Ambulatory Blood Pressure Monitoring

Ambulatory blood pressure monitors (24-hour sphygmomanometers) are portable devices recording blood pressure while the patient is involved in daily activities. There are several types of monitors, including:

- fully automated, which inflate at preprogrammed intervals;
- semi-automated, which are patient activated;
- transtelephonic, which allow use of the telephone to transmit measured automatic digital readings to a computer-assisted receiver;
- intra-arterial, which are used exclusively as research tools due to risk of infection or arterial damage and tissue necrosis.

Ambulatory blood pressure monitoring (ABPM), typically done over a 24-hour period with a fully automated monitor, provides more detailed blood pressure information than typically obtained during office visits. The greater number of readings with ABPM ameliorates the variability of single blood pressure measurements, and is more representative of the circadian rhythm of blood pressure compared to the limited number obtained during office measurement.

There are a number of potential applications of ABPM. One of the most common is evaluating suspected “white-coat hypertension” (WCH), which is defined as an elevated office blood pressure with normal blood pressure readings outside the physician’s office. The etiology of WCH is poorly understood but may be related to an “alerting” or anxiety reaction associated with visiting the physician's office.

In evaluating patients having elevated office blood pressure, ABPM is often intended to identify patients with normal ambulatory readings who do not have sustained hypertension. Since this group of patients would otherwise be treated based on office blood pressure readings alone, ABPM could improve outcomes by allowing these patients to avoid unnecessary treatment. However, this assumes patients with WCH are not at increased risk for cardiovascular events and would not benefit from antihypertensive treatment.

This policy does not directly address other uses of ABPM, e.g., for monitoring patients with established hypertension under treatment; evaluating refractory or resistant blood pressure; evaluating whether symptoms such as lightheadedness correspond with blood pressure changes; evaluating nighttime blood pressure; examining diurnal patterns of blood pressure; and/or other potential uses.

Many ambulatory blood pressure monitors have received clearance to market through the U.S. Food and Drug Administration (FDA) 510(k) marketing clearance process. As an example of an FDA indication for use, the Welch Allyn ABPM 6100 is indicated “as an aid or adjunct to diagnosis and treatment when it is necessary to measure adult or pediatric patients’ systolic and diastolic blood pressures over an extended period of time. The system is only for measurement, recording, and display. It makes no diagnosis.”
Ambulatory Blood Pressure Monitoring

***Note: This Evidence Based Guideline is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.***

Evidence Based Guideline for Ambulatory Blood Pressure Monitoring

The available evidence does not permit conclusions regarding the effect of ambulatory blood pressure monitoring on health outcomes, therefore this procedure is not recommended.

Medical Evidence regarding Ambulatory Blood Pressure Monitoring indicates it is not recommended in the following situations

Definitive evidence documenting improved health outcomes associated with the clinical use of ambulatory blood pressure monitoring is lacking, particularly in comparison with other methods of measuring blood pressure, i.e., serial measurements by a non-physician in the office setting or patient self-measurement at home.

Based on available evidence, it is not possible to conclude that the use of ambulatory blood pressure monitoring leads to clinically significant health outcome benefits for patients with elevated office blood pressure (white-coat hypertension).

Benefits Application

This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

Billing/Coding/Physician Documentation Information

This guideline may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable codes: 93784, 93786, 93788, 93790

Scientific Background and Reference Sources

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.02, 10/08/02
California Technology Assessment Forum. (2004, October 20) Utility of ambulatory blood pressure
Ambulatory Blood Pressure Monitoring


Appel L, Robinson K, Guallar E. Utility of Blood Pressure Monitoring Outside of the Clinic Setting. Evi-
dence Report/Technology Assessment No. 63 (Prepared by the Johns Hopkins Evidence-based Practice


BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.02, 7/10/08


Policy Implementation/Update Information

<table>
<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>7/82</td>
<td>Original policy: Experimental/Investigative</td>
</tr>
<tr>
<td>11/84</td>
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<td>4/86</td>
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</tr>
<tr>
<td>8/00</td>
<td>Specialty Matched Consultant Advisory Panel. Changed from investigational to not medically necessary.</td>
</tr>
<tr>
<td>9/00</td>
<td>System coding changes.</td>
</tr>
<tr>
<td>11/01</td>
<td>Coding Format Change.</td>
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<tr>
<td>11/01</td>
<td>Revised coding format change.</td>
</tr>
<tr>
<td>9/02</td>
<td>Specialty Matched Consultant Advisory Panel review. Duplicate codes removed from the Billing and Coding Section. Added, &quot;There are no controlled studies to demonstrate the value of ambulatory blood pressure monitoring over home blood pressure monitoring in terms of clinical management or outcomes.&quot; to Policy Guideline section.</td>
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<tr>
<td>12/03</td>
<td>Benefits Application and Billing/Coding sections updated for consistency.</td>
</tr>
<tr>
<td>3/16/06</td>
<td>Specialty Matched Consultant Advisory Panel review 2/27/06. No changes made to policy criteria. Rationale added to Policy Guidelines section. Policy number added to Key Words. References updated.</td>
</tr>
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</table>
Ambulatory Blood Pressure Monitoring

4/7/08  References updated. Specialty Matched Consultant Advisory Panel review 3/12/08. No change in policy statement. (adn)


7/6/10  Medical Policy changed to Evidenced Based Guideline. (mco)


Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.