CONFIDENTLY SEE WHEN TO INTERVENE

The INVOS™ system* can help you decide if intervention is necessary when timing is critical.

*The INVOS™ cerebral oximetry system should not be used as the sole basis for diagnosis or therapy and is intended only as an adjunct in patient assessment.

Medtronic
Further, Together

The INVOS™ system is the most widely studied cerebral oximeter on the market.[1] It was designed to respond quickly — so you can too. Here's how responsiveness may lead to better outcomes.

INVOS™ SYSTEM ALGORITHM

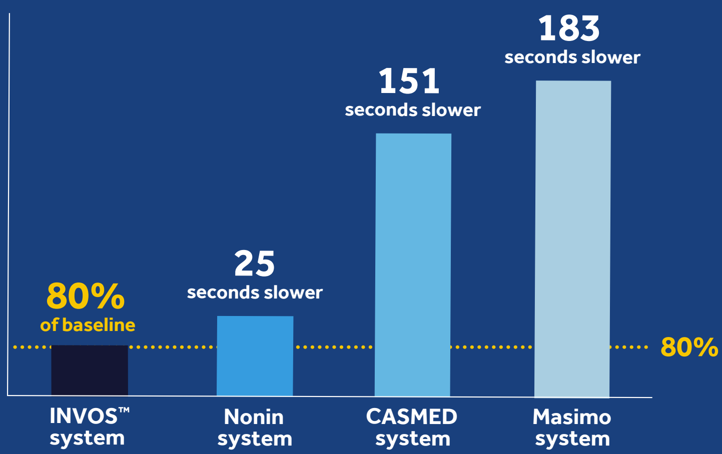
Clinical evidence shows that clinicians' ability to intervene sooner and reverse desaturation has a proven, positive impact on patient outcomes.[2–9] That's the INVOS™ system difference. Our system has a unique clinical algorithm that can alert you to potential change before other vital sign monitors even react.[2–9] The INVOS™ system can help you decide if intervention is necessary when timing is critical, a core component in successful outcomes.[2–9]

THE RESPONSE DIFFERENCE

The differences are significant. The INVOS™ 7100 cerebral oximetry system saves you valuable seconds when they matter most. And that difference in response times is an important factor, as cerebral desaturation can occur within seconds. Every second counts towards patient safety and outcomes.[2–4, 9–11]

Let's compare. The INVOS™ system reached 80 percent[9] baseline threshold faster than other monitors[†]:

- Nonin system responded 25 seconds slower[9]
- CASMED system responded 151 seconds slower[9]
- Masimo system responded 183 seconds slower[9]



The consequences are clear. Three minutes of emergency reaction time when oxygen levels are low during a cardiac surgery case may mean delayed treatment — when seconds matter.[12–14]

- The perfusion pump oxygenator can fail unexpectedly
- A perfusion cannula can become dislodged and not provide the critically needed oxygen to the brain[12–14]
- Delayed cerebral oximetry information during CPR can be confusing data and delay decision making during an emergency[12–14]

[†]Compares the INVOS™ technology to Nonin EQUANOX™, CASMED FORE-SITE ELITE™, and Masimo Root™ O3 NIRS monitors during an induced hypoxic state in an animal model.[9]

SEE INNOVATION AT WORK

The INVOS™ system monitors change in oxygenation compared to each patient's unique baseline. Change compared to a patient's baseline is data you can use to help you determine if intervention is necessary.

Detecting potential change in baseline early is a key factor to improving outcomes, as cerebral desaturation can occur within seconds and may have serious consequences.[1–7,13]

THE ACCURACY FACTOR

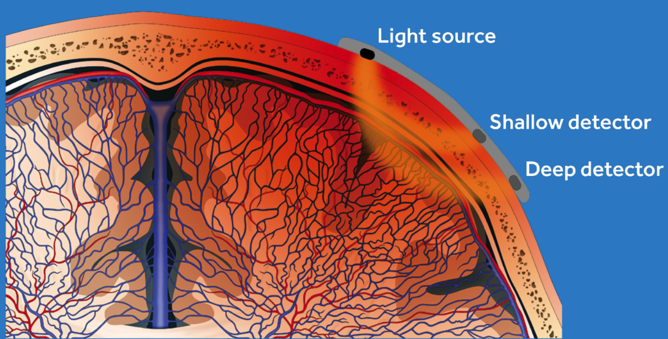
You can't establish absolute accuracy in a situation where your patients' oxygenation will naturally fluctuate. A normal venous range is between 45 percent and 85 percent.

Therefore, there is no "absolute" number across a patient population. You'll find a critical factor to successful outcomes in comparing any change between patient's current state to their unique baseline. So timing matters.

Clinical evidence shows that your ability to quickly intervene and reverse desaturation has a proven, positive impact on patient outcomes.[2-8, 15]

MELANIN INFLUENCE

Melanin doesn't have much influence on what's reported near infrared data.[17] When evaluating cerebral oximetry on a wide variety of skin tones, it's critical to recognize that the design of the sensor evaluates at two separate depths of light penetration. The shallow information that is reflected from the skin, scalp, and bone is removed from the deeper reflective information. That's why skin has very little influence on the reported near infrared data.



The INVOS™ system uses two depths of light penetration to subtract out surface data, resulting in a regional oxygenation value for deeper tissues.

Most individuals with darker skin pigments present in the original empirical testing have a baseline that falls within the 55 to 82 normal range. And it's important to note there are both dark and light skin tone individuals who occasionally demonstrate a lower than expected cerebral oximetry baseline.[17–20]

Evaluating a low baseline in any patient requires recognizing individual risk factors for ischemia and organ level disease like ejection fraction, hematocrit, and various disease processes.[17–20] And health organizations assess that information.

American Heart Association, National Kidney Foundation, and American Diabetes Association agree ethnicity influences respective disease processes as an unmodifiable risk factor for early disease process with subsequent organ injury.[17–20]

Cerebral oximetry is designed to help you identify increased risk of ischemic organ injury. Low baselines can indicate inherent ischemia-related organ risk within each patient.[17–20] And our innovative system can help set you up for success. Preop application of the INVOS™ sensor and understanding of your patient's unique physiology are critical to helping you achieve positive outcomes.

FALSE READINGS

The INVOS™ system has a clinical algorithm that responds to changes in each patient's unique baseline, or their own individual normal state.

Monitor response time is clinically relevant information. Ours is able to detect hemodynamic changes before other vital sign monitors even react, equipping you with the information you need to make critical clinical decisions.[2–8, 15]

THE FINDINGS

As an educated clinician, we know you value the evidence. We have more peer-reviewed clinical research than any other product available that consistently demonstrates our ability to intervene sooner. It's all there in the evidence.[2–8, 15]

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