

ANESTHESIOLOGY NEWS

THE INDEPENDENT MONTHLY NEWSPAPER FOR ANESTHESIOLOGISTS
AnesthesiologyNews.com • September 2026 • Volume 52 Number 9

MCMANON PUBLISHING

SEPTEMBER 2026

AnesthesiologyNews.com | 21

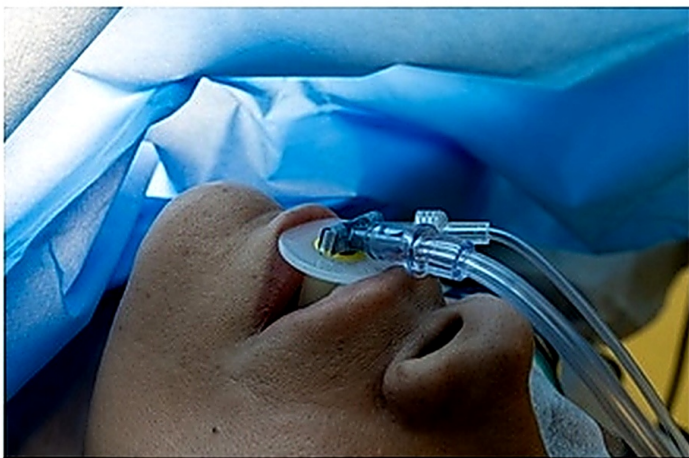
CLINICAL ANESTHESIOLOGY

Study Finds New Device for Procedural Sedation Delivers Superior Oxygen Concentrations

A recent study found that a new oxygen delivery and capnography monitoring device, the Aeris Airway (Airway Innovations) delivered significantly higher oxygen concentrations to the supraglottic space compared with divided nasal cannula or oxygen face mask (*AA Pract* 2026;20[7]:e02251).

The study was conducted on 11 healthy unsedated adult volunteers with ASA Physical Status scores of I and II during quiet spontaneous breathing. A Guedel oropharyngeal airway was inserted after thorough topical anesthesia with lidocaine jelly and remained in place throughout the study. The study employed a crossover design such that each device was tested on each volunteer, with each volunteer serving as their own control. The three devices were tested at fresh oxygen flow rates commonly used by clinicians for each of the devices (2, 4, and 6 L per minute for the nasal cannula, and 6, 8, and 10 L per minute for the oxygen face masks). Supraglottic delivered oxygen concentrations were measured using a sampling cannula positioned inside the lumen of at the distal tip of the oropharyngeal airway.

The study results demonstrated that the Aeris Airway delivered markedly greater supraglottic



every oxygen flow rate: approximately 2.5 to 3.5 times greater than the nasal cannula, and 2 to 2.5 times greater than the oxygen face mask.

"The problem of hypoxia during procedural sedation merits serious attention because it can result in adverse and even catastrophic consequences," said study author Rene Miguel Gonzalez, MD, an anesthesiologist from Stafford Township, in New Jersey. "Clinicians who administer moderate or deep sedation appreciate how difficult it can be to avoid hypoxia. Sometimes hypoxia is due to predictable patient factors, such as documented sleep apnea, morbid obesity and difficult airway.

also occur unexpectedly in a patient with undiagnosed sleep apnea or a healthy patient with a very high sedative requirement."

Part of the problem is that two of the most commonly used oxygen delivery systems for procedural sedation, nasal cannulas and oxygen facemasks, both have inherent limitations that can limit their effectiveness. Both, for example, deliver the supplemental oxygen quite a distance from the lower respiratory tract, requiring the filling of a relatively large amount of dead space with oxygen with each inspiration before any significant amount of supplemental oxygen is delivered to the lower respiratory tract and lungs.

"This new oxygen delivery and capnography monitoring system, which was designed to overcome some of these obstacles by working synergistically with oropharyngeal and nasopharyngeal airways, could prove to be a valuable new clinical tool toward the goal of further reducing the incidence and severity of hypoxia during moderate and deep procedural sedation," Gonzalez said.

Gonzalez is a clinical and scientific consultant to Airway Innovations.

By Kenny Walter