

# Over long-term, gastric bypass surgery associated with higher rate of diabetes remission

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Severely obese patients who had Roux-en-Y gastric bypass surgery had significant weight loss that was sustained for an average of 6 years after the surgery and also experienced frequent remission and lower incidence of diabetes, hypertension, and abnormal cholesterol levels, compared to participants who did not have the surgery, according to a study in the September 19 issue of *JAMA*, and theme issue on obesity.

Ted D. Adams, Ph.D., M.P.H., of the University of Utah School of Medicine and Intermountain Healthcare, [Salt Lake City](#), presented the findings of the study at a *JAMA* media briefing.

"The prevalence of extreme obesity in the United States is increasing at a rate greater than [moderate obesity](#). Unfortunately, lifestyle therapy is generally insufficient as a weight management intervention for patients who are extremely obese. To date, effective long-term [weight loss](#) through pharmacological therapy has been marginal, leaving bariatric [surgery](#) as the only [medical intervention](#) providing substantial, long-term weight loss for most patients who are severely obese. For this high-risk population, however, the number of studies reporting long-term weight loss following bariatric surgery are limited and generally have incomplete follow-up," according to background information in the article.

Dr. Adams and colleagues conducted a study to examine the association

of Roux-en-Y gastric bypass (RYGB) surgery with weight loss, [diabetes mellitus](#), and other health risks 6 years after surgery. The study included 1,156 severely obese ([body mass index](#) [BMI] 35 or greater) participants, ages 18 to 72 years (82 percent women; average BMI, 46) who sought and received RYGB surgery (n = 418), sought but did not have surgery (n = 417; control group 1), or who were randomly selected from a population-based sample not seeking [weight loss surgery](#) (n = 321; control group 2).

At 6 years, 92.6 percent (387/418) of the surgical group had follow-up data. Average unadjusted weight loss in the surgical group was 27.7 percent from the beginning of the study to year 6. Weight gain from baseline to year 6 was 0.2 percent in control group 1 and 0 percent in control group 2. "At 2 years, 99 percent of surgical patients had maintained more than 10 percent weight loss from baseline and 94 percent had maintained more than 20 percent weight loss. At 6 years, 96 percent of surgical patients had maintained more than 10 percent weight loss from baseline and 76 percent had maintained more than 20 percent weight loss," the authors write.

The 6-year RYGB surgery group diabetes remission rates were significantly higher than the 2 control groups (62 percent for RYGB surgery group; vs. 8 percent for control group 1; and 6 percent for control group 2). At the same time, diabetes incidence in the RYGB surgery group was significantly lower than in the 2 control groups (2 percent vs. 17 percent and 15 percent; respectively). Remission rates of hypertension and low HDL-C levels at year 6 remained significantly improved in the RYGB surgical group compared with the 2 control groups, with similar improvements observed with remission rates for high LDL-C levels and high triglyceride levels. The numbers of participants with bariatric surgery-related hospitalizations were 33 (7.9 percent), 13 (3.9 percent), and 6 (2.0 percent) for the RYGB surgery group and 2 control groups, respectively.

The authors write that metabolic and cardiovascular risk profiles during the 6 years of follow-up remained significantly improved after RYGB surgery. "In contrast, cardiovascular and metabolic status of severely obese control participants generally worsened during the 6-year period."

"These findings are important considering the rapid increase in total numbers of bariatric surgical operations performed in the United States and worldwide, and may have significant ramifications for the projected 31 million U.S. individuals meeting criteria for bariatric surgery."

In an accompanying editorial, Anita P. Courcoulas, M.D., M.P.H., of the University of Pittsburgh Medical Center, writes that an "important aspect of these findings is that despite the attenuation [lessening] of weight loss between 2 and 6 years in the RYGB group, the control of comorbid conditions remained very good."

"These findings are important because they show in a RYGB cohort and control group with nearly complete follow-up at 6 years that weight loss and associated health benefits following RYGB are durable. The mortality rates in this study were too small to assess statistically, but serve as a reminder of an uncommon but important outcome needing objective monitoring."

**More information:** JAMA. 2012;308[11]:1122-1131. and JAMA. 2012;308[11]:1160-1161.

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