Dave Massa bought his own supplies and, in his home basement, made by hand a series of prototypes, which were gradually improved to produce the styletted catheter essentially as it is today. Early in his work, colleagues provided more derision than encouragement, but Dave continued to provide better models for trial in the operating rooms until the demand for "Massa" needles, as they were known locally, began to grow. It not being ethical for a physician to patent an instrument, the Rochester Products Company of Rochester, Minnesota, was engaged to produce the needles for commercial use and they were marketed as the "Rochester" needles, although the head of the Department was inclined to want them to be given his name. This experience should lend encouragement to innovators with ideas who lack complicated and expensive laboratories. Advances just as important remain to be introduced in the future.

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Tracheal Constriction or Decreased Lung–Thorax Compliance from Opiates

To the Editor:—Using water-filled floppy cuffs on endotracheal tubes to measure changes in tracheal tone, Yasuda *et al.* concluded that morphine and fentanyl cause tracheal constriction, as evidenced by increased intracuff pressures.[1] Fentanyl and morphine may decrease chest-wall compliance ("tight chest" syndrome) by increasing thoracic and abdominal muscle rigidity[2,3] and may also decrease pulmonary compliance by bronchoconstriction.[4] Neuromuscular blocking agents will relieve muscle rigidity and improve chest-wall compliance. Crawley and Cross demonstrated that intracuff pressure reflects mean airway pressure.[5] If tidal volume is maintained as lung and chest-wall compliance decreases, airway pressure and mean intracuff pressure will increase. Yasuda *et al.* do not report changes in airway pressure or tidal volume. Their use of pancuronium may prevent the decreased compliance from muscle rigidity, but not that due to bronchoconstriction. Employing a pressure-cycled ventilator (Bird Mark 4, 8®) will, by definition, prevent an increase in airway pressure over the set pressure. However, altering the tidal volume to maintain Pa_{CO_2} values within certain boundaries will necessitate changing the pressure limits of the ventilator. One may thus question whether the increases in cuff pressure observed by Yasuda *et al.* were due to tracheal constriction, to decreases in lung or chest-wall compliance, or to a combination of all three.

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In reply:—In our study, tidal volume was held constant by using the mechanical stop on the Bird Mark 4® and by setting the pressure at more than 25 cm H_2O with the Mark 8®. Rigidity of the chest wall was avoided by the administration of pancuronium. In measuring tracheal tone, the small waves produced by the ventilator reflect pressure changes in the airway, whereas amplified waves would reflect the increase of airway pressure by decreased lung or chest-wall compliance. In our study, amplified waves were

not observed with the increase in cuff pressure. The change in cuff pressure was, therefore, interpreted to be the change of tracheal tone. However, Dr. Segal is correct that substantial changes in lung or chest-wall compliance would probably affect cuff pressure.

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Ketamine is Safe in Acute Intermittent Porphyria

To the Editor:—I question the conclusion by Kostrzewska *et al.* that ketamine should not be given to patients who have acute intermittent porphyria.[1] Presuming that the average weight of a chick embryo from an average egg of 45 g would be about 20 g, the dose of ketamine necessary to produce a significant increase in ALA-S activity in their study would be about 25 mg/kg. This dose is more than twice the usual maximum dose (10 mg/kg) used for induction of anesthesia in man. Furthermore, the metabolism of ketamine varies among species, being different in both type and quantity of metabolites in the rat, monkey and man.[2]

Finally, Parikh and Moore did not find significant increases in ALA-S when ketamine was injected intraperitoneally into rats, even in doses of 20 mg/kg^{-1}, although barbiturates and alphadione did produce significant increases in ALA-S,[3-4] as would be predicted.

For these reasons, we believe that ketamine is a safe and reasonable drug for induction of anesthesia in patients who have acute intermittent porphyria.

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Muscular Dystrophy and Malignant Hyperthermia—Similar Signs

To the Editor:—Donlon *et al.*[1] presented an excellent description of the clinical course and potential complications of masseter spasm following succinylcholine. In an earlier issue of ANESTHESIOLOGY, Miller *et al.*[2] presented a case of rhabdomyolysis following succinylcholine in a patient later proven to have Duchenne's muscular dystrophy. They commented that visualization of the larynx was "difficult" during endoscopy, and recommended careful consideration of "underlying muscle disease" prior to the use of succinylcholine. Seay, Ziter, and Thompson[3] reported two cases of cardiac arrest following induction, and in one of these