

Avoid Common Blood Pressure Measurement Errors

Top Takeaways

- Even small errors in blood pressure measurement can significantly skew results, leading to over or undertreatment of hypertension.
- Emphasize proper measurement technique: a validated upperarm monitor, a properly sized cuff, correct positioning, and appropriate timing.
- Encourage consistent home monitoring and periodically verify technique and device accuracy.

Blood pressure is often measured incorrectly...leading to over- or undertreatment of hypertension.

Take steps to reinforce proper BP monitoring technique at home, etc.

Start with the right equipment. Continue to recommend an automatic upper ARM monitor...they're the most accurate. Use the ValidateBP.org website to find devices that are validated for clinical accuracy.

Discourage wrist monitors...unless arm cuffs don't fit properly (severe obesity, etc).

Avoid finger monitors...they're notoriously inaccurate.

For now, tell patients not to rely on "cuffless" BP devices (smartwatches, etc)...data on their reliability and precision are mixed.

Remember that "size matters" with cuffs. A cuff that's too small overestimates BP...one that's too large underestimates BP.

Aim for a cuff bladder length covering about 80% of the arm circumference...and a width of about 40%.

Educate patients that most OTC cuffs have an index marker and range lines...and the index should fall completely within the marked range.

Time readings right. Patients should rest quietly at least 5 min before the measurement withOUT talking, scrolling on their phone, etc.

Also suggest waiting at least 30 min after exercise, smoking, or caffeine...even though caffeine usually doesn't raise BP in regular users.

But having a full bladder or using nicotine within 30 min before a reading can transiently increase systolic BP by 25 mm Hg or more.

Encourage twice-daily measurements...such as in the morning before meds and breakfast and in the evening before dinner or sleep.

Avoid positioning pitfalls. Advise sitting still with legs uncrossed...feet flat on the floor...back supported...and the arm supported at heart level.

Lowering the arm below the heart may lead to falsely high BP numbers...having the arm higher than the heart may lead to falsely low BP.

Remind patients NOT to place the cuff over clothing...since this may throw off the reading by 10 to 50 mm Hg.

Track and verify results. Encourage taking 2 readings about 1 min apart...and averaging the measurements. Advise using a log or app to record the numbers...plus any missed med doses, illness, etc.

Suggest patients bring their home BP monitor to you or to an office visit to check their home measurement

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technique...and confirm accuracy.

Explore our *Measuring Blood Pressure Checklist* for more tips...and our *Treatment of Hypertension* algorithm to review meds.

Key References:

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