Pharmacologic Treatment of Hypertension in Adults Aged 60 Years or Older to Higher Versus Lower Blood Pressure Targets: A Clinical Practice Guideline From the ACP and the AAFP

Guideline is first to consider NIH’s SPRINT trial results, which have come under scrutiny. Here’s what to do, and how other guidelines compare
I. Introduction

The American College of Physicians (ACP) and American Academy of Family Physicians (AAFP) recently published a clinical practice guideline covering pharmacologic treatment of hypertension in adults aged ≥ 60 years.

The new ACP/AAFP guideline is the first guideline about hypertension in the elderly to consider the results of the Systolic Blood Pressure Intervention Trial (SPRINT), a landmark study started in 2009 by the National Institutes of Health.

The SPRINT study evaluated the benefits of maintaining a target systolic blood pressure of 120 mm Hg compared with a target systolic blood pressure of 140 mm Hg among patients aged ≥50 years at increased risk for heart disease or who have kidney disease. However, the validity of the results of this trial have recently been questioned.

Regardless of the selected blood pressure target range, choose treatment goals for adults aged ≥60 years based on a periodic discussion of benefits and harms of specific blood pressure targets with your patient.

II. Target systolic blood pressure

**Recommendation:** Treat patients aged ≥60 years with systolic blood pressure consistently ≥150 mm Hg to reduce the risk of mortality, stroke, and cardiac events. The target systolic blood pressure should be <150 mm Hg (Grade: strong recommendation, high-quality evidence).

**Details:** Many clinical trials have demonstrated a beneficial effect for treating high blood pressure in older adults. However, the majority of evidence is from trials assessing those with systolic blood pressures >160 mm Hg. Based on a systematic review and meta-analysis of high-quality evidence, treating hypertension in older adults to moderate targets of <150/90 mm Hg can result in a:

• 10% reduction in the risk of mortality (95% CI, 0.83 to 0.98)
• 23% reduction in the risk of cardiovascular events (95% CI, 0.68 to 0.89)
• 26% reduction in the risk of stroke, (95% CI, 0.65 to 0.84)

Based on lower-quality evidence, treating hypertension ≤140/85 mm Hg in older adults can result in these marginal improvements:

• 18% reduction in risk of cardiac events (95% CI, 0.64 to 1.0)
• 21% reduction in risk of stroke (95% CI, 0.59 to 0.99)

Although some additional benefit is achieved by aiming for lower blood pressure targets, most benefit occurs with acceptable harms and costs in the pharmacologic treatment of patients who have an SBP of ≥ 150 mm Hg.

**Comments:** These results pertain to drug therapy of hypertension in the elderly (compared with non-drug therapy) and did not compare drug therapy to lifestyle management only. However, it is important to consider nonpharmacologic treatment in all patients with hypertension. As shown in Table 1, the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) recommends the following options for non-pharmacologic management of hypertension in patients of all ages:
Additionally, consider increasing potassium intake (in patients who are not at high risk of hyperkalemia), as well as stress reduction.

III. Pharmacologic treatment in patients with stroke/TIA history

Recommendation: Consider initiating or intensifying pharmacologic treatment in adults aged ≥60 years with a history of stroke or transient ischemic attack to achieve a target systolic blood pressure of <140 mm Hg to reduce the risk for recurrent stroke (Grade: weak recommendation, moderate-quality evidence).

Details: More aggressive treatment of blood pressure in patients who have a history of a transient ischemic attack or stroke is warranted. Moderate-quality evidence suggests that treating to a systolic blood pressure of 130 to 140 mm Hg reduced the recurrence of a stroke by 24% (95% CI, 0.66 to 0.92). No reduction in cardiac events or mortality was seen.

IV. Pharmacologic treatment in patients with high CV risk

Recommendation: In order to reduce the risk of stroke or cardiovascular events, consider initiating or intensifying pharmacologic treatment in some adults aged ≥60 years at high cardiovascular risk, based on individualized assessment, to achieve a target systolic blood pressure of <140 mm Hg (Grade: weak recommendation, low-quality evidence).
Details: Selecting target blood pressure is based on many patient-specific factors, including medical comorbidities, risk of adverse effects, and cost. Consider a systolic blood pressure target of <140 mm Hg in those at higher risk of cardiovascular disease. Although there is no cardiovascular risk calculator for blood pressure control (the AHA Cardiovascular Risk Calculator was developed to determine which patients should receive a statin), cardiovascular risk is increased in those who are older, as well as in those with:

• History of known vascular disease
• Presence of diabetes
• Presence of chronic kidney disease defined as a GFR <45 mL/min/1.73 m²
• Presence of metabolic syndrome (abdominal obesity, hypertension, diabetes, dyslipidemia)

Comments: The bottom line is that individualized blood pressure goals are needed for older patients. In elderly patients with orthostatic hypotension, a systolic goal of <150 or even higher may be very appropriate to reduce fall and syncope risk. On the other hand, patients with TIA or stroke history with no orthostatism may be best served by a target systolic <130, or even 120 if tolerated.

V. Conclusions

The ACP/AAFP clinical practice guideline covering pharmacologic treatment of hypertension in adults aged ≥60 years adds to the growing literature regarding optimal blood pressure targets in the elderly. Of note, these guideline target blood pressure goals may not be suitable for all elderly patients. For example, evidence for older adults who are frail or those with multiple comorbidities is limited. In addition, many older adults may be taking various medications, have financial constraints, other medical comorbidities, and drug interactions that impact treatment options.

Table 2 summarizes blood pressure treatment goals of the various clinical practice guidelines for the elderly.

Table 2. Recommended Blood Pressure Targets in the Elderly

<table>
<thead>
<tr>
<th>Population/risk factors</th>
<th>Target blood pressure</th>
<th>Clinical Benefit</th>
<th>Strength of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Society of Hypertension/International Society of Hypertension 2013</td>
<td>Systolic BP &lt;150 mm Hg Diastolic BP &lt;90 mm Hg</td>
<td>Cardiovascular and stroke protection</td>
<td>Not provided</td>
</tr>
<tr>
<td>Canadian Hypertension Education Program 2013</td>
<td>Systolic BP &lt;150 mm Hg</td>
<td>Reduction of fatal or nonfatal stroke, all-cause mortality</td>
<td>Grade C (Lower level evidence)</td>
</tr>
</tbody>
</table>
| Age ≥80 years | Systolic BP between 140 and <150 mm Hg  
(Fit elderly aged <80 years, consider systolic BP <140 mm Hg) | Reduction in major cardiovascular events and all-cause death | 2B (less well established) |
|----------------|---------------------------------------------------------------|-----------------------------------------------------|------------------------|
| Age ≥60 years | Systolic BP <150 mm Hg  
Diastolic BP <90 mm Hg | Reduction in stroke, heart failure, coronary heart disease | Strong evidence |
| Age ≥65 to 79 years | Systolic BP <140 mm Hg  
Diastolic BP <90 mm Hg  
(lower targets may be appropriate for some populations such as the elderly and others) | Not provided | Expert opinion |
| 60 to 79 years, African American | Systolic BP < 150 mm Hg | Reduction in mortality, cardiovascular events, and stroke | High-quality evidence |
| History of TIA or stroke | Systolic BP <140 mm Hg | Reduction in recurrent stroke | Moderate-quality evidence |
About the authors

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References


