

# Lifestyle changes may stave off diabetes for a decade

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Sustaining modest weight loss for 10 years, or taking an anti-diabetic drug over that time, can prevent or lower the incidence of type 2 diabetes in people at high risk for developing the disease, according to the Diabetes Prevention Program Outcomes Study (DPPOS), a long-term follow-up to a landmark 2001 diabetes prevention study.

Jill Crandall, M.D., associate professor of clinical medicine at Albert Einstein College of Medicine of Yeshiva University, was a principal investigator in the follow-up study, which appears online in the current edition of the British medical journal the *Lancet*.

The original study — the [Diabetes](#) Prevention Program (DPP) — was a large, randomized trial involving 3,234 people at high risk for developing diabetes. At the start of the study, all were overweight or obese adults with elevated blood glucose levels. Researchers disclosed the findings from DPP in 2001 — a year earlier than scheduled — because results were so clear. After three years, intensive lifestyle changes (modest weight loss coupled with increased physical activity) reduced the rate for developing [type 2 diabetes](#) by 58 percent compared with placebo. The oral diabetes drug metformin (850 milligrams twice daily) reduced the rate of developing diabetes by 31 percent compared with placebo.

Since these striking results were based on just three years of data, researchers could not determine how long the benefits would last. Following a seven-month bridge period after the original study ended,

the follow-up DPPOS began, with 88 percent of DPP volunteers taking part. During the study pause, all participants learned the results and were offered 16 education sessions on making intensive lifestyle changes. The latest results, reflecting a full decade of participation — three in the DPP study and seven in DPPOS — indicate that lifestyle interventions producing even modest weight loss can significantly help to prevent or delay diabetes over the long term.

Specifically, for the 10 years spanning the DPP and DPPOS studies, the diabetes incidence (i.e., rate at which new diabetes cases were diagnosed) in the lifestyle group was reduced by 34 percent compared with placebo. For the group taking the diabetes drug metformin, diabetes incidence was reduced by 18 percent. Expressed another way, the lifestyle group delayed type 2 diabetes by about four years compared with placebo, and the metformin group delayed it by two years.

"The fact that we've continued to delay and possibly even prevent diabetes in people at very high risk for developing the disease is certainly a positive finding," says Dr. Crandall. She notes that those people randomly assigned to make lifestyle changes also had more favorable cardiovascular risk factors (including lower blood pressure and triglyceride levels) despite a reduction in drug treatment prescribed by their personal physicians.

The benefits of intensive lifestyle changes were especially pronounced among older people. Those aged 60 and over lowered their rate of developing type 2 diabetes in the next 10 years by about half.

The increase in the number of overweight Americans has led to an epidemic of type 2 diabetes that shows no signs of slowing. More than two-thirds of adults are now overweight or obese. About 11 percent of adults — 24 million people — have diabetes, and up to 95 percent of them have type 2 diabetes, according to the National Institutes of Health.

Diabetes is a major cause of heart disease and stroke and the major cause of kidney failure, limb amputations and new-onset blindness.

The researchers are now analyzing the DPPOS data to see whether clinical outcomes differ among the three groups. "The long-term weight loss and reduction in diabetes that we observed in DPPOS are encouraging," says Dr. Crandall. "But ultimately, establishing the benefits of preventing diabetes means showing that you can reduce the deaths and the severe complications associated with this disease."

More information: The study, "10-year Follow-up of Diabetes Incidence and [Weight Loss](#) in the Diabetes Prevention Program Outcomes Study," appears in the October 29, 2009 online edition of the [Lancet](#). In addition to Dr. Crandall, other Einstein researchers involved in DPPOS were Harry Shamoon, M.D., Elizabeth Walker, Ph.D., Judith Wylie-Rosett, Ed. D., Swapnil Rajpathak, M.B.B.S, Dr. P.H., and Janet Brown-Friday, R.N., M.P.H.

Source: Albert Einstein College of Medicine ([news](#) : [web](#))

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