

New study finds fewer heart attacks, strokes and death among patients with diabetes and history of metabolic surgery

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Patients with diabetes and a history of metabolic surgery had significantly fewer heart attacks, strokes, hospitalizations and death

compared to matched patients who did not have the surgery, according to a [new study](#) presented here today at the American Society for Metabolic and Bariatric Surgery (ASMBS) 2023 Annual Scientific Meeting.

Patients reduced their chances of winding up in a hospital with a [heart attack](#) by more than 35%, a stroke by more than 25% and [congestive heart failure](#) by nearly 15%. And if they did experience any of these and other complications, they were much less likely to die. Patients who had a myocardial infection reduced their risk of death by a little over 27%, while congestive heart failure and [stroke patients](#) cut the risk by more than 40% and nearly 27%, respectively.

Metabolic surgery, also known as bariatric or [weight-loss surgery](#), has been shown to put [diabetes](#) into remission in 60% to 80% of cases, but little is known about the cardiovascular outcomes of patients for whom the disease not fully resolve or for whom it returns. Over time, high blood sugar can damage blood vessels and the nerves that control the heart. Studies show that diabetes puts patients at twice the risk of having [heart disease](#) or a stroke than people with no diabetes.

"This study shows that a patient does not have to go into full diabetes remission to get significant cardiovascular benefits from [metabolic surgery](#)," said study co-author Jonathan Jenkins, MD, who conducted the research at University of Oklahoma in Tulsa. "We anticipated there would be small differences, but we were surprised to see the significant microvascular and macrovascular protective effects. We hypothesize the increased glycemic control in metabolic surgery resistant type 2 diabetes drives decreased cardiovascular risk."

Using the National Inpatient Sample Database (2016-2019), researchers from the University of Oklahoma—Tulsa compared outcomes between patients with diabetes who received metabolic surgery but still had the

disease (70,083 patients) to patients living with the diabetes and undergoing usual care (348,212 patients). Patients were matched for age, gender, race, [socioeconomic status](#), and [Charlson Comorbidity Index](#), a method of predicting risk, severity and survival for individuals with a range of diseases, including diabetes.

In addition to the drop in adverse cardiovascular outcomes, metabolic surgery patients spent less time in the hospital and incurred significantly lower costs from over \$1,000 to nearly \$4,000, depending on complication and required treatment. They were typically there about a day less, but as much as a week less if amputation was necessary due to advanced diabetes. Researchers estimate that if all [patients](#) with type 2 diabetes and obesity in the U.S. were to achieve such results, it could lead to cost savings of over \$2 billion a year. Patients who had metabolic surgery had less need for coronary artery bypass grafting, angioplasty and major or minor lower limb amputation, and if they did need it, outcomes were generally better.

"This is an important study in that it demonstrates that the effectiveness of metabolic surgery on diabetes should not be measured solely in whether diabetes disappears or not," said Teresa LaMasters, MD, President, ASMBS, a bariatric surgeon and board-certified obesity medicine physician, who was not involved in the study. "While some diabetes may remain, the protective effects against the complications of disease are enduring."

The ASMBS reports only about 1% of those who meet eligibility requirements get weight-loss surgery in any given year. In 2020, the number of [bariatric procedures dropped to less than 200,000](#), the lowest in four years, due to cancellations or deferrals during the height of the COVID-19 pandemic.

According to the U.S. Centers for Disease Control and Prevention

(CDC), obesity effects [42.4% of Americans](#). Studies show the disease can weaken or impair the body's immune system and cause [chronic inflammation](#) and increase the risk of many other diseases and conditions including cardiovascular disease, stroke, type 2 diabetes, certain cancers, and COVID-19.

Provided by American Society for Metabolic and Bariatric Surgery

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