

The Prudent Prescriber

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Pharm Reps ≠ Rational Prescribing

(PR)



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How We Measure Things Is Important What is the Best Way to Measure BP?

First, bare those arms, folks.

A study by Ozone S, et al. in *Fam Pract* 2016; 33(5): 517-522 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.

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. 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).

Antibiotics do

NOT



help

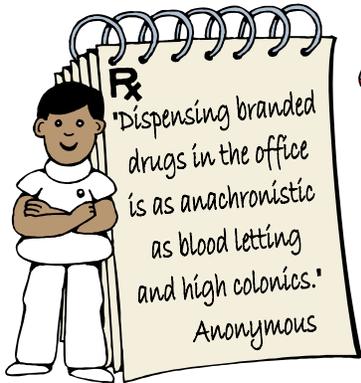
acute bronchitis

β-blockers in post-MI

save lives



Pill splitters save BIG



CHE?

Think:

- Ace**
- Aldactone**
- B-blocker**
- Dig**
- Diuretic**



Avoid these expensive "me-too" drugs:

- Intermezzo
- Vimovo
- Livalo
- Gralise
- Viibryd
- Edarbi
- Daliresp



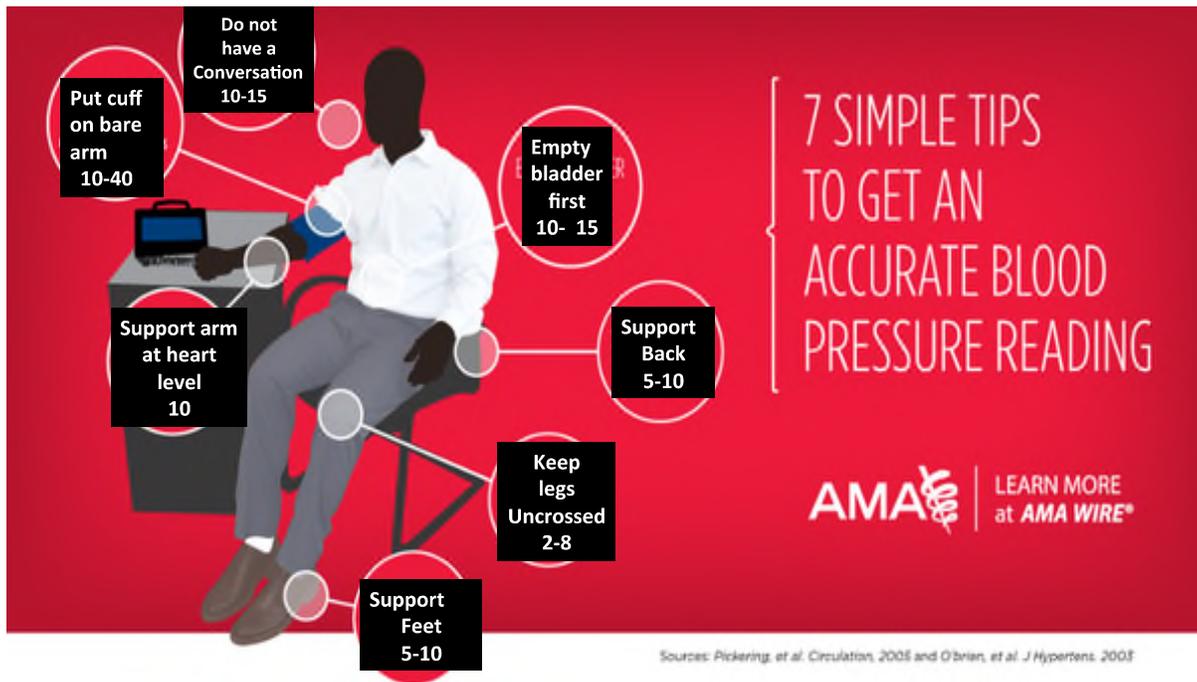
Treat patients

> 60 years to 150/90



NOW AVAILABLE
ON THE
GENERIC MARQUEE

Advair → fluticasone/salmeterol
or Wixela Inhub
Viagra → sildenafil
Uceris → budesonide ER
Suboxone → buprenorphine/naloxone



What the Dutch Know

This Dutch trial (Bos MJ, Buis S. *Ann Fam Med* 2017;15 (2):120-123.) studied 201 patients (60% women) with an average age of 69 years. The authors recruited patients with “white coat” hypertension and those with inconsistent or poorly controlled BP readings in the office. All underwent 30-minute office blood pressure monitoring (OBP30). For the OBP30, the patient sits alone in a quiet area with an automated unit that measures and records blood pressure every 5 minutes. The final OBP30 reading is the simple average of the 6 readings. For this study, the authors compared the OBP30 with the last “regular” office reading. **On average, the systolic OBP30 readings were 23 mm Hg lower than the office readings, and the diastolic OBP30 readings were 12 mm Hg lower than in the office.**

Approximately 80% of the clinicians would have intensified treatment based solely on the office blood pressure readings compared with only 25% who would have intensified treatment based on the OBP30.

What Canadian Physicians Can Teach Us

In a systematic review and meta-analysis, investigators from University of Toronto compared automated office blood pressure (AOBP) readings with other methods of blood pressure measurement for identifying patients with possible hypertension. (*JAMA Internal Medicine*, published online February 4, 2019)

Data were compiled from 31 articles including 9,279 participants. In samples with systolic BP of 130 mmHg or more, **routine office BP readings were substantially higher than AOBP readings by an average of 14.5 mm Hg.** Systolic awake ambulatory blood pressures (the standard for predicting cardiovascular risk) and AOBP readings were similar with a mean difference of 0.3 mm Hg.

The important components of AOBP involve recording several blood pressure readings using a fully automated oscillometric sphygmomanometer with the patient resting alone in a quiet place. The essence of AOBP is to eliminate conversation between the patient and office staff, as talking is known to be a major cause of the white coat effect. Removing clinic staff likely reduces any anxiety caused by the presence of nurses or physicians.

In 2016, the evidence based Hypertension Canada Guidelines recommended automated office blood pressures (AOBP) as the preferred technique for office blood-pressure measurement. More than 50% of Canadian physicians in primary care are now using AOBP measurement in their practices.

My Take:

- ❖ OK, I agree that in the first study, 4–7 mm Hg does not seem like a big deal, but measuring BP in a consistent manner over a bare arm eliminates one more variable. Recall: feet flat on the floor, uncross legs, back supported, arm supported at the level of the heart, empty bladder, and correct size cuff.
- ❖ In the second and third studies, the differences between the BPs measured in the office in a routine fashion and those obtained by automated office blood pressure (AOBP) readings are clinically significantly different: 14.5 – 23 mm Hg systolic and 12 mm Hg, diastolic.
- ❖ If our Canadian colleagues can adapt and do AOBP, so can we. This is another facet of medicine where we can eliminate over-diagnosis and provide evidence-based care.

A quick look at three other hypertension related ideas:

- Physicians are sometimes surprised to learn that their patient with high blood pressure is taking a drug that actually increases BP. The following drugs may cause a modest (3 mm – 15 mm) jump in systolic blood pressure.
 - Decongestants: pseudoephedrine bumps blood pressure ~2 mm Hg.
 - NSAIDs: occasional use is probably not a problem, but consider limiting dose/duration, particularly patients with significant cardiovascular risk.
 - Contraceptives with estrogen
 - SNRIs: keep the dose of venlafaxine to less than 225mg per day.
 - Caffeine: 1 – 2 cups per day have little effect on blood pressure, but larger amounts may cause sustained elevation of blood pressure for a few hours.
- Mirroring the evidence above, Burkhard et al. (Heart 2018; 104(14):1173-1179) point out that a single BP measurement is not reliable. In a study of 1,000 consecutive patients who presented for internal medicine, obstetrical or gynecologic care, the first systolic blood pressure was more than 10 mm higher than the mean of subsequent measurements in 23.9% of patients. In total, almost half of patients had a systolic difference of more than 5 mm Hg. Hypertension would have been diagnosed in error in 23.9% of patients if only the first measurement had been obtained.
- Finally recall that there is significant controversy regarding the recent American College of Cardiology (ACC) and American Heart Association (AHA) guidelines for diagnosing hypertension. The ACC and the AHA are recommending a stricter goal of less than 130/80 across-the-board. Their decision rests primarily because the SPRINT trial suggested a lower target may reduce cardiovascular risk. Recall that in the SPRINT trial, the NNT to avoid one adverse CV event was 62 for 3.3 years. In addition, the lower targets were associated with a significant incidence of hypotension, syncope, and electrolyte disturbances, about 1% higher than the control group (NNH = ~100). The incidence of acute kidney injury was about 2% higher. (NNH= ~50).

The American Academy of Family Physicians and the American Diabetes Association are sticking with a goal of below 140/90 for many patients.

Physicians should continue to use their clinical judgment and utilize shared decision-making in managing hypertension!

You may access previous issues at <https://www.rmhp.org/i-am-a-provider/provider-resources/publications-for-providers>.

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