

Early diabetes interventions may also reduce heart disease risk

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Two treatments that slow the development of diabetes also may protect people from heart disease, according to a recent study accepted for publication in The Endocrine Society's *Journal of Clinical Endocrinology & Metabolism (JCEM)*.

Researchers examined the effect that making intensive lifestyle changes or taking the medication metformin had on [cholesterol](#) and triglyceride levels. The study, part of the National Institutes of Health's Diabetes Prevention Program, found that both treatments induced positive changes in the level of particles that carry cholesterol and triglycerides through the blood stream. These changes could lower the chances of plaque building up in blood vessels.

"Cardiovascular disease is the most significant cause of death and disability in people with [diabetes](#)," said the study's lead author, Ronald Goldberg, MD, of the University of Miami's Miller School of Medicine. "Our findings demonstrate that the same therapies used to slow the onset of diabetes also may help allay the risk of heart disease."

The randomized clinical trial analyzed blood samples from 1,645 people with impaired glucose tolerance. Participants were randomly assigned to one of three groups – one taking the medication metformin, another taking a placebo and a third undergoing an intensive lifestyle modification program. Researchers compared baseline blood samples from the start of the study to samples taken a year later to measure the interventions' effects. The study used advanced techniques to obtain a

detailed picture of the various particles in the blood.

People who took part in the lifestyle modification program had lower levels of triglycerides and the particles that carry this kind of fat in the blood after a year. Both the metformin and lifestyle interventions were linked to reductions in the number of small low-density lipoprotein (LDL) particles, which carry cholesterol that may contribute to plaque formation, and increases in high-density lipoproteins (HDL), the form of cholesterol that reduces heart disease risk.

"Preventing or slowing the development of diabetes with these treatments also improves the cholesterol and triglyceride profile of a person's [blood](#)," Goldberg said. "Thanks to the added benefits of existing diabetes interventions, we stand a better chance of lowering the risk of [heart disease](#) in this patient population."

More information: The article, "Lifestyle and Metformin Treatment Favorable Influence Lipoprotein Sub-fraction Distribution in the Diabetes Prevention Program," will be published online on Aug. 27.

Provided by The Endocrine Society

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