

References

1. Schoenwald PK, Whalley DG, Schluchter MD, et al. The hemodynamic responses to an intravenous test dose in vascular surgical patients. *Anesth Analg* 1995;80:864-8.
2. Moore DC, Batra MS. The components of an effective test dose prior to epidural block. *Anesthesiology* 1990;73:386-92.
3. Toledano A, Roizen MF, Foss J. When is testing the test dose the wrong thing to do? *Anesth Analg* 1995;80:861-3.

Breathe In, Breathe Out

To the Editor:

Dr. Krensavage and Mr. Richards describe "sudden development of anesthesia circuit obstruction by an end-tidal CO₂ cap in the gas sampling elbow" in their letter in the July issue of *Anesthesia & Analgesia* (1). They recommend dismantling the elbow from the circuit tubing and performing a visual inspection of the tubing. This may not be necessary.

A technique that I have used and taught for years is this: after performing the high-pressure leak test of the anesthesia circuit and opening the adjustable pressure limiting ("pop-off") valve, place the end of the elbow in your mouth (while masked, of course) and inhale and exhale while observing the function of the unidirectional (i.e., inspiratory and expiratory) flow valves. This procedure takes but seconds and confirms the patency of the circuit, appropriate valve function, and system decompression via the adjustable pressure-limiting valve.

If we are able to breathe through the anesthetic circuit, so may our patients.

Shepard B. Stone, MPS, PA
Department of Anesthesiology
Yale University School of Medicine
New Haven, CT 06510

Reference

1. Krensavage TJ, Richards E. Sudden development of anesthesia circuit obstruction by an end-tidal CO₂ cap in the gas sampling elbow [letter]. *Anesth Analg* 1995;81:207.

In Response:

I agree that Mr. Stone's technique does everything he states it does.

Unfortunately, he and his test completely miss the point of our letter. Dynamic functional tests such as this will not detect the presence of small debris within the corrugated portion of the circuit. This debris could potentially migrate into the smaller distal portions of the circuit (or the patient, for that matter) and then cause complete obstruction after totally normal checkout and functioning. The test described would check out perfectly in a case such as ours if the cap were within the corrugated portion of the circuit. Internal visual inspection of the lumen is the only reliable test for debris within the circuit unless transparent tubing is used, which I recommended to the Food and Drug Administration and the manufacturer in this case and which I recommend to my colleagues now in this reply. Breathing through the circuit does not go far enough to ensure that our patients may be able to breathe safely through the circuit, as our case demonstrated.

Thaddeus J. Krensavage, DO
Morton Hospital and Medical Center
Taunton, MA 02780

Use of a Fiberoptic Bronchoscope Adapter During Jet Ventilation

To the Editor:

During emergency airway management, jet ventilation is frequently used through large-bore angiocatheters (1) and specifically designed cricothyroidotomy devices (2). Jet ventilation is also often used during bronchoscopy (3).

Jet ventilators typically use Luer-Lok connectors, as a mechanical interface, to maintain a secure coupling against high airway pressures.

A fiberoptic bronchoscope adapter can be used to attach a jet ventilator's Luer-Lok connector to the tracheal tube adapter of a cricothyroidotomy device. As shown in Figure 1, the Luer-Lok connector is placed through the flexible plastic port of the fiberoptic bronchoscope adapter. This is suitable predominantly in emergency situations, since the flexible plastic may deteriorate with prolonged use. In addition, regardless of the equipment used, jet ventilation must allow for passive exhalation to occur to prevent the complications of pulmonary hyperinflation.

Glen Atlas, MD, MSc
Department of Anesthesia
Sebastian River Medical Center
Sebastian, FL 32958

References

1. Esses B, Jafek B. Cricothyroidotomy: a decade of experience in Denver. *Ann Otol Rhinol Laryngol* 1987;96:519-24.
2. Ravussin P, Freeman J. A new transtracheal catheter for ventilation and resuscitation. *Can Anaesth Soc J* 1985;32:60-4.
3. Satyanarayana T, Capan L, Ramanathan S, et al. Bronchofiberscopic jet ventilation. *Anesth Analg* 1980;59:350.

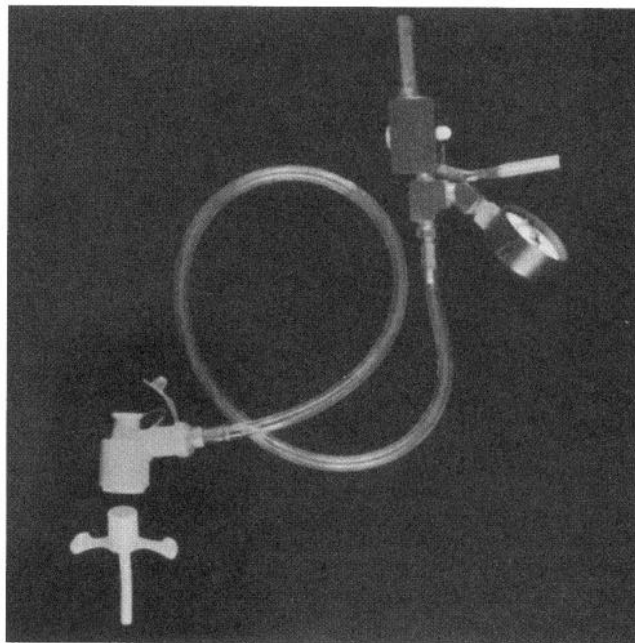


Figure 1. During emergency airway management, a fiberoptic bronchoscope adapter can be used to attach a jet ventilator's Luer-Lok connector to the tracheal tube adapter of a cricothyroidotomy device.