

BP measurements inaccurate with undercuffing, overcuffing

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Miscuffing results in inaccurate blood pressure (BP) measurements,

according to a study published online Aug. 7 in *JAMA Internal Medicine*.

Junichi Ishigami, M.D., M.P.H., from the Johns Hopkins Bloomberg School of Public Health in Baltimore, and colleagues examined the effects of using a regular BP cuff versus an appropriately sized BP cuff on automated BP readings in a randomized crossover trial of community-dwelling adults. A total of 195 adults underwent four sets of triplicate BP [measurements](#), using an appropriate, too-small, or too-large BP cuff in random order, followed by a fourth set with an appropriate BP cuff. The difference in mean BP when measured with a regular BP cuff compared to an appropriate BP cuff was assessed as the primary outcome.

The researchers found that use of a regular BP cuff resulted in a statistically significantly lower BP reading among those requiring a small BP cuff (mean systolic BP difference, -3.6 mm Hg). In contrast, use of a regular BP cuff resulted in a statistically significantly higher BP reading among [individuals](#) requiring a large or extra-large cuff (mean systolic BP difference, 4.8 and 19.5 mm Hg, respectively). Among those requiring larger BP cuffs, BP differences with overcuffing and undercuffing by one and two cuff sizes were higher.

"Using a regular BP cuff size for all individuals regardless of arm size resulted in strikingly inaccurate BP readings," the authors write. "A renewed emphasis on individualized BP cuff selection is warranted, particularly in individuals with larger arm sizes."

One author disclosed ties to the [pharmaceutical industry](#).

More information: Junichi Ishigami et al, Effects of Cuff Size on the Accuracy of Blood Pressure Readings, *JAMA Internal Medicine* (2023). [DOI: 10.1001/jamainternmed.2023.3264](https://doi.org/10.1001/jamainternmed.2023.3264)

Mathias Lalika et al, There Is No 1-Size-Fits-All to Blood Pressure Measurement—Cuff Size Matters, *JAMA Internal Medicine* (2023).
[DOI: 10.1001/jamainternmed.2023.3277](https://doi.org/10.1001/jamainternmed.2023.3277)

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