



## Does ambulatory blood pressure monitoring aid in the management of patients with hypertension?

### EVIDENCE-BASED ANSWER

Twenty-four hour ambulatory blood pressure monitoring (ABPM) has a higher correlation with target end-organ damage than standard office measurements and is superior for risk stratification. Because it is more complicated to implement than office-based measurements, it should be reserved for: establishing the diagnosis of white-coat hypertension or borderline hypertension in previously untreated patients; evaluating previously treated patients with resistant hypertension; diagnosing and treating hypertension disorders of pregnancy; and identifying nocturnal hypertension. (Grade of recommendation: B, based on consistent cohort studies and trials, requiring extrapolation in certain clinical circumstances)

### EVIDENCE SUMMARY

The accuracy of ABPM has been validated for use in the adult, pediatric, and pregnant populations.<sup>1</sup> Community-based cohort studies have consistently shown ABPM to be more reproducible than office blood pressure measurements.<sup>2,3</sup> Also, ABPM correlates better with disease-oriented outcomes, such as left ventricular mass, retinopathy, and microalbuminuria than does office measurement.<sup>4,5</sup>

ABPM also has a better correlation with several patient-oriented outcomes. A cohort study of 1076 patients found that an elevation in ABPM was a better predictor of cardiovascular events and overall mortality than office measurements.<sup>6</sup> Another cohort study of 1464 patients found ABPM was linearly related to stroke risk and more predictive of a cerebrovascular event than was screening blood pressure over an average of 6.4 years.<sup>7</sup>

In a randomized parallel-group trial, 419 untreated patients were followed up using either ABPM or conventional office measurements to initiate and adjust antihypertensive therapy.<sup>8</sup> When compared with standard office measurement, management with ABPM led to less intensive antihypertensive drug therapy without loss of blood pressure control. Evidence from these and other studies indicates that ABPM can be useful for risk stratification of patients in whom the diagnosis of hypertension is not clear.<sup>9</sup> However, trials studying the long-term outcomes of the treatment of ambulatory blood pressure levels are still lacking.

### RECOMMENDATIONS FROM OTHERS

An ad hoc committee of the American Society of Hypertension, the Canadian Hypertension Society, and the British Hypertension Society all agree that ABPM is useful in excluding the diagnosis of white-coat hypertension and evaluating resistant hypertension or episodic hypertension.<sup>1</sup> The sixth report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of Hypertension and the National High Blood Pressure Education Program working group on ambulatory blood pressure monitoring add that ABPM plays a limited role in the routine evaluation of patients with suspected hypertension.<sup>1</sup>

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*Expert literature search by E. Diane Johnson, MLS*

### CLINICAL COMMENTARY

Why has ABPM not supplanted office-based sphygmomanometry as a preferred measurement technique? Because it is inconvenient. The first barrier to eliminating hypertension is getting blood pressure readings in the first place, and ABPM is not well suited for this. But in borderline or difficult situations (eg, white-coat or nocturnal hypertension), where multiple determinations are necessary, ABPM has something to offer. Perhaps its greatest value is in developing more parsimonious and effective treatment regimens for treatment-resistant patients, or those for whom side effects are a problem.

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### REFERENCES

1. See [www.jfponline.com](http://www.jfponline.com) for the Joint National Committee reference, validation studies, and references for recommendations from others.
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