

EFFECTIVE DATE: 12|01|2016

POLICY LAST UPDATED: 09|17|2019

OVERVIEW

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 policy addresses fully automated monitors, which inflate and record BP at preprogrammed intervals. Ambulatory blood pressure monitoring (ABPM) has the potential to improve the accuracy of diagnosing hypertension and thus improve the appropriateness of medication treatment.

This policy is applicable to Commercial Products only. For BlueCHiP for Medicare, see related policy section.

MEDICAL CRITERIA

Not applicable

PRIOR AUTHORIZATION

Prior authorization review is not required.

POLICY STATEMENT

Commercial Products

Ambulatory blood pressure monitoring is covered for patients with suspected "white coat hypertension" who meet the indications listed below. 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 are considered not medically necessary, as the evidence is insufficient to determine the effects of the technology on health outcomes.

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage or Subscriber Agreement for applicable not medically necessary benefits/coverage.

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.

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 assessing patients with 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.

The procedure is appropriate for members with elevated office BP when performed 1 time to differentiate between “white coat hypertension” and true hypertension, and when the following conditions are met:

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

CODING

Commercial Products

The following codes are covered when filed with an ICD-10 diagnosis code listed below:

- 93784** Ambulatory blood pressure monitoring, utilizing report-generating software, automated, worn continuously for 24 hours or longer; including recording, scanning analysis, interpretation and report
- 93786** Ambulatory blood pressure monitoring, utilizing report-generating software, automated, worn continuously for 24 hours or longer; recording only
- 93788** Ambulatory blood pressure monitoring, utilizing report-generating software, automated, worn continuously for 24 hours or longer; scanning analysis with report
- 93790** Ambulatory blood pressure monitoring, utilizing report-generating software, automated, worn continuously for 24 hours or longer; review with interpretation and report

ICD-10 Diagnosis Codes that may support medical necessity:

I10

I11.0-11.9

R03.0

Z01.30-Z01.31

Commercial Products

The following code is not covered:

- A4670** Automatic blood pressure monitor

RELATED POLICIES

BlueCHIP for Medicare National and Local Coverage Determinations

PUBLISHED

Provider Update, November 2019

Provider Update, November/December 2018

Provider Update, January 2018

Provider Update, February 2017

Provider Update, April 2015

REFERENCES

1. Food and Drug Administration (FDA). Welch Allyn ABPM 1600 pre-market notification: 510(k) summary. 2002; <http://www.accessdata.fda.gov/scripts/cdrh/devicesatfda/index.cfm?db=pmn&id=K021756>. Accessed November 26, 2014.
2. LeFevre F, Aronson N. Technology assessment for ambulatory blood pressure monitoring for adults with elevated office blood pressure decision memo - 10/17/2001. <http://www.cms.gov/medicare-coverage-database/details/ncadetails.aspx?NCAId=5&NcaName=Ambulatory+Blood+Pressure+Monitoring&NCDId=254&ncdver=1&IsPopUp=y &bc=AAAAAAAAAgAAAA%3d%3d&>. Accessed November 30, 2014.

3. Imai Y, Hozawa A, Ohkubo T, et al. Predictive values of automated blood pressure measurement: what can we learn from the Japanese population - the Ohasama study. *Blood Press Monit.* Dec 2001;6(6):335-339. PMID 12055412
4. Head GA, Mihailidou AS, Duggan KA, et al. Definition of ambulatory blood pressure targets for diagnosis and treatment of hypertension in relation to clinic blood pressure: prospective cohort study. *BMJ.* Apr 14 2010;340:c1104. PMID 20392760
5. Kikuya M, Hansen TW, Thijs L, et al. Diagnostic thresholds for ambulatory blood pressure monitoring based on 10-year cardiovascular risk. *Circulation.* Apr 24 2007;115(16):2145-2152. PMID 17420350
6. Muntner P, Lewis CE, Diaz KM, et al. Racial differences in abnormal ambulatory blood pressure monitoring measures: Results from the Coronary Artery Risk Development in Young Adults (CARDIA) study. *Am J Hypertens.* May 2015;28(5):640-648. PMID 25376639
7. Martin U, Haque MS, Wood S, et al. Ethnicity and differences between clinic and ambulatory blood pressure measurements. *Am J Hypertens.* Jun 2015;28(6):729-738. PMID 25398890
8. Pickering TG, Shimbo D, Haas D. Ambulatory blood-pressure monitoring. *N Engl J Med.* Jun 1 2006;354(22):2368-2374. PMID 16738273
9. Hansen TW, Kikuya M, Thijs L, et al. Prognostic superiority of daytime ambulatory over conventional blood pressure in four populations: a meta-analysis of 7,030 individuals. *J Hypertens.* Aug 2007;25(8):1554-1564. PMID 17620947
10. Conen D, Bamberg F. Noninvasive 24-h ambulatory blood pressure and cardiovascular disease: a systematic review and meta-analysis. *J Hypertens.* Jul 2008;26(7):1290-1299. PMID 18550999
11. Piper MA, Evans CV, Burda BU, et al. Diagnostic and predictive accuracy of blood pressure screening methods with consideration of rescreening intervals: a systematic review for the U.S. Preventive Services Task Force. *Ann Intern Med.* Feb 3 2015;162(3):192-204. PMID 25531400
12. Hodgkinson J, Mant J, Martin U, et al. Relative effectiveness of clinic and home blood pressure monitoring compared with ambulatory blood pressure monitoring in diagnosis of hypertension: systematic review. *BMJ.* Jun 24 2011;342:d3621. PMID 21705406
13. Stergiou GS, Bliziotis IA. Home blood pressure monitoring in the diagnosis and treatment of hypertension: a systematic review. *Am J Hypertens.* Feb 2011;24(2):123-134. PMID 20940712
14. Stergiou GS, Karpettas N, Panagiotakos DB, et al. Comparison of office, ambulatory and home blood pressure in children and adolescents on the basis of normalcy tables. *J Hum Hypertens.* Apr 2011;25(4):218-223. PMID 20520632
15. Urbina E, Alpert B, Flynn J, et al. Ambulatory blood pressure monitoring in children and adolescents: recommendations for standard assessment: a scientific statement from the American Heart Association Atherosclerosis, Hypertension, and Obesity in Youth Committee of the Council on Cardiovascular Disease in the Young and the Council for High Blood Pressure Research. *Hypertension.* Sep 2008;52(3):433-451. PMID 18678786
16. Valent-Moric B, Zigman T, Zaja-Franulovic O, et al. The importance of ambulatory blood pressure monitoring in children and adolescents. *Acta Clin Croat.* Mar 2012;51(1):59-64. PMID 22920003
17. Matsuoka S, Kawamura K, Honda M, et al. White coat effect and white coat hypertension in pediatric patients. *Pediatr Nephrol.* Nov 2002;17(11):950-953. PMID 12432440
18. National High Blood Pressure Education Program (NHBPEP). Working Group Report on Ambulatory Blood Pressure Monitoring (NIH Publication No. 92-3028). Bethesda, MD: Department of Health and Human Services, Public Health Service, National Institutes of Health, National Heart, Lung, and Blood Institute; 1992.
19. Flynn JT, Kaelber DC, Baker-Smith CM, et al. Clinical practice guideline for screening and management of high blood pressure in children and adolescents. *Pediatrics.* Sep 2017;140(3). PMID 28827377
20. Whelton PK, Carey RM, Aronow WS, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive

Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol. May 15 2018;71(19):2199-2269. PMID 29146533

21. Flynn JT, Daniels SR, Hayman LL, et al. Update: ambulatory blood pressure monitoring in children and adolescents: a scientific statement from the American Heart Association. Hypertension. May 2014;63(5):1116-1135. PMID 24591341
22. National Institute for Health and Care Excellence. Hypertension in adults: diagnosis and management [CG127]. 2016; www.nice.org.uk/guidance/CG127. Accessed June 4, 2018.
23. U.S. Preventive Services Task Force. High Blood Pressure in Adults: Screening. 2015; [http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/high-blood-pressure-in-adults-screening?ds=1&s=Blood pressure](http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/high-blood-pressure-in-adults-screening?ds=1&s=Blood%20pressure). Accessed June 4, 2018.
24. Siu AL, Force USPST. Screening for high blood pressure in adults: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. Nov 17 2015;163(10):778-786. PMID 26458123
25. Centers for Medicare & Medicaid Services. Coverage Determinations Manual, Part 1, Section 20.19, Ambulatory Blood Pressure Monitoring (Rev. 1, 10-03-03). 2018; http://www.cms.hhs.gov/manuals/downloads/ncd103c1_Part1.pdf. Accessed June 4, 2018.

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