side-holes lessen the risk of tracheal wall or mucosal damage. However, they base this recommendation on a single study of 48 patients, one of whom developed severe mediastinal and subcutaneous emphysema.[3] The side-holes may actually increase the risk of mediastinal emphysema, since the cannula is introduced blindly, and the positioning is confirmed by aspiration of air. The tip of the cannula may be in the tracheal lumen, while one or both side-holes are in the subcutaneous tissue.

Furthermore, in the case of total supraglottic airway obstruction, transtracheal ventilation is impossible. A transtracheal cannula allows only limited exhalation at safe levels of intrathoracic pressure.

Anyone who has had to manage the difficult airway on most hospital wards realizes that high-pressure oxygen sources, and proper devices for high-pressure oxygen delivery, are frequently not available. However, endotracheal tubes, syringe barrels, intravenous cannulae, and the resuscitation bags are readily available.

Using the technique originally described by Gildar,[1] life-preserving oxygenation can be provided while definitive measures are taken to secure the airway. A formal tracheostomy or difficult intubation may take several minutes, during which hypoxia must be prevented.

Finally, it is inevitable that crises will arise, in locations where ideal equipment is not present. Ingenuity in time of crisis is the anesthesiologist's trademark. The rapid establishment of transtracheal oxygenation is one situation that demands such ingenuity. We will not fail our patient so long as we prevent hypoxia, and ventilation is not a prerequisite to adequate short-term oxygenation.

We appreciate Dr. Sosis' letter identifying Dr. Jack S. Gildar, who originally described the endotracheal tube-syringe barrel-transtracheal cannula device in 1983.[1] We regret that our computer-directed literature search was incomplete. The Gildar device is simple, convenient, and adequate for transtracheal oxygenation, although some degree of hypercarbia is likely. It should be included in the A. H. A. Advanced Cardiac Life Support Textbook and other publications.

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A Problem with a Transtracheal Oxygenation System

To the Editor:—Reich and Schwartz recently reported a system whereby transtracheal oxygen could be delivered through a large-bore intravenous cannula connected to a syringe barrel.[1] A cuffed endotracheal tube is inserted into the barrel and the cuff inflated to obtain a seal.

We recently had occasion to use the system. After a failed orotracheal intubation in a rapidly deteriorating patient, the system was assembled using the endotracheal tube and syringe at hand. The O_2 flush control valve was used to pressurize the circuit. This maneuver resulted in immediate expulsion of the endotracheal tube from the syringe barrel.

Injection of 5 ml of air into a Mallinckrodt 8.0 mm endotracheal tube cuff inserted into a Becton-Dickinson 10 ml syringe barrel produces an intracuff pressure of about 220 mmHg. This cuff high pressure provides enough friction to secure the cuff-barrel assembly together if they are *clean and new.* Since our cuff was contaminated (lubricated) with pharyngeal secretions, the assembly separated.

This problem can be avoided by thoroughly drying the cuff before assembly. Hopefully, awareness of the problem will prevent its recurrence.

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