

Investigation of VoluMetrix RIVA-RI in Hospitalized Covid-19 Patients Shows Promising Ability to Predict Need for Oxygen

Using proprietary venous waveform technology, physicians could predict which patients would need oxygen—a potentially valuable foresight in Covid-19 patients.

NASHVILLE, TENNESSEE, UNITED STATES, October 26, 2021 /EINPresswire.com/ -- [VoluMetrix](#), a Nashville-based biotech startup dedicated to creating a new wave of solutions for vital monitoring to enhance well-being, today announced publication of an observational study at Vanderbilt University Medical Center showing that its non-invasive (wrist sensor) novel respiratory venous waveform monitoring technology had a 93% positive predictive value for correctly identifying hospitalized Covid-19 patients who would eventually require supplemental oxygen (1). Patients with Covid-19 present with a variety of symptoms, making triage a challenge; advanced knowledge of the need for oxygen support could help support clinical decision-making.

In this study, [published in Critical Care Explorations](#), researchers investigated volume states in hospitalized Covid-19 patients from admission to discharge using the VoluMetrix non-invasive venous waveform analysis (NIVA) device. Using venous waveforms obtained with the NIVA device, a respiratory non-invasive venous waveform analysis - respiratory index (RIVA-RI) was calculated for each patient. Among 45 patients analyzed, 34 went on to require supplemental oxygen. The RIVA-RI for those 34 patients was significantly higher than that of healthy controls.

The study's authors concluded, "With the increasing need for efficient and correct triage, RIVA monitoring could aid clinicians in caring for patients both at home and at the hospital and potentially prevent unnecessary hospitalizations."

"Covid-19 has pushed every innovator in the med-tech fields to enhance care and improve outcomes of this disease," said Kyle Hocking, Ph.D., President & CEO of VoluMetrix. "At VoluMetrix, we saw the potential to expand our non-invasive monitoring with our established NIVA technology to develop clinically important information about the respiratory condition of COVID-19 patients, and we're pleased to see that this study supports venous waveform's potential role in triaging hospitalized COVID-19 patients. We look forward to expanding venous waveform analysis to include RIVA-RI, which has the potential to aid in triage of COVID-19 patients as well as monitor other pulmonary conditions."

What is Venous Waveform Technology?

NIVA and RIVA-RI are proprietary venous waveform technologies from VoluMetrix, representing a major innovation in vital monitoring technology. The venous waveform is an energy-based signal generated by the heart and respiratory activity that reflects numerous physiologic conditions, including pulse rate and respiration, as well as intravascular and extravascular dynamics. NIVA and RIVA-RI were developed to optimize hemodynamic and respiratory assessment in three key ways: signal capture (using a non-invasive wrist sensor), signal deconstruction (mapping individual amplitudes within a patient's waveform), and signal decoding.

About VoluMetrix

VoluMetrix is a Nashville-based company, closely aligned with Vanderbilt University and Medical Center in Nashville, TN, that is dedicated to creating a new wave of solutions for vital monitoring to enhance well-being. As pioneers of non-invasive venous waveform technology, we are partnering closely with patients and practitioners to develop the pathway towards the optimal implementation and utilization of our technology, from hospital to home.

NIVA and RIVA-RI technologies are investigational and are not available for sale in the United States.

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For more information, please visit our website at <https://www.volumetrix.com>.

1. Alvis B, Vaughn L, Schmeckpeper J, et al. Respiratory Non-Invasive Venous Waveform Analysis for Assessment of Respiratory Distress in Coronavirus Disease 2019 Patients: An Observational Study. *Critical Care Explorations*. 2021; 3:10, e0539.

https://journals.lww.com/ccejournal/fulltext/2021/10000/respiratory_non_invasive_venous_waveform_analysis.6.aspx

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