JNC 8 Guidelines: Counter Points

Robert L. Benz, MD FACP FASN
Chief, Division of Nephrology Main Line Health
Vice President of Medical Affairs, Lankenau Medical Center
Professor of Medicine, Thomas Jefferson University
Guideline

• “No man should speak in public longer than he can make love in private”
Friends, Romans, Countrymen, let me your ears

I come to bury Caesar, not to praise him.
The evil than men do, lives after them, the good if oft interred with their bones.”
So let it be with JNC 8.....I mean Caesar.
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2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults
Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8)

Paul A. James, MD\textsuperscript{1}; Suzanne Oparil, MD\textsuperscript{2}; Barry L. Carter, PharmD\textsuperscript{1}; William C. Cushman, MD\textsuperscript{3}; Cheryl Dennison-Himmelfarb, RN, ANP, PhD\textsuperscript{4}; Joel Handler, MD\textsuperscript{5}; Daniel T. Lackland, DrPH\textsuperscript{6}; Michael L. LeFevre, MD, MSPH\textsuperscript{7}; Thomas D. MacKenzie, MD, MSPH\textsuperscript{8}; Olugbenga Ogedegbe, MD, MPH, MS\textsuperscript{9}; Sidney R. Reed, MD, MPH, MS\textsuperscript{10}; and Steven E. Sharaf, MD, MPH, MS\textsuperscript{11}. The U.S. Preventive Services Task Force (USPSTF) and the American Academy of Family Physicians (AAFP) also contributed to the guideline development process.
Apples and Oranges
Purpose and Mission of JNC 8

2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults:
Report from the Panel Members Appointed to the Eighth Joint National Committee
Purpose and Mission of JNC8

Hypertension Guidelines: Clear as Mud - Medscape
I see that ACC/AHA has issued a statement that they are not even going to recognize JNC 8. ... and Treatment of High Blood Pressure: the JNC 7 report. JAMA. 2003;289 ...
How Many Commandments?
The Commandments
JNC 8: 9 recommendations

Based on critical review of high quality randomized clinical trials.

Classification of recommendations:

- (A) Strong Recommendation: There is high certainty based on evidence that the net benefit is substantial.
- (B) Moderate Recommendation: There is moderate certainty based on evidence that the net benefit is moderate to substantial.
- (C) Weak Recommendation: There is at least moderate certainty based on evidence that there is a small net benefit.
- (E) Expert Opinion (“There is insufficient evidence or evidence is unclear or conflicting, but this is what the committee recommends.”) Net benefit is unclear. Balance of benefits and harms cannot be determined because of no evidence, insufficient evidence, unclear evidence, or conflicting evidence, but the committee thought it was important to provide clinical guidance and make a recommendation. Further research is recommended in this area.
JNC 8 Guidelines

• Recommendations for Management of Hypertension
  • Recommendation 1
    • In the general population aged ≥60 years, initiate pharmacologic treatment to lower blood pressure (BP) at systolic blood pressure (SBP) ≥150 mm Hg or diastolic blood pressure (DBP) ≥90 mm Hg and treat to a goal SBP <150 mm Hg and goal DBP <90 mm Hg. (Strong Recommendation – Grade A)
  • Corollary Recommendation
    • In the general population aged ≥60 years, if pharmacologic treatment for high BP results in lower achieved SBP (eg, <140 mm Hg) and treatment is well tolerated and without adverse effects on health or quality of life, treatment does not need to be adjusted. (Expert Opinion – Grade E)
TIME FOR A POLL!
Audience Survey:
Rate the following “Grades of Evidence” as you believe them to be true:

1: Grade A > Grade B > Grade C > Grade E (Expert Opinion)
2: Grade A > Grade B > Grade E > Grade C
3: Grade A > Grade E > Grade B > Grade C
4: Grade A = Grade E > Grade B > Grade C
5: In my clinical setting, I have serious doubts about Grading System due to inclusion and exclusion criteria affecting clinical trials as they relate to my individual, specific patient.
TIME FOR A POLL!
Poll: Report Card

• 2As, 2Bs, 1C and 6 Incompletes (EO)
  – Then One of the A’s became an F
Audience Survey

• If your report card contained 1A, 2Bs, 1C and 6Es, your mother would be:
  – A: Ecstatic
  – B: Happy
  – C: Content
  – D: Likely to be asking you some questions about your grades.
  – E: Asking you how everyone else taking the test did?
SPRINT
The Systolic Blood Pressure Intervention Trial (NIH:NHLBI, NIDDK, National Institute of Neurologic Disorders and Stroke and National Institute on Aging)
Press Release September 11, 2105

- The Systolic Blood Pressure Intervention Trial (NIH:NHLBI, NIDDK, National Institute of Neurologic Disorders and Stroke and National Institute on Aging)
- N > 9,300
- Age 50 or greater
- Multicenter (100 medical centers and practices in US and Puerto Rico)
- Goal: To examine how maintaining SBP < currently recommended levels impact cardiovascular and kidney diseases
SPRINT

The Systolic Blood Pressure Intervention Trial (NIH:NHLBI ,NIDDK, National Institute of Neurologic Disorders and Stroke and National Institute on Aging)
Press Release September 11, 2105

• Exclusions: Diabetes mellitus, prior stroke, polycystic kidney disease
• Study period: 2010-2013
• Two randomized groups, which differed by targeted blood pressure control
• Standard Group: Blood pressure medications to achieve target < 140 mm Hg
  – Average requirement: Two Blood Pressure Medications
• Intensive Treatment Group: Target SBP < 120 mm Hg
  – Average of Three Medications
SPRINT
The Systolic Blood Pressure Intervention Trial (NIH:NHLBI ,NIDDK, National Institute of Neurologic Disorders and Stroke and National Institute on Aging)
Press Release September 11, 2105

• Outcomes: Reduction in CV events such as Heart Attack and CHF and Stroke by one-third
• Reduction of Risk of Death by one-quarter in target systolic BP of 120 vs 140.
• Other pending outcome points:
  – Kidney Disease, Cognitive Function, Dementia
SPRINT
The Systolic Blood Pressure Intervention Trial (NIH:NHLBI ,NIDDK, National Institute of Neurologic Disorders and Stroke and National Institute on Aging)
Press Release September 11, 2105

• Publication Pending within next few months
• SPRINT Study stopped prematurely by NIH due to strong positive results in order to quickly disseminate the significant preliminary results
The DILEMMA: NHLBI officials reported that “this study provides potentially life-saving information”

but also stated that no immediate changes are warranted until more complete results are available
Expert Opinion for #1

- Turns out to be better than “EBM” “RCT’s” if SPRINT holds up
What Are Guidelines?

• What is consensus? (HEMO Study)
• Consensus is often the conclusion of discussion in which no single member completely agrees with the conclusion, but all signing on at least do not disagree.
Minority Dissenting Group Concerns
Annals Internal Medicine 2014

• Lack of data to identify the optimum BP for various populations
• Varying expert opinions based on same data
• Raising target BP in highest group for CVD disease (age >60) may lead to greater events
  – eg: Stroke, Progressive CKD, CHF
JNC 8 Guidelines

• **Recommendation 2**
  - In the general population <60 years, initiate pharmacologic treatment to lower BP at DBP ≥90 mm Hg and treat to a goal DBP <90 mm Hg. (For ages 30-59 years, Strong Recommendation – Grade A; For ages 18-29 years, Expert Opinion – Grade E)
NEVER TRUST ANYONE OVER 30
JNC 8 Guidelines

• **Recommendation 3**
  • In the general population <60 years, initiate pharmacologic treatment to lower BP at SBP ≥140 mm Hg and treat to a goal SBP <140 mm Hg. (Expert Opinion – Grade E)
JNC 8 Guidelines

- **Recommendation 4**
- In the population aged ≥18 years with chronic kidney disease (CKD), initiate pharmacologic treatment to lower BP at SBP ≥140 mm Hg or DBP ≥90 mm Hg and treat to goal SBP <140 mm Hg and goal DBP <90 mm Hg. (Expert Opinion – Grade E)
What Would You Use or Avoid In This Patient?
JNC 8 Guidelines

- **Recommendation 5**
- In the population aged ≥18 years with diabetes, initiate pharmacologic treatment to lower BP at SBP ≥140 mm Hg or DBP ≥90 mm Hg and treat to a goal SBP <140 mm Hg and goal DBP <90 mm Hg.
  (Expert Opinion – Grade E)
Recommendation 6

In the general nonblack population, 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). (Moderate Recommendation – Grade B)
JNC 8 Guidelines

• **Recommendation 7**
  • In the general black population, including those with diabetes, initial antihypertensive treatment should include a thiazide-type diuretic or CCB. (For general black population: Moderate Recommendation – Grade B; for black patients with diabetes: Weak Recommendation – Grade C)
JNC 8 Guidelines

- **Recommendation 8**
- In the population aged ≥18 years with 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. (Moderate Recommendation – Grade B)
How Would You Treat This Patient’s Hypertension
JNC 8 Guidelines
“The Hail Mary”

- **Recommendation 9**
- **The main objective of hypertension treatment is to attain and maintain goal BP.** If goal BP is not reached within a month of treatment, increase the dose of the initial drug or add a second drug from one of the classes in recommendation 6 (thiazide-type diuretic, CCB, ACEI, or ARB).
- The clinician should continue to assess BP and adjust the treatment regimen until goal BP is reached. **If goal BP cannot be reached with 2 drugs, add and titrate a third drug** from the list provided. Do not use an ACEI and an ARB together in the same patient. If goal BP cannot be reached using only the drugs in recommendation 6 because of a contraindication or the need to use more than 3 drugs to reach goal BP, antihypertensive drugs from other classes can be used.
- **Referral to a hypertension specialist may be indicated** for patients in whom goal BP cannot be attained using the above strategy or for the management of complicated patients for whom additional clinical consultation is needed. (Expert Opinion – Grade E)
Is It Enough?

• Is It Enough To Just Lower Blood Pressure?
• Is It Enough To Reduce or Prevent Coronary Artery Disease, MI, LVH, Stroke, PAD, Chronic Kidney Disease?
• Or...Is what we really care about:
  – >Prevention of Disability, Death and Preserving Quality of Life?
Politics

• JNC 8 Panel was supposed to hand over draft to NHLBI, AHA, ACC and CDC+P but instead JNC 8 Panel directly published in JAMA without endorsement of these other professional agencies/societies who then wrote their own guidelines!
  – (Along with ASH)
  – JACC 2014 Vol 63 #12 and co-published in Circulation
Politics (continued)

• AND as a result, NHLBI decided to no longer fund any subsequent JNCs.

• So JNC can’t even incorporate SPRINT into JNC9 because there won’t be a JNC9.

• Therefore, why would anyone follow guidelines that are already obsolete, will not be updated AND consist mostly of EO’s??
Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)

The Guidelines

- [JNC 7 Full Report](#)
- [JNC 7 Express (for Primary Care)](#)

Status

- Publication Date: December 2003 in *Hypertension*. 2003;42:1206
- Version History:
  - [JNC 6: published 1997](#)
  - [JNC 5: published 1992](#)
  - [JNC 4: published 1988](#)
  - [JNC 3: published 1984](#)
  - [JNC 2: published 1980](#)
JNC 8 vs JNC 7

- JNC 7 Final Report was reviewed, *before* publication, by 39 major professional, public, and voluntary organizations as well as 7 federal agencies.
- JNC 8 2014 guidelines were reviewed by a group of selected experts and 5 federal agencies but did NOT receive endorsement by NHLBI, the agency that originally convened the group and project.

Reference: Reisin, E; Harris, R; Rahman, M; JASN 25:2014
JNC 8 vs JNC 7

• JNC 7 discussed methods to diagnose patients with hypertension, initial evaluation for primary and secondary hypertension, compliance with treatment and resistant hypertension.
  – These are not included in the JNC 8 2014 guidelines

Reference: Reisin, E; Harris, R; Rahman, M; JASN 25:2014
JNC 8 vs JNC 7

• Result: No clear gold standard in publications of guidelines to increase awareness, prevention, treatment and control of high blood pressure

Reference: Reisin, E; Harris, R; Rahman, M; JASN 25:2014
JNC 8 (vs JNC 7)

• Disqualified over 98% of previous studies from review of JNC 7
• Resulted in multiple key recommendations based on expert opinion alone
• Strict criteria of RTCs with n>100 subjects resulted in majority of guidelines being made by expert opinion only.

Reference: Reisin, E; Harris, R; Rahman, M; JASN 25:2014
When is Perfection the Enemy of the Good?

- JNC 8 utilized only 1.8% of the 1,860 studies reviewed in generating JNC 7.
JNC 7:
Suggested Medications For Treatment of Hypertension in Presence of Certain Medical Conditions

• Coronary artery disease/Post MI: BB, ACEI
• Systolic heart failure: ACEI or ARB, ALDO, ANTAG, thiazide
• Diastolic heart failure: ACEI or ARB, BB, thiazide
Suggested Medications For Treatment of Hypertension in Presence of Certain Medical Conditions

• Diabetes: ACEI or ARB, thiazide, BB, CCB
• Kidney Disease: ACEI or ARB
• Stroke or TIA: thiazide, ACEI
What Would You Use or Avoid In This Patient?
What Would You Use or Avoid In This Patient?
What Would You Use or Avoid In This Patient?
What About the Three Mechanisms of Hypertension?

• Volume Excess
• SNS/ANS
  – (Sympathetic Nervous System)
• RAAS
  – (Renin Angiotensin Aldosterone System)
AHA-ACC-CDC Advisory

Recommend:

• Use of treatment algorithms based on clinical guidelines
• Broad-based efforts to improve hypertension awareness, treatment and proportion of patients treated and controlled.
• Principles for an effective algorithm:
  • updatable and feasible
  • consider the costs of diagnosis, monitoring, and treatment;
  • can be formatted easily within a team approach to healthcare
  • Never be used to counter the treating physician's best clinical judgment.
AHA-ACC-CDC recommended SBP goals for both patients older and younger than 80 yo are in agreement with guidelines from: Am Society of HTN, International Society of HTN Canada, Europe, and the UK
TIME FOR A POLL!
Audience Survey

• The largest group of patients with hypertension that you see and treat are:
  – A: 18-49 years old?
  – B: 50-80 years old?
  – C: Greater than 80 years old?
So Now What?

What now my love, now that you've gone
What Do We Physicians Tell Patients?

• About Treatment and Treatment Goals in perhaps the largest hypertension patient group in the country?

Patients $\geq$ 50 year old
Will SPRINT Make It to The Finish Line?

• Await peer-reviewed publication in the coming months
Common Ground

- Treat Octogenarians less aggressively with target BP < 150/80
Plethora of HTN guidelines

- European Society of Hypertension Jun 2013
- American Society of Hypertension (ASH) in conjunction with the International Society of Hypertension (ISH), guidelines Dec 2013
- AHA-ACC-CDC scientific advisory Nov 2013
The Nine Commandments

• JNC 7 represented the Original 15 Commandments because it included definitions, evaluations, approaches for work-up and secondary and resistant hypertension, behavioral and dietary lifestyle modification guidelines and approaches. Included role for BBs and Aldosterone-antagonists.

• Note that the Original 10 Commandments are not evidence-based, yet they are simple, straight-forward and have borne the test of time.

• In the end they are essentially, Grade E (Expert Opinion) based.
Expert Opinions.....

• Have limitations as well but maybe not as bad as we fear?
So...

- Why might Expert Opinions perhaps turn out “better” than RCTs after all this?
- And how much Money was spent on all the RCTs?
- Unsettling, politically incorrect, but could it be that RCTs are limiting by their design structure (and exclusionary criteria) and thus self-limited in their application to clinical guidelines?
Ghostbusters: “Rules vs Guidelines”
Paradox

• How do we best come to grips with the **reality** that there is often no applicable EBM for the particular patient for whom we are caring?
  
  – Age, Gender, Socio-economic status, Mental and Educational Status, Veteran’s status, Pregnancy Status, Race, Ethnicity, Co-morbid conditions, Multiple medications, HIV status, Hep B status, Nutritional status, Living situation, Medication Intolerance, Fragility and Expected Survival Status.
Think Inside and Outside the **Guidelines**’ Black Box To Treat the Specific, Not General, Patient Sitting in Front of You!

ADOPT

AMEND

(Re)-ASSESS

ADAPT
Thank you for the honor of the invitation to address you today.

JNC = Just Not Convinced