

Assessing the Importance of Ambulatory Blood Pressure Monitoring for Hypertensive Patients

The following is a synopsis of “Is It Possible to Manage Hypertension and Evaluate Therapy Without Ambulatory Blood Pressure Monitoring?” published in the August 2012 issue of *Current Hypertension Reports*.

What is already known on this topic?

Nearly one out of three American adults has high blood pressure, also known as hypertension. High blood pressure is a major risk factor for heart disease and stroke, which are leading causes of death in the United States. Less than half of adults with hypertension have the condition under control.

Ambulatory blood pressure monitoring (ABPM) is an out-of-office method of diagnosing or managing hypertension. ABPM measures blood pressure automatically and continually while patients perform daily activities. ABPM can provide the ability to detect masked or white-coat hypertension, determine nocturnal blood pressure patterns, and evaluate the impact of antihypertensive treatment.

What is added by this document?

This review summarized the clinical importance of ABPM as well as the advantages and disadvantages of clinic blood pressure measurement, home blood pressure monitoring (HBPM), and ABPM. Overall, the authors concluded that 24-hour ABPM provides the best prediction of cardiovascular disease risk in hypertensive patients. The authors indicated that clinic measurements and HBPM are not specific or sensitive enough to provide a definitive diagnosis of hypertension in many patients. HBPM can, however, be used for ongoing follow-up, can provide unique information that may help guide important treatment decisions, and can empower patients to participate more proactively in their own care.

The authors concluded the following about the different methods of blood pressure measurement:

	Pros	Cons
Clinic	<ul style="list-style-type: none"> • Ease of measurement • Associated with clinical trial outcome data 	<ul style="list-style-type: none"> • Lack of reproducibility • White-coat effect • Masked hypertension
Home (Self)	<ul style="list-style-type: none"> • Inexpensive • Empowers patient involvement in own care 	<ul style="list-style-type: none"> • Little outcome data • Can cause patient anxiety • Device variability
ABPM	<ul style="list-style-type: none"> • Large number of measurements obtained • Sleep measurements obtained • Provides the ability to evaluate drug treatment effect 	<ul style="list-style-type: none"> • Most expensive blood pressure method • Inconvenient for patient to do repeatedly

What are the applications for these findings?

The findings from this review support most current national and international guidelines that recommend the routine use of ABPM to make the initial diagnosis of hypertension and use of HBPM for ongoing follow-up. Using ABPM, possibly in conjunction with HBPM, may be a better way to manage hypertensive patients, especially those with increased cardiovascular risk (e.g., diabetes, high cholesterol) and those who already

have cardiovascular disease. ABPM also can be used to detect masked or white-coat hypertension and assess antihypertensive therapy.

However, the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)—the guidelines published in 2003 and used in the United States—does not recommend ABPM for diagnosis of hypertension or assessment of antihypertensive therapy. Instead, JNC 7 recommends ABPM for suspected white-coat hypertension, apparent drug resistance, and other specific conditions. The JNC 8 guidelines are forthcoming and may reconsider these recommendations.

What are the implications for public health practice?

The routine use of ABPM to make the initial diagnosis of hypertension and use of HBPM for ongoing follow-up may lead to a reduced number of patients incorrectly diagnosed with hypertension and thus unnecessarily started on antihypertensive therapy. In addition, ABPM use may add to the trend for more self-management of hypertensive patients, which might help control hypertension especially in the context of reduced access to primary care physicians.

Resources

Centers for Disease Control and Prevention

Vital Signs: Awareness and Treatment of Uncontrolled Hypertension Among Adults—United States, 2003–2010

www.cdc.gov/mmwr/preview/mmwrhtml/mm6135a3.htm

Fast Stats: Leading Causes of Death

www.cdc.gov/nchs/fastats/lcod.htm

National Institutes of Health

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)

www.nhlbi.nih.gov/guidelines/hypertension

Pickering TG, Shimbo D, Haas D. Ambulatory blood-pressure monitoring. *N Engl J Med*. 2006;354:2368–74.

Citation

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Chronic Disease Prevention and Health Promotion

Division for Heart Disease and Stroke Prevention



For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov **Web:** www.cdc.gov