

# A More Complete Picture of the Brain



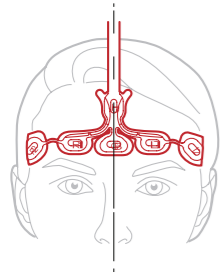
## Root® with Next Generation SedLine® and O3® Regional Oximetry

**Next Generation SedLine** helps clinicians monitor the state of the brain under anaesthesia with **bilateral data acquisition** and processing of **four channels** of frontal electroencephalogram (EEG) signals. The system includes the **Patient State Index (PSi)**, a processed EEG parameter related to the effect of anaesthetic agents.

**O3 Regional Oximetry** may help clinicians monitor cerebral oxygenation in situations in which peripheral pulse oximetry alone may not be fully indicative of the oxygen in the brain.

SedLine and O3 can be used **together** on the Root patient monitoring and connectivity platform to produce **a more complete picture of the brain**.

## Masimo Features



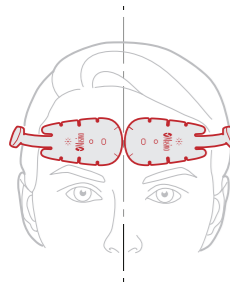
### Next Generation SedLine Brain Function Monitoring

Features an **enhanced signal processing** engine to provide a PSi with **less susceptibility** to EMG interference and **improved performance** in low power EEG cases in adult and paediatric patients

Acquires **four channels** of bilateral EEG waveforms for the PSi and display

Includes a **Multitaper Density Spectral Display (DSA)**

Allows for **simultaneous monitoring** of **SedLine and O3** on the Root platform



### O3 Regional Oximetry

Accuracy specifications of:  
**4% absolute** and **3% trending** ARMS<sup>1</sup> for adult patients  
**5% absolute** and **3% trending** ARMS for paediatric patients  
**3% trending** ARMS for infant and neonatal patients

Monitored absolute accuracy results were **compared to jugular bulb and arterial blood draws**

Changes in rSO<sub>2</sub> **may reflect changes in factors associated with cerebral oxygenation**, such as **carbon dioxide (CO<sub>2</sub>)** and **mean arterial pressure (MAP)**, among others

Allows for **simultaneous monitoring** of **O3 and SedLine** on the Root platform

<sup>1</sup> ARMS accuracy is a statistical calculation of the difference between device measurements and reference measurements. Approximately two-thirds of the device measurements fell within  $\pm$  ARMS of the reference measurements in a controlled study.


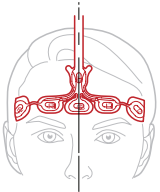
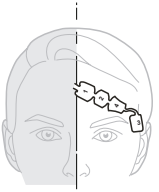
## Product Comparison

| Brain Function Monitoring                             | Masimo                                                                        | Medtronic                                           | Medtronic                                                                                                                                 |
|-------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       | SedLine Sensor                                                                | BIS Quatro Sensor                                   | BIS Bilateral Sensor                                                                                                                      |
| Active Leads                                          | 4                                                                             | 2                                                   | 4                                                                                                                                         |
| Features guide for cerebral oximetry sensor placement | ✓                                                                             | ✗                                                   | ✗                                                                                                                                         |
|                                                       | Root with SedLine Brain Function Monitoring                                   | BIS Complete 2-Channel EEG Monitor (Formerly Vista) | BIS Complete 4-Channel EEG Monitor (Formerly Vista)                                                                                       |
| Multitaper DSA                                        | ✓                                                                             | ✗                                                   | ✗                                                                                                                                         |
| Processed EEG index                                   | 1 global Patient State Index that represents EEG from both sides of the brain | 1 BIS index for 1 side of the brain                 | 2 BIS indices (BIS-L, BIS R), one for the left side and one for the right side (cannot display BIS index for both sides at the same time) |
| Displays both processed EEG and cerebral oximetry     | ✓                                                                             | ✗                                                   | ✗                                                                                                                                         |
| 4 EEG channels                                        | ✓                                                                             | ✗                                                   | Only with a Bilateral sensor                                                                                                              |
| Supplemental screen capability                        | ✓                                                                             | ✗                                                   | ✗                                                                                                                                         |


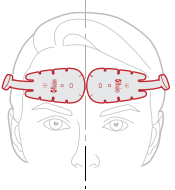
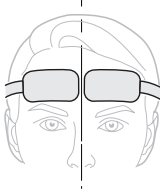
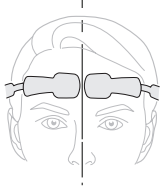
| Cerebral Oximetry                                         | Masimo                         | Medtronic                           | CAS Medical Systems /Edwards |
|-----------------------------------------------------------|--------------------------------|-------------------------------------|------------------------------|
|                                                           | Root with O3 Regional Oximetry | INVOS                               | FORE-SIGHT ELITE             |
| Displays both cerebral oximetry and processed EEG         | ✓                              | ✗                                   | ✗                            |
| Delta SpO <sub>2</sub>                                    | Yes with Radical-7®            | ✗                                   | ✗                            |
| Refresh rate                                              | 1 second                       | 5-6 seconds                         | 2 seconds                    |
| SpO <sub>2</sub> (pulse oximetry)                         | Yes with Radical-7             | ✗                                   | ✗                            |
| Supplemental screen capability                            | ✓                              | ✗                                   | ✗                            |
| Absolute and trend monitor                                | ✓                              | Trend only; no absolute indications | ✓                            |
| $\Delta$ cHbi, $\Delta$ HHbi, $\Delta$ O <sub>2</sub> Hbi | ✓                              | ✗                                   | ✗                            |

## Available Technology

### Brain Function Monitoring

|                                                                                                  |                                                                                                                                        |  |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--|
|                 | <b>Medtronic</b>                                                                                                                       |  |
| <b>SedLine</b>  | <b>BIS</b> <br><i>(BIS Quatro Sensor displayed)</i> |  |

### Cerebral Oximetry

|                                                                                                                 |                                                                                                   |                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|                               | <b>Medtronic</b>                                                                                  | <b>CASMED/<br/>Edwards Lifesciences</b>                                                                        |
| <b>O3 Regional Oximetry</b>  | <b>INVOS™</b>  | <b>FORE-SIGHT ELITE®</b>  |

### A More Complete Picture of the Brain: Combining SedLine and O3 Regional Oximetry



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