

Dear Clinicians,

Below we have shared a literature update on blood pressure measurement. If you have specific questions related to hypertension management in your patients, Dr. Williams can be reached directly by email at [Stephen.Williams@nyumc.org](mailto:Stephen.Williams@nyumc.org) or by phone at 646-320-8075 (cell).

## Bare arm best for BP measurement

### Clinical Question

What is the best way to measure blood pressure?

### Bottom Line

Bare those arms, folks. To get the most accurate measure, let patients chill for a few minutes, and then measure their blood pressure on a completely bare arm. Does a difference of 4 mm systolic and 6 mm to 7 mm diastolic matter? It might; especially when deciding whether to add a second or third drug. Also, remember to confirm office-based blood pressures with an out-of-office measurement (either ambulatory blood pressure monitoring or home blood pressure measurements), as many patients have white coat hypertension. ([LOE = 2c](#))

### Reference

[Ozone S, Shaku F, Sato M, Takayashiki A, Tsutsumi M, Maeno T. Comparison of blood pressure measurements on the bare arm, over a sleeve, and over a rolled-up sleeve in the elderly. Fam Pract 2016;33\(5\):517-522.](#)

**Study Design:**Cross-sectional

**Funding:**Self-funded or unfunded

**Setting:**Outpatient (primary care)

**Allocation:**Unknown

### Synopsis

It is important that we measure blood pressure in our offices in the same way it is done in studies of hypertension diagnosis and treatment. Otherwise, we risk misclassifying patients and may either overtreat or undertreat them. This simple cross-sectional study recruited 186 adults in a Japanese primary care clinic and in 2 adult daycare facilities. Blood pressure was measured using an automated cuff in 3 conditions: a completely bare arm, an arm covered by a sleeve no more than 1 mm thick to the wrist (a cardigan with a 1-mm thick sleeve was provided, if necessary), or an arm with the sleeve rolled up over the elbow. All patients were first asked to sit in a chair for 5 minutes prior to the measurement, with their arm supported and level. The researchers systematically varied the order in which blood pressure was measured. For each condition, the final blood pressure was the average of 3 measurements. The participants had a mean age of 75 years, 62% were female, and approximately 63% were hypertensive. The mean blood pressures were 129/67 taken on a bare arm, 133/73 on a fully sleeved arm, and 133/74 on an arm with the rolled-up sleeve. The difference persisted after adjusting for age and measurement order in an ANOVA model. It is also interesting that the mean blood pressure decreased from the first measurement (135/74) to the second measurement (131/71) and to the third measurement (129/70).

Mark H. Ebell, MD, MS  
Professor  
University of Georgia

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