

Diabetics' heart attack risk can be reduced, research finds

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People with diabetes who maintain intensive, low blood sugar levels are significantly less likely to suffer heart attacks and coronary heart disease, new research published today in *The Lancet* has shown.

By undertaking a meta-analysis which pooled information from five large trials, researchers at the University of Cambridge were for the first time able to provide reliable evidence linking intensive blood sugar level (or glucose) control with fewer [heart](#) attacks.

The research, funded by the British Heart Foundation, pointed to a 17 % reduction in heart attacks and a 15 % reduction in coronary [heart disease](#). However, the study found a more modest trend towards reduction in strokes with intensive control of glucose levels compared to standard care. Importantly, in contrast to smaller studies which had suggested possible harm from better blood sugar control, there were no adverse effects on deaths from any cause.

It is well documented that diabetics are at increased risk of heart disease. Even though patients can reduce their risk by maintaining healthy blood pressure levels and [cholesterol](#) reduction, the risk remains high.

Dr Kausik Ray of the University of Cambridge, lead author of the study, said: "Previous studies have been inconclusive, leaving diabetics and their doctors unsure as to whether maintaining lower blood sugar levels actually benefitted the patients. Although additional research needs to be conducted, our findings provide insight into the importance of

improving glucose levels which should include lifestyle changes as well as medication."

The five trials involved more than 33,000 individuals, including 1497 [heart attack](#) cases, 2,318 cases of coronary heart disease, and 1227 strokes. In order to assess the possible risk of various heart conditions, Dr Ray and his team analyzed the data collected on the [glucose levels](#) in blood, specifically a long-term marker of glucose control called HbA1c. In healthy individuals, HbA1c levels average between 4-5%. However, diabetics often have levels above 6.5%.

In the present study, those taking a standard treatment maintained a HbA1c level of 7.5%. Individuals who underwent intensive treatment to lower their blood sugar level were 0.9% lower than those who underwent standard treatment (average 6.6%), thereby dramatically reducing their risk of disease in large blood vessels.

Professor Peter Weissberg, Medical Director at the British Heart Foundation said:

"It is well established that carefully controlling blood sugar in people with [diabetes](#) can help prevent disease in small blood vessels that leads to kidney failure and blindness. This collective analysis of several large clinical trials suggests that careful [blood sugar](#) control also protects against heart attacks and strokes, the major causes of death in people with diabetes.

"These findings emphasise the importance of detecting and treating diabetes as early as possible, thus preventing the chances of developing heart and circulatory disease."

Dr Ray concluded: "The present findings reinforce the need for diabetic patients to achieve and maintain better control of blood sugars long-term, as a means to reduce risk of heart disease."

More information: The paper 'Effect of intensive control of glucose on cardiovascular outcomes and death in patients with diabetes mellitus: a meta-analysis of randomised controlled trials' will be published in the 23 May 2009 edition of *The Lancet*.

Source: University of Cambridge ([news](#) : [web](#))

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