Financial and faculty resource data of undergraduate simulator-based education and evaluation projects for the period from July 1997–April 2001 at the University of Toronto were reviewed. Operational costs for upkeep and maintenance of the anesthesia simulator as well as faculty resources required were assessed. An average cost per student was calculated based on a cohort of ten students per daily session for a total of 177 students.

Annual operational costs are found in the Table. For educational purposes alone, faculty resources totalled 344 hr per annum and 1.94 faculty hr per student. For evaluation purposes, two faculties per session were required thereby doubling the faculty hours from 216 to 432 hr per annum.

The financial and resource cost per student appears high. However, comments from medical students at the University of Toronto strongly endorsed the implementation of simulation technology into the curriculum.² Faculty, as well, highly rated the simulation program as an excellent learning experience and a potential tool for undergraduate standardized assessments. We believe that the quality of the simulator educational experience justifies its use.

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Anesthesia for a child with Antler-Bixler syndrome

To the Editor:

Antley-Bixler syndrome is characterized by the association of craniofacial dysmorphism, including brachycephaly and midface hypoplasia, with a bilateral radiohumeral synostosis.^{1,2} We anesthetized a child with this syndrome three times within three years and discuss the problems of anesthetic management.

The syndrome was diagnosed at birth. Cranioplasty and fronto-orbital advancement were required three times. The first, second and third operations were per-

formed at five, 18 and 32 months, respectively. During the first operation, anesthesia was induced with sevoflurane and nitrous oxide in oxygen by mask, but mask ventilation became difficult due to upper airway obstruction. A laryngeal mask airway (LMA) (size #1) was inserted immediately without difficulty and ventilation via the LMA was easy. In the second and third operations, anesthesia was also induced with sevoflurane and nitrous oxide in oxygen by mask, but the child's trachea was intubated immediately without muscle relaxants. Since the vocal cords could not be seen by direct laryngoscopy, blind endotracheal intubation was performed.

In giving anesthesia to a child with this syndrome, it is difficult to maintain a patent airway.³ We chose a slow induction of anesthesia but, nonetheless, mask ventilation became difficult. The vocal cords could not be seen by direct laryngoscopy and intubation was also difficult. However, the LMA proved to be useful to secure the airway. Preoperative evaluation of the airway is important with this syndrome, especially in children, and the LMA may be helpful for the management of these patients.

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Second gas effect of N₂O

To the Editor:

Nishikawa *et al.*¹ recently addressed the issue of the second gas effect of N₂O on oxygen uptake. The authors reported an increase in FETO₂ and arterial oxygen tension (PaO₂) five minutes after N₂O inhalation, which they interpreted as such a second gas effect.

There are, however, some serious methodological issues in their experiments that not only cloud the authors' interpretation of their findings, but also provide no definitive evidence of a second gas effect of N₂O on oxygen uptake.