

New guidelines for management of high blood pressure released

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A new guideline for the management of high blood pressure, developed by an expert panel and containing nine recommendations and a treatment algorithm (flow chart) to help doctors treat patients with hypertension, was published online by *JAMA*.

Hypertension is the most common condition seen in primary care and leads to heart attack, stroke, kidney failure, and death if not detected early and treated appropriately. "Patients want to be assured that blood pressure (BP) [treatment](#) will reduce their disease burden, while clinicians want guidance on hypertension management using the best scientific evidence. This report takes a rigorous, evidence-based approach to recommend treatment thresholds, goals, and medications in the management of hypertension in adults," according to information in the article.

The report, the "2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults," is from panel members appointed to the Eighth Joint National Committee.

The guideline addresses three questions related to high BP management:

1. At what BP should medication be started in patients with hypertension?
2. What BP goal should patients achieve to know they are enjoying proven health benefits from their medication?
3. What are the best choices for medications to begin treatment for

[high blood pressure?](#)

The nine recommendations in the guideline answer those three questions. In summary, "There is strong evidence to support treating hypertensive persons aged 60 years or older to a BP goal of less than 150/90 mm Hg and hypertensive persons 30 through 59 years of age to a diastolic goal of less than 90 mm Hg; however, there is insufficient evidence in hypertensive persons younger than 60 years for a systolic goal, or in those younger than 30 years for a diastolic goal, so the panel recommends a BP of less than 140/90 mm Hg for those groups based on expert opinion. The same thresholds and goals are recommended for hypertensive adults with diabetes or nondiabetic chronic kidney disease (CKD) as for the general hypertensive population younger than 60 years."

"There is moderate evidence to support initiating drug treatment with an angiotensin-converting enzyme inhibitor, angiotensin receptor blocker, [calcium channel blocker](#), or thiazide-type diuretic in the nonblack hypertensive population, including those with diabetes. In the black hypertensive population, including those with diabetes, a calcium channel blocker or thiazide-type diuretic is recommended as initial therapy. There is moderate evidence to support initial or add-on antihypertensive therapy with an angiotensin-converting enzyme inhibitor or [angiotensin receptor blocker](#) in persons with CKD to improve kidney outcomes."

The authors emphasize important differences from the past versions of the guideline. For development of these recommendations, "evidence was drawn from randomized controlled trials (RCTs), which represent the gold standard for determining efficacy and effectiveness. Evidence quality and recommendations were graded based on their effect on important health outcomes," the authors write. These guidelines also sought to establish "similar treatment goals for all hypertensive

populations except when evidence ... supports different goals for a particular subpopulation."

Also, rather than defining hypertension, the panel addressed threshold blood pressure for starting treatment. The report recommends beginning treatment for people aged 60 and older at a blood pressure of 150/90, and treating to below that level based on trial evidence, but the authors emphasize that "this evidence-based guideline has not redefined high BP and the panel believes that the 140/90 mm Hg definition from Joint National Committee 7 remains reasonable." Lifestyle interventions should be used for everyone with blood pressures in this range.

They add that with each strategy, clinicians should regularly assess BP, encourage evidence-based lifestyle and adherence interventions, and adjust treatment until goal BP is attained and maintained. "For all persons with hypertension, the potential benefits of a healthy diet, weight control, and regular exercise cannot be overemphasized. These lifestyle treatments have the potential to improve BP control and even reduce medication needs."

"The recommendations from this evidence-based guideline from panel members appointed to the Eighth Joint National Committee (JNC 8) offer clinicians an analysis of what is known and not known about BP treatment thresholds, goals, and drug treatment strategies to achieve those goals based on evidence from RCTs. However, these recommendations are not a substitute for clinical judgment, and decisions about care must carefully consider and incorporate the clinical characteristics and circumstances of each individual patient. We hope that the algorithm will facilitate implementation and be useful to busy clinicians. The strong evidence base of this report should inform quality measures for the treatment of patients with hypertension," the authors conclude.

Harold C. Sox, M.D., of the Dartmouth Institute for Health Policy and Clinical Practice, Hanover, N.H., calls attention to the fact that the 2014 hypertension guideline did not undergo specialty society review as was originally planned, and he addresses the trustworthiness of the guideline, and guidelines in general, in an editorial.

He asks "First, what are the key elements of trustworthiness in a guideline? Second, how does this guideline measure up? Third, what is the role of expert review of guidelines? Fourth, what is the pathway to guidelines that the public can trust?"

He ultimately concludes that the panel of guideline authors, by agreeing to share its record of the review process with anyone who asks, meets the standard of transparency and review that proper guideline development now requires. "A rigorous, transparent process for developing and reviewing guidelines matters a great deal because guidelines are increasingly driving the practice of medicine."

Howard Bauchner, M.D., Editor in Chief, JAMA, Chicago, and colleagues comment on the production of guidelines:

"Producing guidelines in the United States has become increasingly more complicated and contentious. This likely reflects the strongly held beliefs of many stakeholders, including physicians and patients. For instance, the Infectious Diseases Society of America was embroiled in complicated legal proceedings after producing guidelines for the management of Lyme disease. There was a great deal of reaction from health professionals and the public after the U.S. Preventive Services Task Force released updated recommendations regarding mammography screening in women. Recently, in June 2013, the NHLBI announced its decision to discontinue its participation in the development of clinical guidelines, including the hypertension guideline. (Accordingly, as the authors clearly indicate, 'This report is therefore not an NHLBI

sanctioned report and does not reflect the views of NHLBI.') Instead, the NHLBI has partnered with and shifted the responsibility for generating guideline products to selected specialty organizations, such as the American College of Cardiology and the American Heart Association, whose recently released guidelines on assessment of cardiovascular risk and treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk have been met with controversy."

"Rigorously developed, thoroughly reviewed, evidence-based, trustworthy guidelines are critical to advance clinical medicine and improve health, and biomedical journals have a responsibility to disseminate important guidelines in an objective manner. We are pleased to publish the '2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults' from the panel members appointed to the Eighth Joint National Committee (JNC8). We anticipate debate and discussion about the clinical application of these recommendations and the related policy issues. *JAMA* welcomes this responsibility, and indeed, embraces the opportunity to provide evidence-based recommendations to help clinicians improve the care of their patients."

Eric D. Peterson, M.D., M.P.H., of Duke University Medical Center, Durham, N.C., and colleagues write in an accompanying editorial that "while it is likely that there will be considerable controversy in hypertension treatment for the foreseeable future, several critical next steps are needed."

"First, larger RCTs need to compare different BP thresholds in diverse patient populations. Ideally, these investigations would be conducted using the evolving strategies of practical clinical trials designs to improve their efficiency and real-world generalizability. Second, there is an important need to create a national consensus group to draft an updated comprehensive practice guideline that would harmonize the hypertension guideline with other cardiovascular risk guidelines and

recommendations, thereby resulting in a more coherent overall cardiovascular prevention strategy. ... Third, the process of translating practice guidelines into performance measures needs to be more deliberate. For example, performance measures derived from guidelines need to be cognizant of the potential unintended consequences if treatment goals are set too strict or adherence to these is too rigid. Finally, once the right targets for BP thresholds are determined, patients and physicians need to work together to consistently achieve these new goals."

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