



Is this hypertension treatment strategy based on SOR “A” evidence?

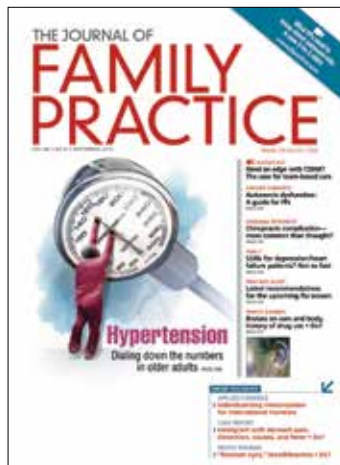
In the article, “Hypertension treatment strategies for older adults” (*J Fam Pract.* 2017;66:546-554), Hansell et al gave an “A” Strength of Recommendation (SOR) rating to the Practice Recommendation that read: “Target a systolic blood pressure (SBP) <120 mm Hg in community-dwelling, non-diabetic patients ≥75 years of age if it is achievable without undue burden.”

As justification for this SBP target, the authors cited a subgroup analysis from the Systolic Blood Pressure Intervention Trial (SPRINT),¹ which consisted of patients ≥75 years of age.² I posit that the inconsistencies of the data cited by Hansell et al contradict an “A” rating, and that the methodology used in SPRINT greatly mitigates the generalizability of the results.

First, Hansell et al admit that no consensus exists on an optimal BP target for older patients. SOR taxonomy requires that the evidence behind an SOR of “A” be based on consistent and good-quality patient-oriented evidence.³ One source cited by the authors states that evidence supporting lower targets is inconsistent,⁴ while a recent Cochrane review does not support low BP targets.⁵ Given that the evidence is inconsistent, the SOR should be a “B”, at best.

Second, the evidence to target a systolic BP <120 mm Hg primarily comes from SPRINT.^{1,2,4} In a Letter to the Editor that appeared in *The New England Journal of Medicine*, Dr. Marc A. Pfeffer addressed a key methodology issue of that trial: SPRINT protocol called for the withdrawal of anti-hypertensive therapy in the standard treatment group if a single systolic BP reading was <130 mm Hg, or if readings at 2 or more consecutive visits were <135 mm Hg, regardless of patient symptoms.⁶

The letter also questioned how frequently this withdrawal occurred, to which the SPRINT authors replied that 87% of participants required at least one reduction in



the dose of medication to maintain the treatment target in the standard group, and complete withdrawal of medication was required in <7.5% of participants.⁷ While this dose adjustment may have been necessary to adequately test the SPRINT hypothesis that lower systolic BP targets are better, routine dose reduction in an asymptomatic patient is not standard practice.

Given the small benefit in absolute risk reduction in SPRINT’s aggressive hypertensive treatment arm of 0.54% per year for the primary composite outcome and 0.37% per year for all-cause mortality,² the frequent medication dose reductions in the standard treatment arm likely contributed significantly to the statistical benefit seen in the aggressive treatment group in SPRINT.

If an SOR of “A” for BP targets is to be made, the print publication of Hansell et al’s article should communicate the degree of benefit, preferably in terms of absolute risk reduction. Only the online publication of TABLE W1 stated the degree of benefit in the SPRINT subgroup study, but it was stated in terms of relative risk.

Given the current suboptimal rates of hypertension control, primary care physicians would do well to impact morbidity and mortality in older adults by working to achieve standard targets, such as an SBP of <140 mm Hg or <150 mm Hg. Once standard targets are achieved, a conversation could then ensue about the potential benefits and harms of lower BP targets.

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➤ Primary care physicians would do well to impact morbidity and mortality in older adults by working to achieve standard targets, such as an SBP of <140 mm Hg or <150 mm Hg.



We should not only focus on this modifiable risk factor (hypertension) to reduce CVD risk and mortality, but we should do so to the evidence-based goal.

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Authors' response

An SOR of "A" is based on consistent and good-quality patient-oriented evidence, which is further defined for treatment, prevention, and screening studies as (a) systematic reviews/meta-analyses of randomized controlled trials (RCTs) with consistent findings or (b) a high-quality individual RCT.¹ The recommendation to "target a systolic blood pressure (BP) <120 mm Hg in community-dwelling, nondiabetic patients ≥75 years of age if it is achievable without undue burden" meets level 1 evidence based on both (a) and (b).

While a Cochrane review of hypertension did not support a systolic BP target <120 mm Hg, the populations evaluated included a variety of ages; the studies did not specifically focus on those ≥75 years of age with inherently high cardiovascular risk while excluding patients with diabetes.² The Action to Control Cardiovascular Risk in Diabetes (ACCORD) trial results,³ which are often viewed as inconsistent with SPRINT,⁴ included patients with diabetes and patients of a younger average age than SPRINT. Although no overall mortality benefit of intensive BP control was found in the ACCORD trial, there was significant reduction in stroke, as well as additional benefit in the ACCORD standard glycemia group.^{3,5}

The American College of Cardiology/American Heart Association 2017 BP guidelines summarize several meta-analyses that consistently support tighter BP control with recommendations for a lower BP target of <130 mm Hg systolic.^{5,6} They selected a target of <130 mm Hg, rather than <120 mm Hg, assuming that general health care providers cannot be as efficacious at lowering BP as researchers in efficacy trials.⁵

With regard to medication withdrawal as a flaw in the SPRINT design,⁴ an ac-

cepted geriatric principle is reduction in polypharmacy whenever possible. Medication reduction or withdrawal when a patient is too far below target is prudent. The 2 different target groups in an RCT have to be statistically different to draw conclusions about the differences. This strategy has been employed in other BP trials. Medication withdrawal is an appropriate means to achieve targets, which the SPRINT investigators did successfully with a least-square mean systolic BP for patients ≥75 years of age in the control group of 134.8 mm Hg and 123.4 mm Hg in the intensive group.⁴ Even with reduction in polypharmacy in the standard group, SPRINT demonstrated cardiovascular and mortality benefit with tighter control.⁴

With regard to Dr. Fallert's comments about a small absolute risk reduction for the entire SPRINT study population, our article in *JFP* specifically pertains to adults ≥75 years of age. The numbers needed to treat for composite cardiovascular outcomes and all-cause mortality in the ≥75 SPRINT group are 27 (95% confidence interval [CI], 19-61) and 41 (95% CI, 27-145), respectively.⁴

We agree that there is suboptimal hypertension control at present. However, physicians should not only focus on this modifiable risk factor to reduce CVD risk and mortality in appropriate patients, but they should focus on doing it to the evidence-based goal.

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Let's recognize Dr. John Geyman, too

Thank you for your tribute to David Warfield Stires, *The Journal of Family Practice's* founding publisher (*J Fam Pract.* 2017;66:654-655). The real hero of the story, however, is Dr. John Geyman, who had the vision to found a research journal at the birth of our specialty. This was no easy task, as John faced a challenging chicken-and-egg problem: how to establish a research journal when academic family medicine was just getting underway and had no track record of generating a steady stream of quality research. The latter problem was due, in part, to the lack of a research journal devoted to promoting and publishing research in the field.

Yet, John did it, putting family medicine research on the publishing map. His groundbreaking work set the stage for future journals, including the *Journal of the American Board of Family Medicine*, the American Medical Association's now-defunct *Archives of Family Medicine*, and the American Acad-

emy of Family Physicians' *Annals of Family Medicine*.

As a family medicine resident in the 1970s, I remember coveting *JFP* so much that I managed to collect every issue from Volume 1, Issue 1, through the turn of the century. And as a young faculty member at Georgetown University Medical Center in the 1980s, I painstakingly created an annotated bibliography of the then-published content of *JFP* to use for teaching, research, and administration.

When I became editor of *American Family Physician* in 1988, I made a pilgrimage to the University of Washington School of Medicine in Seattle, where John was chairman of the Department of Family Medicine. I wanted to seek his advice, learn from his vast experience, and pay tribute to all that he'd done for our specialty. Over the past 30 years, John has continued to leave his mark. (See <http://www.johngeymanmd.org/bio.html>.)

A tribute to David Warfield Stires is incomplete without a corresponding acknowledgement and celebration of John's decades-long visionary leadership in family medicine.

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