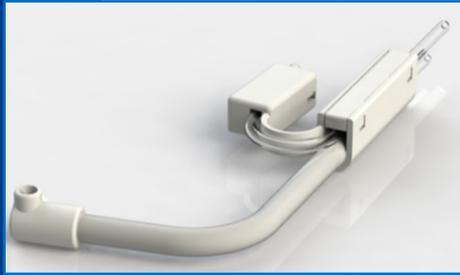


Anesthesia Intra-oral Monitoring System (AIMS) (A Replacement for the Nasal Cannula)



The nasal cannula is a mandatory monitor of exhaled carbon dioxide in all sedated patients. A nasal cannula monitors nasal breathing but the patient might randomly convert to mouth breathing, making it hard for the anesthesiologist to determine whether the patient has stopped breathing due to excess sedation. The AIMS device has a single prong with two ports that pick up both nasal and oral breathing so that respiratory distress can be properly diagnosed, and the anesthesiologist can intervene to resuscitate the patient. Nasal cannulas also cause oxygen pooling around the patient's face and could ignite a flash-fire resulting in facial disfigurement and multimillion dollar lawsuits. These are preventable complications and out-of-pocket expenses for the hospital. The AIMS device is securely held between the upper and lower jaw teeth where intra-oral delivery of oxygen lowers the risk of fire. The AIMS device also prevents sedated patients from involuntarily clenching their teeth, allowing for the quick placement of airway resuscitation devices in case of respiratory arrest.

COMMERCIAL OPPORTUNITY

- The American Society of Anesthesiologists requires continuous monitoring of breathing through exhaled CO₂ in all sedated patients. Over 200 million sedation procedures are performed each year in the US, and this number may increase as procedures once performed only under general anesthesia, such as cardiac valve replacements, are now being done under sedation.
- Surgical drapes around a patient's face can cause delay in recognizing oral breathing versus respiratory arrest - a leading cause of patient injury and brain damage during sedation procedures. The AIMS device is securely held between the jaw teeth and picks up nasal or oral breathing. Intra-oral O₂ delivery away from the surgical field minimizes surgical fires while targeted oxygen delivery uses less oxygen, reducing costs.
- AIMS offers a critical advantage by preventing involuntary jaw-clenching seen in overly sedated patients. In case of an emergency, the oral cavity remains accessible to place respiratory resuscitation devices. Additionally, this feature provides a safe and easy option to place an endoscope during the 18 million endoscopies performed annually in the US.
- The AIMS device is expected to be approved through a 510(k) regulatory route. The device's minimal profile and placement on either side of the face while allowing a clear surgical field on the opposite side alone, should make it highly attractive for the facial plastic and reconstructive surgeons.

TECHNOLOGY

A prototype is available. The device is rectangular and held between the jaw teeth on either side of the patient's mouth. An oxygen line delivers oxygen to the back of the throat while a floating prong under the nose picks up exhaled CO₂ from the mouth or the nose.

PATENT

- Provisional patent application filed September 6, 2016 and PCT application on September 6, 2017 for Dr. Tariq Chaudhry

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LICENSING OPPORTUNITY

