Masimo SET®: Clinically Proven

> "I saw and was conquered. I was not able to defeat the Masimo SET® pulse oximeter using all the motion and low pulse tricks I know. This technology is most impressive and should be available in all oximeters."

John Severinghaus, M.D.
*Professor of Anesthesiology, Emeritus University of California, San Francisco*

Over 100 independent and objective studies have shown that Masimo SET® outperforms other pulse oximetry technologies.[1]

> On a post-surgical unit it was found that:

- Rescue calls and ICU transfers were **reduced by 65% and 48%,** respectively, after the implementation of continuous surveillance monitoring with Masimo SET®.[2]

- Over five years, clinicians achieved their goal of **zero preventable deaths** or brain damage due to opioids.[3]

- Over ten years, clinicians maintained a **50% reduction** in unplanned transfers and a **60% reduction** in rescue events, despite increases in patient acuity and occupancy.[4]

> In a PACU, Masimo SET® had a greater than **50% reduction** in false alarms compared to other pulse oximetry technology.[5]

> In a study of 122,738 infants, critical congenital heart disease (CCHD) screening sensitivity increased from **77% to 93%** with the combined use of Masimo SET® and clinical assessment.[6]

> In a study of 39,821 infants, CCHD screening sensitivity increased from **63%** with physical exam alone to **83%** with physical exam and Masimo SET® pulse oximetry.[7]

> In two NICU settings, Masimo SET®, coupled with changes in clinical practice, showed significantly **reduced rates of severe retinopathy of prematurity (ROP)** and decreased the need for laser treatment.[8,9]

> Researchers showed time to **reliable oxygen saturation readings during neonatal resuscitation** was approximately **50 seconds faster** using Masimo SET® than using other pulse oximetry technologies.[10]

[1] Published clinical studies on pulse oximetry and the benefits of Masimo SET® can be found on our website at http://www.masimo.com. Comparative studies include independent and objective studies which are comprised of abstracts presented at scientific meetings and peer-reviewed journal articles. [2] Taenzer AH et al. Impact of pulse oximetry surveillance on rescue events and intensive care unit transfers: a before-and-after concurrence study. *Anesthesiology* 2010:112(2):282-287. [3] Taenzer A et al. Postoperative Monitoring – The Dartmouth Experience. *Anesthesia Patient Safety Foundation Newsletter.* Spring-Summer 2012. [4] McGrath S et al. Surveillance Monitoring Management for General Care Units: Strategy, Design, and Implementation. *The Joint Commission Journal on Quality and Patient Safety.* 2016 Jul;42(7):293-302. [5] Malviya S et al. False Alarms and Sensitivity of Conventional Pulse Oximetry Versus the Masimo SET® Technology in the Pediatric Postanesthesia Care Unit. *Anesth Analg* 2000; 90(6):1336-1340. [6] Zhao et al. Pulse oximetry with clinical assessment to screen for congenital heart disease in neonates in China: a prospective study. *Lancet* 2014 Aug 30;384(9945):747-54. [7] de-Wahl Granelli A et al. Impact of pulse oximetry screening on the detection of duct dependent congenital hear disease: a Swedish prospective screening study in 39,821 newborns. *BMJ* 2009;338:a3037. [8] Castillo et al. Prevention of retinopathy of prematurity in preterm infants through changes in clinical practice and SpO2 Technology. *Acta Paediatr.* 2011 Feb;100(2):188-92. [9] Sola et al. Can changes in clinical practice decrease the incidence of severe retinopathy of prematurity in very low birth weight infants? *Pediatrics* 2003;111(2):339-345. [10] Baquero H et al. Avoiding Hyperoxemia during Neonatal Resuscitation: Time to Response of Different SpO2 Monitors. *Acta Paediatr.* 2011 Apr;100(4):515-8.

![Masimo]

CCHD Screening

> When combined with clinical assessment, Masimo SET® **improved** critical congenital heart disease (CCHD) screening sensitivity to 93%

Improved Critical Congenital Heart Disease Screening Sensitivity vs. Clinical Assessment Alone

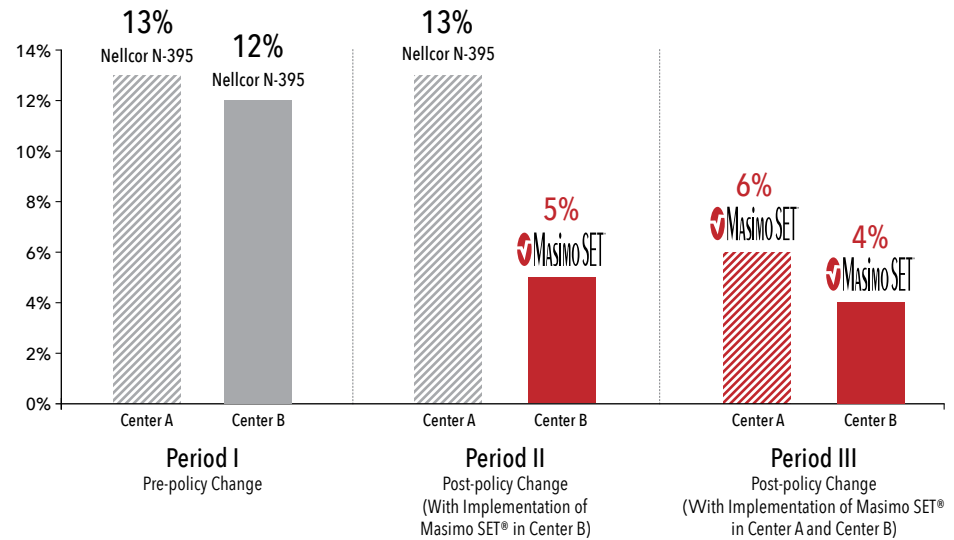- Standard Screening: 77%
- Standard Screening + Masimo SET: 93%
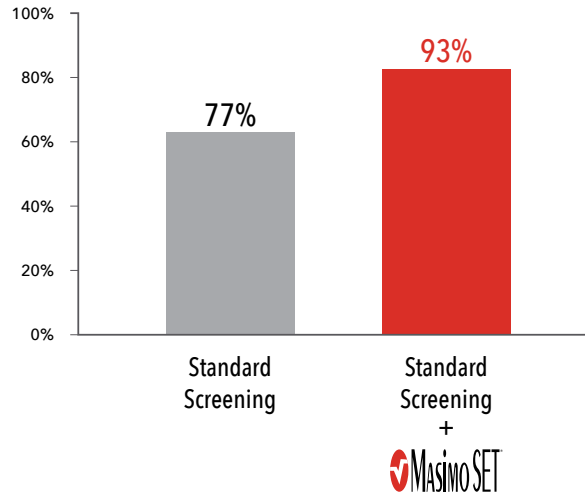
Zhao et al. *Lancet*. 2014 Aug 30;384(9945):747-54.

Retinopathy of Prematurity

> Masimo SET®, coupled with changes in clinical practice, led to a significant **reduction** in rates of severe retinopathy of prematurity (ROP)

Severe Retinopathy of Prematurity Rate

|	Period I (Pre-policy Change)	Period II (Post-policy Change, With Implementation of Masimo SET® in Center B)	Period III (Post-policy Change, With Implementation of Masimo SET® in Center A and Center B)
Center A	13% Nellcor N-395	13% Nellcor N-395	6% Masimo SET
Center B	12% Nellcor N-395	5% Masimo SET	4% Masimo SET

Castillo et al. *Acta Paediatr*. 2011 Feb;100(2):188-92.

Performance During Motion and Low Perfusion

> Masimo SET® had **3% missed true alarms and 5% false alarms** versus 43% and 28%, respectively, using competitor technology

Performance During Motion and Low Perfusion

- Missed True Alarms: Nellcor N-600 43%, Masimo SET 3%
- False Alarms: Nellcor N-600 28%, Masimo SET 5%
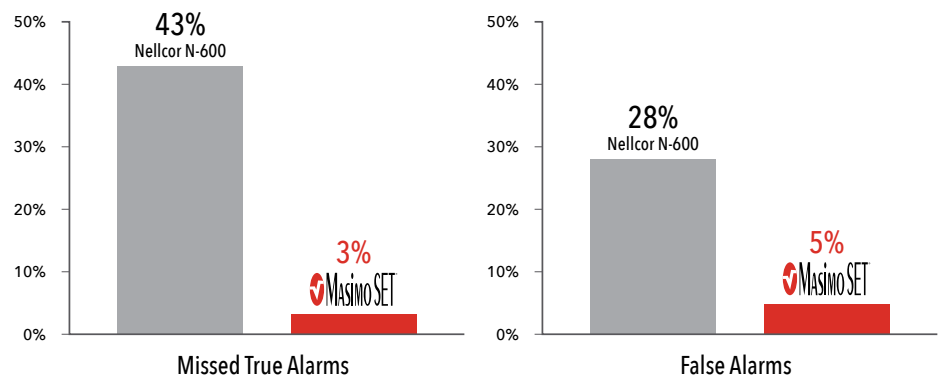
Shah et al. *J Clin Anesth*. 2012;24(5):385-91.
*Results shown are calculated by combining sensitivity and specificity outcomes of machine-generated and volunteer-generated motion.