

# Reduction in cardiovascular events and all-cause mortality with intensive blood pressure control: Main results of the Systolic Blood Pressure Interventional Trial (SPRINT)

**Purpose:** To evaluate whether intensive blood pressure control will reduce cardiovascular events and all-cause mortality. This trial was stopped early because of the positive, beneficial results. These results reflect events through August 20, 2015.

**Trial Design:** 9361 older adults ( $\geq 50$  years old [avg. 67.9 years]) with hypertension and at least one additional risk factor for cardiovascular disease (CVD) were randomized to intensive blood pressure therapy (intensive), targeting a systolic BP (SBP)  $< 120$  mm Hg, or standard therapy (standard), targeting a systolic BP  $< 140$  mm Hg. Excluded patients included those with DM, past stroke, or advanced kidney disease.

**Primary Endpoint:** composite: first occurrence of MI, ACS, stroke, HF, or cardiovascular disease death.

| Trial Results – (median 3.26 years) | Intensive Therapy vs. Standard Therapy | P value   | Serious Adverse Events  | Higher Specific Adverse Events in Intensive Group                                     |
|-------------------------------------|--|-----------|---|---|
| Primary Endpoint                    | ↓ 25%                                  | $< 0.001$ | No overall difference: 4.7% Intensive vs. 2.5% standard, $p = < 0.001$  | hypotension<br>syncope<br>electrolyte abnormalities<br>acute kidney injury or failure |
| All-cause mortality                 | ↓ 27%                                  | 0.003     | Incidence of bradycardia or falls resulting in injury was not higher in the intensive treatment group<br>Orthostatic hypotension <i>less</i> in intensive treatment group |   |

**Conclusions:** Intensive blood pressure therapy to a lower systolic blood pressure target significantly reduced CVD events and all-cause mortality compared to the current standard therapy in these high-risk patients. The results were sustained, and also seen in the pre-specified subgroups (age, gender, race, presence of CVD, SBP tertiles and renal function).