

Study Validates Caretaker Medical Continuous Noninvasive Blood Pressure Monitor Tracks With Invasive Arterial Standard

Caretaker Medical's FDA-cleared wireless platform clinically validated to provide continuous noninvasive blood pressure and hemodynamic monitoring

CHARLOTTESVILLE, VA., UNITED STATES, January 13, 2022 /EINPresswire.com/ -- Caretaker Medical, a pioneer in wireless “beat by beat” continuous, non-invasive, advanced patient monitoring, announces the successful results of the Intensive Care Unit study validating the noninvasive tracking of blood pressure using the Caretaker Device, and the pulse decomposition analysis approach against invasively measured arterial blood pressure standards.

Continuous monitoring of blood pressure (BP) is of great importance to detect and treat dynamic changes. Historically, blood pressure is measured intermittently with traditional cuffs that miss dangerous BP changes, or it is measured

continuously with an invasive arterial line, which is costly, requires a skilled clinician, and is difficult to use. Caretaker’s clinically validated PDA™ waveform analysis technology and AI algorithms, measure BP and hemodynamic parameters with every heartbeat.

The prospective, cohort clinical validation study examined 37 adult surgical and trauma patients admitted to the intensive care unit. In a prospective manner, beat-by-beat BP by Caretaker (CT) was recorded simultaneously with invasive arterial BP measured in patients in the intensive care



unit. Invasive arterial blood pressures were compared with those obtained by the CT system. The study found:

- From 37 enrolled patients, 34 were included with satisfactory data that overlapped between arterial catheter and CT.
- A total of 87,757 comparative data points were obtained for the 40-minute time window comparisons of the 34 patients, spanning approximately 22.5 hours in total.
- Systolic BP and diastolic BP correlations (Pearson coefficient), as well as the mean difference (standard deviation), were 0.92 and 0.36 (7.57) mmHg and 0.83 and 2.11 (6.00) mmHg, respectively.
- The overall interbeat correlation was 0.99, with the mean difference between interbeats obtained with the arterial BP and the CT of 0.056 ms (6.0).

“The study validates in an ICU setting that the noninvasive beat-by-beat tracking of BP and Heart Rate Variability using the CT device and the PDA approach is possible within the guidelines of the ANSI/AAMI/ISO 81060-2:2013 standard. Providing an easy-to-use wireless option to invasive arterial lines.” said Younghoon Kwon, MD, the study’s lead author and associate director of the Cardiac ICU at the University of Washington Medical Center.

About Caretaker Medical

Caretaker Medical is a Charlottesville, Virginia based digital health company focused on developing wireless, high-acuity, continuous patient monitoring devices that improve outcomes, increase clinician productivity, and maximize patient compliance and comfort.

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