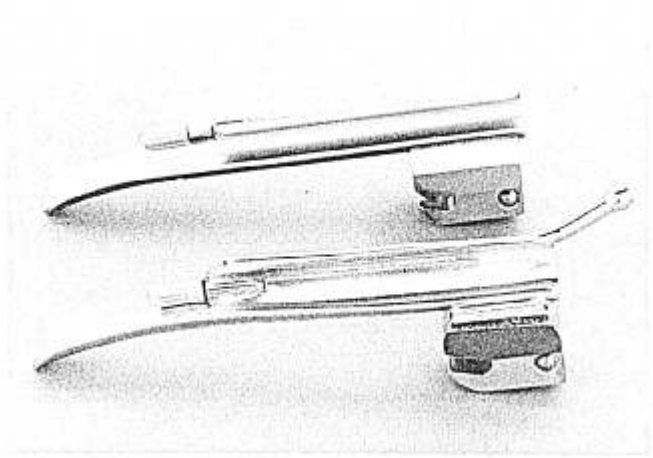

FIG. 1. Modified Miller-1 blade in foreground demonstrates an opened C-flange, side-arm insufflation port and channel, and corrugated lingual surface. A standard Miller-1 blade is in the background for comparison.

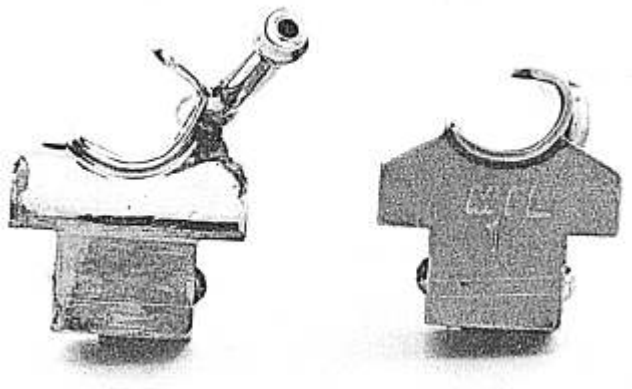

FIG. 2. Rear views of modified Miller-1 blade (*left*) and standard Miller-1 blade (*right*) demonstrate improved sighting capability and unobtrusive gas insufflation port on modified blade.