



**AMBULATORY BLOOD  
PRESSURE MONITORING  
HS-041**



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WellCare Health Insurance of Arizona, Inc.*

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**Ambulatory Blood  
Pressure Monitoring**

**Policy Number: HS-041**

**Original Effective Date: 8/25/2008**

**Revised Date(s): 8/31/2009; 8/20/2010;  
8/2/2011**

**DISCLAIMER**

The Clinical Coverage Guideline is intended to supplement certain standard WellCare benefit plans. The terms of a member's particular Benefit Plan, Evidence of Coverage, Certificate of Coverage, etc., may differ significantly from this Coverage Position. For example, a member's benefit plan may contain specific exclusions related to the topic addressed in this Clinical Coverage Guideline. When a conflict exists between the two documents, the Member's Benefit Plan always supersedes the information contained in the Clinical Coverage Guideline. Additionally, Clinical Coverage Guidelines relate exclusively to the administration of health benefit plans and are NOT recommendations for treatment, nor should they be used as treatment guidelines. The application of the Clinical Coverage Guideline is subject to the benefit determinations set forth by the Centers for Medicare and Medicaid Services (CMS) National and Local Coverage Determinations and state-specific Medicaid mandates, if any.

**APPLICATION STATEMENT**

The application of the Clinical Coverage Guideline is subject to the benefit determinations set forth by the Centers for Medicare and Medicaid Services (CMS) National and Local Coverage Determinations and state-specific Medicaid mandates, if any.

## **BACKGROUND**

Automated ambulatory blood pressure monitoring (ABPM) devices consist of an inflatable arm cuff with pressure regulators and valves to measure blood pressure, a cuff microphone or sound transducer and microprocessor to detect and interpret blood pressure sounds or oscillations, mechanisms for programming and recording blood pressure readings, batteries for operating the device, and, in the case of semiautomatic devices, an inflation bulb. These devices utilize the auscultatory or the oscillometric method to detect blood pressure. The auscultatory method is the same as that used with standard sphygmomanometer. With ABPM devices, the sounds are detected by a microphone or sound transducer in the cuff. The oscillometric method is based on detecting fluctuations in arterial movement produced by changes in the volume of blood as it moves through the artery in a pulsed, wavelike fashion. These fluctuations, or oscillations, are transmitted to the cuff, where a microprocessor interprets them. The point at which a rapid increase in oscillation amplitude occurs is taken as systolic pressure, and the point at which a sudden decrease in amplitude occurs is taken as diastolic pressure. These oscillometric systolic and diastolic pressures closely approximate the first and fifth Korotkoff phases, respectively.

Automated ABPM devices are programmed prior to individual use to read blood pressure and, sometimes, heart rate, at specific intervals throughout the monitoring period. During a typical ABPM session, blood pressure is measured every 15 to 30 minutes over a 24-hour period (including both awake and asleep hours). The total number of readings usually varies between 50 and 100. With fully automatic devices, the patient wears the arm cuff and complete device continuously throughout the monitoring period, and cuff inflations occur automatically at the preset intervals, whereas, with semiautomatic devices, the patient must position and inflate the arm cuff when the inflation signal is heard at each of the preset intervals. Otherwise, use of the devices is similar, with deflations occurring automatically at a governed rate and blood pressure readings recorded automatically. In either case, an appropriately sized arm cuff is chosen and used on the non-dominant arm, and the patient is instructed to keep the arm immobile and to sit, whenever possible, during readings to prevent external noise or motion from interfering with the detection of blood pressure sounds or oscillations. Patients may also be instructed to keep a record of their activities and any adverse events during the monitoring period so that these may be correlated with changes in the blood pressure.

At the end of the monitoring period, blood pressure readings are analyzed with software that may be built into the device or separate from it. Readings that appear to be too high or too low to be genuine, such as systolic pressures of less than 60 mm Hg or more than 280 mm Hg or diastolic pressures of less than 30 mm Hg or more than 160 mm Hg, are considered invalid and edited from the analysis. While manual editing may be required, some ABPM models delete invalid readings automatically and some fully automatic models even take a replacement reading immediately after deleting an invalid one. However, default codes for automatic editing varied from one study to another, and it is not clear if these codes are preset by the manufacturer or are individually set for each patient by the physician.

Data from a number of studies indicate that automated ABPM is a safe and reliable technique for determining average blood pressure values in a 24-hour period and identifying blood pressure variability throughout an observation period. There is moderate evidence derived from several large-scale prospective controlled studies suggesting that ABPM has clinical utility in determining which patients have white coat hypertension and which have sustained hypertension. There is also evidence that ABPM may play a useful role in determining if patients who are on antihypertensive medication but remain hypertensive in a medical office setting have drug resistant disease or are adequately controlled in other settings (Hayes, 2004).

## **POSITION STATEMENT**

Ambulatory Blood Pressure Monitoring (ABPM) **is considered medically necessary** if ALL of the following criteria are met:

- Must be performed for at least 24 hours to meet criteria; **AND**,
- The information obtained by ABPM must be necessary to determine appropriate management of the member; **AND**,
- Is only used by those member's with **ONE** of the following indications:
  1. Suspected white coat hypertension\*; **OR**,
  2. Resistant hypertension; **OR**,
  3. Evaluation of hypotension related to antihypertensive medication in hypertensive members; **OR**,
  4. Nocturnal angina; **OR**,
  5. Episodic hypertension; **OR**,
  6. Evaluation of syncope.

\*Suspected white coat hypertension is defined as:

- Office blood pressure is greater than 140/90 mmHg on at least three separate office/clinic visits with two separate measurements made at each visit; **AND**,
- At least two documented blood pressure measurements taken outside the office which are less than 140/90 mmHg; **AND**,
- No evidence of end-organ damage.

Note: ABPM should only be done once per member to help diagnose the above indications. In the rare instance that ABPM needs to be performed more than once in a member, the qualifying criteria described above must be met for each subsequent ABPM test.

Note: Member's for which ABPM demonstrates a blood pressure of greater than 135/85 mmHg may be at increased cardiovascular risk, and a physician may want to consider antihypertensive therapy.

## **CODING**

### **Covered CPT®\* Codes**

- 93784** Ambulatory blood pressure monitoring utilizing a system such as magnetic tape and/or computer disk, for 24 hours or longer, including recording, scanning analysis, interpretation and report.
- 93786** Ambulatory blood pressure monitoring, utilizing a system such as magnetic tape and/or computer disk, for 24 hours or longer; recording only
- 93788** Ambulatory blood pressure monitoring, utilizing a system such as magnetic tape and/or computer disk, for 24 hours or longer; scanning analysis with report
- 93790** Ambulatory blood pressure monitoring, utilizing a system such as magnetic tape and/or computer disk, for 24 hours or longer; physician review with interpretation and report

**ICD-9-CM Procedure Codes** - Not applicable

**HCPCS Codes** - Not applicable

### **Covered ICD-9-CM Diagnosis Codes**

- 401.0 - 405.99** Hypertensive disease
- 413.0** Nocturnal Angina
- 458.0** Orthostatic hypotension
- 780.2** Syncope and collapse
- 796.2** Elevated blood pressure reading without diagnosis of hypertension

\*Current Procedural Terminology (CPT®) ©2010 American Medical Association: Chicago, IL.

## REFERENCES

### Peer Reviewed

1. Ben-Dov et al. Normal Ambulatory Blood Pressure: A Clinical-Practice-Based Analysis of Recent American Heart Association Recommendations. *The American Journal of Medicine*, 119, 2006.
2. Clement et al. Prognostic Value of Ambulatory Blood-Pressure Recordings in Patients with Treated Hypertension. *New England Journal of Medicine*, 348:24, 2003.
3. Hayes Directory. Ambulatory Blood Pressure Monitoring with Fully Automatic Portable Monitors. December 4, 2004.
4. Marchiando et al. Automated Ambulatory Blood Pressure Monitoring: Clinical Utility in the Family Practice Setting. *American Family Physician*, 67 (11), 2003.
5. O'Shea et al. 2006. 24-Hour ambulatory blood pressure monitoring.
6. Pickering et al. Ambulatory Blood Pressure Monitoring. *The New England Journal of Medicine*, 354 (22):2368-2374. June 6, 2006.

### Government Agencies, Professional and Medical Organizations

1. American College of Physicians. Automated ambulatory blood pressure and self-measured blood pressure monitoring devices: Their role in the diagnosis and management of hypertension. 1993.
2. Centers for Medicare and Medicaid Services (CMS), National Coverage Determination (NCD) for Ambulatory Blood Pressure Monitoring (20.19).

### Other

1. UnitedHealthcare Technology Assessment. Ambulatory Blood Pressure Monitoring. November 1, 2007.

## HISTORY AND REVISIONS

Date	Action
12/1/2011	<ul style="list-style-type: none"><li>• New template design approved by MPC.</li></ul>
8/2/2011	<ul style="list-style-type: none"><li>• Approved by MPC. No changes.</li></ul>