# Protocol

# Automated Ambulatory Blood Pressure Monitoring for the Diagnosis of Hypertension in Patients with Elevated Office Blood Pressure

(10102)

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| **Medical Benefit** | | **Effective Date**: 07/01/14 | **Next Review Date**: 03/15 |
| **Preauthorization** | No | **Review Dates**: 01/08, 11/08, 09/09, 09/10, 07/11, 07/12, 03/13, 03/14 | |

*The following Protocol contains medical necessity criteria that apply for this service. It is applicable to Medicare Advantage products unless separate Medicare Advantage criteria are indicated. If the criteria are not met, reimbursement will be denied and the patient cannot be billed.* ***Preauthorization is not required.*** *Please note that payment for covered services is subject to eligibility and the limitations noted in the patient's contract at the time the services are rendered.*

## Description

Ambulatory blood pressure monitors (24-hour sphygmomanometers) are portable devices that continually record blood pressure while the patient is involved in daily activities. There are various types of ambulatory monitors; this Protocol addresses fully automated monitors, which inflate and record blood pressure at pre-programmed intervals.

*Background*

Ambulatory blood pressure monitoring (ABPM), typically done over a 24-hour period with a fully automated monitor, provides more detailed blood pressure information than readings 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.

Masked hypertension is a potential use of ABPM and refers to normal blood pressure (BP) readings in the office and elevated BP readings outside of the office. This phenomenon has recently received greater attention, with estimates that up to 10-20% of individuals may exhibit this pattern. Other potential uses of ABPM include monitoring patients with established hypertension under treatment; evaluating refractory or resistant blood pressure; evaluating whether symptoms such as lightheadedness correspond with blood.

## Policy (Formerly Corporate Medical Guideline)

Automated ambulatory blood pressure (BP) monitoring over a 24-hour period may be considered **medically necessary** for patients with elevated office BP, when performed one time to differentiate between 'white coat

hypertension' and true hypertension, and when the following conditions are met (see Policy Guidelines for considerations in pediatric patients):

- Office BP elevation is in the mild to moderate range (< 180/110), not requiring immediate treatment with medications;
- There is an absence of hypertensive end-organ damage on physical examination and laboratory testing.

All other uses of ambulatory blood pressure monitoring for patients with elevated office BP, including but not limited to repeated testing in patients with persistently elevated office BP, and monitoring of treatment effectiveness, is considered **investigational**.

**Policy Guideline**

For pediatric patients, the principles of ABPM use to confirm a diagnosis of hypertension are the same as in adults, but there are special considerations as follows (1):

- A device should be selected that is appropriate for use in pediatric patients, including use of a cuff size appropriate to the child's size.
- Threshold levels for the diagnosis of hypertension should be based on pediatric normative data, which use gender and height specific values derived from large pediatric populations.
- Recommendations from AHA guidelines concerning classification of hypertension in pediatric patients using clinic and ambulatory BP are given in the following table:

| Classification | Clinic BP | Mean Ambulatory SBP | SBP load, %[a] |
|---|---|---|---|
| Normal BP | < 95th percentile | < 95th percentile | < 25% |
| WC HTN | > 95th percentile | < 95th percentile | < 25% |
| Masked HTN | < 95th percentile | > 95th percentile | > 25 |
| Pre-HTN | > 95th percentile | < 95th percentile | 25-50% |
| Ambulatory HTN | > 95th percentile | > 95th percentile | 25-50% |
| Severe Ambulatory HTN | > 95th percentile | > 95th percentile | > 50% |

HTN, hypertension; SBP, systolic blood pressure

[a] Percent of SBP readings that are above 95th percentile for gender and height

**Medicare Advantage**

ABPM must be performed for at least 24 hours to meet guideline criteria.

ABPM is only **medically necessary** for those patients with suspected white coat hypertension. Suspected white coat hypertension is defined as:

1. Office blood pressure > 140/90 mm Hg on at least three separate clinic/office visits with two separate measurements made at each visit;
2. At least two documented blood pressure measurements taken outside the office which are < 140/90 mm Hg; and
3. No evidence of end-organ damage.

The information obtained by ABPM is **medically necessary** when it is used to determine the appropriate management of the patient.

In the rare circumstance that ABPM needs to be performed more than once in a patient, the medical criteria described above must be met for each subsequent ABPM test.

ABPM is considered **investigational** for all other indications.

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Services that are the subject of a clinical trial do not meet our Technology Assessment Protocol criteria and are considered investigational. *For explanation of experimental and investigational, please refer to the Technology Assessment Protocol.*

It is expected that only appropriate and medically necessary services will be rendered. We reserve the right to conduct prepayment and postpayment reviews to assess the medical appropriateness of the above-referenced procedures. **Some of this Protocol may not pertain to the patients you provide care to, as it may relate to products that are not available in your geographic area.**

**References**

We are not responsible for the continuing viability of web site addresses that may be listed in any references below.

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