



FACT SHEET

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METABOLIC & BARIATRIC SURGERY

OVERVIEW

- Treatment for morbid obesity and obesity-related diseases and conditions limits amount of food stomach can hold and/or limits amount of calories absorbed, by surgically reducing the stomach's capacity to a few ounces
- Surgical candidates have body mass index (BMI) of 40 or more, or BMI of 35 or more with an obesity-related disease
 - Research suggests the BMI standard may no longer be appropriate because it does not take into account gender, race, age, fitness or body fat composition¹
 - In February 2011, the FDA lowered BMI requirements for gastric banding with Lap-Band® for individuals with BMI 30 to 40 and at least one obesity related condition²
- About 220,000 people with morbid obesity in the U.S. had bariatric surgery in 2009 – just 1% of the clinically eligible population; 15 million Americans have morbid obesity
- Bariatric surgery costs an average of \$11,500-\$26,000; insurance coverage varies by provider

IMPACT OF BARIATRIC SURGERY: RISKS VS. BENEFITS

- The U.S. government's Agency for Healthcare Research and Quality (AHRQ) and recent clinical studies report significant improvements in safety
 - Risk of death from bariatric surgery is about 0.1%³
 - Overall likelihood of major complications is about 4%⁴
 - Risks of living with morbid obesity outweigh the risks of bariatric surgery⁵
- Improvement or resolution of more than 30 obesity-related conditions, including Type 2 diabetes, heart disease, sleep apnea, hypertension and high cholesterol
 - Gastric bypass resolves Type 2 diabetes in nearly 90% of patients^{6,7}
 - Gastric band surgery resolves Type 2 diabetes in 73% of patients⁸
 - Cuts risk of developing coronary heart disease in half⁹
 - Resolves obstructive sleep apnea in more than 85% of patients¹⁰
- Studies show bariatric surgery increases lifespan, as compared to those who do not have surgery
 - Patients may improve life expectancy by 89%¹¹
 - Patients may reduce their risk of premature death by 30 - 40%^{12,13}
 - Risk of death from diabetes down 92%, from cancer down 60% and from coronary artery disease down 56%¹³

GUIDELINES AND RECCOMENDATIONS

- American Heart Association (AHA) March 2011 scientific statement says bariatric surgery can result in long-term weight loss and significant reductions in cardiac and other risk factors, noting the benefits of bariatric surgery may outweigh the risks for the severely obese¹⁴
- American Diabetes Association (ADA) Guidelines 2009 recommends bariatric surgery be considered for adults with BMI \geq 35 and Type 2 diabetes, especially if diabetes is difficult to control with lifestyle and pharmacologic therapy¹⁵
- International Diabetes Federation (IDF) 2011 guidelines state bariatric surgery should be an accepted option for people who have Type 2 diabetes and BMI of 35 or more, and an alternative treatment option for people with BMI of 30-35 when diabetes cannot be adequately controlled with medical therapies¹⁶

LONG-TERM EFFECTIVENESS OF BARIATRIC SURGERY

- Patients typically reach maximum weight loss 1-2 years after surgery and maintain a substantial weight loss, with improvements in obesity-related conditions, for years afterwards
 - Patients may lose 30 to 50% of excess weight 6 months after surgery and 77% of excess weight as early as 12 months after surgery¹⁷

MOST COMMON BARIATRIC SURGERY PROCEDURES

Gastric Bypass

- Stomach reduced from size of football to size of golf ball
- Smaller stomach attached to middle of small intestine, bypassing a section of small intestine (duodenum and jejunum) limiting absorption of calories
- Bypassing the duodenum induces metabolic changes that helps improve or resolve Type 2 diabetes

Laparoscopic Adjustable Gastric Banding (LAGB)

- Silicone band filled with saline wrapped around upper part of stomach to create small pouch and cause restriction
- Patients eat less because they feel full quickly
- Size of restriction can be adjusted after surgery by adding or removing saline from band

Bilio-Pancreatic Diversion with Duodenal Switch

- Similar to gastric bypass, but surgeon creates sleeve-shaped stomach
- Smaller stomach attached to final section of small intestine (ileum), bypassing approximately 60% of small intestine
- Bypassing the duodenum induces metabolic changes that help improve or resolve Type 2 diabetes.

Vertical Sleeve Gastrectomy

- Procedure growing in availability
- Stomach restricted by stapling and dividing vertically, removing more than 85%
- Procedure generates weight loss by restricting the amount of food that can be consumed

NEWER PROCEDURES

Natural Orifice Transluminal Endoscopic Surgery (NOTES)

- Emerging minimally invasive procedure still in clinical trials
- Surgery performed through natural orifice such as mouth or vagina, eliminating need for external incisions
- Patients may experience a quicker, less painful recovery

Single Incision Laparoscopic Surgery (SILS)

- Minimally invasive procedure performed with single incision through abdominal wall
- Patients may experience a quicker, less painful recovery

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- ¹ WJ Pories et al. "Beyond the BMI: The Search for Better Guidelines for Bariatric Surgery." *Obesity*. 2010. 18:865-871.
- ² U.S. Food and Drug Administration (FDA). FDA expands use of banding system for weight loss, 2011. Updated 3 March 2011. [Cited March 2011] Available from: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm245617.htm>
- ³ Agency for Healthcare Research and Quality (AHRQ). Statistical Brief #23. Bariatric Surgery Utilization and Outcomes in 1998 and 2004. Jan. 2007.
- ⁴ DR Flum et al. "Perioperative Safety in the Longitudinal Assessment of Bariatric Surgery." *New England Journal of Medicine*. 2009. 361:445-454. <http://content.nejm.org/cgi/content/full/361/5/445>
- ⁵ DP Schauer et al. "Decision Modeling to Estimate the Impact of Gastric Bypass Surgery on Life Expectancy for the Treatment of Morbid Obesity." *Archives of Surgery*. 2010. 145(1):57-62.
- ⁶ H Buchwald et al. Weight and Type 2 Diabetes after Bariatric Surgery: Systematic Review and Meta-analysis. *American Journal of Medicine*. 2009. 122(3): 205-206.
- ⁷ S Chikunguw et al. "Durable Resolution of Diabetes after Roux-en-Y Gastric Bypass Associated with Maintenance of Weight Loss." *SOARD*. 2009.
- ⁸ JB Dixon, et al. Adjustable Gastric Banding and Conventional Therapy for Type 2 Diabetes. *Journal of the American Medical Association*. 2008. 299(3):316-323.
- ⁹ A Torquati et al. "Effect of Gastric Bypass Operation on Framingham and Actual Risk of Cardiovascular Events in Class II to III Obesity." *Journal of the American College of Surgeons*. 2007. 204(5).
- ¹⁰ S Rasheid et al. Gastric Bypass is an Effective Treatment for Obstructive Sleep Apnea in Patients with Clinically Significant Obesity. *Obes Surg* 2003. 13:58-61.
- ¹¹ NV Christou et al. Surgery Decreases Long-term Mortality, Morbidity, and Health Care Use in Morbidly Obese Patients. *Annals of Surgery*. 2004. 240:416-424.
- ¹² L Sjöström. "Effects of Bariatric Surgery on Mortality in Swedish Obese Subjects." *New England Journal of Medicine*. 2007. 357:741-52.
- ¹³ TD Adams. Long-Term Mortality after Gastric Bypass Surgery. *N Engl J Med* 2007. 357:753-61.
- ¹⁴ P Poirier et al. "Bariatric Surgery and Cardiovascular Risk Factors." *Circulation: Journal of the American Heart Association*. 2011. 123:1-19.
- ¹⁵ American Diabetes Association. Standards of Medical Care in Diabetes – 2009. *Diabetes Care*, Volume 32, Supplement 1. January 2009.
- ¹⁶ International Diabetes Federation. Bariatric Surgical and Procedural Interventions in the Treatment of Obese Patients with Type 2 Diabetes. [Cited April 2011]. Available from <http://www.idf.org/webdata/docs/IDF-Position-Statement-Bariatric-Surgery.pdf>
- ¹⁷ AC Wittgrove et al. "Laparoscopic Gastric Bypass, Roux-en-Y: Technique and Results in 75 Patients With 3-30 Months Follow-up." *Obesity Surgery*. 1996. 6:500-504.

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Updated May 2011