

# Gastric bypass surgery associated with greater weight loss in adults

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Adults with severe obesity had greater initial and sustained weight loss with gastric bypass surgery than either sleeve gastrectomy or adjustable gastric banding, according to a new study published today in the *Annals of Internal Medicine*.

This is the largest long-term study of bariatric surgery to date. It included more than 46,000 patients at 41 participating health systems in 11 Clinical Data Research Networks nationwide, thanks to its use of a large new resource called PCORnet, the National Patient-Centered Clinical Research Network.

Bariatric surgeons can use various operations to help people lose weight by making changes to their digestive system. This study did a head-to-head comparison of 1-, 3- and 5-year results from the three most commonly performed [weight-loss](#) operations: gastric bypass, sleeve gastrectomy and adjustable gastric banding.

The findings are important because [severe obesity](#)—a body mass index (or BMI) of at least 35 kg/m<sup>2</sup> —affects more than 15 percent of U.S. adults, according to the National Health and Nutrition Examination Survey. National Institutes of Health guidelines consider people with a BMI of 40 kg/m<sup>2</sup>, or at least 35 kg/m<sup>2</sup> for people with diabetes or other obesity-related diseases, eligible for [bariatric surgery](#).

"Bariatric surgery is widely considered the most effective way to treat severe obesity and induce long-term weight loss," said first author David

Arterburn, MD, MPH, an internist and senior investigator at Kaiser Permanente Washington Health Research Institute. "We wondered about sleeve gastrectomy, which has quickly become the most commonly performed bariatric procedure in the United States. Because it's the newest—introduced less than a decade ago—less evidence has been available to compare it against the longstanding gastric bypass and adjustable gastric band."

The investigators found that:

- People who had [gastric bypass surgery](#) had lost 31 percent of their weight at the first year and maintained 26 percent of their loss at 5 years.
- People who had sleeve gastrectomy had lost 25 percent of their pre-surgery body weight at 1 year and maintained 19 percent weight loss at 5 years.
- That translates into a 19-pound difference in weight loss between gastric bypass and sleeve gastrectomy at 5 years for the average person in this study, who weighed 277 pounds before surgery.
- By contrast, adjustable gastric banding was much less effective for losing weight and keeping it off, with 14 percent and 12 percent of weight lost at 1 and 5 years, respectively. Gastric banding used to be the most commonly performed bariatric procedure, but it now represents just 10 percent of bariatric procedures.

"These findings give strong evidence that bypass and sleeve are effective for lasting weight loss for adults with severe obesity," said Kathleen M. McTigue, MD, MPH, MS, another study leader and an associate professor of medicine and epidemiology at the University of Pittsburgh. "We hope this helps people to make more informed decisions about their care, as they talk with their health care providers about the respective benefits and risks of the most common weight-loss procedures."

Members of the same PCORnet Bariatric Study Collaborative team had found similar results in teenagers.

Because of the large sample size, the researchers could examine subgroups of people to assess whether certain characteristics improved or worsened their chance of weight loss success. They found that men, African-Americans, Hispanics, people age 65 and older, and people with diabetes or lower BMIs (less than 50) tended to lose less weight than did other people in the study. But these differences between patient groups were small—less than 3 percent differences in weight lost at 1, 3 and 5 years across groups—which was much less than the differences between the procedures. For instance, the difference between [weight](#) lost with gastric bypass and [sleeve gastrectomy](#) was 6 percent at 1 year and 7 percent at 5 years.

The 30-day risk of major adverse events, such as a prolonged hospitalization or another operation, were generally low across all three procedures. Sleeve gastrectomy had the lowest rate of major adverse events (2.6 percent), followed by gastric banding (2.9 percent), and then [gastric bypass](#) (5.0 percent).

The new results are among the first to be produced using the resources of PCORnet, an innovative initiative funded by the Patient-Centered Outcomes Research Institute (or PCORI). PCORnet is designed to produce clinical insights faster and less expensively than traditional clinical studies. It involves multiple individual networks that together represent more than 100 million patients.

The network securely collects health information during routine care—not including data that could help identify individuals—to produce real-world evidence with outcomes that matter to patients, who are full partners in this research.

"Our patients and providers were critical to the success of this study," said Karen J. Coleman, Ph.D., MS, another study leader and a research scientist at Kaiser Permanente in Southern California's Department of Research & Evaluation in Pasadena. "They helped us craft the question, pick the variables to study, interpret the findings and present the results. We could never have done such a comprehensive study without their partnership."

"We helped the group think through the most important questions for patients, like risks and safety concerns," said the Rev. Neely Williams, MDiv, a patient-principal investigator on the study and the CEO of the Community Partners' Network in Nashville. "We also explored how best to share evidence with patients."

Provided by Kaiser Permanente

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