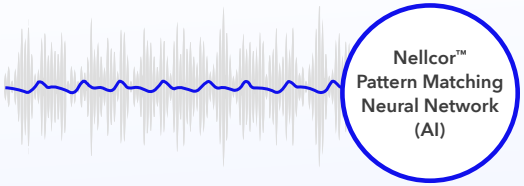
The Nellcor™ technology difference: **The evidence in review**

You have ambitious goals. Improve outcomes and reduce readmissions. Ensure health equity for all. Increase the efficiency of your workforce. To get there you need a partner with shared values and superior technology, backed by independent evidence. So when you set ambitious goals, **lean on Nellcor™ technology**.

What's the fundamental tech difference?



Nellcor™ pulse oximetry

Nellcor™ technology starts with the heart, using the pulse as the foundation. By prioritizing the pulsatile signal and locking onto the pulse, it **allows tracking of moment-to-moment changes**.

Masimo SET™* pulse oximetry

Masimo SET™* technology prioritizes the product LED signal. By assuming that both the arterial and venous blood move, it uses an algorithm to separate the arterial signal from noise.

Nellcor™ pulse oximetry **missed**

74% **fewer** hypoxemic events

in subjects with dark skin and low perfusion than Masimo SET™* pulse oximetry.[1,†,‡]

Nellcor™ pulse oximetry had **significantly less variability in dark skin readings** during low perfusion than Masimo SET™* pulse oximetry.[1,†,‡]

In some patients with dark skin pigment and low perfusion, **Masimo read 20 points higher than the actual oxygen saturation.**[1,†,‡]

Nellcor™ pulse oximetry has been shown to post on average

12 seconds **faster**

than Masimo SET™* technology.[2]

Nellcor ™ pulse oximetry sensors are

60% more **accurate**

than Masimo SET™* sensors at detecting pulse rates during motion.[3,4,§]

Nellcor™ technology correlated to ECG **significantly better** than Masimo technology

+/- 2% accuracy at 70% SpO_2[5,◊]

+/- 3% accuracy at 60% SpO_2[5,◊]

Technology differences

	Nellcor™ pulse oximetry	**Masimo** SET™* pulse oximetry
	Prioritizes the **patient's unique pulse signal** as the basis for our cardiac-based algorithm.	Prioritizes the **saturation signal only**, which means their technology ignores the uniqueness of each pulse.
Speed		
Average time to stable signal (in seconds)[2]	15 sec	27 sec
Stable signal obtained (% of patients)[2]	100%	92%
Accuracy		
Mismatch ≥ 40 bpm compared to ECG (% of patients)[2]	0%	31%
False bradycardia (% of patients)[2]	0%	35%
Motion		
Motion tolerance[3,4,§]	Nellcor™ pulse oximetry sensors are **60% more accurate** than Masimo SET™* sensors at detecting pulse rates during motion.[2,3,†] **Let me demonstrate the difference.**	**Less accurate** pulse rate detection during motion[2,3,†]
Dark skin pigmentation and low perfusion		
Missed hypoxemic events in subjects with dark skin and low perfusion[1,†,‡]	7.9%	30.2%
Samples with dropouts[1,†,‡]	23 dropouts	231 dropouts

Read the UCSF study

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

†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.

‡The study enrolled 146 healthy subjects and examined the Nellcor™ N-595 and Masimo Radical-7™* pulse oximeters.

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

◊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. 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.
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.* 2020 Nov 30. doi: 10.1038/s41372-020-00881-y. Epub ahead of print. PMID: 33250516.
3. Addison PS, Mannheimer PD, Ochs J. White paper: Pulse rate performance of two pulse oximeters during challenging monitoring conditions. 2013.
4. Batchelder K, Sethi R, Eng B, Pinto YJ. White paper: Pulse rate performance of two pulse oximeters in the NICU. 2015.
5. 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 comparison 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.

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