

Beyond compromise: Elevating patient safety with capnography during sedation

Oxygen desaturation is a lagging indicator of respiratory compromise and can be further masked by delivery of supplemental oxygen. Capnography monitors breath to breath ventilation so clinicians are alerted when a patient hypoventilates or becomes apneic.¹

96%

of patients undergoing colonoscopies with propofol reached levels of deep sedation. 89% reached levels of general anesthesia.²

>1/3

of non-operating room anesthesia (NORA) closed claims judged preventable with better monitoring³



Detect early, act fast

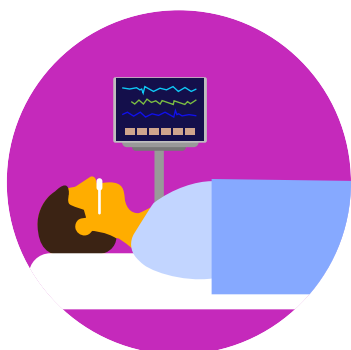


Detect respiratory compromise (RC) up to **99 seconds sooner** and **23x more episodes** than with pulse oximetry alone⁴⁻⁶



Monitoring patient respiratory status during sedation with capnography detects RC earlier than pulse oximetry alone **leading to faster interventions** and **reducing the frequency of hypoxemia, severe hypoxemia, and apnea**⁷⁻⁹

Capnography can save time, money, and lives^{10,11}



47%

estimated reduction in odds of mortality for inpatient endoscopic population¹⁰

61%

estimated reduction in odds of pharmacological rescue event for an outpatient endoscopic population¹⁰

Reduced adverse events led to

- Mean **reduction in procedure time**¹¹
- **Reduction in cost per procedure** by \$85 USD and \$35 USD for deep and moderate sedation cases respectively¹¹

Capnography benefit across procedural specialties

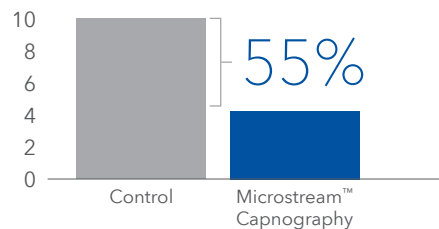
Advancements in monitoring and detection

In the ever-evolving landscape of medical technology, capnography can be a valuable tool to support patient safety during moderate and deep sedation across multiple specialty areas within procedural sedation and analgesia (PSA).

Capnography in Gastroenterology (GI)

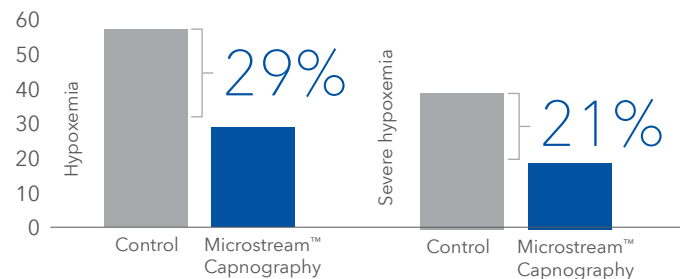
Use of capnography has been shown to reduce adverse events in GI cases which is associated with lower odds of mortality and pharmacological rescue and overall cost savings^{6,10,12,13}

Possible cost saving of \$58 USD per 100 procedures¹³



Adverse events per 100 procedures

Reduction in incidence of hypoxemia and severe hypoxemia⁶



Capnography use is recommended by SGNA¹⁴

Capnography in Interventional Radiology (IR)

Respiratory compromise in the IR suite is associated with worse outcomes and higher costs. Capnography has been associated with lower incidences of oversedation in interventional radiology and routine use of capnography is recommended by leading societies in this area^{15,16}

Compared to patients **without** respiratory compromise (RC), IR patients with RC had



Capnography monitoring recommended by ARIN, CIRSE, SIR societies^{17,18,19}

"When capnography monitoring was implemented in the IR suite, the incidence of oversedation during prone cases **plummeted to nearly 0%**"¹⁵

Capnography in Interventional Cardiology (IC)

Similar to IR and GI, Interventional Cardiology has documented reductions in adverse events (AEs) after implementing capnography²⁰

In endoscopy, bronchoscopy, interventional cardiology and interventional radiology procedures there was a... **43% reduction** in total adverse events
= 1 adverse event prevented for every 10 procedures

Capnography use is recommended by SCAI²¹

When every breath counts, every second matters

Choose the capnography
solution with proven difference.²²
What's the difference?



**Microstream™ Advance filter lines are
engineered for performance and comfort:**



- **Dual nare sampling** enables CO₂ sampling from either nare—particularly important in patients with a deviated septum or unilateral nasal obstruction, including normal nasal cycling
- **Patented Uni-junction™ technology** senses the strongest source of breath to measure, even at low tidal volumes



- Delivery of O₂ in a “cloud” independent from breath sample, and accurate up to 5L/minute
- **Microstream™ outperformed** other capnography lines for etCO₂ accuracy in head-to-head testing²²



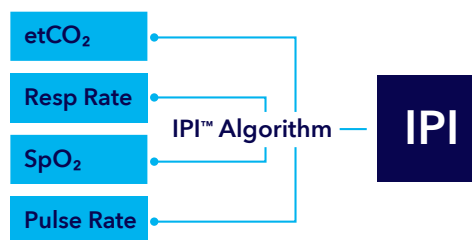
Microstream™ Advance filter line with oral scoop, Microstream™ Advance filter line with Bite Block, and Oxy₂Pro Mask with Microstream™ connector are **designed for PSA cases**.



Featuring Microstream™ capnography and Nellcor™ pulse oximetry, the RespArray™ patient monitor also measures NIBP, ECG, and temperature. For **safety made simple**.

**Proprietary algorithms designed for Microstream™ monitoring technologies
help simplify the use of CO₂ monitoring and improve patient safety and
clinical workflow:**

- **Smart Capnography™ algorithms SARA™ and SBD™**
count only effective breaths, and **reduce 53%** of clinically insignificant, unactionable nuisance alarms²³
- **Integrated Pulmonary Index™ (IPI)** reliably interprets patient respiratory status and simplifies monitoring through combining 4 measurements (etCO₂, RR, SpO₂, and PR) into 1 easy to read number²³



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23. Internal engineering and test data on file



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you safely monitor patients**

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Since 2010, 40+ clinical societies worldwide have updated their guidelines and recommendations in support of **capnography use in sedation.**



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The Microstream™ capnography monitoring system should not be used as the sole basis for diagnosis or therapy and is intended only as an adjunct in patient assessment.