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# If we Set an SBP Target of 120 mm Hg instead of 140 mm Hg for a Patient with Diabetes and at High-Risk of Cardiovascular Disease, will it Offer Any Additional Benefit?

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## Introduction

The coexistence of hypertension and diabetes can be devastating to the cardiovascular system and maintaining healthy blood pressure levels and blood sugar levels are important ways to reduce the risk of damage to the important organs of the body [1]. Much research has been done to see whether lower BP targets for people with diabetes would help reduce metabolic complications and deaths. However, the target BP levels are not well established and have remained a controversial matter. The Framingham data contradict the concept that lower BP imply lower risk and the idea that 140 mm Hg is a useful cut-off value for hypertension for all adults. It suggests recommends an age and gender dependent threshold for hypertension [2].

The Cochrane hypertension group has reviewed, the evidence from randomized controlled trials (RCTs) to know how 'lower' BP targets (any target less than 130/85 mmHg) compared with 'standard' BP targets (less than 140 – 160/90 – 100 mmHg) predicted the outcomes [3]. They found five RCTs with 7314 people, who were followed up for around four and a half years. This included a large trial with over 4,700 people, the ACCORD trial. According to the ACCORD trial, a SBP of lower than 120 mmHg instead of lower than 140 mmHg was associated with a small reduction in strokes. However, this lower SBP target was associated with more serious 'adverse events' or side effects/complications of treatment, with one excessive adverse event for every 50 people treated intensively. Indeed, ACCORD failed to show any benefit from intensive BP lowering in patients with diabetes. There was no benefit associated with a 'lower' DBP, evaluated in the remaining four trials. Studies have also reported that the risk of diabetic complications are strongly associated with raised blood pressure, the lowest risk being observed in those with SBP < 120 mm Hg [4]. Yet in other studies, researchers have reported that lower BP is not always better and can potentially be hazardous [5,6]. The findings showed that all the diabetic subjects with SBP < 125 mm of Hg or ≥ 140 mm Hg had an increased risk of CVD and mortality [6]. Evidence in favor of lower systolic values, i.e. < 130 mm Hg is limited and coming up against a reduction to < 120 mm Hg.

The European guidelines in line with current UK guidelines provides evidence that intensive blood pressure lowering in 'high-risk' patients is not beneficial [7]. The available literature suggests that lowering BP more aggressively may not provide a solution but can be adequate if tolerated by the patients [8].

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