

# Raising 'good' cholesterol levels reduces heart attack and stroke risk in diabetes patients

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Increasing levels of high-density lipoproteins, better known as HDL or "good" cholesterol, reduced the risk for heart attack and stroke among patients with diabetes. That's according to a new study appearing online today in *The American Journal of Cardiology*.

The observational study, one of the largest of its kind, examined the medical records of more than 30,000 patients with diabetes and also found that patients whose HDL levels decreased had more [heart](#) attacks and strokes.

Researchers studied patients with diabetes because they are more prone to [heart disease](#) with a [lifetime risk](#) as high as 87 percent, according to a paper from the landmark [Framingham heart study](#) published 2008. While there is considerable evidence that reducing the amount of low-density lipoprotein, also known as LDL or "bad" cholesterol, can reduce the risk of heart disease, the relationship between HDL cholesterol and heart disease is less clear.

"Our study adds to the growing body of evidence that raising HDL levels may be an important strategy for reducing [heart attack risk](#)," said study lead author Gregory Nichols, PhD, senior investigator with the Kaiser Permanente Center for Health Research in Portland, Ore.

"This is promising news for patients with diabetes, who already have an

increased risk for [heart problems](#). Raising their [good cholesterol](#) may be one more way for these patients to reduce their risk," said Suma Vupputuri, PhD, co-author and investigator with the Kaiser Permanente Center for Health Research in Atlanta.

The study included 30,067 patients who entered Kaiser Permanente diabetes registries in Oregon, Washington and Georgia between 2001 and 2006. These patients had at least two HDL cholesterol measurements between 6 and 24 months apart. Most patients (61 percent) had no significant change in HDL levels; in 22 percent of patients, HDL levels increased by at least 6.5 mg/dl (milligrams per deciliter of blood); in 17 percent of patients, HDL levels decreased by at least that same amount. After obtaining the cholesterol measurement, researchers followed the patients for up to 8 years to see if they were hospitalized for a [heart attack](#) or stroke. Patients whose HDL levels increased had 8 percent fewer heart attacks and strokes than patients whose HDL levels remained the same, while patients whose HDL levels decreased had 11 percent more heart attacks and strokes. This study was observational so there was no intervention to change HDL levels, and although many patients were on statins to reduce their "bad" cholesterol, very few were on medications to improve HDL.

Past studies on this topic have reached contradictory conclusions. A study published in 2009 in the *Archives of Internal Medicine* found that for every 5 mg/dl improvement in HDL cholesterol level patients saw a 21 percent decrease in heart attack risk. But a systematic review of more than 100 clinical trials published in the *British Medical Journal* in 2009 found that increasing HDL cholesterol did not reduce the risk of heart disease or death.

Earlier this year the National Institutes of Health stopped a clinical trial using large doses of the B Vitamin niacin to boost HDL levels because the [patients](#), who were already taking statins to reduce their "bad"

cholesterol, saw no added reduction in heart attacks when they added niacin. Niacin is one of very few medications to increase HDL, but it can also have side effects such as flushing, vomiting, dizziness and itching.

People can raise their HDL levels without medication by keeping their weight down, changing their diet, avoiding tobacco smoke, and increasing exercise. Medical experts believe that HDL or "good" cholesterol carries the "bad" [cholesterol](#) away from the arteries and back to the liver where it is processed and passed from the body. According to the American Diabetes Association, a good target for women should be at least 50 mg/dl of HDL and for men at least 40 mg/dl. Levels of 60 mg/dl or higher are thought to protect against heart disease.

Provided by Kaiser Permanente

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