

likely to be subjected to ventilator regimens associated with higher levels of modified airway driving pressure, three bivariable linear regression models were constructed for the dependent variable of modified airway driving pressure. The first model contained the fixed effect of body mass index, the second model contained the fixed effect of height (cm), and the third model contained the fixed effect of gender.

Next, three nonparsimonious logistic regression models were constructed to evaluate whether patients known to be at higher risk for receiving high  $V_T$  were at higher risk of postoperative pulmonary complications. The covariates of body mass index and sex were removed from the model previously specified, to be entered separately. The first model contained the additional fixed effect of body mass index, the second model contained the additional fixed effect of

height, and the third model contained the additional fixed effect of gender. A similar set of models was constructed for all secondary outcomes. If the additional fixed effect for each model was found to be statistically significant, that characteristic was considered an independent predictor of the outcome of interest. If all three were independent predictors, then those at high risk for receiving high  $V_T$  were said to be at higher risk for postoperative complications.

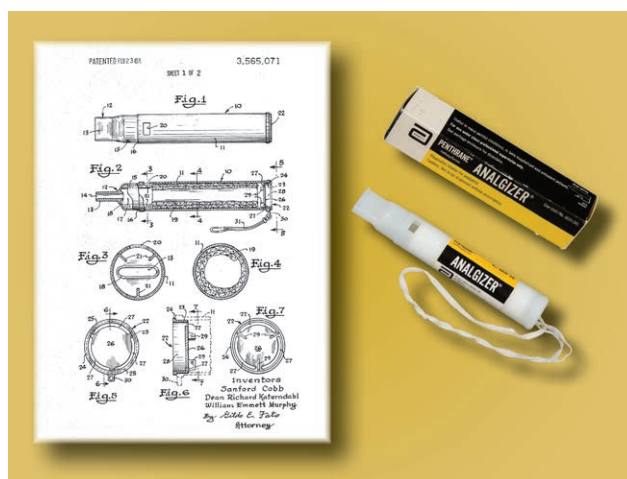
### Appendix 3: Group Collaborators

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## ANESTHESIOLOGY REFLECTIONS FROM THE WOOD LIBRARY-MUSEUM

# From Cigar to Green Whistle: The Unfinished Tale of the Methoxyflurane Inhaler



Methoxyflurane, or Penthrane, a fluorinated hydrocarbon, was hailed as a nontoxic alternative to halothane. Although hallowed for its potency and inflammability, halothane could induce hepatitis and arrhythmias. Penthrane gained a superior reputation for hemodynamic stability and analgesia that endured, even at sub-anesthetic doses. Thus, in spite of a 1966 report that 17% of methoxyflurane recipients in one hospital had developed high-output nephropathy, the disposable Analgizer (*right*), designed for self-administration of the vapor for pain relief, was introduced in 1968. A rolled polypropylene wick within the device's polyethylene cylinder (*left*) held the volatile agent. Lovingly called “the cigar” at one Canadian hospital, the Analgizer, with its inhalational mouthpiece, was used for obstetric labor, perioperative pain, and burn dressing changes. However, after new studies correlated cases of renal failure with methoxyflurane’s metabolic byproducts, the Analgizer was withdrawn from the market in 1974. Even so, “the cigar” was reincarnated in Australia as “the green whistle,” or Pentrox, the very next year. “The whistle” used a lower dose and an activated charcoal chamber to adsorb gas exhaled through its bidirectional mouthpiece. Since its birth, Pentrox has thrived in prehospital and military settings, emergency departments, and procedural suites throughout Australia and New Zealand. (Copyright © the American Society of Anesthesiologists’ Wood Library-Museum of Anesthesiology, Schaumburg, Illinois.)

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