BECAUSE **EVERY SECOND COUNTS.**

Nellcor™ SpO_2 Forehead Sensor

Medtronic
Further, Together

Nellcor™ pulse oximetry provides real-time,[1] accurate data — to help you make the right decision at the right time.

A single Nellcor™ SpO_2 forehead sensor has four layers of adhesive. So it can be used for up to two days with appropriate site inspection and changes.

For accurate and reliable readings, use the soft, adjustable headband packaged with the SpO_2 forehead sensor to:

- Help prevent venous pulsation at the sensor site
- Maintain proper sensor position[9]

Timing for your patients is critical. You need accurate data quickly — so you can react sooner. That's why we developed the Nellcor™ SpO_2 forehead sensor.

Some patients represent a monitoring challenge because of:

- Intense vasoconstriction
- Hypovolemia
- Hypothermia
- Therapeutic hypothermia
- Low cardiac index
- Septic shock
- Severe peripheral vascular diseases
- Peripheral access in the OR

Forehead sensors help you succeed when challenges occur.

The Nellcor™ SpO_2 forehead sensor is accurate. It's:

- 25% more accurate than Masimo™* when it matters most, like in challenging low-saturation patients*[2,3]
- More closely aligned to arterial blood gas (ABG) draws than digit sensors[4-6]

It's also:

- Reliable, able to give readings when conventional finger sensors fail[7]
- Easy to use; the forehead is generally easier to reach and less prone to motion than hands
- Designed to detect changes in SpO_2 earlier than conventional sensors[8], helping you react sooner to hypoxemic events

It's versatile. You can use the sensor with:

- Mechanically ventilated patients
- Both pediatric (weighing more than 10 kg) and adult patients

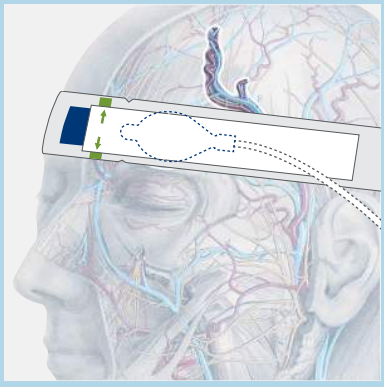
And it's convenient. It:

- Is designed for single patient use
- Features a long-lasting, four-layer adhesive

THE KEY TO SENSOR PLACEMENT

Optimal placement of the Nellcor™ SpO_2 forehead sensor is based on arterial circulation of the forehead region.

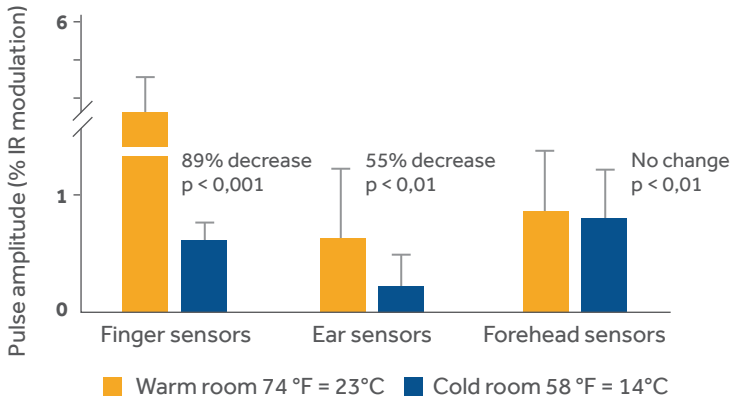
The skin just above the eyebrows is an ideal sensor site because its circulation stems from the internal carotid artery — the same source that supplies blood to the eyes and brain.



Real-time. Accurate.

Arterial blood traveling from the heart reaches the head sooner than distal sites such as fingers, especially when patients have poor pulse perfusion.[10]

Impact of cold-induced vasoconstriction[10]



This thermal image shows a healthy adult exposed to cold temperatures for 45 minutes. The fingers, ears, and nose are cold, indicating vasoconstriction and low peripheral perfusion, while the forehead temperature remains warm.

Because every second counts

When timing is critical, the Nellcor™ SpO_2 forehead sensor can detect changes in SpO_2 faster than with digit sensors.[11] And with an accuracy that correlates closer to arterial blood data.[12]

Forehead SpO_2 measurements are more accurate than finger SpO_2 measurements in critically ill patients.[13]

Response to a hypoxic event with peripheral vasoconstriction[5*]

Not all sensor sites are the same

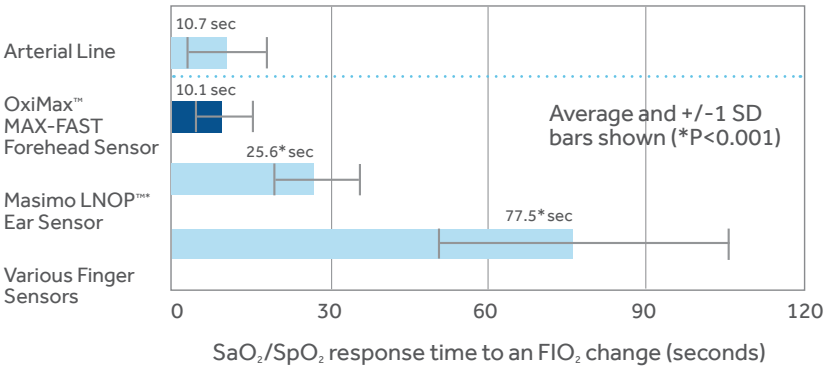


*Chart property of Medtronic. Data plotted from results summarized in source indicated.

ORDERING INFORMATION		
Part number	**Weight range**	**Quantity**
MAXFAST	>10 kg	Case of 24

Comparison between the published FDA cleared labeling for Nellcor™ MAXA, MAXAL, MAXN, MAXP, MAXI and MAXFAST sensors and Masimo™ LNCS sensors.

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2. Nellcor™ Oxygen Saturation Accuracy Specification Grid. Medtronic. http://www.medtronic.com/content/dam/covidien/Websites/mitg/com/sustainability/uniform-sensor-accuracy-guide.pdf. Accessed September 2, 2016.
3. FDA 510(k): Masimo K101896 – Masimo Sensor Accuracy
4. Fernandez M, Burns K, Calhoun B, George S, Martin B, Weaver C. Evaluation of a new pulse oximeter sensor. *Am J Crit Care*. 2007;16(2):146-152.
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6. Berkenbosch JW, Tobias JD. Comparison of a new forehead reflectance pulse oximeter sensor with a conventional digit sensor in pediatric patients. *Respir Care*. 2006;51(7):726-731.
7. Schallom L, Sona C, McSweeney M, Mazuski J. Comparison of forehead and digit oximetry in surgical/ trauma patients at risk for decreased peripheral perfusion. *Heart Lung*. 2007;36(3):188-194.
8. MacLeod DB, Cortinez LI, Keifer JC, et al. The desaturation response time of finger pulse oximeters during mild hypothermia. *Anaesthesia*. 2005;60(1):65-71.
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12. A technology overview of the Nellcor OxiMax pulse oximetry system. Internal testing.
13. Nesseler N, Frénel JV, Launey Y, Morcet J, Mallédant Y, Seguin P. Pulse oximetry and high-dose vasopressors: a comparison between forehead reflectance and finger transmission sensors. *Intensive Care Med*. 2012;38(10):1718-1722.

09/2016-13-PM-0267(1)-[WF#1267384]

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