Treacher Collins syndrome (TCS) is a rare, inherited condition and can present one of the most difficult airways encountered by an anesthesiologist. Because children with TCS can have many craniofacial abnormalities, they often require a variety of corrective surgical procedures, thus confronting the anesthesiologist with a possibly difficult intubation (1,2). Below, we describe the anesthetic management of a 3 1/2-yr-old girl with TCS who presented for surgical repair of a cleft palate. Her medical history was significant for prematurity (36 wk gestation), gastroesophageal reflux disease, tracheoesophageal fistula, atrial septal defect, and apnea. Her surgical history included correction of the tracheoesophageal fistula, atrial septal defect, and a Nissen fundoplication. No records of previous anesthetics were available because these surgeries were performed in Russia.

Standard monitors were applied in the operating room, a 22-gauge IV was placed while the child received 50% O₂ and 50% N₂O via face mask. Atropine 0.2 mg was administered IV. Inhaled induction of general anesthesia was performed with 8% sevoflurane in a N₂O/O₂ mixture. After confirming that the lungs could be manually ventilated with bag and mask, 7 mg of rocuronium was given IV. Sevoflurane was reduced to 2% and the patient was placed on 100% fraction of inspired oxygen. Direct laryngoscopy with both the Macintosh and Miller blades failed to reveal the vocal cords. Furthermore, we were unable to intubate the trachea with a light wand. Fiberoptic intubation was extremely difficult secondary to a large, posterior tongue and very limited mouth opening. As mask and bag ventilation became more difficult, a #2 laryngeal mask airway (LMA) was placed and the patient was ventilated manually. We finally succeeded in intubating the patient in the following manner. We connected two 4.5-mm uncuffed endotracheal tubes (ETT) together in an end-to-end configuration by using a cut ETT connector as a female-to-female adapter (Fig. 1). A fiberoptic bronchoscope was threaded through the two ETTs and introduced into the lumen of the LMA via a swivel connector. The vocal cords were easily visualized, and the ETT assembly was advanced into the trachea. The bronchoscope and LMA were then removed. The female-to-female adapter was disconnected from two ETTs and replaced with a standard tube connector. The ETT was connected to our circuit and end-tidal carbon dioxide and bilateral breath sounds were confirmed. The surgery was eventually aborted, however, secondary to inadequate palate exposure from decreased mouth opening. Neuromuscular blockade was reversed and the patient was tracheally extubated without incident.

Discussion
Performing an awake, fiberoptic intubation for a recognized difficult airway in the pediatric population is challenging, if not impossible secondary to the lack of cooperation by the sedated child. Some alternatives to direct laryngoscopy include blind light wand technique, blind nasal intubation, and oral or nasal fiberoptic intubation; however, these techniques are often more difficult in the pediatric population. These difficulties might be avoided by first attempting intubation through an LMA rather than direct laryngoscopy. Intubating children with difficult airways fiberoptically through an LMA has gained much popularity because the LMA reliably provides a patent airway. This has been observed in children with both normal and difficult airways (3,4). In addition, advantages of fiberoptically intubating through the LMA include controlled ventilation of the anesthetized patient and the ability of the LMA to serve as a conduit for fiberoptic intubation.

Multiple techniques have been described for intubating through the LMA in children (5–10). If the LMA does not interfere with the surgical procedure, it can
be left in place (11). However, the greatest challenge encountered when intubating through an LMA is how to remove the LMA without dislodging the ETT from the trachea. This difficulty is unique to the pediatric anesthesiologist. Because the lengths of an age-appropriate pediatric ETT and LMA are similar, the proximal end of the ETT tends to disappear into the LMA once the ETT has passed through the vocal cords. This makes it difficult to safely remove the LMA without dislodging the ETT (10–12). One can circumvent this problem by extending the length of the pediatric ETT. Commonly, the proximal end of one ETT is wedged into the distal end of a similar size ETT without using some type of fastening device (13–16). We secured the ends of two tubes by using a cut endotracheal connector as a female-to-female adapter (Fig. 1). We believe our method is superior to other methods, because it firmly holds the two ETTs together, is easy to assemble, adds additional stability to the ETT apparatus, and avoids the need to cut or modify the LMA (17,18). Our apparatus maintained a firm attachment between the ETTs and significantly reduced the chance of dislodging the distal part of the ETT from the larynx while removing the LMA.

In summary, we do not suggest abandoning direct laryngoscopy as a first look. However, we suggest pediatric anesthesiologists think about performing a rather atraumatic fiberoptic intubation through the LMA as his/her first intubation attempt in a child with a potentially difficult airway, using two ETTs secured via a cut ETT connector.

References