

Two New Clinical Studies Using Masimo Technologies Presented at Anesthesiology 2015



[Masimo](#) (NASDAQ: MASI) announced that two new studies using Masimo technologies were presented at the American Society of Anesthesiologists (ASA) annual meeting in San Diego, California, October 24-28. The conference is the largest gathering of anesthesiologists in the world.

Study Evaluating the EMMA Portable Capnometer in Children Under General Anesthesia

Carbon dioxide levels in the blood reflect the degree of gas exchange occurring in the lungs and provide a critical indicator of cardio-respiratory function that aids in the assessment of the adequacy of ventilation. In a study of 13 children (average age 18 months) undergoing surgery, Dr. Yuko Nawa and colleagues from the Hokkaido Medical Center for Child Health and Rehabilitation in Sapporo, Japan, compared the end tidal carbon dioxide values (EtCO₂) from the Masimo EMMA portable capnometer and traditional sidestream capnography (GE Patient Monitor).¹ Compared to sidestream capnography, the EMMA had 95% limits of agreement of -1.3 to 2.5 mm Hg, leading the investigators to conclude that the EMMA has "good correlation with sidestream type capnometer in children" and "may be useful for general anesthesia in out-of-operating room or in case of cardiopulmonary resuscitation, bedside respiratory care and patient transportation."

Study Evaluating Pleth Variability Index in Spontaneously Breathing Adults During Regional Anesthesia

Dexmedetomidine is an intravenous drug used to sedate patients during surgery which can also cause hypertension or hypotension that may increase patient risk. In a study of 42 spontaneously breathing patients under regional anesthesia,² Dr. Makoto Sato and colleagues from Asahikawa Medical University in Hoikkado, Japan evaluated the association of baseline pleth variability index (PVI) from Masimo SET® pulse oximetry and dexmedetomidine-induced changes in blood pressure. A baseline PVI \leq 15 had a 94% sensitivity, 85% specificity, and area under the curve (AUC) of 0.93 ($p=0.00002$) for resulting hypertension. A baseline PVI \geq 16 had an 83% sensitivity, 64% specificity, and area under the curve (AUC) of 0.79 ($p=0.0008$) for resulting hypotension. The investigators concluded, "PVI can predict dexmedetomidine-induced changes in blood pressure in spontaneously breathing patients."

Source & Image Credit : [Masimo](#)

1. Nawa Y, Chaki T, Tamashiro K, Sato M, Mizuno E, Yamakage M. Accuracy of Portable Capnometer in Children. Proceedings of the American Society of Anesthesiologists, Oct. 27, 2015, San Diego, A4049, Room Upper 10.
2. Sato M, Kunisawa T, Kurosawa A, Sasakawa T, Iwasaki H. Pulse oximeter-derived pleth variability index can predict dexmedetomidine-induced changes in blood pressure in spontaneously breathing patients. Proceedings of the American Society of Anesthesiologists, Oct. 26, 2015, San Diego, A3153, Hall B2, Area B.

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