

# Shorter rest periods yield same results when measuring blood pressure

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The rest time needed before an accurate blood pressure measurement may be shorter than previously believed, according to new research to be presented Sept. 10-13, 2020, at the virtual American Heart Association's Hypertension 2020 Scientific Sessions.

Researchers found no substantial difference in the average systolic blood pressure of participants when comparing zero, two or five minutes of rest before screening. The results could help improve the overall efficiency of blood pressure assessments in busy clinical settings.

The current American Heart Association/American College of Cardiology Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults recommends five minutes of rest before a blood pressure test. A presentation titled, "Results from a Randomized Trial of Different Rest Times Before Initiating Blood Pressure Measurements," examines whether a five-minute standard rest period before a blood pressure measure is scientifically necessary to produce an accurate reading.

"Based on results from other published studies, we were expecting to see a significant difference in average blood pressure measurements and overall readings. Instead, we discovered only marginal changes with shorter rest periods, which could help clinics obtain accurate screening measurements in a timely manner," says the study's lead author Tammy McLoughlin Brady, M.D., Ph.D., medical director of the Johns Hopkins Pediatric Hypertension Program and an associate professor of pediatrics at the Johns Hopkins University School of Medicine in Baltimore, Maryland.

Participants in the trial included 113 adults, ages 18 to 80, who underwent blood pressure measurement in a simulated clinical setting. Participants received four sets of three blood pressure measurements that were taken after three different rest times. Researchers randomized all to the order of rest periods (0, 2 and 5 minutes) prior to the first three blood pressure tests. All participants had blood pressure measured after a second five-minute rest period as their last measurement to estimate repeatability.

Researchers then compared the difference in average blood pressure taken after the first and second five-minute rest period, with the difference in average blood pressure between the first five-minute rest period and the two-minute rest period. They repeated these calculations for the first five-minute period and the zero-minute rest period. Participants with both normal and high blood pressure were tested.

Results from the analysis found:

- Overall, there were no more than a  $\pm 2$  mm Hg difference in the average difference between blood pressure obtained at the five-minute resting periods, compared to less than a minute and two minutes for those with a systolic measure

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