AMA | MAP BP™

Device calibration test[1]

Self-measured blood pressure

Use the process below to calibrate a patient's self-measured blood pressure (SMBP) device whenever self-measurement results appear to have an unreasonable discrepency compared to in-office results. Ensure proper preparation, positioning and technique prior to taking blood pressure (BP) measurements. The office BP measurement device and the patient's SMBP device should be validated for clinical accuracy.

Step 1

Complete the table below.

Using the same arm, take five blood pressure measurements using a combination of the patient's SMBP device and the office's method of blood pressure measurement. There is no rest period required between measurements.

Measurement	Device	Systolic blood pressure (SBP)	SBP Example
A	Patient's		133
B	Patient's		132
C	Office's		141
D	Patient's		134
E	Office's		139

Step 2

Part 1: Average measurements B and D ☐

Part 2: Compare average of B and D to measurement C ☐

Part 3: If the *difference* is …

- **Less than 5 mm Hg**, this device can be used for SMBP
- **Between 6 and 10 mm Hg**, proceed to Step 3
- **Greater than 10 mm Hg**, *replace* the device before proceeding with SMBP

Example

Part 1: (132 + 134) / 2 = 133

Part 2: 133 - 141 = 8 (note: if the difference is a negative number, ignore the negative sign)

Part 3: Difference is 8, which is between 6 and 10 mm Hg, so proceed to Step 3

Step 3

Part 1: Average measurements C and E ☐

Part 2: Compare average of C and E to measurement D ☐

Part 3: If the *difference* is …

- **Less than or equal to 10 mm Hg**, this device can be used for SMBP
- **Greater than 10 mm Hg**, *replace* the device before proceeding with SMBP

Example

Part 1: (141 + 139) / 2 = 140

Part 2: 140 - 134 = 6 (note: if the difference is a negative number, ignore the negative sign)

Part 3: Difference is 6, which is less than or equal to 10 mm Hg, so proceed with SMBP

1. Eguchi et al. A Novel and Simple Protocol for the Validation of Home Blood Pressure Monitors in Clinical Practice. *Blood Press Monit.* 2012;17(5):210-213.