

a 50-psi jet provides a flow of 71.3 l/min through a 16-G catheter, a bag-mask delivered a flow of only 9 l/min through the same catheter. They state that the "squeezing force" necessary to achieve these rates was considerable, and would rapidly exhaust the most powerful rescuer."

Because self-inflating bag-valve units are so readily available, practitioners might be tempted to quickly improvise a system with a wide-bore iv catheter and a 15-mm connector. As both Benumof and Scheller, and Yealy *et al.* point out, a high-pressure oxygen source is essential to establish any sort of meaningful ventilation through a transtracheal catheter.

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Anesthesiology
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Transtracheal Jet Ventilation. II.

To the Editor:—In their recent article, Benumof and Scheller present an excellent review of a critical topic, *i.e.*, the use of transtracheal jet ventilation (TTJV) in the "cannot ventilate/intubate situation".¹

Five case examples of the problem and the solution are presented to illustrate the utility of TTJV. Of the five cases, the difficulty in intubation and/or ventilation could be predicted in cases two, three, and five. When difficulty is predictable, the need for the desperate employment of TTJV may be obviated by tracheal intubation of the conscious patient after judicious use of sedation, topical anesthesia, and nerve blocks.²

TTJV is a potentially life-saving technique when ventilation or intubation are impossible. However, it is best to prevent the latter situation to the extent that it is predictable.

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In Reply:—We thank Drs. Blenko and Stone for the interest in our article. We completely agree with Dr. Blenko that trying to deliver an adequate amount of fresh gas (inhalation) through a large-bore iv catheter with a self-inflating bag-valve 15-mm adaptor system is an unwise choice (it is important to remember that exhalation is through the natural airway). In fact, we said "it is impossible to achieve a significant amount of ventilation through the intravenous catheter" and, "do not recommend" this system. In this specific regard, the data of Yealy *et al.*¹ are entirely consistent with the data of Attia *et al.*² Another way of looking at the problem is to realize that 1 cm H₂O = 0.01462 lb/in² or 1 lb/in² = 68.4 cm H₂O. In other words, pressure usually used to provide ventilation is only 1/50 that provided by a jet injector.

We also completely agree with Dr. Stone's point that prevention of a life-threatening situation is always vastly preferable to treatment of a life-threatening situation. However, occasionally one may be called upon to rectify an otherwise unforeseen but life-threatening situation. Consequently, we reiterate that an acceptable transtracheal jet ventilation system should be immediately available wherever patients may require airway management.

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