

A DME HOME RESPIRATORY MONITORING REPORT



Too Good to be True?

Three Ways Cheap Pulse Oximeters Could be Short-changing Your Patients and Profits

As a DME provider of home respiratory monitoring equipment, managing your expenses and growing your revenues can be challenging in this hypersensitive age of cost control. At first blush, procuring free or cheap pulse oximeters from foreign manufacturers seems to be a no-brainer.

But the hidden price you can pay – missed revenue opportunities, lost productivity due to extra customer phone calls, house calls or training, continuous inventory

replacement, or customer dissatisfaction due to broken or malfunctioning pulse oximeters – can seriously erode your bottom line.

So how do you protect your patients and grow your business, especially with so many oximeters to choose from?

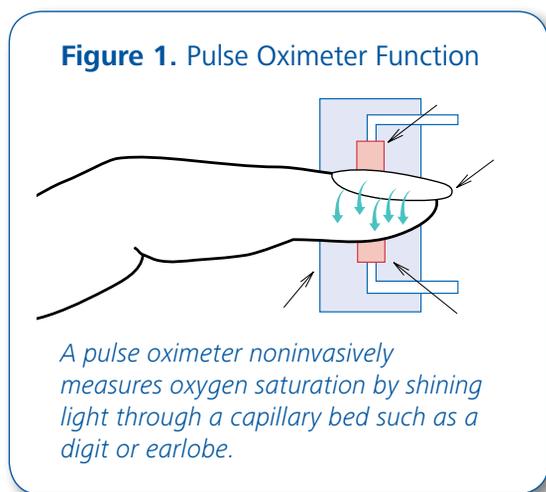
The answer lies in understanding product performance differences, and knowing what to look for in

pulse oximeters for clinical home use.

Before you decide to pinch pennies on your next pulse oximeter purchase, be sure to consider the ***“Three R’s of Oximetry:” Results, Revenue, and Reputation.***

Results

A pulse oximeter is a noninvasive prescription medical device used to measure a patient's pulse rate and oxygen saturation level (SpO₂) in the blood (Figure 1). Pulse oximeters provide early warnings of dangerously low oxygen-saturation levels, allowing caregivers to intervene early. Accurate SpO₂ readings are crucial not only for your patients and their healthcare providers, but for your pocket-book as well – and not all oximetry solutions offer the same levels of accuracy and performance.



User feedback suggests cheaper options may not provide signal processing that is refined enough to deliver performance when you need it most – with patients who experience critical desaturations.

Cheap options tend to malfunction more often, which may create unnecessary downtime and unexpected costs as you search for a replacement unit, and additional time if you need to repeat a test.

What's more, cheap options are sometimes constructed with allergenic or hazardous materials – such as lead, latex and BPA and DEHP chemicals – that may put patients at risk.

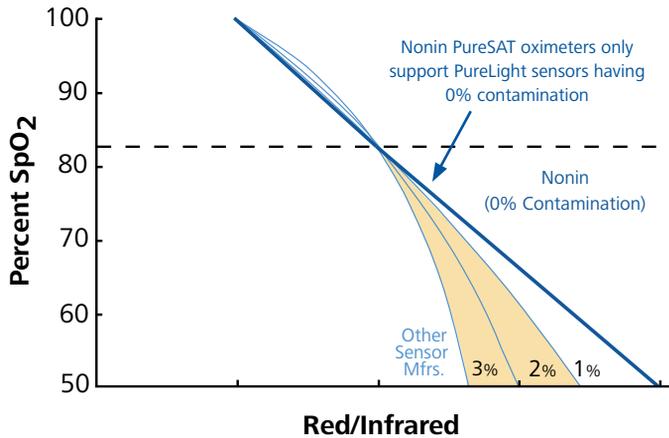
“Working in the respiratory industry, I have seen all too often, people who have opted for imported oximeters – and have all too often seen these items fail.”

– Respiratory Therapist

Bottom line: The high “cost” of cheap options is one reason why discerning DMEs turn to U.S. manufacturer Nonin Medical for their pulse oximetry solutions. Nonin Medical invented the fingertip pulse oximeter and has provided proven SpO₂ accuracy in the widest range of patients and conditions for more than 25 years.

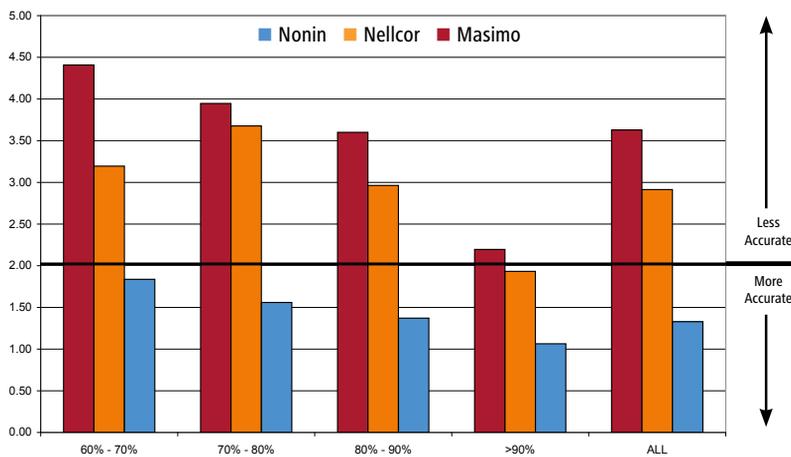
- Unlike many Chinese oximeters and internet health and wellness pulse oximeters, Nonin devices are U.S. medical-device market cleared and meet ISO Standards 9919:2005 (2009) and IEC 60601-1, which are recognized by the FDA.
- Nonin oximeters and sensors use pure, clean LED light that eliminates variations in readings from patient-to-patient and sensor-to-sensor (Figure 2).
- Accuracy is not degraded due to dark skin pigmentation or low perfusion, which can be problematic with cheaper options (Figure 3).

Figure 2. Reliable, Consistent Readings from Patient to Patient and Sensor to Sensor¹



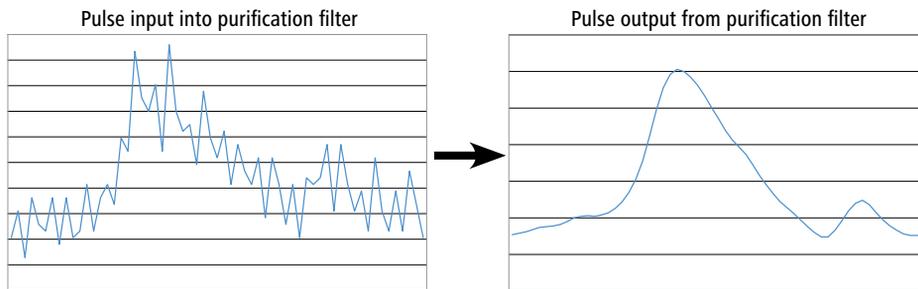
The ratio of red to infrared light yields the oxygenation saturation, or SpO₂. If you are not using Nonin sensors with Nonin oximeters, you risk incorrect calibration, which may result in inaccurate and inconsistent data.

Figure 3. Industry Leading Accuracy²



Nonin demonstrates superior accuracy in the most challenging conditions (e.g., dark skin pigmentation).

Figure 4. Reliable Measurements in Low Perfusion³



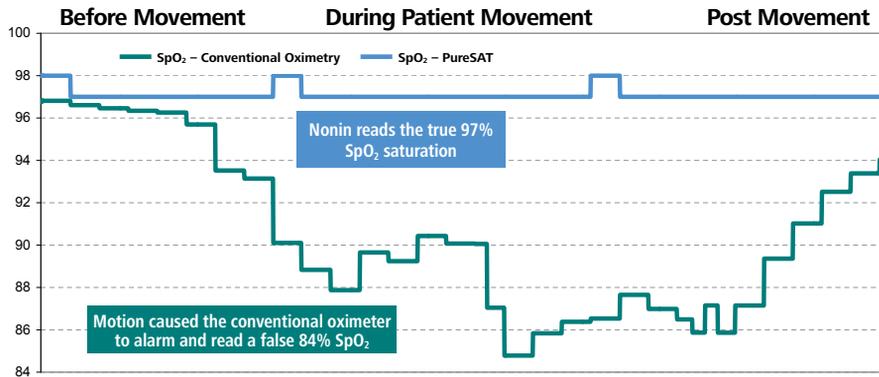
The removal of noise artifact is crucial to an oximeter's ability to accurately assess SpO_2 in low perfusion. PureSAT employs powerful filtering to achieve dependable, proven accuracy in low perfusion.

- Powerful filtering removes noise artifact, providing a consistently true reading even when signals are weak or low (Figure 4).
- Reliable PureSAT[®] signal processing eliminates false readings and alarms during patient movement (Figure 5).
- Nonin sensors are supported by self-calibration and start-up reliability testing reports.

Combined, these features explain why Nonin consistently delivers more accurate readings than other pulse oximeters in published studies – **in the widest range of patients and challenging conditions like motion, low perfusion and dark skin.**

Oximeter warranties are another indicator of expected performance. Many cheap brands will require replacement within 24 months, but carry warranties of only 12 to 18 months. Nonin professional fingertip pulse oximeters are backed by a four-year warranty; Nonin GO₂ prescription fingertip oximeters for home use carry a two-year warranty. Just as important, Nonin has customer and technical service staff located at the company's headquarters in Minneapolis, Minnesota, who are ready to assist with any DME questions immediately.

Figure 5. Elimination of False Alarms Due to Patient Movement³



A comparison of Nonin's PureSAT technology with conventional oximetry during a patient movement event shows that PureSAT's signal processing locates the true pulse in motion.

Revenue

It's no coincidence that revenue is tightly connected to product reliability. If, for example, your oximeter doesn't catch the full depth and dura-

tion of each desaturation event, you may miss the opportunity to qualify a patient for oxygen or CPAP.⁴ Quality patient care can suffer, and revenue is left on the table.

"Funds were tight, so I found an 'affordable' oximeter and bought it. My assurance of accurate readings went out the window with very questionable readings. This compromises the care of my patients who are ill. I am now going back to the Nonin brand. My patients are more than worth good quality oxygen saturation monitoring."

— Clinician

Reputation

Recommending a cheap oximeter doesn't only affect the cost to your patient and revenue stream; it can affect the cost to your reputation, as well.

When a product breaks, replacement liability often falls to your organization. Poor performance can cost you time and money handling unanticipated phone calls and house calls. In addition, word of mouth from negative customer experiences can adversely affect your referral base and future sales.

Think about it: Doctors wouldn't refer patients to a non-FDA-cleared health and wellness device found on the Internet; should you? Your credibility with insurance companies, prescribing physicians, referring clinicians and patients is at stake.

Challenging Conditions

Most pulse oximeters today are portable, battery operated and user friendly, and many may work well on a certain type of patient. But for challenging patients – often those with chronic conditions such as chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF) or sleep disorders – reliable, accurate data is necessary to aid in better and faster decision making.

Patients with chronic diseases usually suffer from low blood flow (e.g., perfusion), which can impact accuracy. That's why it's important to ask your pulse oximeter manufacturer for proven accuracy claims backed by evidence such as published clinical papers.

Good pulse oximeters will also have specific labeling for challenging conditions.

Here are other features to look for:

- Accuracy that captures the depth and duration of desaturation events (especially for diagnostic situations* like sleep apnea and LTOT qualification)
- A variety of sensor sizes and shapes to fit any patient
- Ease of use, whether the device is portable or stationary

“It's important that patients get their pulse oximeter from a reputable DME. I wouldn't prescribe a non-reputable [non-Rx, non-FDA-cleared] product off the Internet.”

– Pulmonologist

Conclusion

Although it is tempting to succumb to cheap oximetry options, it can often be penny-wise and pound-foolish. Quality options with proven performance will help DMEs with the critical “Three R's of Oximetry:” Results, Revenue and Reputation.

*This device is intended only as an adjunct device in patient assessment. It must be used in conjunction with other methods of assessing clinical signs and symptoms.

Tips and Questions to Ask Before You Buy

- ✓ How accurate is the oximeter and are the accuracy claims backed by evidence, e.g., published papers?
- ✓ Will the oximeter work on a variety of patients, and does your oximeter specifically list accuracy for patients with low perfusion or dark skin tones?
- ✓ Can the oximeter handle a rugged environment? Will it still work after multiple drops and exposure to liquids?
- ✓ Will one device work for different patient sizes, including very small pediatric up to large adult fingers, thumbs or toes, or will you need to buy two separate oximeters?
- ✓ Which manufacturer offers the best warranty and has the best reputation for excellent customer service?
- ✓ Where is the oximeter manufactured, and who will you call if you have a problem with your oximeter?
- ✓ How long do you expect to use the oximeter? (If your device doesn't last, a lower upfront cost can translate into a higher total cost if you need to keep replacing it.)
- ✓ Does the oximeter require calibration?
- ✓ Is the oximeter easy to use?
- ✓ Is the oximeter environmentally friendly and hazard-free to patients?

Figure 6. Nonin Medical's GO₂[™] patient home-use prescription finger pulse oximeter



Unlike many Chinese oximeters and internet health and wellness pulse oximeters, Nonin devices are U.S. medical-device market cleared and meet ISO Standards 9919:2005 (2009) and IEC 60601-1, which are recognized by the FDA.

R_x Federal law restricts this device to sale by or on the order of a licensed healthcare practitioner.

Resources and Patient Education Materials from Nonin Medical

nonin.com/homecare

Nonin Medical invented fingertip pulse oximetry and is a U.S. medical monitoring company with global distribution. Nonin offers one of the most complete lines of noninvasive medical monitoring solutions available for homecare respiratory monitoring, including:

- Fingertip, handheld, tabletop and wrist-worn pulse oximeters that are American made, environmentally safe and free of hazardous materials like lead, latex and BPA and DEHP chemicals
- Comfortable, reliable, latex-free sensors in reusable and disposable varieties for neonates to adults
- Capnography systems that deliver consistent, accurate readings
- Clinically proven accuracy in the most challenging patients and conditions

Nonin Medical is proud of its longstanding partnerships with World Family Doctors (WONCA), the National Heart, Lung, and Blood Institute, and the International Primary Care Respiratory Group (IPCRG) for physicians and patient education programming. In addition, Nonin supports such initiatives as the Global Initiative for Chronic Obstructive Lung Disease (GOLD) and the International COPD Coalition (ICC). During the past two and a half decades, Nonin has sold more than 1.2 million oximeters to discerning healthcare professionals, patients and home respiratory monitoring equipment providers like you. **Learn more about pulse oximetry performance differences, and download your free pulse oximetry patient education materials at nonin.com/homecare today.**

References:

¹ On File at Nonin Medical.

² Nonin Technical Bulletin M-5407, based on "Dark skin decreases the accuracy of pulse oximeters at low oxygen saturations: effects of oximeter probe type and gender," John Feiner, et al. Anesthesia and Analgesia, December, 2007.

³ On File at Nonin Medical.

⁴ CMS CPT Codes 94760, 94761, 94762



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