Hypertension in Primary Care: Blood Pressure Goals for Adults Aged 60 and Older [Supplement]

B.C. Provincial Academic Detailing Service **April 2018**

NOTE: April 2018 corrections to the following section

What sources of evidence contribute to recommendations for systolic blood pressure goals?

The American College of Physicians and the American Academy of Family Physicians 2017 weak recommendation for a SBP goal < 140 mmHg in adults aged 60 and older was informed by a systematic review which included SPRINT 2015 and five other RCTs comparing more intensive versus less intensive BP goals.[1,3] In April 2018, the *Annals of Internal Medicine* published corrections to the effect estimates however the authors' note that the "uncertainty and inconsistency remains true in the corrected analyses, as does the low-strength evidence rating."[2,4]

WEISS 2017[3,4] authors' summation [6 RCTs, N=41,491; 2-5 years]: "Tighter control may prevent, on average, roughly 10 events for every 1000 high-risk patients treated over 5 years across a population. However more aggressive treatment is likely associated with greater medication burden and higher risk for adverse effects, such as hypotension and syncope".[3,4]

Trials comparing BP goals of < 140/≤ 85 mmHg versus < 150-160/≤ 90 mmHg were included.
Trials comparing more intensive SBP goals of < 120 mmHg versus < 140 mmHg were included.

WEISS 2017[3,4] Benefits and harms of intensive blood pressure in adults aged ≥ 60			6 RCTs; N=41,491	2-5 years
all-cause mortality	ARR 0.21%	Roughly 10 fewer events for every 1000 high-risk patients treated over 5 years	RR 0.93 [95%CI 0.75, 1.14] low quality	
fatal and nonfatal stroke	ARR 0.19%		RR 0.86 [95%CI 0.64, 1.07] low quality	
fatal and nonfatal coronary events	ARR 0.35%		RR 0.91 [95%CI 0.77, 1.04] low quality	

Two RCTs contributed the most weight to WEISS 2017; both trials compared SBP < 120 mmHg versus SBP < 140 mmHg
- ACCORD-BP 2010: N=4733, 4.7 years follow up, type 2 diabetes with CV risk factors, history of CVD 34%, baseline BP 139/76 mmHg[5]
- SPRINT 2015: N=9361, 3.3 years follow up, CV risk factors but without diabetes, history of CVD 20%, baseline BP 140/78 mmHg[6]

Discordant results all-cause mortality
- ACCORD-BP 2010: HR 1.07 [95%CI 0.85, 1.35][5]
- SPRINT 2015: HR 0.73 [95%CI 0.60, 0.90][6]

Concordant results serious adverse events attributed to treatment
- ACCORD-BP 2010: ARI 2.0%; 20 more per 1000 [P < 0.001][5]
- SPRINT 2015: ARI 2.2%; 22 more per 1000 [P < 0.001][6]

Total serious adverse events [net benefit]: this systematic review did not analyze total serious adverse events

References

1. Qaseem A, Wilt T, Rich R, et al. Pharmacologic treatment of hypertension in adults aged 60 years or older to higher versus lower blood pressure targets: a clinical practice guideline from the American College of Physicians and American Academy of Family Physicians. Ann Int Med 2017;166:430-437
2. Qaseem A, Wilt T, Rich R, et al. Pharmacologic treatment of hypertension in adults aged 60 years or older to higher versus lower blood pressure targets: a clinical practice guideline from the American College of Physicians and American Academy of Family Physicians *[Correction]*. Ann Int Med 2018;168:530-532
3. Weiss J, Freeman M, Low A, et al. Benefits and harms of intensive blood pressure treatment in adults aged 60 years or older. A systematic review and meta-analysis. Ann Intern Med 2017;166:419-429
4. Weiss J, Freeman M, Low A, et al. Benefits and harms of intensive blood pressure treatment in adults aged 60 years or older. A systematic review and meta-analysis *[Correction]*. Ann Int Med 2018;168:529-530
5. The ACCORD Study Group. Effects of intensive blood-pressure control in type 2 diabetes mellitus. N Engl J Med 2010;362;1575-85
6. The SPRINT Research Group. A randomized trial of intensive versus standard blood-pressure control. N Engl J Med 2015;373:2103-2116