TOOLS FOR PRACTICE #409 | March 16, 2026

TOOLS FOR PRACTICE

PEER PATIENTS EXPERIENCE EVIDENCE RESEARCH

Less than 140, 130, or 120? Counting down to the optimal systolic blood pressure target.

CLINICAL QUESTION

What are the benefits and harms of lower systolic blood pressure (SBP) targets?

BOTTOM LINE

In patients with hypertension, a target SBP <130 mmHg over 3 years reduces cardiovascular events to 5.3% from 7.1% with <140 mmHg but increases the risk of side-effects (like hypotension or electrolyte abnormality) to 7.2% from 5.4%.

EVIDENCE

- At least 5 systematic reviews in past 5 years.[1-6] All results statistically significant unless stated.
- Focusing on individual participant-level meta-analysis of 6 largest, randomized controlled trials (RCTs) with 80,676 participants (average age 64, 44% with 10-year cardiovascular risk ≥20%) comparing "intensive" (<120-130) versus "standard" (<140-150) SBP target.[1]
    - At 3.2 years:
        - Cardiovascular death: 1.1% versus 1.5% (standard), number needed to treat (NNT)=250.
            - All-cause death reduced, but event rates not reported.
        - Cardiovascular events: 5.3% versus 7.1% (standard), NNT=59.

        - Side-effects: 7.2% versus 5.4% (standard), number needed to harm (NNH)=56.
            - Examples:[2] Hypotension (NNH=~500), acute kidney injury (NNH=~1600), syncope (NNH=~1700), injurious falls (NNH=~2900), electrolyte abnormality (NNH=~3200).
        - Intensive group required 0.5-2 additional BP medications.
    - Similar NNT for cardiovascular events in RCTs targeting SBP <120 mmHg (NNT=56) and <130 mmHg (NNT=61).
    - Similar efficacy and safety in patients with or without diabetes or stroke history.
- Other systematic reviews with fewer patients: Similar results, but inconsistent effect on mortality.[2-6]
- Quality of life: No clinically important differences.[7-9]
- Limitations: No direct comparisons of SBP <120 versus <130. Differences in achieved SBP between RCTs with SBP target <120 (intensive 121 versus standard 135) versus target <130 (intensive 131 versus standard 146).

CONTEXT

- Accurate SBP measurements are critical to avoid harm with intensive targets.
    - SPRINT trial: Optimal blood pressure measurement technique in clinic led to reported SBP ~7 mmHg lower than typical technique (121 versus 128 mmHg).[10]
    - Measurement technique tips available.[11]
- Canadian[11] and international[12,13] hypertension guidelines:
    - Start medications at BP ≥140/90 mmHg (or ≥130/80 mmHg with cardiovascular disease or 10-year risk ≥20%);
    - Target SBP target <130 mmHg for all patients, if tolerated without bothersome side-effects.
- In one study,[1] patients valued cardiovascular events three times more than side-effects, but for some patients side effect concerns may outweigh potential benefits.

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