

Which Bariatric Surgery Procedure is Best? It Depends.



By Ruth Kava — January 22, 2018



Obese Woman [1]

Severe obesity (BMI = or > 40, or 35 if there are coincident health conditions) carries with it a variety of increased health risks, such as for type 2 diabetes, high blood pressure, and heart problems. Bariatric surgery can successfully deal with the excess weight, and both prevent the occurrence of diabetes and, in some cases, [cause its remission](#) [2]. However, there are [several procedures](#) [3] that can be used: Roux-en-Y gastric bypass; sleeve gastrectomy; adjustable gastric banding. How to choose among them can be gleaned from a group of articles in the *Journal of the American Medical Association* (JAMA). Two of these involved trials in which participants were randomly assigned to various treatments (e.g., types of surgery), and compared the outcomes with respect to various parameters. In the third, surgery was compared to medical management.

Weight Loss

Salminen et al. (1) compared the amount of excess weight loss five years post-surgery in 240 severely obese patients (average BMI = 46) who were randomly assigned to receive either Roux-en-Y or sleeve gastrectomy surgery. All surgeries were performed via laparoscopy. Most of the patients had some co-morbidity — diabetes, dyslipidemia, and hypertension. Those who underwent the sleeve gastrectomy had lost 49 percent of their excess weight by five years, while those in the gastric bypass group lost 57 percent. This difference was not statistically significant. The comorbidities were ameliorated in both groups — 37 percent of those in the gastrectomy group had partial or complete remission of their diabetes, compared to 45 percent of those in the bypass group. The dyslipidemia was similarly impacted: medication was discontinued in both groups — for 47 percent of those with gastrectomy and 60 percent of those with gastric bypass. Discontinuation of hypertension medications occurred for 29 and 51 percent of those in the

gastrectomy and bypass groups respectively.

Similarly, Peterli et al. also compared the 5-year effects of gastric bypass and sleeve gastrectomy on weight loss in severely obese people. In this study, 107 participants underwent sleeve gastrectomy, and 100 had gastric bypass surgery. They were randomly assigned to each treatment. In this study, the average BMI was 44. Five years post-surgery, those undergoing sleeve gastrectomy lost 61 percent of their excess BMI, while the gastric bypass surgery resulted in a 68 percent loss of excess BMI. These differences were not statistically significant. However, 32 percent of patients undergoing sleeve gastrectomy experienced a worsening of gastroesophageal reflux (GERD) symptoms, compared to only 6 percent of the bypass group. By five years post-surgery, 19 percent of the gastrectomy group had had to have re-operations or other interventions, versus 22 percent of those with the gastric bypass surgery.

Surgery vs. Medical Management

In a third random controlled trial, Ikramuddin et al. examined the impact of either Roux-en-Y bypass surgery or medical management on indicators of diabetes control (hemoglobin A_{1c} or HbA_{1c} [4]), heart risk (LDL cholesterol: goal <100 mg/dl), and systolic blood pressure (<130 mm Hg) 5 years post-intervention. The study included 120 individuals whose initial BMI ranged from 30 to 39.9; their HbA_{1c} levels were 9.6 percent. After five years, 23 percent of patients in the surgery group vs. only 4 percent of those in the medical management group had achieved the goal levels for the three indicators, although further observation suggested that the differences between the groups tended to wane over time. Also, 16 of the surgery patients achieved partial or full remission of their diabetes, compared to 5 of those in the non-surgical group. As expected, those in the surgery group lost more weight as a percent of initial body weight — 22 percent vs. 10 percent of those receiving only medical management.

Thus the results of these randomized trials support the efficacy of both Roux-en-Y gastric bypass surgery and the gastric sleeve surgery when it comes to weight loss, and gastric bypass was also superior to medical management. However, anyone considering such surgeries must also consider adverse events — for example, the sleeve gastrectomy exacerbates pre-existing GERD, and thus wouldn't be recommended for such patients. Both of the surgeries involve some modification of the GI tract — most extensively with the bypass type. And thus the bypass is more likely to result in nutritional deficiencies than the gastric sleeve operation. Read [here](#) [3] for more information on the benefits and disadvantages of the different types of bariatric surgery. A positive aspect of these studies is that the benefits of the surgeries were durable — an important issue for anyone considering undergoing them.

Sources:

- 1) [Effect of Laparoscopic Sleeve Gastrectomy vs Laparoscopic Roux-en-Y Gastric Bypass on Weight Loss at 5 Years Among Patients With Morbid Obesity. The SLEEVEPASS Randomized Clinical Trial. Salminen, et al. JAMA. 2018;319\(3\):241-254. doi:10.1001/jama.2017.20313](#) [4]
- 2) [Effect of Laparoscopic Sleeve Gastrectomy vs Laparoscopic Roux-en-Y Gastric Bypass on Weight Loss in Patients With Morbid Obesity The SM-BOSS Randomized Clinical Trial. Ralph Peterli, et al. JAMA. 2018;319\(3\):255-265. doi:10.1001/jama.2017.20897](#)

[5]

3) [Lifestyle Intervention and Medical Management](#) [6] With vs Without Roux-en-Y Gastric Bypass and Control of Hemoglobin A_{1c}, LDL Cholesterol, and Systolic Blood Pressure at 5 Years in the Diabetes Surgery Study. Sayeed Ikramuddin, et al. JAMA. 2018;319(3):266-278. doi:10.1001/jama.2017.20813

4) Hemoglobin A_{1c} is an indicator of how well blood glucose has been controlled for several months preceding the test. When some degree of glucose in the blood 'sticks' to the hemoglobin in red blood cells, the higher the blood glucose level, the more of it attaches to the hemoglobin. To be considered in good glucose control, an HbA_{1c} of 7 percent or less is desired.

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[1] <http://www.pixabay.com>

[2] <https://www.acsh.org/news/2015/12/21/bariatric-surgery-linked-to-diabetes-remission>

[3] <https://asmbs.org/patients/bariatric-surgery-procedures>

[4] <https://jamanetwork.com/journals/jama/article-abstract/2669725?redirect=true>

[5] <https://jamanetwork.com/journals/jama/article-abstract/2669728?redirect=true>

[6] <https://jamanetwork.com/journals/jama/article-abstract/2669727?redirect=true>