

Does automated office blood pressure require a 5-minute rest period when used to screen for hypertension?

Dear Editor,

Automated office blood pressure (BP) sequential measurements performed on patients alone in the examination room (AOBP) reduce white-coat BP elevation and the need for out-of-office BP measurement.¹ In patients whose systolic AOBP levels are >130 mm Hg, AOBP is within a few mm Hg of mean awake ambulatory BP.² Hypertension guidelines support^{3,4} AOBP to screen for hypertension. In their recent JCH publication,⁶ Colella et al conclude: "When screening for possible hypertension, the Omron 907XL should be used with 5 minutes of rest before three readings are recorded at 1-minute intervals." A 5-minute rest period before AOBP measurements to screen for hypertension may not be necessary. AOBP studies performed with no rest period using the BpTRU device (which takes six BP measurements at 1-minute intervals, averaging the last five, but is no longer available) correlated within a few mm Hg of mean awake ambulatory BP in patients with mean systolic AOBP levels of 141,⁷ 138,⁸ and 137 mm Hg.⁹ AOBP devices that average three AOBP measurements correlated closely with the BpTRU device (Omron HEM 907)¹⁰ and to mean awake ambulatory BP (WatchBP Office)¹¹ without a rest period. Another AOBP study without a rest period found excellent concordance with mean awake ambulatory BP by averaging the second and third AOBP measurements at 2 and 4 minutes.¹² The Hypertension Canada guideline notes that AOBP may be performed with "no special period of rest."³ A 5-minute rest period before AOBP measurements to screen for hypertension may inhibit AOBP utilization in real-world clinical practice.

CONFLICT OF INTEREST

The authors report no specific funding in relation to this research and no conflict of interest to disclose.

ORCID

Molly B. Conroy  <https://orcid.org/0000-0003-0404-1371>

Barry Stults MD

John Doane MD

Michael Jason Penrod MD

Molly B. Conroy MD, MPH 

Correspondence

Molly B. Conroy, MD, MPH, School of Medicine, University of Utah, Salt Lake City, UT.

Email: molly.conroy@hsc.utah.edu

REFERENCES

1. Myers MG. A short history of automated office blood pressure – 15 years to SPRINT. *J Clin Hypertens (Greenwich)*. 2016;18:721-724.
2. Myers MG. The relationship between automated office and awake ambulatory blood pressure may be different at thresholds for diagnosis and target for therapy. *Can J Cardiol*. 2018;34:8-10.
3. Nerenberg KA, Zarnke KB, Leung AA, et al. Hypertension Canada's 2018 guidelines for diagnosis, risk assessment, prevention, and treatment of hypertension in adults and children. *Can J Cardiol*. 2018;34:506-525.
4. Gabb GM, Mangoni AA, Anderson D, et al. Guideline for the diagnosis and management of hypertension in adults – 2016. *Med J Aust*. 2016;205:85-89.
5. Whelton PK, Carey RM, Aronow WS, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for the detection, evaluation, and management of high blood pressure in adults. *Hypertension*. 2018;71:e13-e115.
6. Colella T, Tahsinul A, Gatto H, Oh P, Myers MG. Antecedent rest may not be necessary for automated office blood pressure at lower treatment targets. *J Clin Hypertens (Greenwich)*. 2018;20:1160-1164.
7. Myers MG, Valdivieso M, Chessman M, Kiss A. Can sphygmomanometers designed for self-measurement of blood pressure in the home be used in office practice? *Blood Press Monit*. 2010;15:300-304.
8. Armstrong D, Matangi M, Brouillard D, Myers MG. Automated office blood pressure – being alone and not location is what matters most. *Blood Press Monit*. 2015;20:204-208.
9. Myers MG, Godwin M, Dawes M, et al. Conventional versus automated measurement of blood pressure in primary care patients with systolic hypertension: randomized parallel design controlled trial. *BMJ*. 2011;342:d286.
10. Myers MG, Valdivieso M, Kiss A, Jobe SW. Comparison of two automated sphygmomanometers for use in the office setting. *Blood Press Monit*. 2009;14:45-47.
11. Myers MG, Valdivieso M. Evaluation of an automated sphygmomanometer for use in the office setting. *Blood Press Monit*. 2012;17:116-119.
12. Moore MN, Schultz MG, Nelson MR, et al. Identification of the optimal protocol for automated office blood pressure measurement among patients with treated hypertension. *Am J Hypertens*. 2018;31(3):299-304.