

1 **Clinical Practice Guideline: Hypertension (High Blood Pressure) Management**

2

3 **Date of Implementation: April 18, 2013**

4

5 **Product: Specialty**

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7

8 **GUIDELINES**

9 In the context of American Specialty Health – Specialty (ASH) best practices, screening
10 all adult patients for hypertension by measuring their blood pressure is considered
11 necessary. Within this same context, providing a referral intervention (e.g., to their medical
12 physician) and/or a direct intervention (e.g., lifestyle and/or dietary changes)
13 commensurate with the practitioner’s expertise and scope, are recommended for adult
14 patients with elevated blood pressure measurement during office blood pressure screening.

15

16 It is the practitioner’s responsibility to monitor any patient identified with hypertension,
17 even if co-managed. In patients identified with hypertension, practitioners should check
18 blood pressure at every visit. This is especially important if the patient is exercising in the
19 clinic setting. It is imperative for the practitioner to monitor blood pressure response to
20 exercise by checking it pre, post, and during exercise. All values should be documented
21 within the medical record for that visit. Hypertension history, blood pressure levels, and
22 any health care practitioner recommendations for exercise should be taken into account
23 when developing home exercise programs.

24

25 **INTRODUCTION**

26 High blood pressure affects millions of Americans. Prevalence is higher among non-
27 Hispanic black adults and the elderly. Frequently hypertension is also responsible for a
28 significant percentage of serious health conditions such as myocardial infarctions, strokes,
29 episodes of heart failure, and premature deaths in the U.S. The risk of stroke, myocardial
30 infarction, heart failure, and peripheral vascular disease is two to four (2-4) times greater
31 for those with hypertension than those with normal blood pressure (BP). End-stage renal
32 disease, retinopathy, and aortic aneurysm are also complications related to hypertension.

33

34 Hypertension (high blood pressure or high BP) has been defined for adults as systolic blood
35 pressure of 140 mm Hg or higher, or diastolic blood pressure of 90 mm Hg or higher. In
36 patients 60years of age or older, a systolic blood pressure level of 150 or greater is used
37 instead of 140. In November 2017, the American Heart Association (AHA) and American
38 College of Cardiology (ACC) published hypertension guidelines that lowered blood
39 pressure thresholds of previously accepted guidelines. These guidelines also provided
40 specific steps on how to accurately measure and interpret blood pressure. This change
41 results in more people being identified as “hypertensive.”

1 The changes and comparison to other guidelines are shown in the table below:
2

AHA/ACC 2017 Hypertension Classifications ¹		Previous Hypertension Classifications ²	
Category	Systolic/Diastolic BP	Category	Systolic/Diastolic BP
Normal	Less than 120/80 mm Hg	Normal	Less than 120/80 mm Hg
Elevated	120 - 129/80 - 89 mm Hg	Pre-Hypertension	120 – 139/80 – 89 mm Hg
Hypertension - Stage 1	130 - 139/80 - 89 mm Hg	Hypertension - Stage 1	140 – 159/90 – 99 mg Hg
Hypertension - Stage 2	Greater than or equal to 140/90 mm Hg	Hypertension - Stage 2	Greater than 160/100 mm Hg
Critical	Greater than 180/120 mm Hg	Critical	Greater than 180/110 mm Hg

3
4 Not all national medical organizations have agreed with the AHA/ACC hypertension
5 classification, resulting in varied responses from the industry. ASH has reviewed and
6 continues to closely track the issue with both internal and external experts. Based on review
7 of medical society responses, evidence-base for current and previous guidelines and
8 consultative input from medical experts, ASH has decided not to adopt the AHA/ACC
9 hypertension classifications at this time. ASH will continue to closely monitor any updated
10 information regarding the guidelines.

11 SCREENING RECOMMENDATIONS

Population	Recommendation	Grade
Adults 18 years or older without known hypertension	The USPSTF recommends screening for hypertension in adults 18 years or older with office blood pressure measurement (OBPM). The USPSTF recommends obtaining blood pressure measurements outside of the clinical setting for diagnostic confirmation before starting treatment.	A

¹ Whelton, PK et al.; 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, and Management of High Blood Pressure in Adults; Journal of the American College of Cardiology – A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines; November 2017; <http://www.onlinejacc.org/guidelines/highbloodpressure>

² The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung and Blood Institute; August 2004; <https://www.nhlbi.nih.gov/files/docs/guidelines/jnc7full.pdf>

Population	Recommendation	Grade
Asymptomatic pregnant persons	The USPSTF recommends screening for hypertensive disorders in pregnant persons with blood pressure measurements throughout pregnancy.	<u>B</u>
Children and adolescents	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for high blood pressure in children and adolescents	<u>I</u>

1
2 The USPSTF recommendation, published in 2021 is consistent with the previous 2015
3 recommendations. Although evidence on optimal screening intervals is limited, reasonable
4 options include:

- 5
- 6 • Screening for hypertension every year in adults 40 years or older and in adults at
7 increased risk for hypertension (e.g., Black persons, persons with high-normal
8 blood pressure, or persons who are overweight or obese)
 - 9 • Screening less frequently (i.e., every 3 to 5 years) as appropriate for adults aged 18
10 to 39 years not at increased risk for hypertension and with a prior normal blood
11 pressure reading.

12
13 Screening for hypertension in the office setting can be done with automated or manual
14 sphygmomanometry using an appropriately sized arm cuff. The patient is to be in a seated
15 position with their arm at the level of the right atrium for the most accurate reading. The
16 mean of two blood pressure measurements should be used. It is recommended that the
17 patient be in the office for at least five minutes before the blood pressure is measured.

18
19 Blood pressure readings can be influenced by multiple common factors, such as emotional
20 status, stress, pain, physical activity, caffeine use, tobacco use, time of day and
21 medications. High blood pressure that only occurs in a medical setting and/or in the
22 presence of medical personnel may occur in 15-30% of the population. People with this
23 “white coat hypertension” may have lower blood pressure outside of the office.

24
25 If blood pressure is only measured in an office setting diagnostic accuracy may be affected
26 by procedural errors, the limited number of measurements that can be easily taken over
27 time with multiple visits and the possible presence of white coat hypertension.

28
29 Ambulatory and home blood pressure monitoring can be used to confirm a diagnosis of
30 hypertension after initial screening. The USPSTF reports that evidence supports

1 ambulatory home blood pressure monitoring as the best method for diagnosing
 2 hypertension. During this procedure the patient wears a small portable device that can
 3 measure blood pressure at 20–30-minute intervals. Good quality evidence supports that
 4 home blood pressure monitoring may also be acceptable for diagnosing hypertension
 5 especially when ambulatory blood pressure monitoring is not available. Blood pressure
 6 readings that are more significantly elevated may require more immediate intervention
 7 during the current clinical encounter without waiting for ambulatory monitoring results.

8
 9 ASH recommends the following guidelines for a patient with an elevated blood pressure
 10 reading during the practitioner’s examination:

- 11 • Blood pressure within 140/90 to 159/99 range: needs follow up blood pressure
 12 measurement with practitioner or referral to physician
- 13 • Blood pressure within 160/100 to 179/109 range: refer the patient to their physician
 14 for follow up.
- 15 • Blood pressure within 180/110 to 199/119 range: discuss the severity of this reading
 16 with the patient and recommend immediate follow up with their physician (if
 17 possible, contact the patient’s physician to discuss how to proceed regarding the
 18 blood pressure reading)
- 19 • Blood pressure at or above 200/120: contact emergency services (e.g., call 911) for
 20 immediate care for the patient

21 22 **INTERVENTIONS**

23 Effective interventions to reduce hypertension can be pharmacological or
 24 nonpharmacological.

25 26 **Pharmacological**

27 Pharmacotherapy has been found to be effective compared to placebo in numerous trials in
 28 reducing cardiovascular events by lowering blood pressure. Over two-thirds of people with
 29 hypertension will require more than one antihypertensive medication to adequately control
 30 their blood pressure. Multiple classes of antihypertensives are available including diuretics,
 31 angiotensin receptor blockers (ARBs), angiotensin converting enzyme inhibitors (ACEIs),
 32 beta blockers (BBs), alpha blockers, and calcium channel blockers (CCBs). The Eighth
 33 Joint National Committee (JNC 8) publication in 2013 updates guidelines for blood
 34 pressure levels that prompt pharmacological interventions and treatment goals as well as
 35 medication protocol recommendations.

36
 37 Adverse effects of antihypertensives have been found to be very common, varying from
 38 40-89% of participants, depending on the study and the particular medication. These effects
 39 include headache, upper respiratory infection, nasopharyngitis, ankle edema, constipation,
 40 facial flushing, hyperkalemia, dizziness, and erectile dysfunction. Serious adverse effects
 41 were found to be less common (4-11% of participants, depending on the study and the
 42 medication).

1 Practitioners should also be aware that patients may not be adhering to their medication
2 regimens as prescribed. Practitioners should follow the above recommended guidelines for
3 blood pressure ranges and encourage follow up with the prescribing physician as indicated
4 for management of blood pressure and/or medication adherence issues.

5 6 **Nonpharmacological**

7 There is fair to good evidence for a reduction in cardiovascular events from the use of
8 certain nonpharmacological interventions for patients with hypertension. These
9 interventions include weight reduction in overweight/obese patients, increased physical
10 activity, dietary sodium reduction, decreased alcohol intake, and stress management.
11 Reductions in systolic blood pressure ranged from 3-15 mm Hg, depending on the study
12 and the intervention.

13 14 **PRACTITIONER SCOPE AND TRAINING**

15 Practitioners should practice only in the areas in which they are competent based on their
16 education, training, and experience. Levels of education, experience, and proficiency may
17 vary among individual practitioners. It is ethically and legally incumbent on a practitioner
18 to determine where they have the knowledge and skills necessary to perform such services
19 and whether the services are within their scope of practice.

20
21 It is best practice for the practitioner to appropriately render services to a patient only if
22 they are trained to competency, equally skilled, and adequately competent to deliver a
23 service compared to others trained to perform the same procedure. If the service would be
24 most competently delivered by another health care practitioner who has more skill and
25 training, it would be best practice to refer the patient to the more expert practitioner.

26
27 Best practice can be defined as a clinical, scientific, or professional technique, method, or
28 process that is typically evidence-based and consensus driven and is recognized by a
29 majority of professionals in a particular field as more effective at delivering a particular
30 outcome than any other practice (Joint Commission International Accreditation Standards
31 for Hospitals, 2020).

32
33 Depending on the practitioner's scope of practice, training, and experience, a patient's
34 condition and/or symptoms during examination or the course of treatment may indicate the
35 need for referral to another practitioner or even emergency care. In such cases it is essential
36 for the practitioner to refer the patient for appropriate co-management (e.g., to their primary
37 care physician) or if immediate emergency care is warranted, to contact 911 as appropriate.
38 See the *Managing Medical Emergencies (CPG 159 – S)* clinical practice guideline for
39 information.

Practitioner Resources

Publicly available resources can be found at:

- NHLBI (National Heart, Lung, and Blood Institute) Publications and Resources
<https://www.nhlbi.nih.gov/health/high-blood-pressure>

Spanish Language Resources

- Materials for the Hispanic/Latino Population (National Heart Lung and Blood Institute) <https://www.nhlbi.nih.gov/health/educational/healthdisp/health-education-materials/hispanic-latino.htm>

Member Resources

Publicly available resources can be found at:

- Blood Pressure Toolkit <https://www.heart.org/en/health-topics/high-blood-pressure/high-blood-pressure-toolkit-resources>

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