



CARDI•OH

Ohio Cardiovascular Health Collaborative



In partnership with:



Cardi-OH ECHO Clinic - Hypertension

Thursday, February 7, 2019

AHA/ACC 2017 HTN Guidelines



Jackson T. Wright, Jr.,
MD, PhD, FACP, FASH

Emeritus Professor of Medicine

Director, Clinical Hypertension
Program

Division of Nephrology and
Hypertension

University Hospitals Cleveland
Medical Center

Adam T. Perzynski, PhD

Associate Professor of Medicine

Assistant Professor of Sociology

Center for Health Care Research and
Policy

Director of The Patient-Centered Media
Lab

The MetroHealth System

Case Western Reserve University

Goutham Rao, MD

Chief Clinician Experience and Well-Being
Officer, University Hospitals Health System

Jack H. Medalie Endowed Professor and
Chairman

Department of Family Medicine and
Community Health

Division Chief, Family Medicine, Rainbow
Babies and Children's Hospital

Case Western Reserve University School of
Medicine & University Hospitals of Cleveland

Disclosure Statements



The following planners, speakers, moderators, and/or panelists of the CME activity have financial relationships with commercial interests to disclose:

- Adam T. Perzynski, PhD reports being co-founder of Global Health Metrics LLC, a Cleveland-based software company and royalty agreements for forthcoming books with Springer publishing and Taylor Francis publishing.
- Siran M. Koroukian, PhD reports ownership interests in American Renal Associates, and Research Investigator subcontract support from Celgene Corporation.
- George L. Bakris, MD reports partial salary from Bayer as FIDELIO PI, partial salary from Janssen as CREDENCE Steering Committee, partial salary from Vascular Dynamics as Calm-2 Steering Committee, and receiving honorarium as a consultant to Merck, NovoNordisk.
- These financial relationships are outside the presented work.

All other planners, speakers, moderators, and/or panelists of the CME activity have no financial relationships with commercial interests to disclose.

2017 High Blood Pressure Guideline Writing Committee



Paul K. Whelton, MB, MD, MSc, FAHA, *Chair*

Robert M. Carey, MD, FAHA, *Vice Chair*

Wilbert S. Aronow, MD, FACC, FAHA*

Donald E. Casey, Jr, MD, MPH, MBA, FAHA†

Karen J. Collins, MBA‡

Bruce Ovbiagele, MD, MSc, MAS, MBA, FAHA†

Sidney C. Smith, Jr, MD, MACC, FAHA††

Crystal C. Spencer, JD‡

Cheryl Dennison Himmelfarb, RN, ANP, PhD,
FAHA§

Sondra M. DePalma, MHS, PA-C, CLS, AACC||

Samuel Gidding, MD, FACC, FAHA¶

Kenneth A. Jamerson, MD#

Daniel W. Jones, MD, FAHA†

Eric J. MacLaughlin, PharmD**

Paul Muntner, PhD, FAHA†

Randall S. Stafford, MD, PhD‡‡

Sandra J. Taler, MD, FAHA§§

Randal J. Thomas, MD, MS, FACC, FAHA|||

Kim A. Williams, Sr, MD, MACC, FAHA†

Jeff D. Williamson, MD, MHS¶¶

Jackson T. Wright, Jr, MD, PhD, FAHA###

*American Society for Preventive Cardiology Representative. †ACC/AHA Representative. ‡Lay Volunteer/Patient Representative. §Preventive Cardiovascular Nurses Association Representative. ||American Academy of Physician Assistants Representative. ¶Task Force Liaison. #Association of Black Cardiologists Representative. **American Pharmacists Association Representative. ††ACC/AHA Prevention Subcommittee Liaison. ‡‡American College of Preventive Medicine Representative. §§American Society of Hypertension Representative. |||Task Force on Performance Measures Liaison. ¶¶American Geriatrics Society Representative. ###National Medical Association Representative.

Systematic Review Questions on High BP in Adults



Question Number	Question
1	Is there evidence that self-directed monitoring of BP and/or ambulatory BP monitoring are superior to office-based measurement of BP by a healthcare worker for 1) preventing adverse outcomes for which high BP is a risk factor and 2) achieving better BP control?
2	What is the optimal target for BP lowering during antihypertensive therapy in adults?
3	In adults with hypertension, do various antihypertensive drug classes differ in their comparative benefits and harms?
4	In adults with hypertension, does initiating treatment with antihypertensive pharmacological monotherapy versus initiating treatment with 2 drugs (including fixed-dose combination therapy), either of which may be followed by the addition of sequential drugs, differ in comparative benefits and/or harms on specific health outcomes?

BP indicates blood pressure.

More Intensive BP Lowering Reduces CVD Risk



Relative risks comparing SBP goal < 130 mm Hg versus high goals.

CVD event	Relative risk	95% confidence interval
MI	0.86	0.76 – 0.99
Stroke	0.77	0.65 – 0.91
Heart failure	0.75	0.56 – 0.99
CVD composite	0.83	0.75 – 0.92

Data are based on a meta-analysis of randomized trials conducted by the ACC/AHA evidence review team.

Out-of-Office and Self-Monitoring of BP

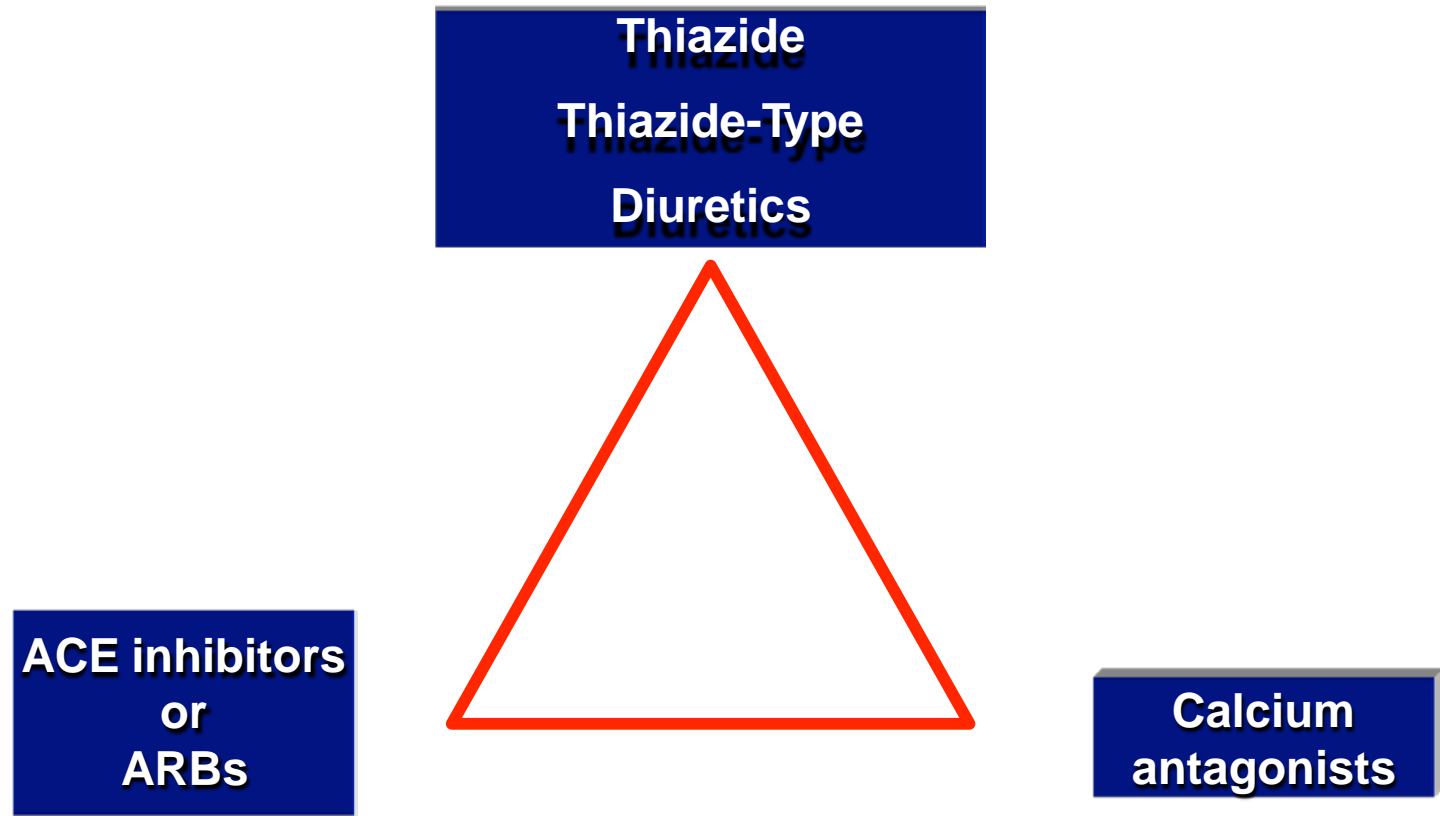


COR	LOE	Recommendation for Out-of-Office and Self-Monitoring of BP
I	A ^{SR}	Out-of-office BP measurements are recommended to confirm the diagnosis of hypertension and for titration of BP-lowering medication, in conjunction with telehealth counseling or clinical interventions.

SR indicates systematic review.

Initial Medications for the Management of Hypertension

Lifestyle Modification—Especially Diet and Exercise



Most prominent update: ↓ BP levels prompting initiation of drug treatment for elevated BP and the BP goal in those requiring treatment from 140/90 to 130/80 in those < 60 yrs old and from 150/90 to 130/80 in those > age 60.



Changes in BP Categories from JNC7 to the New Guideline

SBP		DBP	JNC7	2017 ACC/AHA
<120	and	<80	Normal BP	Normal BP
120–129	and	<80	Prehypertension	Elevated BP
130–139	or	80–89	Prehypertension	Stage 1 hypertension
140–159	or	90–99	Stage 1 hypertension	Stage 2 hypertension
≥160	or	≥100	Stage 2 hypertension	Stage 2 hypertension

The 2017 ACC/AHA guideline definition of hypertension:

SBP ≥ 130 mm Hg or

DBP ≥ 80 mm Hg

Less than 130/80 is the BP level used to define level for BOTH for initiating drug therapy and to define the BP target in nearly all clinical settings

COR	LOE	Recommendations for BP Goal for Patients With Hypertension
I	SBP: B-R ^{SR}	For adults with confirmed hypertension and known CVD or 10-year ASCVD event risk of 10% or higher a BP target of less than 130/80 mm Hg is recommended.
	DBP: C-EO	
IIb	SBP: B-NR	For adults with confirmed hypertension, without additional markers of increased CVD risk, a BP target of less than 130/80 mm Hg may be reasonable.
	DBP: C-EO	

SR indicates systematic review.

CVD Risk estimation recommended to guide drug treatment of hypertension



COR	LOE	Recommendations for BP Treatment Threshold and Use of Risk Estimation* to Guide Drug Treatment of Hypertension
I	SBP: A	Use of BP-lowering medications is recommended for secondary prevention of recurrent CVD events in patients with clinical CVD and an average SBP of 130 mm Hg or higher or an average DBP of 80 mm Hg or higher, and for primary prevention in adults with an estimated 10-year atherosclerotic cardiovascular disease (ASCVD) risk of 10% or higher and an average SBP 130 mm Hg or higher or an average DBP 80 mm Hg or higher.
	DBP: C-EO	
I	C-LD	Use of BP-lowering medication is recommended for primary prevention of CVD in adults with no history of CVD and with an estimated 10-year ASCVD risk <10% and an SBP of 140 mm Hg or higher or a DBP of 90 mm Hg or higher.

* ACC/AHA Pooled Cohort Equations (<http://tools.acc.org/ASCVD-Risk-Estimator/>) to estimate 10-year risk of atherosclerotic CVD.

Contrary to previous (“JNC-8”) recommendations, strongest recommendation for lower BP target is in older patients



COR	LOE	Recommendations for Treatment of Hypertension in Older Persons
I	A	Treatment of hypertension with a SBP treatment goal of less than 130 mm Hg is recommended for noninstitutionalized ambulatory community-dwelling adults (≥ 65 years of age) with an average SBP of 130 mm Hg or higher.
IIa	C-EO	For older adults (≥ 65 years of age) with hypertension and a high burden of comorbidity and limited life expectancy, clinical judgment, patient preference, and a team-based approach to assess risk/benefit is reasonable for decisions regarding intensity of BP lowering and choice of antihypertensive drugs.

Comparison of Guideline Recommendations for Management of Hypertension



RECENT HYPERTENSION GUIDELINE RECOMMENDATIONS				
Guideline	Evidence Review Methodology	BP Target in General Adult Population	BP Target in High CVD Risk Grps	BP Target in CKD and DM
NICE (2011)	Systematic Review	Age < 80: <140/90 Age ≥ 80: <150/90	Age < 80: <140/90 Age ≥ 80: <150/90	<140/90
JAMA 2014 HTN Guideline	Systematic Review	Age < 60: <140/90 Age ≥ 60: <150/90	Age < 60: <140/90 Age ≥ 60: <150/90	<140/90
CHEP (2016)	Consensus (Graded)	Age < 80: SBP < 120 Age ≥ 80: SBP < 150 (if < 120 target inappropriate)	Age < 80: SBP < 120 Age ≥ 80: SBP < 150 (if < 120 target inappropriate)	< 130/80
Australian (2016)	Consensus (Graded)	<140/90	<120/80 if thought safe	N/A
AHA/ACC (2017)	Consensus (Graded)	< 130/80	< 130/80	< 130/80
AAFP/ACP (2017)	Consensus	Age < 60: <140/90 Age ≥ 60: <150/90	Age < 60: <140/90 Age ≥ 60: <150/90	<140/90
ESH/ESC (2018)	Consensus (Graded)	<140/90; < 130/80 if tolerated Age ≥ 65 SBP 130- 140	Age < 65: <130/80 Age ≥ 65: SBP 130- 140	CKD: SBP 130- 140 DM: <130/80

2017 AHA/ACC HTN Guidelines

J Am Coll Cardiology 2017 Nov 7 pii:S0735-1097(17)41519-1. Doi: 10.1016/Hypertens 2018;71:e13–e115. doi: 10.1161



- Most prominent update is the reduction in recommended BP levels prompting the initiation of drug treatment for \uparrow BP and the BP goal from 140/90 to 130/80 in those less than 60 yrs old and from 150/90 to 130/80 in those over age 60.
- Less than 130/80 is the BP level used to define level for initiating drug therapy and define the BP target in nearly all clinical settings.
- CVD risk as well as BP levels are used to determine patients who need to be treated with BP medications + life style management
- Greater reliance on out of office BPs for both the diagnosis of hypertension and management. It has become increasingly recognized that we can no longer depend only on the measurement of BP in the office to manage hypertension.

Summary/Conclusions



- Implications for treatment:
 - In US ~ 4.2 mil more pts qualify for drug treatment and ~ 7.9 mil may require Tx intensification
 - Greater use of chlorthalidone, spironolactone as more patients will be classified as resistant with new target of < 130/80.
 - Greater emphasis on life-style modification
- Of note: At the Alzheimer's meeting in July, data from the SPRINT-MIND component of SPRINT now shows that compared to a SBP target of < 140 mmHg , the < 120 mmHg target resulted in significantly lower rates of:
 - mild cognitive decline (MCI),
 - the composite of MCI and probable dementia (PD), as well as
 - characteristic white matter lesions on MRI, though reduction in PD alone was not significant
 - Aggressive BP treatment is currently the only treatment shown to prevent/slow progression of dementia



THANK YOU

