ADView 2 Modular Diagnostic Station

WHITE PAPER

Blood Pressure Averaging: The New Normal?

Physicians have long used blood pressure averaging methods in order to determine the need for, and adjust the treatment of, hypertension for their patients. After all, a patient's true blood pressure is clinically defined as "the average level over prolonged periods of time."[1] But "averaging" has traditionally meant either taking the average of certain systolic and diastolic blood pressures from a 24-hour ambulatory blood pressure study[2], or asking patients to take multiple readings at home and averaging those readings.

But there is an increasing body of research that suggests the most effective method of averaging is to take a series of sequential, in-office blood pressure measurements and then average those measurements.[3,4] The evidence is so compelling that some countries, such as Canada, have made in-office blood pressure averaging the standard of care.[5] In addition, the recently published SPRINT Study from the National Institutes of Health specified that a mean of three office blood pressure measurements would be used to establish target BP's for Standard Group participants.[6]

There is not, however, a single recommended averaging protocol. The Canadian recommendation specifies one- or two-minute intervals between readings and discarding the initial reading from the averaging calculation. But in the SPRINT trial, three readings were done sequentially and all three were included in the calculation.

Physicians need the flexibility to design an averaging protocol that they are comfortable with, that reflects clinical best practices, and that fits into their practice workflow. Unfortunately, most automated blood pressure devices are not even capable of executing programmed averaging protocols, and those that are don't have much flexibility to modify how averaging is done.

The ADC® ADView® 2 spot-check vital signs device solves this problem by providing a customizable averaging protocol. The device can be programmed to take 2, 3, 4, or 5 sequential readings. It can be programmed to initiate the first measurement immediately, or wait 1, 2, 3, 4, or 5 minutes before the first reading starts. The interval between readings can be programmed for 15, 30, 60, 90, or 120 seconds. And the user can program the device to either include or discard the first reading from the averaging calculation.

Best of all, you only need to program the protocol once, and the device will remember all of the settings. The next time Averaging Mode is selected, it takes just a single button press to begin the same protocol as before.

The ADView 2 from ADC: Clinical-grade blood pressure technology with customizable averaging.

Notes

1 Pickering TG, Hall JE, Appel LJ, Falkner BE, Graves J, Hill MN, Jones DW, Kurtz T, Sheps SG, Roccella EJ; Recommendations for blood pressure measurement in humans and experimental animals, part 1: blood pressure measurement in humans: a statement for professionals from the Subcommittee of Professional and Public Education of the American Heart Association Council on High Blood Pressure Research; Hypertension; 2005; 45:142–161.

2 White WB, et al.; Average Daily Blood Pressure, not Office Blood Pressure, is Associated with Progression of Cerebrovascular Disease and Cognitive Decline in Older People; Circulation; 2011 November 22; 124(21): 2312–2319.

3 Armstrong D, et al.; Automated office blood pressure—being alone and not location is what matters most; Blood Pressure Monitoring; 2015; 20:204-208.

4 Vollmer WM, Appel LJ, Svetkey LP, Moore TJ, Vogt TM, Conlin PR, Proschan M, Harsha D; Comparing office-based and ambulatory blood pressure monitoring in clinical trials; J Human Hypertension; 2005; 19:77-82.

5 Hypertension–Diagnosis and Management; BCGuidelines.ca; Appendix B (2015); http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/htn-appendix-b.pdf; accessed Apr 4, 2016.

6 The SPRINT Study Research Group; The design and rationale of a multi-center clinical trial comparing two strategies for control of systolic blood pressure: The Systolic Blood Pressure Intervention Trial (SPRINT); Clin Trials; October 2014; 11(5): 532-546.