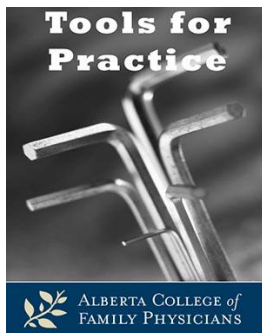


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Evidence Updated: SPRINT trial subgroup added
Bottom Line: Added SPRINT trial implication
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Treating Hypertension in the Very Elderly: What we know so far?

Clinical Question: In patients over age 80, what are the risks and benefits of treating hypertension?

Bottom-line: Treating hypertension in healthy elderly patients age ≥ 80 is effective. Exact targets are uncertain but the primary trial used 150/80 as a target and another trial showed benefit with a systolic BP < 120 . The benefit of treating the frail elderly or those with orthostasis and/or a standing systolic BP of < 140 remains uncertain.

Evidence:

- One large randomized controlled trial (RCT) specifically addresses this situation:
 - HYVET¹ RCT, 3,845 patients, mean follow-up 2.1 years, 60% female, ≥ 80 years (mean age 83.5), Blood Pressure (BP) > 160 systolic.
 - Indapamide (SR 1.5mg) +/- perindopril (2-4mg) (target BP $< 150/80$ mmHg) or placebo
 - Outcomes:
 - Mortality: Number Needed to Treat (NNT)=47 (Treatment 10% versus 12%).
 - Any cardiovascular disease (CVD): NNT=34 (Treatment 7% versus 10%).
 - Heart failure: NNT=35 (Treatment 3% vs 1.1%)
 - Potential limitations:
 - Stopping early can exaggerate benefit.²
 - The healthy elderly population ($\leq 12\%$ CVD history, $< 7\%$ diabetes) may limit broad application.
 - Patients with a standing systolic BP < 140 were excluded from the study; few subjects had orthostasis (7.9-8.8%).

- In the subgroup of 2636 SPRINT trial patients ≥ 75 years old³ (see Tools for Practice #37), target systolic BP < 120 mm Hg versus < 140 mm Hg reduced mortality (NNT=39), any CVD (NNT=29), and heart failure (NNT=63) over 3.1 years.

Context:

- A systematic review extracting data on patients ≥ 80 years old from 7 trials (1670 patients) found antihypertensive therapy significantly reduced CVD events but left uncertainty regarding the effect on mortality.⁴
- A meta-analysis of patients ≥ 80 years old (3 trials, 8,221 patients) found no difference between target BP $< 140/90$ and $150-160/90$ mm Hg.⁵
- HYVET was specifically designed to address hypertension in the healthy very elderly and for that population would be more reliable than pooled subgroup data.
 - Note: Target BP of HYVET was $150/80$, higher than that of most guidelines.
 - Most trials,⁴ including HYVET,¹ used thiazide diuretics as the first line therapy.
 - A 1-year extension of HYVET showed sustained benefits.⁶
- The 2017 Canadian⁷ guidelines changed the BP target for elderly to $< 140/90$ mm Hg, whereas American⁸ guidelines recommend target systolic BP < 130 mm Hg for non-institutionalized, ambulatory patients ≥ 65 years old.

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