Medtronic Engineering the extraordinary

Celebrating over 40 years of innovation

Our history

We take our

patients

pulse

performance

portfolio

partnership

to heart

Nellcor™ pulse oximetry

Never miss a beat

From neonate to the elderly, and virtually every patient in between, count on Nellcor™ pulse oximetry to provide quick and reliable information. We look at every heartbeat to ensure that readings are sensitive and timely, even in the most challenging monitoring conditions.†

†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_2. Please consult the IFU and manual for full safety information.

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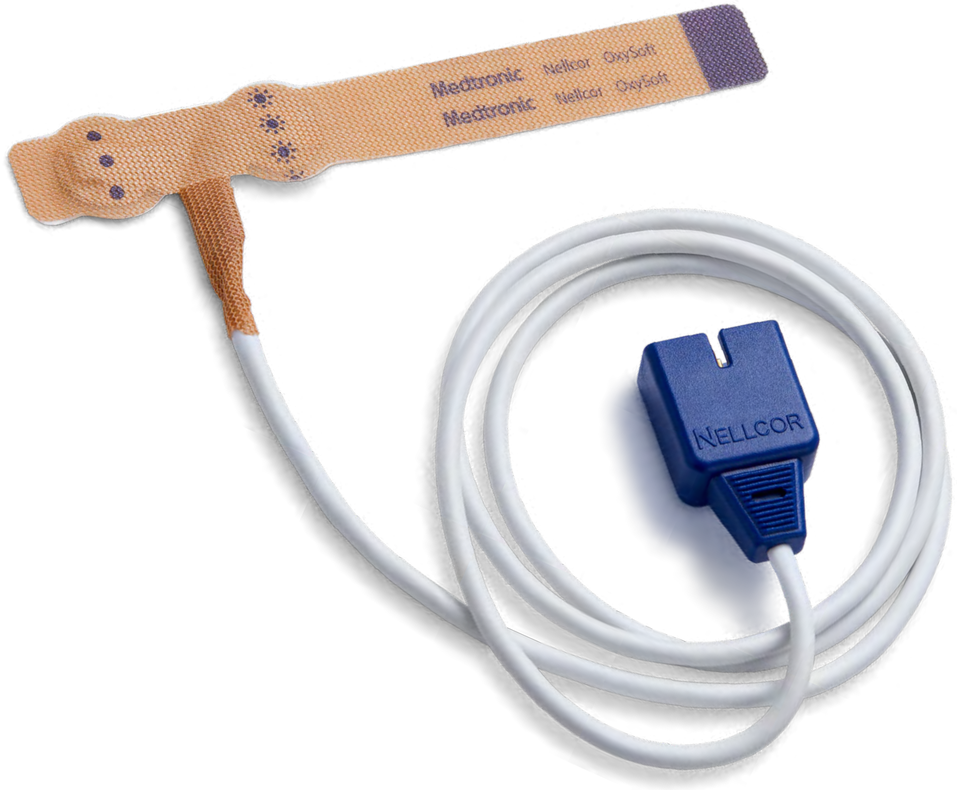
to heart

More than 40 years of innovation

Nellcor™ pulse oximetry has consistently delivered respiratory monitoring solutions that clinicians can count on. We continually build upon our technology with meaningful innovations that make a difference in accuracy, clinician workflow, and assessing the next steps in patient care.

We start with the heart



1983
First to market with **pulse oximetry**

1999
First to market with SatSeconds™ **alarm management** that dynamically assesses intensity of SpO_2 drop before alarming

2002
First to embed an OxiMax™ **digital memory chip** to provide sensor-specific calibration for low saturation accuracy

2003
First AI-enabled deployment of a neural network

2009
First to market with Nellcor™ **saturation pattern detection alert (SPD)** for a real-time indication of repetitive reductions in airflow (RRiA)

2012
First to market with Nellcor™ **respiration rate** software and finger sensor

2013
First company to receive FDA clearance (K123581) for a **motion tolerant** pulse oximeterthat is also compliant with ISO 80601-2-61:2011

2022
First to market with a **silicone adhesive sensor OxySoftN** for gentleness and repositionability

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to heart

Patients are at the heart of all we do

You want the best for patients under your care. That's why when you use pulse oximetry monitoring, you want quick, reliable data no matter the situation. Discover how we met the performance needs of these patients during critical moments.

Meet Sean

Meet Michael

Meet Ann

We take our

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Patients are at the heart of all we do

Meet Sean | Meet Michael | Meet Ann

Meet Sean. Born prematurely with underdeveloped lungs, he needed to be monitored right after delivery for respiratory insufficiency. The labor and delivery team ensured that the Nellcor™ PM10N portable SpO_2 patient monitoring system was ready to begin surveillance. After his birth, a gentle, accurate Nellcor™ OxySoft™ SpO_2 sensor was promptly placed on his right hand. The Nellcor™ system quickly detected continued low pulse rate and oxygen saturation, so Sean was resuscitated and moved into the NICU for respiratory support.

Nellcor™ pulse oximetry has been shown to post on average **12 seconds faster** than Masimo SET™* technology.[1]

Nellcor™ pulse oximetry sensors were **60% more accurate** than Masimo SET™* sensors at detecting pulse rate when subjected to motion.[2,3,†]

†Internal head-to-head studies evaluating adults in motion. Calculations based on a Medtronic analysis of the data in the referenced studies.

1. Khoury R, Klinger G, Shir Y, Osovsky M, Bromiker R. Monitoring oxygen saturation and heart rate during neonatal transition. comparison between two different pulse oximeters and electrocardiography. *J Perinatol*. 2021 Apr;41(4):885-890. doi: 10.1038/s41372-020-00881-y. Epub 2020 Nov 30. PMID: 33250516. Study objective: Compare efficacy and reliability of two pulse-oximeters (POx) (Masimo Radical-7 and Nellcor™ Oximax Bedside). Study design: Prospective observational monocentric comparative clinical study. 60 newborns included in total. Funding & conflict of interest: Authors declare no conflict of interest, Nellcor™ and Masimo provided sensors free of charge.
2. Addison PS, Mannheimer PD, Ochs J. Pulse rate performance of two pulse oximeters during challenging monitoring conditions. 2013 [White Paper].
3. Batchelder K, Sethi R, Eng B, Pinto YJ. Pulse rate performance of two pulse oximeters in the NICU. 2015 [White Paper].

Learn more about our performance with

Speed to post

Accuracy

Motion

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Patients are at the heart of all we do

Meet Sean | **Meet Michael** | Meet Ann

Meet Michael, a 56-year-old male recovering from post cardiac surgery involving an aortic valve replacement and ascending aortic aneurysm repair. Michael was admitted to the cardiac ICU post surgery. He was intubated and on a ventilator with a core temperature of 33°C. His hands were very cold indicating low perfusion to the fingers. A Nellcor™ OxySoft™ SpO_2 sensor was placed on one of his fingers to monitor oxygenation. His care team chose the Nellcor™ OxySoft™ SpO_2 sensor with its brighter LED and thoughtful cord placement to overcome the limitations that impact those readings.[1]

Nellcor™ technology **missed** 74% **less hypoxemic events** in subjects with dark skin and low perfusion than Masimo technology.[2,†]

†Oxygen saturation accuracy can be affected by certain environmental, equipment, and patient physiologic conditions that influence readings of SpO_2. Please consult the instructions for use and manual for full safety information.

1. RE00368468, RevB - Expanded Claims Bench Test Report.
2. Gudelunas MK, Lipnick M, Hendrickson C, et al. Low Perfusion and Missed Diagnosis of Hypoxemia by Pulse Oximetry in Darkly Pigmented Skin: A Prospective Study. *Anesth Analg*. 2024;138(3):552-561. doi:10.1213/ANE.0000000000006755.

Learn more about our performance with Low perfusion

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Patients are at the heart of all we do

Meet Sean | Meet Michael | **Meet Ann**

Meet Ann, a 62-year-old female with COPD. She came into the ER complaining of shortness of breath and frequent coughing. She had a low-grade temperature and showed signs of dyspnea. Chest X-rays showed flattened diaphragm, bronchiectasis, and emphysema. Ann had been taking Ipratropium and Advair for COPD and lisinopril for hypertension. Since Ann had been on oral and inhaled steroids for some time, her skin became increasingly fragile over the years, prone to bruising and tears at the slightest touch. While monitoring her pulse oximetry, her care team decided to use a Nellcor™ OxySoft™ SpO_2 sensor with silicone adhesive to help protect her fragile skin.

Nellcor™ OxySoft™ sensors are the first with a gentle, silicone adhesive that

removes 75% **less skin cells** than Masimo LNCS Neo™* sensors[1,2] – so you can remove without pulling fragile skin.

1. Based on internal report MDT20006OXYVMT, Rev 4, SpO_2 Accuracy Validation of OxySoft during motion and nonmotion. April 2021.
2. Based on internal report RE00357465, revA, Marketing validation report from a blinded hands-on evaluation conducted with 12 clinicians (RNs, RTs). April 2021.

Learn more about our performance with Skin integrity

We take our

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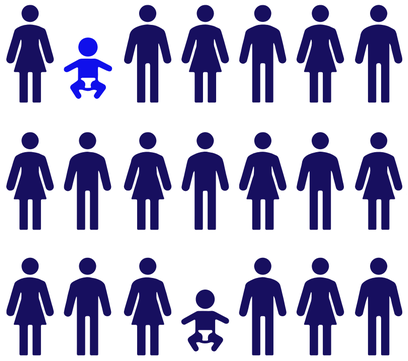
to heart

We start with the heart

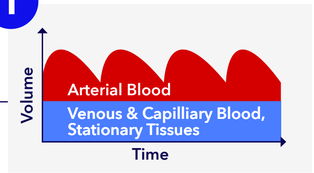
Perfecting our technology for the **most challenging 5% of patients**

Our unique approach uses the **pulse as our foundation**. This results in moment-to-moment readings that help you keep up with changes in your patient's condition. The rigor we take in perfecting our technology for more challenging pulse oximetry situations – newborns, the elderly, and patients with darker skin tones – helps ensure that all patients wearing our sensors benefit from quick and reliable readings.



Pulse oximetry functions by taking in two signals

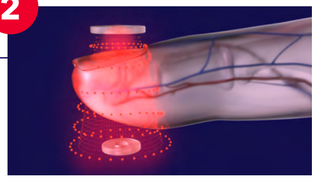
1



Pulse signal
When to read O_2

+

2



Saturation signal
How much O_2

Nellcor™ pulse oximetry prioritizes the pulse signal, accurately capturing each patient heartbeat to qualify the pulse.

Masimo SET™* pulse oximetry prioritizes the saturation signal, assuming the arterial pulse by reading oxygen levels over time.

How it works

We take our

patients

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to heart

We start with the heart

Key differentiator #1
Identify the pulse

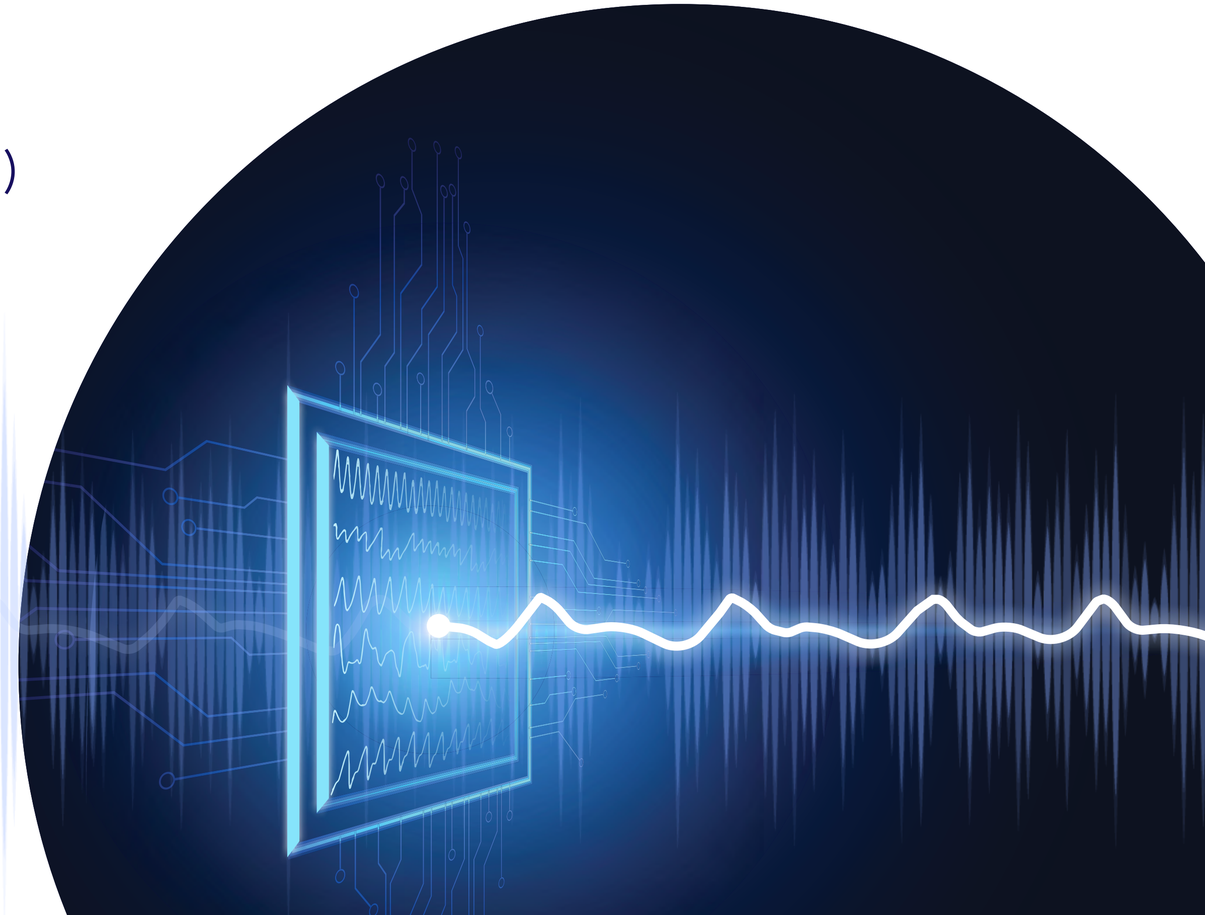
Key differentiator #2
Eliminate noise

Key differentiator #3
Calibrate the signal

Bring it together

First, we **identify the pulse** with our pattern matching neural network (AI)

Our advanced algorithms have been refined using decades of data from multiple patient profiles and characteristics. We lock onto the pulse so we can track moment-to-moment changes in SpO_2 or Pulse Rate.



We take our

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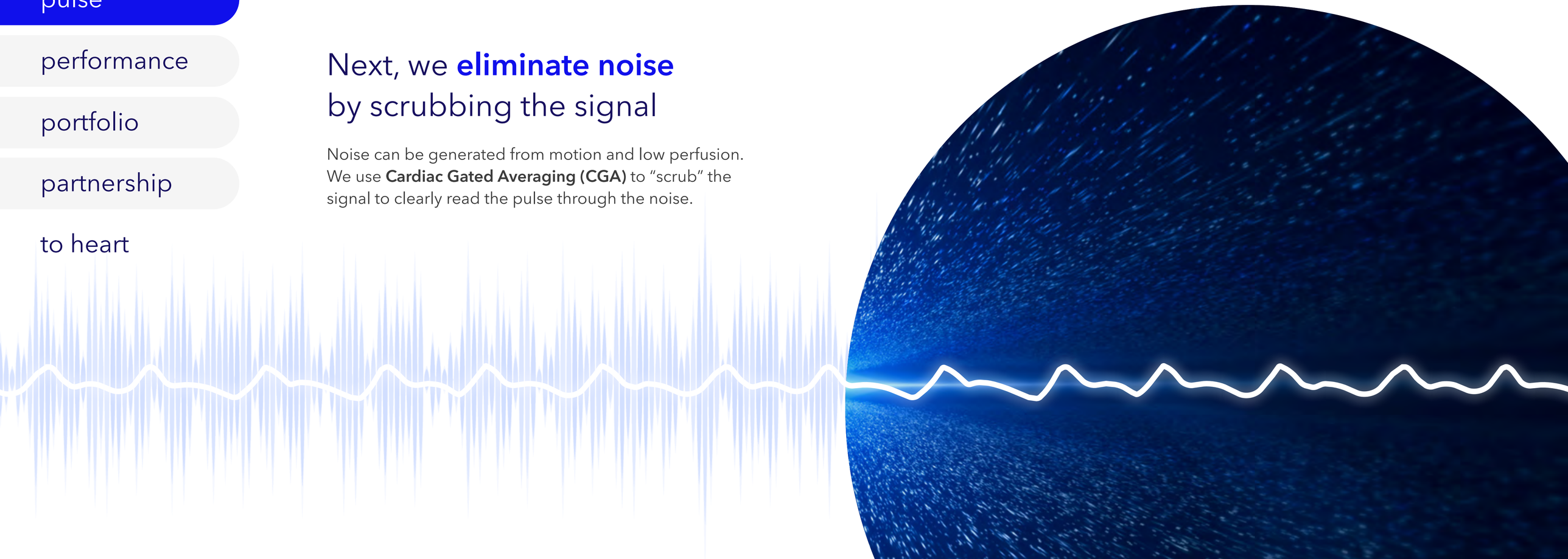
to heart

We start with the heart

Next, we **eliminate noise** by scrubbing the signal

Noise can be generated from motion and low perfusion. We use **Cardiac Gated Averaging (CGA)** to "scrub" the signal to clearly read the pulse through the noise.



We take our

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to heart

We start with the heart

Key differentiator #1
Identify the pulse

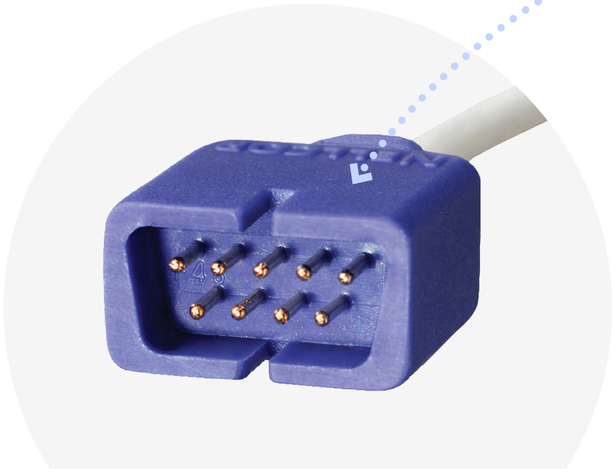
Key differentiator #2
Eliminate noise

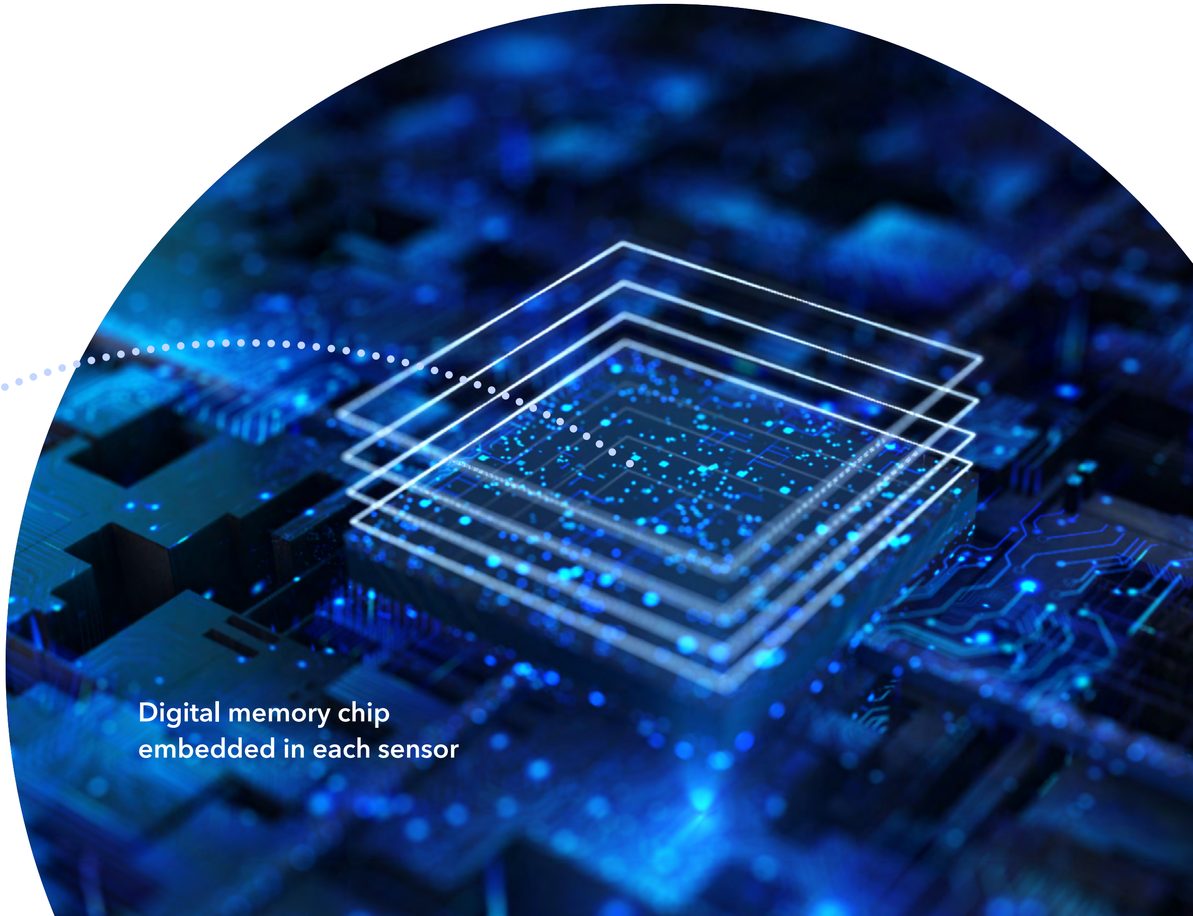
Key differentiator #3
Calibrate the signal

Bring it together

Then, we **calibrate the signal** with OxiMax™ technology

OxiMax™ technology is part of our OxiMax™ system – where we embed a digital memory chip in every sensor matched with individualized calibration curves to help enable higher accuracy and improved performance.





We take our

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to heart

We start with the heart

Key differentiator #1
Identify the pulse

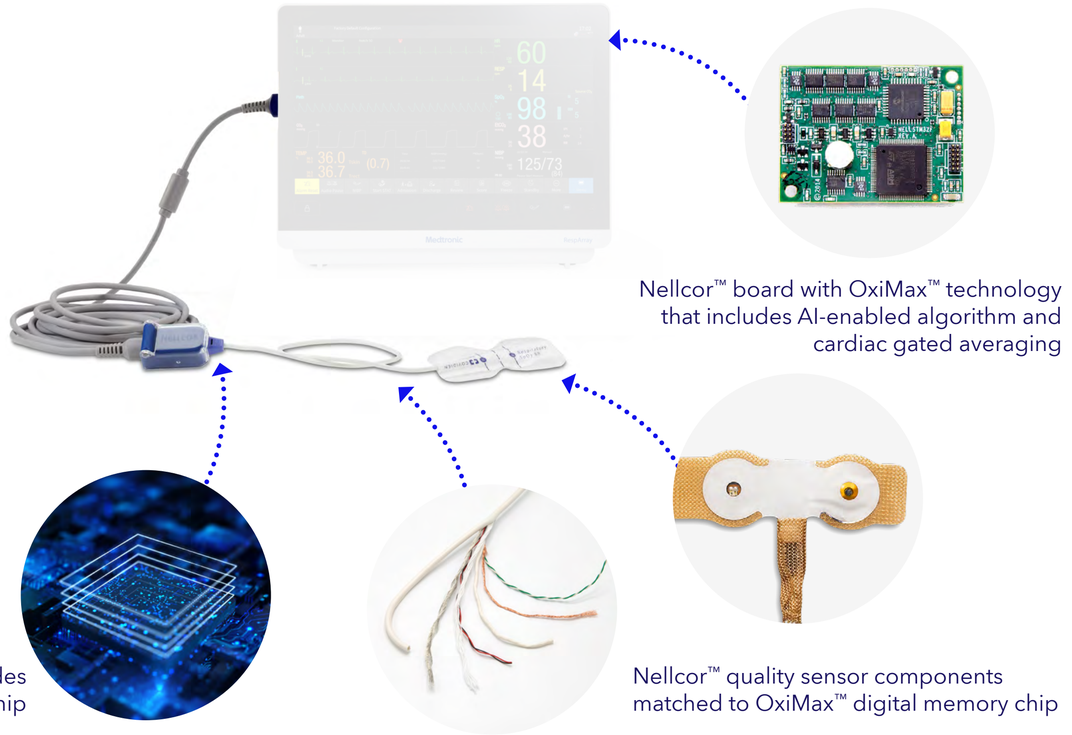
Key differentiator #2
Eliminate noise

Key differentiator #3
Calibrate the signal

Bring it together

Lastly, we **bring it together** with the Nellcor™ OxiMax™ system

Our entire OxiMax™ system – from the boards in monitors to cables and sensors – are designed to work together to accurately capture, transmit, and convert each heartbeat into an SpO_2 and PR reading. The entire system is needed to deliver accurate moment-to-moment readings that are confidently grounded in arterial signals versus surrounding tissue.



Nellcor™ board with OxiMax™ technology that includes AI-enabled algorithm and cardiac gated averaging

OxiMax™ technology includes a digital memory chip

Nellcor™ quality sensor components matched to OxiMax™ digital memory chip

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Designed with your everyday challenges in mind

Speed to post | Accuracy | Motion | Low perfusion | Alarms & workflow | Skin integrity

Nellcor™ pulse oximetry is **designed to integrate into your daily workflow**. Our technologies help solve the sensor performance and alarm management issues that can distract you from patient care.

With Nellcor™ pulse oximetry, you can:
- Get the readings you need
- Believe the numbers
- Trust your alarms

We take our

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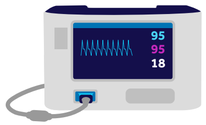
to heart

Designed with your everyday challenges in mind

Speed to post | Accuracy | Motion | Low perfusion | Alarms & workflow | Skin integrity

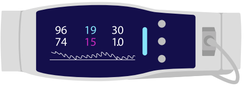
Seconds count, especially in neonatal care decisions.[1]
Don't lose them waiting for an accurate vital signs reading.

Nellcor™ pulse oximetry has been shown to post on average **12 seconds faster** than Masimo SET™* technology.[1]



Nellcor™
OxiMax™
Pulse Oximetry

vs.



Masimo
Radical-7™*
Pulse CO-Oximeter

100%	**Stable signal obtained**[2] (% of patients)	92%
15 sec	**Average time to stable signal**[2]	27 sec
17 sec	**Method 1**[3-5] (sensor to oximeter to patient)	23 sec
14 sec	**Method 2**[3-5] (sensor to oximeter to investigator then patient)	18 sec
11 sec	**Method 3**[3-5] (sensor to patient then oximeter)	13 sec

In action
See how our speed to post performance impacts patient care.

Meet Sean

1. Wyckoff MH, Aziz K, Escobedo MB, Kapadia VS, Kattwinkel J, Perlman JM, Simon WM, Weiner GM, Zaichkin JG. Part 13: Neonatal Resuscitation: 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2015 Nov 3;132(18 Suppl 2):S543-60. doi: 10.1161/CIR.0000000000000267. PMID: 26473001..
2. Khoury R, Klinger G, Shir Y, Osovsky M, Bromiker R. Monitoring oxygen saturation and heart rate during neonatal transition. comparison between two different pulse oximeters and electrocardiography. *J Perinatol*. 2021 Apr;41(4):885-890. doi: 10.1038/s41372-020-00881-y. Epub 2020 Nov 30. PMID: 33250516. Study objective: Compare efficacy and reliability of two pulse-oximeters (POx) (Masimo Radical-7 and Nellcor™ Oximax Bedside). Study design: Prospective observational monocentric comparative clinical study. 60 newborns included in total. Funding & conflict of interest: Authors declare no conflict of interest, Nellcor™ and Masimo provided sensors free of charge.
3. Medtronic Reports: BRPMS Essential Requirements Matrix (Doc no. 10099165); Clinical, Motion, Connery OEM Module (Doc no. 10096395); and Clinical Report-COVMOPR0384, Motion, LAMP-C (internal Doc no. 10099560).
4. Addison PS, Mannheimer PD, Ochs J (2013). *Pulse rate performance of two pulse oximeters during challenging monitoring conditions* [White Paper]. Medtronic.
5. Saraswat A, Simionato L, Dawson JA, Thio M, Kamlin CO, Owen L, Schmölzer G, Davis PG. Determining the best method of Nellcor pulse oximeter sensor application in neonates. *Acta Paediatr*. 2012 May;101(5):484-7. doi: 10.1111/j.1651-2227.2011.02571.x. Epub 2012 Jan 23. PMID: 22181562.

We take our

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In action
See how our accuracy performance impacts patient care.

Meet Sean

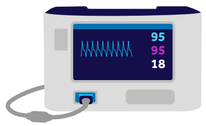
Designed with your everyday challenges in mind

Speed to post | **Accuracy** | Motion | Low perfusion | Alarms & workflow | Skin integrity

Inaccurate pulse rate readings may guide clinicians to inappropriate or unnecessary interventions.[1] Nellcor™ pulse oximetry has demonstrated **accuracy at saturation rates as low as 60%**.[2,†] This is especially important for neonates whose saturation rates can be as low as 66% in the first minutes of life,[3,4] and for patients with conditions causing low perfusion.

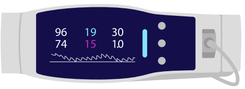
±2% **accuracy** at 70% SpO_2[2,‡]

±3% **accuracy** at 60% SpO_2[2,‡]



Nellcor™
OxiMax™
Pulse Oximetry

vs.



Masimo
Radical-7™*
Pulse CO-Oximeter

r=0.894 STRONGLY correlated	**Heart rate compared to ECG[5]** (correlation coefficient)	r=0.235 WEAKLY correlated
0%	**Mismatch ≥ 40 bpm compared to ECG[5]** (% of patients)	31%
0%	**False bradycardia[5]** (% of patients)	35%

†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_2. Please consult the IFU and manual for full safety information.
‡Range Applicability: Ranges apply to Nellcor™ pulse oximetry OXIMAX, MAX-A, MAX-AL, MAX-N, MAX-I, MAX-P sensors; see sensor IFUs for complete information.

1. Wyckoff MH, Aziz K, Escobedo MB, et al. Part 13: neonatal resuscitation: 2015 American Heart Association guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care. *Circulation*. 2015;132(suppl 2):S543–S560.
2. PMB10N (LP100):10143258 - Clinical Report, OxiCable (LP100 embedded) Abbreviated Sensor Line including the validation at 70%-100% saturation range with MaxA, MaxFAST, SCA, OxicliqA, DS100A, DYS-E
-RE00105732, SpO_2 Accuracy Clinical Report of USB Pulse Oximetry Monitor Interface Cable with FlexMax Reusable SpO_2 Sensor via Reference CO-OximetryRE00085099 Verification Test Report, Sensor Accuracy, Oxicable including simulated patient data
-NELL1: 10011350 (N600x) - Clinical Summary Report for N600x including the following validation studies: 1) N600x performance with MaxA, MaxFast, SC-A, DS-100A, OxiCliq A, D-YSE at 70-100% saturation range and 2) N600x comparision to N595/MaxA.
-10028895 - MP100_O6 (Nell 1 equivalent) - Clinical Summary Report including validation of accuracy of MP100-O6 with Max AL, DS100A, D-YSE, OxiCliq, SC-A and MaxFast.
3. Rabi Y, Dawson JA. Oxygen therapy and oximetry in the delivery room. *Semin Fetal Neonatal Med*. 2013 Dec;18(6):330-5. doi: 10.1016/j.siny.2013.08.007. Epub 2013 Sep 10. PMID: 24035476.
4. Dawson JA, Kamlin CO, Vento M, et al. Defining the reference range for oxygen saturation for infants after birth. *Pediatrics*. 2010;125(6):e1340-e1347. doi: 10.1542/peds.2009-1510.
5. Khoury R, Klinger G, Shir Y, Osovsky M, Bromiker R. Monitoring oxygen saturation and heart rate during neonatal transition. comparison between two different pulse oximeters and electrocardiography. *J Perinatol*. 2021 Apr;41(4):885-890. doi: 10.1038/s41372-020-00881-y. Epub 2020 Nov 30. PMID: 33250516.

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Designed with your everyday challenges in mind

Speed to post | Accuracy | **Motion** | Low perfusion | Alarms & workflow | Skin integrity

You need accurate readings, even when patients are simply getting up, eating, or moving. Nellcor™ pulse oximetry sensors with OxiMax™ technology was the **first motion-tolerant technology**[1] to comply with International Standard ISO 80601-2-61.

Nellcor™ pulse oximetry sensors were **60%** **more accurate** than Masimo SET™* sensors at detecting pulse rate when subjected to motion.[2,3,†]

Detects hypoxia with **95%+** **specificity** for patients in motion.[4]

†Internal head-to-head studies evaluating adults in motion. Calculations based on a Medtronic analysis of the data in the referenced studies.

1. Medtronic Reports: BRPMS Essential Requirements Matrix (Doc no. 10099165); Clinical, Motion, Connery OEM Module (Doc no. 10096395); and Clinical Report-COVMOPR0384, Motion, LAMP-C (Doc no. 10099560).
2. Addison PS, Mannheimer PD, Ochs J. White paper: Pulse rate performance of two pulse oximeters during challenging monitoring conditions. 2013.
3. Batchelder K, Sethi R, Eng B, Pinto YJ. White paper: Pulse rate performance of two pulse oximeters in the NICU. 2015.
4. Louie A, Feiner JR, Bickler PE, Rhodes L, Bernstein M, Lucero J. Four Types of Pulse Oximeters Accurately Detect Hypoxia during Low Perfusion and Motion. *Anesthesiology*. 2018 Mar;128(3):520-530. doi: 10.1097/ALN.0000000000002002. PMID: 29200008.

In action
See how our motion performance impacts patient care.

Meet Sean

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Designed with your everyday challenges in mind

Speed to post | Accuracy | Motion | **Low perfusion** | Alarms & workflow | Skin integrity

When low perfusion limits a peripheral reading, use **Nellcor™ SpO_2 forehead sensor** with OxiMax™ technology. It allows you to **monitor even your most challenging patients**,[1] including those with intense vasoconstriction, hypothermia, low cardiac index, septic shock, and severe peripheral vascular diseases.

Reflects changes to SpO_2 values **1-2 minutes earlier** than digit sensors for patients with weak pulses.[1]

Nellcor™ technology **missed** **74%** **less hypoxemic events** in subjects with dark skin and low perfusion than Masimo technology.[2,†]

In action
See how our low perfusion performance impacts patient care.

Meet Michael

†Oxygen saturation accuracy can be affected by certain environmental, equipment, and patient physiologic conditions that influence readings of SpO_2. Please consult the instructions for use and manual for full safety information.

1. Bebout DE, Mannheimer PD, Wun C-C. Site-dependent differences in the time to detect changes in saturation during low perfusion. *Crit Care Med*. 2001;29(12):A115. Study objective: To test the hypothesis that during low perfusion, forehead sensors will detect saturation changes substantially sooner than sensors placed on fingers. Study design: 10 healthy adults.
2. Gudelunas MK, Lipnick M, Hendrickson C, et al. Low Perfusion and Missed Diagnosis of Hypoxemia by Pulse Oximetry in Darkly Pigmented Skin: A Prospective Study. *Anesth Analg*. 2024;138(3):552-561. doi:10.1213/ANE.0000000000006755.

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Designed with your everyday challenges in mind

Speed to post | Accuracy | Motion | Low perfusion | **Alarms & workflow** | Skin integrity

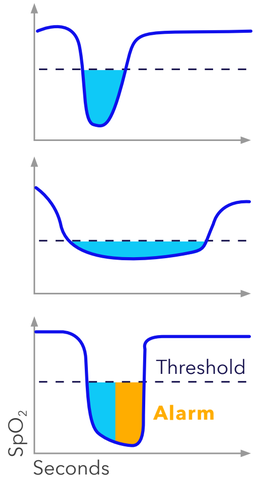
Pulse oximetry is the most common alarm in the hospital.[1] We know alarm fatigue is real. And it can negatively impact your workflow, your patient's experience, and your ability to provide the best possible care.

85-99% of alarms **don't require clinical intervention.**[2,3]

Nellcor™ SatSeconds alarm management **may reduce nuisance alarms** by up to **40%**[4,5]

How it works

The proprietary **Nellcor™ SatSeconds** algorithm is based off of decades of data. It works on a basic formula – generating alarms based on the severity of a drop in SpO_2 and the length of the drop, and filters out a very short dip in SpO_2. If SpO_2 drops below the alarm threshold for a longer period, the alarm will sound.



Nellcor™ SatSeconds alarm threshold of 25

6% drop **x** **2** sec **=** **12** SatSeconds

1% drop **x** **15** sec **=** **15** SatSeconds

10% drop **x** **2.5** sec **=** **25** SatSeconds

1. Graham KC, Cvach M. Monitor alarm fatigue: standardizing use of physiological monitors and decreasing nuisance alarms. *Am J Crit Care*. 2010;19(1):28-35.
2. Ver Hage A. Alarm fatigue can endanger patients. *OR Today*. May 1, 2015. Accessed 8/23/2019.
3. The Joint Commission. Medical device alarm safety in hospitals. Sentinel Event Alert. April 8, 2013; issue 50.
4. Brostowicz, Heather & Rais-Bahrami, K.. (2010). Oxygen saturation monitoring in the neonatal intensive care unit (NICU): Evaluation of a new alarm management. *Journal of Neonatal-Perinatal Medicine*. 3. 201-205. 10.3233/NPM-2010-0116.
5. Stefanescu BM, O'Shea TM, Haury F, Carlo WA, Slaughter JC. Improved Filtering of Pulse Oximeter Monitoring Alarms in the Neonatal ICU: Bedside Significance. *Respir Care*. 2016 Jan;61(1):85-9. doi: 10.4187/respcare.04177. Epub 2015 Oct 27. PMID: 26508772.

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In action
See how our skin integrity performance impacts patient care.

Meet Ann

Designed with your everyday challenges in mind

Speed to post | Accuracy | Motion | Low perfusion | Alarms & workflow | **Skin integrity**

You want to protect the fragile skin of your tiniest patients. But oftentimes, necessary sensors can damage that delicate skin – leading to unnecessary stress and inflammation. The **Nellcor™ OxySoft™ SpO_2 sensor** is the first pulse oximetry sensor to use a silicone adhesive to protect fragile skin and improve repositionability.

Nellcor™ OxySoft™ sensors **remove**

75%

less skin cells than Masimo LNCS Neo™* sensors – so you can remove without pulling fragile skin.[1,2]

Nellcor™ OxySoft™ sensors don't stick to themselves and **stay adhered**

2x

better than Masimo LNCS Neo™* sensors.[3]

Nellcor™ OxySoft™ sensors **maintain**

85%

adhesiveness after 18 repositions[4] compared to Masimo LNCS Neo™* sensors which lose 50% of adhesiveness after only 2 repositions.[5]

1. Based on internal report MDT20006OXYVMT, Rev 4, SpO2 Accuracy Validation of OxySoft during motion and nonmotion. April 2021.
2. Based on internal report RE00357465, revA, Marketing validation report from a blinded hands-on evaluation conducted with 12 clinicians (RNs, RTs). April 2021.
3. Based on research report CyberDERM S21-16 post market adhesive comparison of pulse oximeter sensors on adults with fragile skin commissioned by Medtronic. April 2022.
4. Based on internal report RE00357465, RevA – Marketing Validation Report from a blinded hands-on evaluation conducted with 12 clinicians (RNs, RTs).
5. Based on research report CyberDERM S21-16 post market adhesive comparison of pulse oximeter sensors on adults with fragile skin commissioned by Medtronic. April 2022.

We take our

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to heart

Solutions for every area of care

MPM solutions | Monitors | Sensors

From our thoughtfully designed monitors and sensors to meet all patient types and situations, to our partnerships with Multiple Parameter Monitor (MPM) providers, we can help you ensure that your hospital has a **full suite of pulse oximetry products** to fit within your hospital's current workflow.

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Solutions for every area of care

MPM solutions | Monitors | Sensors

We value collaboration

Our strategic partnerships offer innovative solutions to our customers on their **multiple parameter monitors (MPM)**.

Dräger

Hill-Rom

Welch Allyn

PHILIPS

FUKUDA DENSHI

mindray

SPACELABS HEALTHCARE

GE Healthcare

NIHON KOHDEN

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Solutions for every area of care

MPM solutions | **Monitors** | Sensors

Bedside and portable monitors to meet your needs

Nellcor™ pulse oximetry monitors read every single heartbeat. And by posting timely,[1] sensitive answers and reducing clinically insignificant alarms,[2,3] it puts you closer to each patient.

RespArray™ Patient Monitor

Nellcor™ Bedside Respiratory Patient Monitoring System, PM1000N

Nellcor™ Portable SpO_2 Patient Monitoring System, PM10N

Nellcor™ Bedside SpO_2 Patient Monitoring System

Nellcor™ Bedside SpO_2 Patient Monitoring System PM100N

Nellcor™ monitors

1. Khoury R, Klinger G, Shir Y, Osovsky M, Bromiker R. Monitoring oxygen saturation and heart rate during neonatal transition. comparison between two different pulse oximeters and electrocardiography. *J Perinatol*. 2021 Apr;41(4):885-890. doi: 10.1038/s41372-020-00881-y. Epub 2020 Nov 30. PMID: 33250516.
2. Brostowicz HM, Khodayar Rais-Bahrami K. Oxygen saturation monitoring in the neonatal intensive care unit: evaluation of a new alarm management. Presented at: American Academy of Pediatrics National Conference & Exhibition; October 17-20, 2009; Washington D.C.
3. Stefanescu BM, O'Shea TM, Haury F, Carlo WA, Slaughter JC. Improved Filtering of Pulse Oximeter Monitoring Alarms in the Neonatal ICU: Bedside Significance. *Respir Care*. 2016 Jan;61(1):85-9. doi: 10.4187/respcare.04177. Epub 2015 Oct 27. PMID: 26508772.

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Solutions for every area of care

The right sensor for each patient

The **Nellcor™ pulse oximetry sensor portfolio** offers a range of options so you can choose the right sensor to meet the needs of the patient.

Silicone adhesive	
Nellcor™ OxySoft™ SpO_2 sensor	**OXYSOFTN**

Adhesive	
Nellcor™ SpO_2 adhesive sensor, adult	**MAXA/MAXAL**
Nellcor™ SpO_2 adhesive sensor, pediatric	**MAXP**
Nellcor™ SpO_2 adhesive sensor, infant	**MAXI**
Nellcor™ SpO_2 adhesive sensor, neonatal/adult	**MAXN**
Nellcor™ SpO_2 adhesive sensor, adult nasal	**MAXR**

Non-adhesive	
Nellcor™ SpO_2 nonadhesive sensor, adult	**SC-A**
Nellcor™ SpO_2 nonadhesive sensor, neonatal	**SC-NEO**
Nellcor™ SpO_2 nonadhesive sensor, preterm infant	**SC-PR**

Specialty: forehead	
Nellcor™ SpO_2 forehead sensor	**MAXFAST**

Specialty: respiration rate	
Nellcor™ respiration rate sensor	**10068119**

Reusable	
Nellcor™ reusable SpO_2 sensor	**DS100A-1**
Nellcor™ reusable multisite SpO_2 sensors, multisite	**D-YS**
Nellcor™ reusable multisite SpO_2 sensors, ear clip	**D-YSE**
Nellcor™ reusable multisite SpO_2 sensors, pediatric clip	**D-YSPD**
Nellcor™ flexible SpO_2 sensor, large	**FLEXMAX**
Nellcor™ flexible SpO_2 sensor, small	**FLEXMAX-P**

2-piece reusable	
Nellcor™ reusable SpO_2 sensor	**OXI-A/N**
Nellcor™ reusable SpO_2 sensor	**OXI-P/I**

Nellcor™ sensors

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Value beyond our products

Education and training | Clinical support | Total cost of ownership | Society partnerships

We provide you with more than just the right tools. We're there for you with the **education, service, and support** you need throughout our partnership with you. Our products and pricing are designed to help you reduce spending and know your true costs – without hidden fees that can disrupt your budget.

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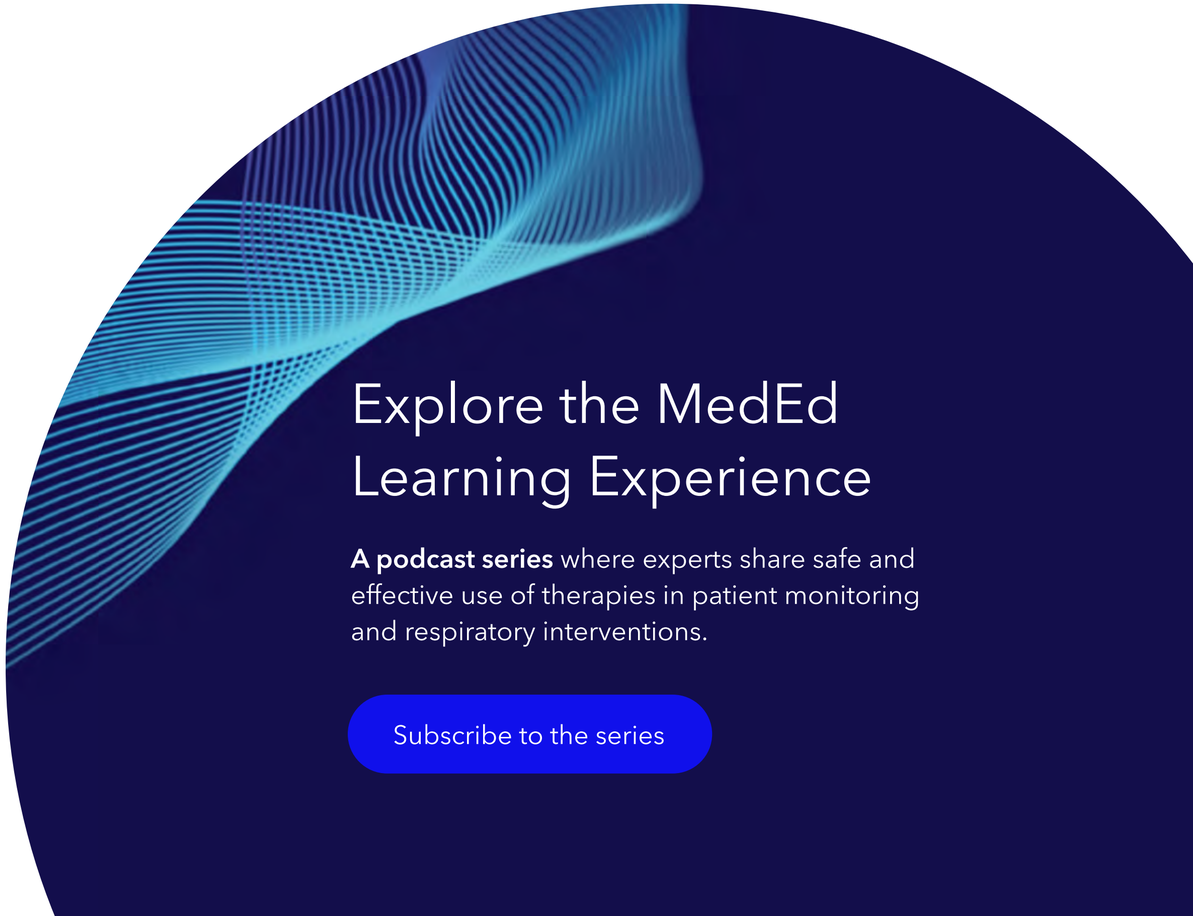
Value beyond our products

Education and training | Clinical support | Total cost of ownership | Society partnerships

Your partner in education

We are committed to offering complimentary learning opportunities that meet your educational and training needs, especially in this era of high turnover. Our experienced Clinical Specialists offer **in-person and virtual training** courses that will broaden your clinical expertise and enhance your technical knowledge and skills.

Explore virtual courses



Explore the MedEd Learning Experience

A podcast series where experts share safe and effective use of therapies in patient monitoring and respiratory interventions.

Subscribe to the series

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Value beyond our products

We're there for you

Experienced field-based clinicians, nurses, and respiratory therapists relate to your daily challenges while providing **training, device support, and best practices** for patient safety.

Online support services

- Product manuals
- Sensor application guides
- Hardware user guides
- FAQs and education links
- Add-on software

U.S.-based tech support

- Get the help you need by email or phone (**1-800-NELLCOR**)
- Connect with representatives cross-trained on all patient monitoring products
- Request replacement monitors

Online support services

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Value beyond our products

Helping you lower your cost of ownership

We believe in **true partnership**, providing you quality products without hidden costs, including:

No charge for installation or training

Standard 3-year monitor warranty

Long lasting cables supporting 8x more sensors[1,†]

Save with Nellcor™ pulse oximetry

†The analysis compared cable utilization at four different hospitals ranging in bedsize of 290-550 that switched from Nellcor to Masimo.
- Each hospital had at least 3 years of data from both Masimo and Nellcor, within the time period of 2012-2020.
- The main endpoint was to evaluate how many cables were needed per 100,000 sensors used, while controlling for the varying number of sensors used over the timeframe with the different technologies.

1. Calculations based on internal Medtronic data and analysis on file, October, 2021.

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Value beyond our products

Education and training | Clinical support | Total cost of ownership | **Society partnerships**

We're committed to patient safety research and education

We work with clinical and patient safety societies to **fund research** that puts patient and clinician safety first.

NPSF National Patient Safety Foundation®

EBPOM Evidence Based Perioperative Medicine

apsf Anesthesia Patient Safety Foundation

American Society of Anesthesiologists™

AANA American Association of NURSE ANESTHESIOLOGY

RCI RESPIRATORY COMPROMISE INSTITUTE

AAMI FOUNDATION

HOPE for HIE awareness • education • support

Over

$7M

invested in patient safety organizations†

†Five-year period.

The Nellcor™ pulse oximetry monitoring system and other continuous monitoring technologies should not be used as the sole basis for diagnosis or therapy and is intended only as an adjunct in patient assessment.