

More intensive blood pressure therapy helps patients with type 2 diabetes regardless of cardiovascular risk

April 29 2019



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People with type 2 diabetes who received intensive treatment to keep their blood pressure levels at 130/80 mm/Hg or below had fewer heart

attacks, strokes and other diabetes complications, according to a study published in the American Heart Association's journal *Hypertension*. These patients also had lower overall risk of dying from any cause—a benefit that was observed regardless of a person's preexisting cardiovascular risk and baseline blood pressure, the research shows.

The findings shed new light on optimal blood-pressure targets and could help reconcile conflicting guidelines for the [treatment](#) for [hypertension](#) in people with type 2 diabetes—the more common form of the disease affecting more than 420 million people worldwide.

"Our findings demonstrate a benefit of more intensive therapy aiming for blood pressure thresholds at 130/80 or below and should help resolve some ongoing confusion over optimal blood pressure targets for people with diabetes," said study senior investigator J. Bill McEvoy, M.B., B.C.H., M.H.S., professor of preventive cardiology at the National University of Ireland, Galway Campus, and the Irish National Institute for Preventive Cardiology.

The study results suggest that aiming for [blood pressure levels](#) of 130/80 mm/Hg or lower can benefit patients at various degrees of baseline blood pressure elevation and with different cardiovascular risk—a composite score that estimates a person's likelihood of having a [heart attack](#) or stroke within 10 years.

"Patients, including those with diabetes, with blood pressure levels above 130/80 on two consecutive checks should discuss with their physicians whether they need change in treatment to get to a lower number," McEvoy added.

The 2017 American College of Cardiology/American Heart Association blood pressure guidelines call for beginning anti-hypertensive treatment at a blood pressure of 130/80 mmHg or higher for adults with diabetes

and hypertension, with a goal to reduce blood pressure to below 130/80 mmHg.

The new *Hypertension* study findings are based on analysis of outcomes among nearly 11,000 patients with type 2 diabetes followed over 4 years across 215 clinical centers in 20 countries as part of the international study ADVANCE.

The researchers compared outcomes between moderate to high cardiovascular risk people with type 2 diabetes and hypertension—a condition defined as persistently elevated blood pressure—receiving anti-hypertension combination treatment (perindopril and indapamide) and people with diabetes and hypertension receiving placebo. This trial had already reported benefit overall for the additional hypertension treatment, however, it was not known whether this benefit also applied to people with diabetes who started off with a blood pressure below 140/90 mmHg. To determine treatment benefit, the analysis compared rates of overall death from any cause as well as the rate of major vascular events, including heart attacks, strokes, diabetes-related kidney disease and diabetes-related eye damage.

Both patients at higher baseline risk for [cardiovascular disease](#) and those with lower cardiovascular risk benefitted from the more intensive treatment. In addition, those with diabetes and with blood pressures in the 130/80 mmHg to 140/90 mmHg range before starting the trial benefited from more intensive therapy, achieving lower blood pressures during the trial.

During the study, there were 837 deaths and 966 major vascular events, a category that includes heart attacks, strokes, diabetic kidney disease and diabetic eye disease. The group receiving intensive blood pressure therapy experienced 9 % fewer events and 14 % fewer deaths than the group taking placebo.

Untreated hypertension fuels the risk for cardiovascular issues, including heart attacks and strokes, while diabetes drives [cardiovascular risk](#) independently of high blood pressure. The simultaneous occurrence of hypertension and [diabetes](#) dramatically magnifies a person's risk for cardiovascular disease.

More information: *Hypertension* (2019). DOI: [10.1161/HYPERTENSIONAHA.118.12414](https://doi.org/10.1161/HYPERTENSIONAHA.118.12414) , www.ahajournals.org/doi/10.1161/HYPERTENSIONAHA.118.12414

Provided by American Heart Association

Citation: More intensive blood pressure therapy helps patients with type 2 diabetes regardless of cardiovascular risk (2019, April 29) retrieved 23 April 2024 from <https://medicalxpress.com/news/2019-04-intensive-blood-pressure-therapy-patients.html>

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