

Onyx[®] in the Hospital Setting: A Six-Month Study

- Reduced Oximetry Costs
- Enhanced Patient Care
- Improved Staff Efficiency

Many patient care units that require SpO₂ spot-checks have only a few pulse oximeters to share among 10 to 30 caregivers. The result is a substantial loss of time, as caregivers search for pulse oximeters when taking routine vital signs, or when checking patients after procedures, therapies, medication administration, or sudden changes in condition. Valuable time is lost as nurses search for pulse oximeters and sensors. And the consequence? Less time for patient care.

The Onyx[®], Nonin's original all-in-one digital fingertip pulse oximeter, incorporates the sensor and electronics in one tiny unit. Individual caregivers can carry the Onyx in a pocket, or attach it to a stethoscope, belt, or lanyard. Its small size and simple operation allow caregivers to assess patients any time during care, without wasting time searching for instruments.

Nonin has long been known for its innovation in pulse oximetry. By creating small, simple, reliable, and durable pulse oximeters, we've earned the trust of clinicians worldwide. And our Onyx is a shining example of our dedication to accurate and innovative pulse oximeters. But how do hospital clinicians rate the Onyx for delivering enhanced patient care and reducing costs?

To find out, Nonin solicited the feedback of nurses and respiratory therapists at a large tertiary care facility. After completing a six-month study, the response from clinicians was overwhelmingly positive: a vast majority called the Onyx a convenient, easy-to-use, time-saving device that enhanced patient care.



The original all-in-one digital fingertip pulse oximeter™

ABOUT THE STUDY

Determined to realize cost savings and improve staff efficiency, a 500 bed tertiary care facility enlisted the nurses on one of its medical-surgical units. This unit has 32 beds with an average length of stay (LOS) of 4.7 days. Also included were respiratory therapists assigned to that floor. A six-month study was initiated, with the Onyx completely replacing the unit's hand-held oximeters.

Patients receiving continuous SpO₂ monitoring were excluded from this study.

THE PROBLEM

This busy patient care unit, like many in the hospital, reported the following challenges:

- Too many sensors being used – too much cost!
- Disposable sensors being pulled from inventory every time a spot-check was needed
- Not finding a handheld unit when needed causing delays in patient assessment
- Inadequate battery life; searching for new batteries, changing batteries
- Time lost changing sensors
- Time spent managing sensor inventory
- RT staff called frequently to come to the floor for spot-checks

THE PLAN

Every clinician received an Onyx, which included a carrying case and lanyard. After a brief introduction, the serial numbers and employee IDs were recorded, and each participant received a supply of AAA batteries. The clinicians were told to use the Onyx in place of their handheld pulse oximeters for routine vital signs and as-needed spot-checks. Throughout the six-month study, the clinicians reported on their time saved per shift, as well as perceptions about how daily patient care was affected by carrying their own Onyx fingertip pulse oximeter.

THE RESULTS

Nurses and respiratory therapists were overwhelmingly positive in their response to the Onyx. They reported considerable time saved, as well as improved and more timely care for their patients. In addition, the hospital quickly realized that its pulse oximetry costs could be dramatically reduced by using the Onyx. No units were lost or misplaced during the study.

Details of cost savings and clinician response are provided in the illustrations to the right.

Cost and Efficiency Savings

Continued use of the Onyx provides undeniable savings for this care unit—both in costs and in efficiency — as illustrated in the cost justification below.

500 Bed Hospital • Unit Size: 32 Beds • Unit LOS: 4.7 Days

DEVICE/UNIT COST SAVINGS

Sensor costs for one year (12 months) for this patient care unit were \$9,547. Buying enough Onyx for the entire unit would cost \$9,100—but would not require additional annual expense. In this way, the patient care unit could save \$447 their first year with the Onyx, and \$9,547 each year thereafter.

	Previous Annual Costs	Year 1	Year 2	Year 3
Onyx®	0	\$9,100	0	0
Sensors	\$9,547	0	0	0
Cost Savings	—	\$447	\$9,547	\$9,547

EFFICIENCY COST SAVINGS

Using the Onyx, the clinical time that's often wasted searching for an instrument or traveling between floors was eliminated from each shift, allowing more time for direct patient care.

Time saved was reported as time that was formerly spent searching for equipment or, in the case of the RTs, traveling to the patient care floor to perform SpO₂ spot-checks.

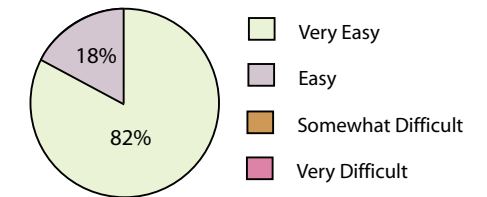
	Time Saved per Shift (avg.)	Cost per Shift**	Cost per Month
RNs (27)	21 minutes	\$319*	\$19,132
RTs (8)	100 minutes	\$405*	\$24,297

*Assume salary + benefit: \$33.75/hr.

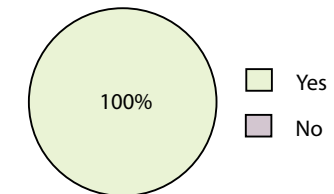
**Shift at this facility was 12 hours

CLINICIAN RESPONSE

Ease of Use. 100% of clinicians rated the Onyx as “very easy” or “easy” to incorporate into a vital signs monitoring and patient care routine.

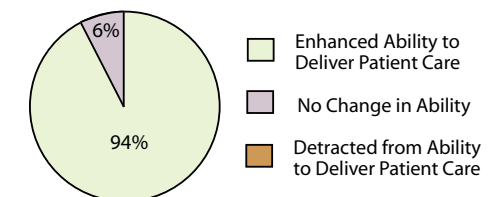


Time Saved. Asked whether having an Onyx was a time saver, 100% of study participants said the Onyx saved time during their shifts.

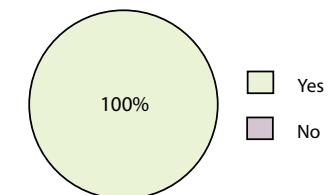


- RNs reported that, on average, the Onyx saved **21 minutes per shift, per nurse.**
- RTs reported an **average savings of 100 minutes per shift, per therapist, since they often spot-check patients throughout the hospital.**

Effect on Patient Care. 94% of clinicians believed that having an Onyx enhanced their ability to deliver quality patient care. Several clinicians reported that when readings were not in line with expected results, they could more quickly take action.



Continued Use. 100% of clinicians said they would continue to use the Onyx if given the opportunity.





“I can focus on patient care and not waste time looking for an oximeter.”

CLINICIAN FEEDBACK

For Nonin, there are few greater rewards than the positive feedback of medical professionals using our products. Nonin is proud to have earned the trust of clinicians worldwide. The following feedback was received during this study:

- **“The Onyx is a very helpful and useful device that allowed me to evaluate patient status immediately, leading to faster interventions.”**
- **“It just makes sense – to have it with me and not spend time searching for it.”**
- **“We can check O₂ sats more frequently and as needed. Very handy and time efficient.”**
- **“The Onyx saves time and phone calls.”**
- **“It is very handy to have at the bedside for assessments.”**
- **“The Onyx can easily be carried on your belt, so you don’t have to go searching for it to check a possibly bad patient.”**

- **“Faster response time – made me aware of patient condition earlier.”**
- **“Saved me time and phone calls to Respiratory.”**
- **“When the doctor was at the bedside and asked about SpO₂ values, I could give the results immediately, without leaving the patient and searching for a machine.”**
- **“I love it!”**
- **“I can focus on patient care and not waste time looking for an oximeter.”**

For these practitioners – and thousands of other clinical personnel – Nonin’s Onyx is an easy-to-use time-saver that enhances patient care. This small, accurate and remarkably simple device is the perfect tool for making pulse oximetry available when you need it.

PURELIGHT® AND PURESAT® TECHNOLOGIES

Like all Nonin sensors, the Onyx features PureLight technology, which boasts pure red and infrared LEDs to create unparalleled accuracy—even at critical SpO₂ levels. Nonin’s PureLight LEDs hold a steady calibration curve—even at SpO₂ levels below 80 percent.

Nonin has long recognized that accurate and dependable SpO₂ readings start with accurate and dependable sensors, and we’re proud to have been using our PureLight technology for over twelve years.

PureSAT signal processing technology provides superior oxygen saturation and pulse rate data through its proven ability to distinguish “real” pulses from motion artifact. PureSAT makes greater use of the most valuable pulse signal waveforms—decreasing the occurrence of false desaturation events and false alarms. With these technologies built into every sensor, Nonin delivers performance to customers who demand accuracy in the most challenging environments.