

## Article of Interest

Verberk W et al. The optimal scheme of self blood pressure measurement as determined from ambulatory blood pressure recordings. Journal of Hypertension. 2006. ([Click to Access](#))

## Context and Study Objective

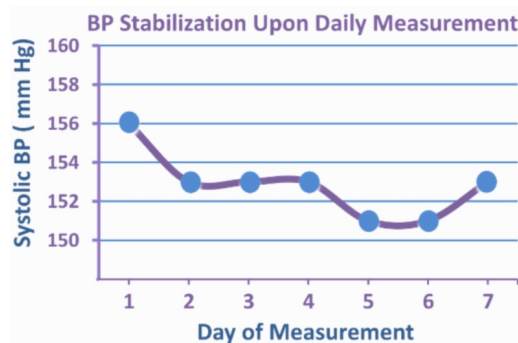
While we recommend home blood pressure (BP) measurement to our patients, we fail to provide guidance in the way of technique, frequency, and duration of monitoring. In this paper, Verberk endeavored to determine the number of self-measurements required to reproduce values generated by 24-hour ambulatory BP monitoring (ABPM), the gold standard.

## Design, Setting, and Participants

Analyzing the subset of individuals randomized to home measurement in the [HOMERUS](#) trial, readings generated by self-assessment were compared to values obtained by 24-hour ABPM. Subjects checked their pressure before breakfast and in "the evening" daily for 7 days. Measurements were taken after 5 minutes rest in triplicate with a 1 minute pause between assessments. Only untreated hypertensives without cardiovascular or kidney disease were eligible.

## Results

- Study characteristics: 216 individuals, mean age 55, 45% women. Likely all Caucasian. Mean office BP 166/97 mm Hg. 6% diabetic. Creatinine 0.9 mg/dL.
- Figure (top): When daily measurements were compared, those on day 1 were highest with readings declining and then stabilizing over the following days.
- Figure (bottom): Within a given series of 3 readings, the first value was higher than the subsequent two readings throughout the 7 day period.
- Self-measurement most closely replicated ABPM results when values from days 1-2 were omitted and when the first measurement from each series was excluded.



## Clinical Perspective

- We recognize the foolishness of modifying a patient's insulin regimen based on a single office blood glucose yet we unfailingly adjust anti-hypertensives in response to a lone office reading. Hence, self-monitoring is indispensable.
- Failing to teach your patient how to check her BP will inevitably lead to a scattered collection of single readings thereby preserving much of the white coat effect.
- Many report that the complexity of these protocols deters patients from completing the exercise. I employ a simplified (yet validated) schedule and [provide patients this worksheet](#) to fill out. I often request morning measurements initially and only seek home evaluation to establish ambulatory values and after medication changes. I discard values from the first day and the initial value in each series.
- Recall that BP targets by [home reading](#) are lower than goals established through in-office assessment.
- Study Limitations: The cohort was racially homogeneous and young (age 55). Only those with untreated hypertension were included. Despite these criticisms, comparable protocols have been verified among diverse populations.
- Disclosures: I have no conflicts to declare.

