



**Medtronic**

Engineering the extraordinary

# Partnering for better care in the ASC.

Choose Mindray patient monitors with Medtronic parameter integration options to help empower clinicians with vital patient monitoring data:

- Nellcor™ pulse oximetry
- Microstream™ capnography

# When simplicity meets innovation

Experience the immediate and measurable benefits of the smartphone-like user interface that simplifies patient monitoring and improves clinical workflows with Mindray ePM monitors. With a semi-modular design, ePM monitors offer integrated core parameters and the ability to add additional parameter modules for advanced monitoring, perfect for mid- and low-acuity care such as the ambulatory surgical environment.

The Mindray ePM series has integrated with **Nellcor™ pulse oximetry** with OxiMax™ technology and modular **Microstream™ capnography** with proprietary Smart Capnography™ algorithms. With the ePM monitors, cutting-edge innovation meets market leading clinical expertise, supporting your patients through every step of the care, from the OR, to the procedural suites, to recovery, with confidence, and ease.



Mindray ePM Series

From inpatient admissions to spot checks, the **Mindray VS 9 Vital Signs Monitor** unlocks the full potential of routine observations with comprehensive and flexible workflow options empowering clinicians to deliver high quality bedside care to each and every patient. The VS 9 monitor has integrated **Nellcor™ pulse oximetry**.



Mindray VS 9 Vital Signs Monitor



# 3 ways we help you save

## Nellcor™ pulse oximetry

You are busy caring for patients. You need the support of a pulse oximetry technology you can trust that also works for your center's bottom line. Discover the Nellcor™ pulse oximetry difference, where we work tirelessly to perfect our technology and bring you 360° support to help you control costs<sup>1</sup> and care for patients at your ambulatory surgery center (ASC).



## 1 Patient safety for all

Above all, Medtronic prioritizes patient safety to ensure that all patients are monitored accurately to help prevent costly complications.<sup>1,2</sup> We are taking an active role in solving health equity issues in pulse oximetry.



## 2 Sustainability Programs

Take advantage of any of our four sustainability programs:

- Recycle Program
- Rebate Program
- Reprocessing Program
- Blended Code Sustainability+ Program



## 3 Value beyond our products

We offer flexible, transparent agreements to align with your center's budget. Our goal is to always give you value beyond our products so you can reduce costs while receiving full support for your pulse oximetry needs.



Oxygen saturation accuracy can be affected by certain environmental, equipment, and patient physiologic conditions (as discussed in the operator's manual for the monitor) that influence readings of SpO<sub>2</sub>. Please consult the IFU and operator's manual for full safety information.

# Microstream™ capnography monitoring

## Microstream™ capnography monitoring

alerts clinicians to early signs of respiratory compromise, which may enable earlier intervention and help keep patients safe.<sup>3</sup>

Compared to monitoring SpO<sub>2</sub> alone, capnography monitoring can provide a more rapid indication of respiratory decline<sup>4</sup> – leading to faster interventions and reducing the frequency of hypoxemia, severe hypoxemia, and apnea.<sup>5-7</sup>

## Microstream™-enabled capnography monitoring

offers a full portfolio of non-intubated and intubated filter lines from neonates to adults and includes Smart Capnography™ algorithms:

- **Smart Alarm for Respiratory Analysis™ (SARA)**  
Engineered to reduce number of nuisance respiratory alarms
- **Smart Breath Detection™ (SBD)**  
Screens out low-amplitude “non-breath” EtCO<sub>2</sub> excursions such as talking and snoring



Mindray  
Microstream™  
module  
(PN 121-001621-00)



Microstream™  
capnography  
sampling lines



Provides an early warning of respiratory compromise<sup>3</sup>

Non-intubated and intubated options  
for flexibility in patient care.

Innovative Uni-junction™ technology  
helps enable accurate sampling from both nares and the mouth.<sup>8, 12-15</sup>

Designed for seamless integration  
with Mindray monitors, making it an accessible option for the ASC environment.

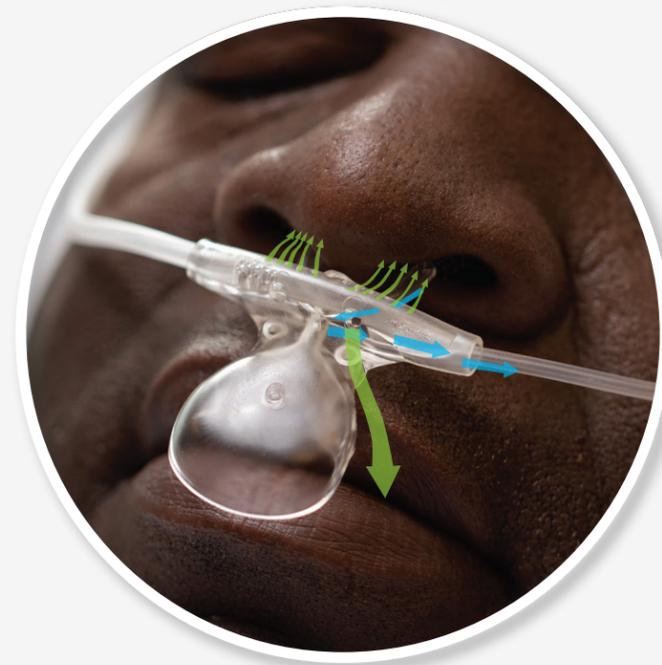
Flexible.  
Accurate.  
Accessible.

# Capnography monitoring

Simplified for your ASC with the Microstream Luer sampling line portfolio

**Microstream™ Luer sampling lines** offer reliable capnography monitoring for both intubated and non-intubated patients in the ambulatory surgery center (ASC) setting, with or without supplemental oxygen.

Compatible with the **Mindray Sidestream** module, Microstream™ Luer sampling lines are designed for consistent, accurate CO<sub>2</sub> readings<sup>8</sup> (including in pre-op, the operating room, and post-op)



Capture CO<sub>2</sub> with **confidence** – not compromise

- **Oral scoop design:** wide surface area captures CO<sub>2</sub>, even in the presence of shallow breathing.<sup>9</sup>
- **Dual-nare sampling:** Can be important for when patients experience nasal cycling, which is estimated to occur in 80 percent of the healthy population.<sup>10</sup> Septal deviation is also common and is estimated to occur in 86.6 percent of the general population.<sup>11</sup>

Medtronic patient monitoring systems should not be used as the sole basis for diagnosis or therapy and is intended only as an adjunct in patient assessment.

# Multiple options and parameters.

Standardize your Mindray patient monitors with the market leading, high-performing Nellcor™ pulse oximetry, and Microstream™ capnography:

1. Specify Nellcor™ pulse oximetry, and Microstream™ capnography, in your new Mindray monitors.
2. Convert existing Mindray monitors to Nellcor™ pulse oximetry, and Microstream™ capnography, options, or interface solutions to Mindray patient monitors already installed.

Mindray Patient Monitors	Is Nellcor™ pulse oximetry available with new Mindray monitor?	Will the current Mindray monitor convert to Nellcor™ pulse oximetry?	Does it support Microstream™ capnography?
BeneVision N-Series N12/15/17/19/22	Yes	Yes	Yes
BeneVision N1 Monitor/Module or MPM Module	Yes	Yes (new unit)	Yes
ePM Series 10M/12M/15M	Yes	Yes	Yes
VS 9 Vital Signs Monitor	Yes	Yes	No

## References

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3. Weingarten TN, Morimatsu H, Fiorda-Diaz J, et al. New-onset atrial fibrillation detected by continuous capnography monitoring: A case report. *Am J Case Rep.* 2020;21:e925510. doi:10.12659/AJCR.925510.
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5. Askar H, Misch J, Chen Z, Chadha S, Wang H-L. Capnography monitoring in procedural intravenous sedation: A systematic review and meta-analysis. *Clin Oral Investig.* 2020;24(11):3761-3770.
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7. Jo Y Y, Kwak H J. Sedation strategies for procedures outside the operating room. *Yonsei Med J.* 2019;60(6):491-499.
8. Based on internal report D006122, Report for evaluation testing against Welch Allyn products for Omnistream and Surestream products - All tests performed at 50, 90 and 175ml /min flow rates. (Welch Allyn was used as an example of monitors with different flow rates)
9. Based on internal report D005621, EtCO2 monitoring of nonintubated patients receiving oxygen and any form of sedative drugs (protocol, see objectives one and two). 2020.
10. Marshall SG, Henry NR, Russian CJ. Right Versus Left Prong Nasal Cannula Flow Delivery and the Effects of Nasal Cycling on Inspired F(IO2) in an Adult Anatomic Model. *Respir Care.* 2016;61(4):397-404.
11. Alghamdi FS, Albogami D, Alsurrayhi AS, et al. Nasal Septal Deviation: A Comprehensive Narrative Review. *Cureus.* 2022;14(11):e31317.
12. Based on internal report D005886, Evaluation Testing with the New Version of the Adult /Intermediate and Pediatric Smart CapnoLine Plus, an Injection Molded, One-Piece Cannula (Appendix 5.3 & 5.4 relate to accuracy even with up to 5Lit /min O2)
13. Based on internal report D005655, Clinical Validation Test -CO2 Oral Nasal FilterLine, Adult, Intermediate and Pediatric -Healthy Patients (Protocol, See Objectives Chapter 3)
14. Based on internal report D05658, Clinical Validation Test -CO2 Oral Nasal FilterLine, Adult, Intermediate and Pediatric -Healthy Patients (Report, See Conclusions, Chapter 3 .1 and Analysis of Results, Chapter 5)
15. Based on internal report D005655, Clinical Validation Test -CO2 Oral Nasal FilterLine, Adult, Intermediate and Pediatric - Healthy Patients (Protocol, See Objectives Chapter 3)

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