

New Study Shows Masimo's Noninvasive Pleth Variability Index Provides Similar Ability to Assess Fluid Responsiveness During Surgery as More Costly and Invasive Method

The Associated Press

Masimo (NASDAQ: MASI) announced today that a study published in the current issue of peer-reviewed journal BioScience Trends demonstrates that noninvasive and continuous monitoring of Masimo Pleth Variability Index (PVI@) helps clinicians assess fluid responsiveness during major abdominal surgery and concluded that PVI results were similar to invasive, more expensive stroke volume variation (SVV). Other traditional hemodynamic variables were not significant for assessing fluid responsiveness.

In the study of 51 patients, 31 patients were responders to fluid administration and 20 were non-responders, defined as a >10% increase stroke volume index (the amount of blood a heart pumps in each beat) after fluid administration. PVI was measured from a Masimo Radical-7 and LNOP Adt and SVV was measured from a Vigileo@ device and Flotrac@ catheter. A PVI threshold of >13.5% discriminated responders with a sensitivity of 77% and a specificity of 81%, while an SVV threshold of >12.5% discriminated responders with a sensitivity of 87.9% and a specificity of 83.3%. The areas under the curve (AUC) for fluid prediction for PVI and SVV were 0.79 and 0.86 respectively, while the AUCs for stroke volume index, cardiac index, central venous pressure, and mean arterial pressure were not statistically significant.

"There was no significant difference between the areas under the receiver operating characteristic curve for SVV and PVI," the study's authors stated. "Our results showed that SVV and PVI could predict fluid responsiveness during major abdominal surgery in complicated dynamic conditions" and concluded that "monitoring fluid responsiveness using a noninvasive device may help for fluid optimization in the operating room, especially in some patients who do not need invasive artery monitoring." Multiple studies have shown PVI helps clinicians assess fluid responsiveness in surgical, mechanically ventilated patients - helping clinicians improve fluid management to reduce patient risk[1], [2].

Although fluid administration is critical to optimizing patient status and enabling end organ preservation, unnecessary fluid administration is associated with increased morbidity and mortality.[3] Because SVV has been shown in previous studies to be an accurate method to predict fluid responsiveness and optimize fluid management in surgical and intensive care patients, the similar accuracy shown with noninvasive PVI suggests that PVI-guided fluid optimization may also help guide fluid management to minimize patient risk, as was already shown in one randomized controlled trial.[4] Masimo Chief Medical Officer Dr. Michael O'Reilly

added: "Fluid responsiveness assessment and goal directed therapy are growing requirements to advance patient safety. The vast majority of surgeries performed in the world today are performed without assessing how a patient will respond to fluid administration, leading to sub-optimal resuscitation. Masimo PVI is a safe, reliable, and noninvasive way to guide fluid management to minimize patient risk."

[1]Cannesson M., Desebbe O., Rosamel P., Delannoy B., Robin J., Bastien O., Lehot JJ. "Pleth variability Index to Monitor the Respiratory Variations in the Pulse Oximeter Plethysmographic Waveform Amplitude and Predict Fluid Responsiveness in the Operating Theatre." *British Journal of Anaesthesia* August 2008; 101(2):200-6. Available online here. [2]Feissel M., Kalakhy R., Badie J., Robles G., Faller J., Teboul JL. "Plethysmography Variability Index: A New Fluid Responsiveness Parameter." Presented at the 29th International Symposium on Intensive Care and Emergency Medicine (ISICEM) Annual Meeting, March 25, 2009, Brussels, Belgium. Available online here. [3] Zimmerman M., Feibicke T., Keyl C., Prasser C., Moritz S., Graf B., and Wiesenack C. "Accuracy of Stroke Volume Variation Compared with Pleth Variability Index to Predict Fluid Responsiveness in Mechanically-ventilated Patients Undergoing Major Surgery." *European Journal of Anaesthesiology* June 2010; 27(6):555-61. Available online here. [4] Forget P., Cannesson M. "Fluid Responsiveness Monitoring in Surgically and Critically Ill Patients: Clinical Impact of Goal-Directed Therapy." AKH Inc. and Applied Clinical Education.

September 2010; SR1047. Available online here.

About Masimo Masimo (NASDAQ: MASI) is the global leader in innovative noninvasive monitoring technologies that significantly improve patient care-helping solve "unsolvable" problems. In 1995, the company debuted Measure-Through Motion and Low Perfusion pulse oximetry, known as Masimo SET@, which virtually eliminated false alarms and increased pulse oximetry's ability to detect life-threatening events. More than 100 independent and objective studies demonstrate Masimo SET provides the most reliable SpO2 and pulse rate measurements even under the most challenging clinical conditions, including patient motion and low peripheral perfusion. In 2005, Masimo introduced rainbow SET@ Pulse CO-OximetryT technology, allowing noninvasive and continuous monitoring of blood constituents that previously required invasive procedures, including total hemoglobin (SpHb@), oxygen content (SpOCT), carboxyhemoglobin (SpCO@), methemoglobin (SpMet@), and Pleth Variability Index (PVI@), in addition to SpO2, pulse rate, and perfusion index (PI). In 2008, the company introduced Masimo SafetyNetT, a remote monitoring and wireless clinician notification system designed to help hospitals avoid preventable deaths and injuries associated with failure to rescue events. In 2009, Masimo introduced rainbow Acoustic MonitoringT, the first-ever noninvasive and continuous monitoring of acoustic respiration rate (RRaT).

Masimo's rainbow SET technology platform offers a breakthrough in patient safety by helping clinicians detect life-threatening conditions and helping guide treatment options. In 2010, Masimo acquired SEDLine@, a pioneer in the development of innovative brain function monitoring technology and devices. Masimo SET and Masimo rainbow SET technologies can be also found in over 100 multiparameter patient monitors from over 50 medical device manufacturers around the world. Founded in 1989, Masimo has the mission of "Improving Patient Outcome and

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Reducing Cost of Care by Taking Noninvasive Monitoring to New Sites and Applications@." Additional information about Masimo and its products may be found at www.masimo.com.

Forward-Looking Statements This press release includes forward-looking statements as defined in Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, in connection with the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current expectations about future events affecting us and are subject to risks and uncertainties, all of which are difficult to predict and many of which are beyond our control and could cause our actual results to differ materially and adversely from those expressed in our forward-looking statements as a result of various risk factors, including, but not limited to: risks related to our assumptions regarding the repeatability of clinical results, risks related to our belief that Masimo PVI is capable of detecting fluid responsiveness in virtually all ICU patients, and risks related to our assumptions that Masimo PVI monitoring has the potential to decrease hospital stay, mechanical ventilation, postoperative morbidity, and costs in patients undergoing high-risk surgery, as well as other factors discussed in the "Risk Factors" section of our most recent reports filed with the Securities and Exchange Commission ("SEC"), which may be obtained for free at the SEC's website at www.sec.gov. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we do not know whether our expectations will prove correct. All forward-looking statements included in this press release are expressly qualified in their entirety by the foregoing cautionary statements. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of today's date. We do not undertake any obligation to update, amend or clarify these statements or the "Risk Factors" contained in our most recent reports filed with the SEC, whether as a result of new information, future events or otherwise, except as may be required under the applicable securities laws.

Media Contacts: Mike Drummond Masimo Corporation Phone: (949) 297-7434 Email: mdrummond@masimo.com Masimo, SET, Signal Extraction Technology, Improving Patient Outcome and Reducing Cost of Care by Taking Noninvasive Monitoring to New Sites and Applications, rainbow, SpHb, SpOC, SpCO, SpMet, PVI, rainbow Acoustic Monitoring, RRa, Radical-7, Rad-87, Rad-57, Rad-8, Rad-5, Pulse CO-Oximetry, Pulse CO-Oximeter, Adaptive Threshold Alarm, and SEDLine are trademarks or registered trademarks of Masimo Corporation. The use of the trademarks Masimo SafetyNet and PSN are under license from University HealthSystem Consortium.

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