

Metabolic and bariatric surgery found to prevent pre-diabetes from developing into type 2 diabetes in most patients

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Patients with pre-diabetes and severe obesity who had metabolic and bariatric surgery were 20 times less likely to develop full-blown type 2 diabetes over the course of 15 years than patients with the condition who did not have surgery, according to a new study presented at the [American Society for Metabolic and Bariatric Surgery \(ASMBS\) 2024 Annual Scientific Meeting](#).

Only 1.8% of patients progressed to a diagnosis of diabetes in five years after metabolic surgery (Roux-en-Y gastric bypass or sleeve gastrectomy), which rose to 3.3% in 10 years and 6.7% after 15 years. The protective effect against diabetes was higher among gastric bypass patients. Meanwhile, nearly a third (31.1%) of patients with no prior metabolic surgery saw their prediabetes develop into diabetes within five years, which increased to 51.5% and 68.7% at 10 and 15 years, respectively. Patients on average lost 29.4% of their body weight at 12 months and 27.6% at 36 months. Greater weight loss at three years was associated with a lower risk of progression to diabetes.

"This is the first study to analyze the long-term impact of metabolic and [bariatric surgery](#) on the potential progression of prediabetes and the impact is significant and durable," said David Parker, MD, study co-author and a bariatric surgeon at Geisinger Medical Center in Danville, PA. "It demonstrates that metabolic surgery is as much a treatment as it is a prevention for diabetes."

Prediabetes is a serious condition that occurs when blood sugar levels are higher than normal, but not high enough to be considered type 2 diabetes. According to the CDC, approximately 98 million Americans—more than 1 in 3—have prediabetes and 38.4 million have diabetes.

This retrospective study included 1,326 patients who had prediabetes before undergoing either Roux-en-Y gastric bypass (n= 1,154) or sleeve gastrectomy (n = 172) between 2001 and 2022. Non-surgical controls from a primary care cohort were propensity matched by hemoglobin A1c, age, sex, and body mass index (BMI). More than 80% of patients were female, an average of 45 with a mean BMI of 46.9, and median follow-up 7.2 years.

"Think of all the [negative health consequences](#) from diabetes [that] patients may avoid through [metabolic surgery](#)," said Marina Kurian, MD, ASMBS President, who was not involved in the study. "Prevention of diabetes is the best treatment."

The ASMBS reports that nearly 280,000 metabolic and bariatric procedures were performed in 2022, which represents only about 1% of those who meet eligibility requirements based on BMI. According to the U.S. Centers for Disease Control and Prevention (CDC), obesity affects 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, and certain cancers.

Metabolic, bariatric, or weight-loss surgery such as [gastric bypass](#) and [sleeve gastrectomy](#) has been shown to be the most effective and long-lasting treatment for severe obesity. The operation improves or resolves diseases including type 2 [diabetes](#), [heart disease](#) and high blood pressure and leads to significant and durable weight loss. Its safety profile is comparable to some of the safest and most commonly performed surgeries in the U.S., including gallbladder surgery, appendectomy and knee replacement.

Provided by American Society for Metabolic and Bariatric Surgery

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