Making Sense of The US Hypertension Guideline in 2018

Disclosure Statement

The speaker’s research and educational activities have been supported in the past (but NOT in the last 12 months) by essentially every pharmaceutical company that makes, markets or distributes antihypertensive drugs in the USA. The information presented is therefore likely to be biased. Healthcare providers are therefore strongly cautioned NOT to use the information presented in their daily practices (see, for example, The People of the United States of America v Peter Gleason) until and unless the specific agent or therapy receives formal approval from the US FDA for exactly the indication under consideration by the healthcare provider.

Affidavit of Originality

The following material is based exclusively on the speaker’s own opinion, knowledge and expertise. There is no organization, company, or entity that has exercised any control or influence over the content of this presentation, nor has any other person or organization had any part in drafting, scripting or designing its content. The information presented is based on the principles of “Evidence-Based Medicine,” and is intended to avoid promotion of any specific commercial interest, product, or company.

Disclaimers

The speaker has participated (with known experts in the field) in writing a “Scientific Statement” from the American Heart Association on the topic of “Treatment of Hypertension in Patients with Coronary Heart Disease.” This presentation does not reflect opinion, consensus, or recommendations from the American Heart Association.

The speaker currently serves as the Chair of the Continuing Education Committee and on the Education Committee of the American Society of Hypertension, which has recently been involved in reconciling US hypertension guidelines. This presentation summarizes, compares, and contrasts these 2017 ACC/AHA Hypertension Guidelines with their predecessors, but is not sanctioned by the American Society of Hypertension, the American College of Cardiology, or the American Heart Association.

Educational Objectives

At the end of this 50-minute presentation, the awake audience member should be able to:

1. Name at least one advantage and at least one disadvantage for the most current US hypertension guidelines promulgated by:
   b. The panel members appointed to JNC 8,
   c. The American Society of Hypertension and the International Society of Hypertension,
   d. The American Diabetes Association,
   e. The National Kidney Foundation, and
f. The American College of Cardiology and the American Heart Association.

2. Interpret the results of the recent Systolic blood PRessure INtervention Trial (SPRINT), and summarize their impact on the 2017 ACC/AHA US Hypertension Guideline.

3. Explain why, using clinical trial evidence, the recommended initial drug therapy for hypertension varies according to race/ethnicity, in all guidelines since JNC 7.

**Evidence-Based Resources**


Wright JT Jr, Fine LJ, Lackland DT, Ogedegbe G, Dennison Himmelfarb CR. Evidence supporting a systolic blood pressure goal of less than 150 mm Hg in patients aged 60 years or older: The minority view. *Ann Intern Med.* 2014;160:499-503.


**Session Description**

This 50-minute session will briefly describe the background, similarities and differences among the most recent and older (“classic”) US hypertension guidelines, including the target populations for each, with special emphasis about recommendations for on-treatment blood pressure targets and drug utilization. The early termination of the NIH-sponsored Systolic blood Pressure INtervention Trial (SPRINT) because of a highly significant reduction in cardiovascular events, as well as mortality, in the group randomized to the systolic blood pressure target of < 120 mm Hg, has generated controversy because of the greater incidence of adverse effects, including at least
temporary reduction in renal function in this randomized group. Possible reasons why the 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 will not be supported, reviewed, approved, or distributed by US governmental healthcare authorities will be discussed.

Multiple-Choice CME Questions

1. A 65-year old man visits his primary care medical home because, during his last visit to the Emergency Department 2 days ago, he was diagnosed with a “hypertensive urgency.” He had fractured his left humerus in a fall about an hour earlier; his presenting blood pressure was 220/128 mm Hg. After intravenous morphine, casting and laboratory tests, he was instructed to see his primary care physician as soon as possible. He has since searched the internet to learn more about this diagnosis, and its implications for him, according to recent US hypertension guidelines. He usually takes aspirin 81 mg, hydrochlorothiazide 25 mg and lisinopril 40 mg daily. He was a delegate to the 2016 Republican National Convention in Cleveland, and expresses the opinion that “Big Government should play absolutely NO role in my relationship with, and my treatment by, my private physician.” Given his clear preferences, the most appropriate recommendation for his further education about hypertensive urgencies is derived from which of the following?
   b. The 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults, from the panel members appointed to JNC 8.
   d. The Kidney Disease: Improving Global Outcomes 2012 Clinical Practice Guideline, from The National Kidney Foundation
   f. The Standards of Medical Care in Diabetes—2018, from The American Diabetes Association.
   g. Treatment of Hypertension in the Prevention and Management of Ischemic Heart Disease, from The American Heart Association.

2. The most controversial recommendation made in The 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults, issued by the panel members appointed to JNC 8, was which of the following?
   a. In adults with chronic kidney disease (CKD), initial (or add-on) antihypertensive treatment should include an ACEI or ARB to improve kidney outcomes; this applies to all CKD patients with hypertension, regardless of race or diabetes status.
   b. In black people, including those with diabetes, initial antihypertensive treatment should include either a thiazide-type diuretic or calcium channel blocker (CCB).
   c. In nonblack people without chronic kidney disease (CKD), including those with diabetes, initial antihypertensive treatment should include a thiazide-type diuretic, calcium channel blocker (CCB), angiotensin-converting enzyme inhibitor (ACEI), or angiotensin receptor blocker (ARB).
   d. The blood pressure target for individuals with diabetes mellitus should be < 140/90 mm Hg.
e. The systolic blood pressure target for individuals with uncomplicated hypertension over the age of 60 years should be < 150 mm Hg.

3. The conclusion of the Systolic blood Pressure INTervention (SPRINT) trial, “Among patients at high risk for cardiovascular events but without diabetes, targeting a systolic blood pressure of less than 120 mm Hg, as compared with less than 140 mm Hg, resulted in lower rates of fatal and nonfatal major cardiovascular events and death from any cause,” is most likely to be viewed as “false, incomplete or misleading,” by which of the following issuers of US hypertension guidelines?
   a. The American College of Cardiology/American Heart Association 2017 hypertension guidelines.
   b. The American Diabetes Association.
   c. The American Heart Association.
   d. The American Society of Hypertension and the International Society of Hypertension.
   e. The National Kidney Foundation.
   f. The panel members appointed to JNC 8.

4. Strong evidence supporting the recommendation of all current US hypertension guidelines to choose an angiotensin converting-enzyme inhibitor or an angiotensin II receptor blocker as initial drug therapy for hypertension ONLY in nonblack patients comes primarily from which of the following prospective, multicenter, randomized clinical trials?
   b. Antihypertensive and Lipid-Lowering to prevent Heart Attack Trial (ALLHAT).
   c. Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT).
   d. Heart Outcomes Prevention Evaluation III (HOPE-3).
   e. Hypertension Optimal Treatment (HOT) study.

5. An 82-year old man visits the physician’s office because all of his friends are taking pills for hypertension, and he wonders if he should, too. His blood pressures in the senior center run about 130-138/84-88 mm Hg. He claims to be healthy and takes no medications. Blood pressure in the office, taken by the physician, is 136/86 mm Hg (average of 2 of the last 3 blood pressures in the right arm after 5 minutes of quiet rest). All laboratory studies are within the reference ranges except for his estimated glomerular filtration rate of 48 mL/min/1.73 m². According to the ACC/AHA 2017 US Hypertension Guideline, his goal in-office blood pressure is lower than which of the following?
   a. (100 + age in years)/90 mm Hg.
   b. 150/90 mm Hg.
   c. 140/90 mm Hg.
   d. 130/90 mm Hg.
   e. 130/80 mm Hg.
   f. 125/75 mm Hg.

[multiple choice questions: 1 a; 2 e; 3 e; 4 b; 5 e]