

Bariatric Surgery Guide

**Understand your surgical options.
Choose the right procedure for you.**



[Overview](#)

[Surgery Options](#)

[Compare Procedures](#)

[Next Steps](#)



Overview

Overview

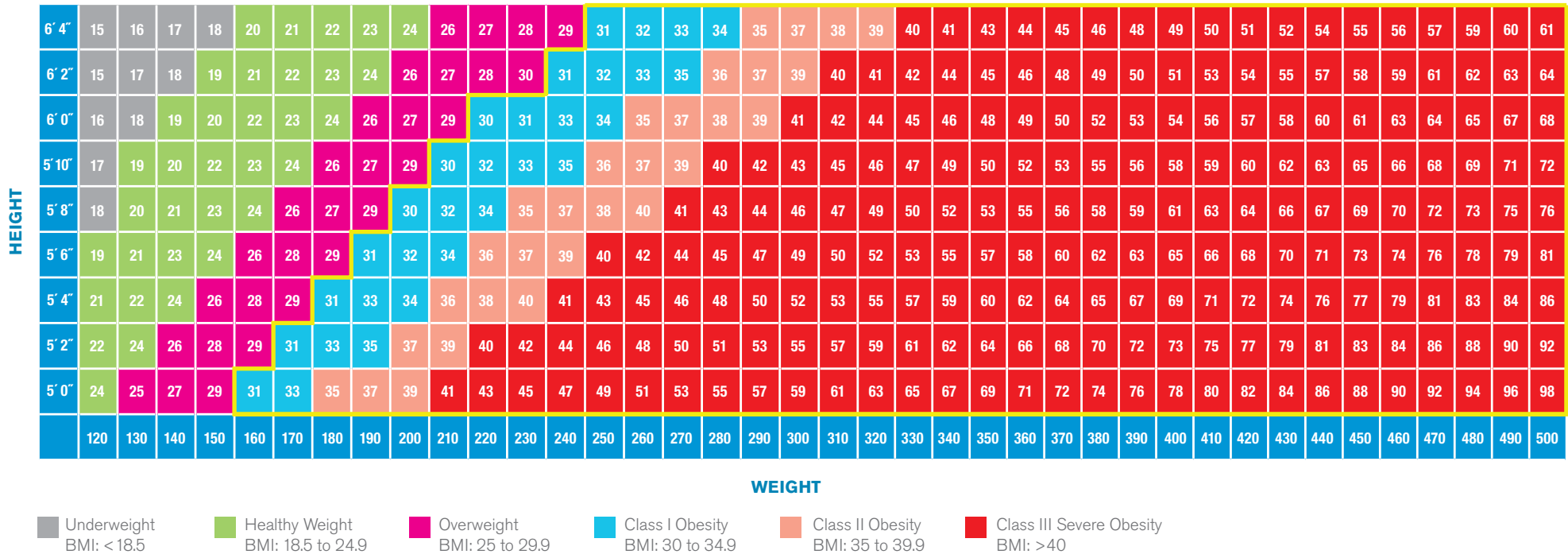
Surgery Options

Compare Procedures

Next Steps

Body Mass Index (BMI) guidelines

Your BMI may help you and your doctor determine if bariatric surgery is right for you.



Patients with high BMI (≥ 30), as highlighted above, are at risk for many obesity-related health conditions, including^{1,2}:

- Type 2 diabetes
- Cancer
- High blood pressure and other heart conditions
- Depression
- Asthma
- Arthritis
- Heartburn
- Sleep disorders (sleep apnea)
- Pregnancy complications/menstrual irregularity
- Involuntary urinating (incontinence)

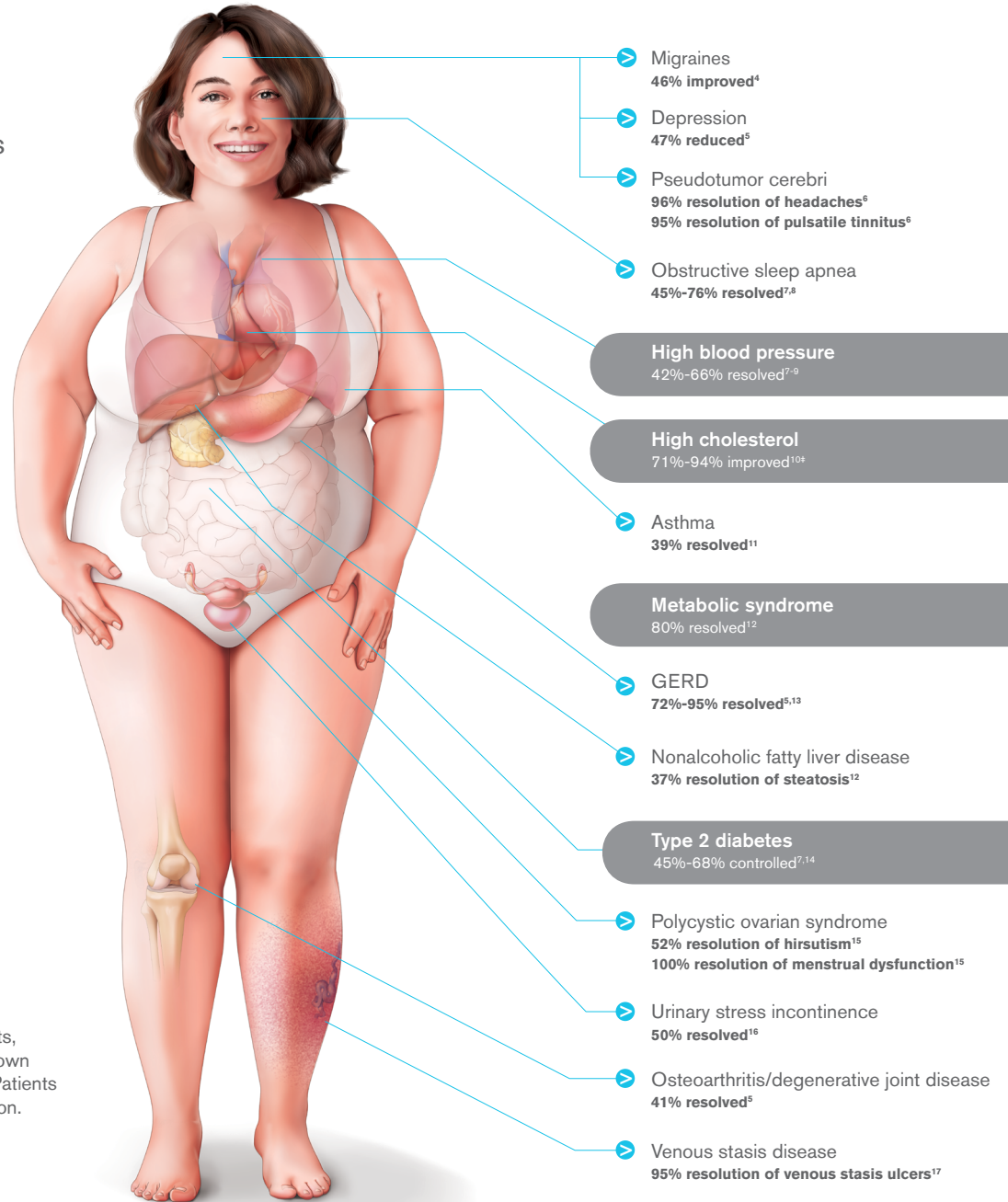
[Surgery Options](#)

[Compare Procedures](#)

[Next Steps](#)

Benefits of bariatric surgery

People who have bariatric surgery (also known as weight loss surgery), experience improvements in many areas of their life, including physical functioning, appearance and social and economic opportunities. Bariatric surgery can also improve many obesity-related health conditions.^{3†}



*Outcomes vary depending on type of procedure. Talk to your physician about potential surgical outcomes related to yours.

†Outcomes for obesity-related health conditions based on data for sleeve gastrectomy, gastric bypass, and gastric banding.

†Figure is for hyperlipidemia. Hyperlipidemia is a general term for high fats in blood, which may include cholesterol and/or triglycerides.

IMPORTANT SAFETY INFORMATION: There are risks with any surgery, such as adverse reactions to medication, problems with anesthesia, problems breathing, bleeding, blood clots, inadvertent injury to nearby organs and blood vessels, even death. Bariatric surgery has its own risks, including failure to lose weight, nutritional or vitamin deficiencies, and weight regain. Patients should consult their physicians to determine if this procedure is appropriate for their condition.

Surgery Options

Compare Procedures

Next Steps

What is bariatric surgery?

Bariatric surgery makes surgical changes to your stomach and/or digestive system. These changes limit how much food you can eat and how many nutrients you absorb, leading to weight loss. By making these changes, bariatric surgeries may also reset your body's "set point," or weight regulation system, by affecting hormonal signals, resulting in decreased appetite, increased feelings of fullness, increased metabolism, and healthier food preferences.

Depending on the type of surgery you have, you can expect to lose between 55% to 75% of your excess weight by 3 years post-surgery.¹⁹⁻²¹

There are four main types of bariatric surgeries:

- Vertical sleeve gastrectomy
- Gastric bypass
- Biliopancreatic diversion with duodenal switch (BPD/DS)

Most bariatric surgeries are performed using minimally invasive techniques, called laparoscopic surgery. Laparoscopic surgery is done with video cameras and thin instruments inserted through small incisions in the abdomen. You can expect to stay in the hospital between 1 and 8 days after the surgery.^{7,22-27}

How safe is bariatric surgery?

With more bariatric procedures being performed in recent years, safety has improved significantly. The overall death rate is 0.1%—less than gallbladder (0.7%) and hip replacement (0.93%) surgery. The overall likelihood of major complications is 4%.³

Each type of bariatric surgery has unique benefits, as well as potential risks. We will work together to help you understand your options and choose the right procedure for you.



[Surgery Options](#)

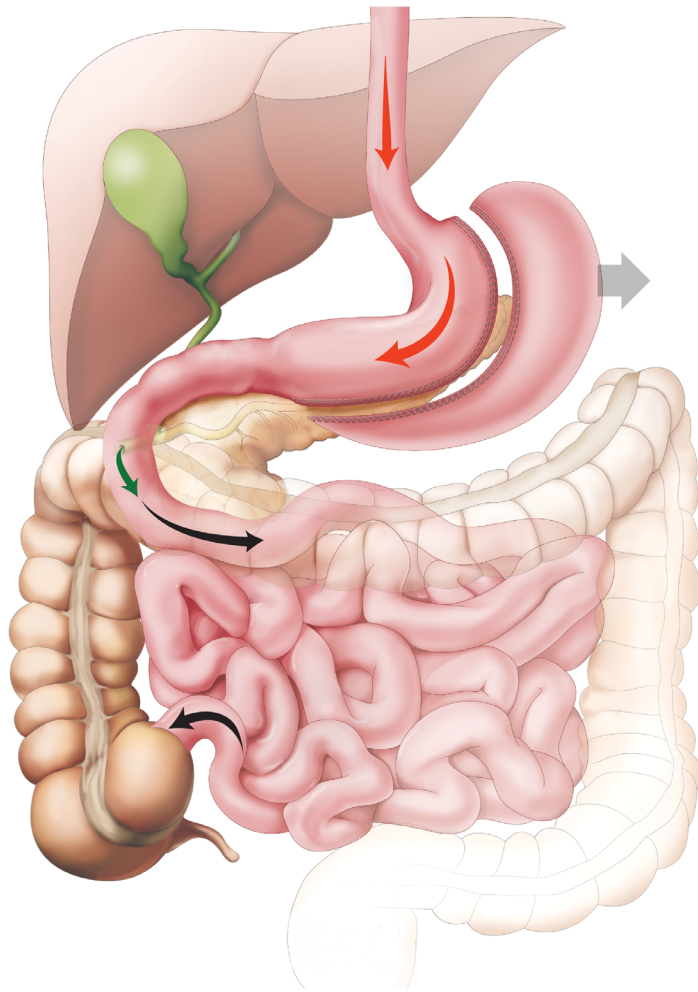
[Compare Procedures](#)

[Next Steps](#)



Surgery Options

Vertical Sleeve Gastrectomy



The procedure

- The surgeon creates a small stomach “sleeve” using a stapling device
- The sleeve is about the size of a banana
- The rest of the stomach is removed

What does the procedure do?

- Permanently reduces the size of your stomach, which limits how much food you can eat
- Allows food to pass normally through your digestive tract, letting the body absorb vitamins and nutrients

What results can I expect from the surgery?

- You will feel fuller with less food, and stay satisfied longer
- Your body will function at a lower body-fat set point¹⁸

Vertical Sleeve
Gastrectomy

Gastric Bypass

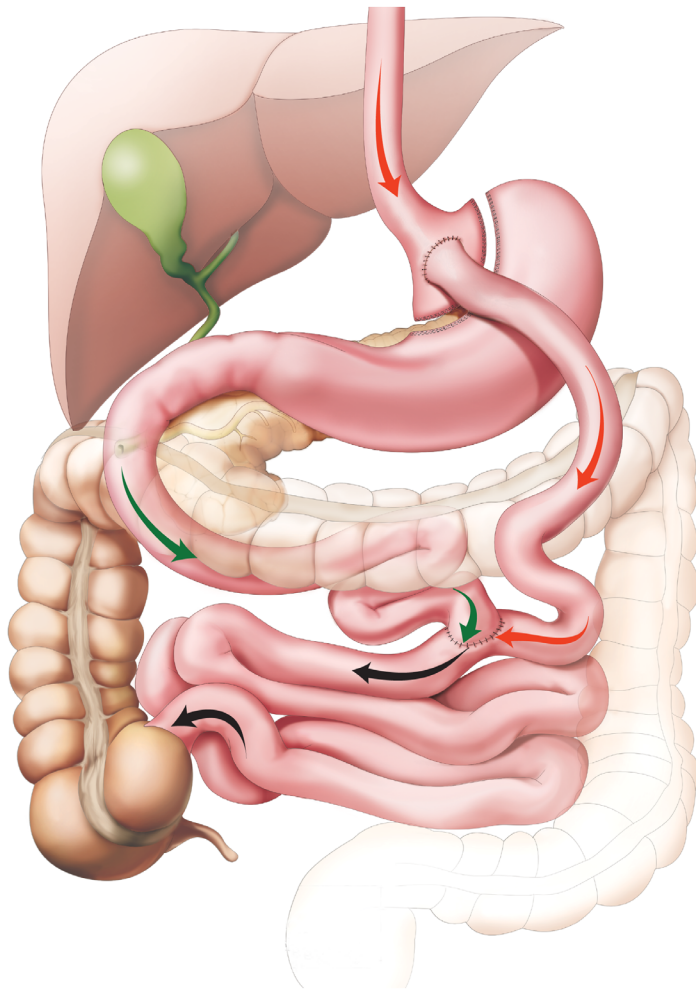
Biliopancreatic Diversion
with Duodenal Switch

Risk of
Abdominal Surgery

Compare Procedures

Next Steps

Gastric Bypass (also referred to as Roux-en-Y gastric bypass [RYGP] surgery)



The procedure

- The surgeon creates a small stomach pouch
- The remaining stomach area is sealed and divided from the pouch
- The pouch is surgically attached to the middle of the small intestine, thereby bypassing the rest of the stomach the upper portion of the small intestine (duodenum)

What does the procedure do?

- Creates a smaller stomach pouch, which limits the amount of food you can eat while making you feel full sooner and stay full longer
- Allows food to bypass part of the intestine, limiting calorie absorption

What results can I expect from the surgery?

- You may experience discomfort as food moves rapidly through your small intestine. This is called “dumping syndrome” and is a warning sign that you’re consuming too much sugar or food
- You’ll need to take dietary supplements (including daily multivitamin, calcium, and sometimes vitamin B12 and/or iron)

Gastric Bypass

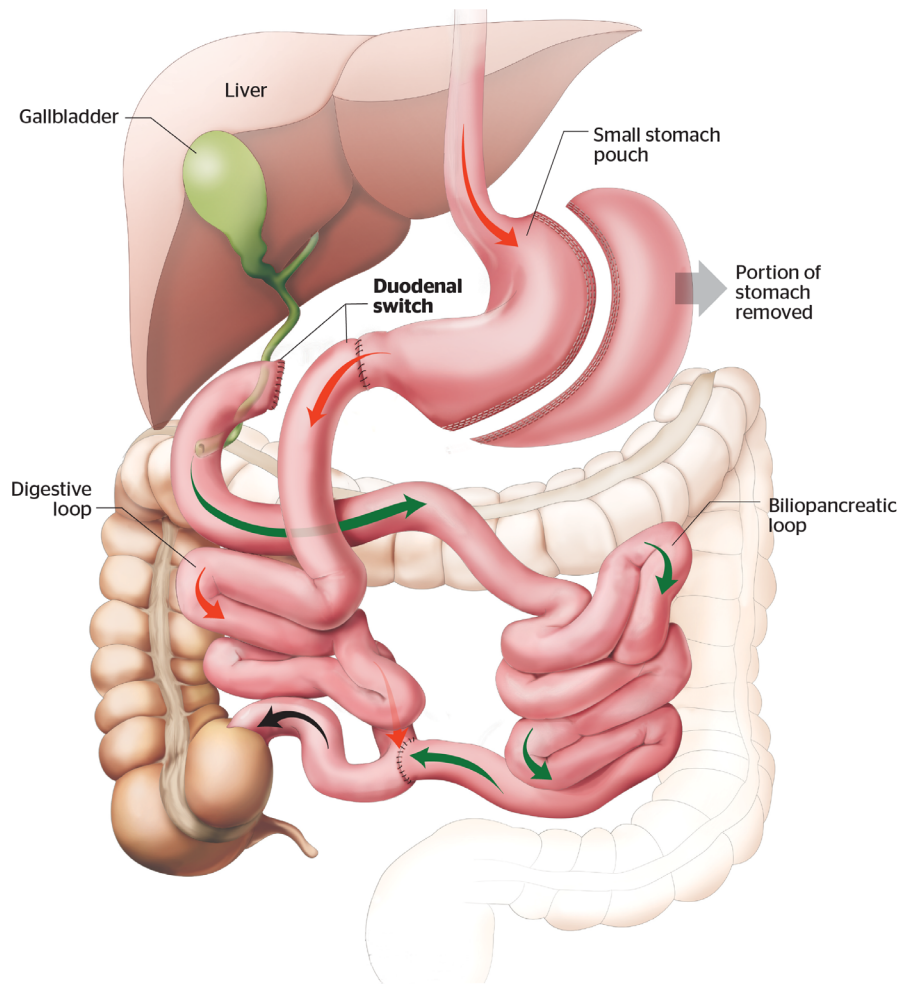
Biliopancreatic Diversion
with Duodenal Switch

Risk of
Abdominal Surgery

Compare Procedures

Next Steps

Biliopancreatic Diversion with Duodenal Switch (BPD/DS)



The procedure

- The surgeon removes part of the stomach, leaving a sleeve with the beginning of the duodenum intact
- The small intestine is then divided with one end attached to the stomach pouch to create what is called an “alimentary limb”

What does the procedure do?

- Permanently alters the normal digestive process
- Allows food to bypass most of the small intestine, limiting calorie absorption

What results can I expect from the surgery?

- Your body will absorb fewer calories (this is called “malabsorption”)
- Changes to the intestinal structure can result in the increased risk of gallstone formation and the need for removal of the gallstone
- You may experience “dumping syndrome” as food moves rapidly through your small intestine
- You will need to take dietary supplements (daily multivitamin, calcium, and sometimes vitamin B12 and/or iron); lifelong monitoring for protein malnutrition, anemia, and bone disease is recommended

Biliopancreatic Diversion
with Duodenal Switch

Risk of
Abdominal Surgery

Compare Procedures

Next Steps

Risks of Abdominal Surgery

Risks associated with general abdominal surgery

- Bleeding
- Pain
- Shoulder pain
- Pneumonia
- Complications due to anesthesia and medications
- Deep vein thrombosis (blood clot)
- Infection
- Injury to the stomach, esophagus, or surrounding organs
- Pulmonary embolism (blockage of the lung artery by material circulating in the blood)
- Stroke or heart attack
- Death

Risks associated with bariatric surgery

- Abdominal hernia
- Chest pain
- Collapsed lung
- Indigestion, constipation, or diarrhea
- Dehydration
- Enlarged heart
- Gastrointestinal inflammation or swelling
- Stomach ulcers
- Gallstones, pain from passing a gallstone, inflammation of the gallbladder, or surgery to remove the gallbladder
- Stoma obstruction
- Stretching of the stomach
- Surgical procedure repeated
- Dehiscence (stitched or stapled tissue that becomes separated)
- Leaks from staple lines
- Esophageal dysmotility (problems pushing food from the esophagus to the stomach)
- Gastric fluids leaking through an opening in the lining of the stomach (fistula)

IMPORTANT SAFETY INFORMATION: Bariatric surgery is used in morbidly obese adult patients for significant long-term weight loss. It may not be right for individuals with certain digestive tract conditions. All surgery presents risks. Weight, age and medical history determine your specific risks. Ask your doctor if bariatric surgery is right for you.

Risk of
Abdominal Surgery

Compare Procedures

Next Steps

Compare Procedures

Compare Procedures

	Vertical sleeve gastrectomy	Gastric bypass	BPD/DS
Total % of excess weight lost at 3 years	66% ¹⁹	71% ²⁰	75% ²¹
Type 2 diabetes controlled	45% ^{14*†}	68% ^{14*†}	99% ^{10*†}
Resolution of high blood pressure	56% ⁸	66% ⁷	81% ¹⁰
Improvements in high cholesterol	77% ³¹	94% ¹⁰	99% ¹⁰
Resolution of obstructive sleep apnea	54% ⁸	76% ⁷	95% ¹⁰
Average surgery time (hours)	1.5-2 ^{22,23}	2-4.5 ^{7,24}	2-6 ²⁵⁻²⁷
Average length of hospital stay (days)	2-3 ^{22,23,28}	2-8 ^{7,24,29,30}	4-5 ²⁵⁻²⁷

*Diabetes controlled in patients without medication. Control of diabetes is defined as HbA1C ≤7%.

†To learn more about 3- and 5-year results see: Schauer, P. R., Bhatt, D. L., Kirwan, J, et al. Bariatric Surgery versus Intensive Medical Therapy for Diabetes—3-Year Outcomes. N Engl J Med. 2014; 370(21):2002-2013. Schauer P, Bhatt D, Kirwan J, et al. Bariatric surgery versus intensive medical therapy for diabetes - 5-year outcomes. N Engl J Med. 2017; 376: 641-51.

Resolution statistics above reflect observations in the confines of studies; Ethicon Endo-Surgery (EES) has no independent data to suggest permanent resolution.

Next Steps

Next Steps

Next Steps

Following today's meeting, review the materials provided, and visit the recommended online resources. Remember, you can always discuss your thoughts, questions, and ideas as you prepare for this life-changing journey.

Visit WeightLossSurgery.TheHealthPartner.com to learn more about the journey to fight against obesity.

Next steps you can take to prepare for bariatric surgery

- Check your insurance coverage for bariatric surgery
- Make an appointment with our nutritionist for diet planning pre- and post-surgery
- Share the learnings and your thoughts about the procedure with your family and friends



References: 1. American Society for Metabolic and Bariatric Surgery. Obesity in America Fact Sheet. http://www.asbs.org/Newsite07/media/asbms_fs_obesity.pdf. Accessed December 14, 2017. 2. Buchwald H. Consensus Conference statement. Bariatric surgery for morbid obesity: Health implications for patients, health professionals, and third-party payers. *Surg Obes Relat Dis*. 2005;1:371-381. 3. American Society for Metabolic and Bariatric Surgery. Metabolic and Bariatric Fact Sheet. <https://asmbs.org/wp/uploads/2014/05/Metabolic+Bariatric-Surgery.pdf>. Accessed December 19, 2017. 4. Bond DS, Vithianathan S, Nash JM, et al. Improvement of migraine headaches in severely obese patients after bariatric surgery. *Neurology*. 2011 Mar 29;76(13):1135-8. 5. Schauer PR, Ikramuddin S, Gourash W, et al. Outcomes after laparoscopic Roux-en-Y gastric bypass for morbid obesity. *Ann Surg*. 2000 Oct;232(4):515-29. 6. Sugerman HJ, Felton WL III, Sismanis A, et al. Gastric surgery for pseudotumor cerebri associated with severe obesity. *Ann Surg*. 1999 May;229(5):634-40; discussion 640-2. 7. Tice JA, Karliner L, Walsh J, et al. Gastric banding or bypass? A systematic review comparing the two most popular bariatric procedures. *Am J Med*. 2008 Oct;121(10):885-93. 8. Brethauer SA, Hammel JP, Schauer PR. Systematic review of sleeve gastrectomy as staging and primary bariatric procedure. *Surg Obes Rel Dis*. 2009;5:469-475. 9. EES analysis of data from US Clinical Trial PMA 070009. 10. Buchwald H, Avidor Y, Braunwald E, et al. Bariatric surgery: a systematic review and meta-analysis. *JAMA*. 2004 Oct 13;292(14):1724-37. 11. Reddy RC, Baptist AP, Fan Z, et al. The effects of bariatric surgery on asthma severity. *Obes Surg*. 2011 Feb;21(2):200-6. 12. Mattar SG, Velcu LM, Rabinovitz M, et al. Surgically-induced weight loss significantly improves nonalcoholic fatty liver disease and the metabolic syndrome. *Ann Surg*. 2005 Oct;242(4):610-17. 13. DeMaria EJ, Sugerman HJ, Kellum JM, et al. Results of 281 consecutive total laparoscopic Roux-en-Y gastric bypasses to treat morbid obesity. *Ann Surg*. 2002 May;235(5):640-5. 14. Schauer PR, Kashyap SR, Wolski K, et al. Bariatric surgery versus intensive medical therapy in obese patients with diabetes. *N Engl J Med*. 2012;366(17):1567-76. 15. Eid GM, Cottam DR, Velcu LM, et al. Effective treatment of polycystic ovarian syndrome with Roux-en-Y gastric bypass. *Surg Obes Relat Dis*. 2005 Mar-Apr;1(2):77-80. 16. Kuruba R, Almahmeed T, Martinez F, et al. Bariatric surgery improves urinary incontinence in morbidly obese individuals. *Surg Obes Relat Dis*. 2007 Nov-Dec;3(6):586-90. 17. Sugerman HJ, Sugerman EL, Wolfe L, et al. Risks and benefits of gastric bypass in morbidly obese patients with severe venous stasis disease. *Ann Surg*. 2001 Jul;234(1):41-6. 18. Woods S. Body weight "set point" - what we know and what we don't know. Obesity Action Coalition. <http://www.obesityaction.org/educational-resources/resource-articles-2/weight-loss-surgery/body-weight-set-point-what-we-know-and-what-we-dont-know>. Accessed January 26, 2018. 19. Fischer L, Hildebrandt C, Bruckner T, et al. Excessive weight loss after sleeve gastrectomy: a systematic review. *Obes Surg*. 2012 May;22(5):721-731. 20. Garb J. Bariatric surgery for the treatment of morbid obesity: A meta-analysis of weight loss outcomes for laparoscopic adjustable gastric banding and laparoscopic gastric bypass. *Obes Surg*. 2009;19(10):1447-55. 21. Baltasar A, Bou R, Bengochea M, et al. Duodenal switch: an effective therapy for morbid obesity—intermediate results. *Obes Surg*. 2001;11:54–58. 22. Fletcher R, Deal R, Kubasiak J, Torquati A, Omotosho P. Predictors of increased length of hospital stay following laparoscopic sleeve gastrectomy from the National Surgical Quality Improvement Program. *J of Gastrointest Surg*. 2017. <https://doi.org/10.1007/s11605-017-3642-4>. Accessed January 16, 2018. 23. Armstrong J, O'Malley SP. Outcomes of sleeve gastrectomy for morbid obesity: a safe and effective procedure? *Int J Surg*. 2010;8:69-71. 24. Schauer P, Ikramuddin S, Hamad G, Gourash W. The learning curve for laparoscopic roux-en-y gastric bypass is 100 cases. *Surg Endosc*. 2003;17:212-215. 25. Resa JJ, Solano J, Fatas JA, et al. Laparoscopic biliopancreatic diversion : technical aspects and results of our protocol. *Obes Surg*. 2004;Mar;14(3): 329-33; discussion 333. 26. Edholm D, Axer S, Hedberg J, Sundbom M. Laparoscopy in duodenal switch: safe and halves length of stay in a nationwide cohort from the Scandinavian Obesity Registry. *Scandinavian Journal of Surgery*. 2017;106(3):230-234. 27. Søvik TT, Taha O, Aasheim ET, et al. Randomized clinical trial of laparoscopic gastric bypass versus laparoscopic duodenal switch for superobesity. *BJS*. 2010;97:160-166. 28. Novikov A, Afaneh C, Saumoy M, et al. Endoscopic sleeve gastropasty, laparoscopic sleeve gastrectomy, and laparoscopic band for weight loss: how do they compare? *J Gastrointest Surg*. 2017. <https://doi.org/10.1007/s11605-017-3615-7>. Accessed January 16, 2018. 29. Baker MT, Lara MD, Larson CJ, et al. Length of stay and impact on readmission rates after laparoscopic gastric bypass. *Surg Obes Relat Dis*. 2006;2(4):435-439. 30. Mayo Clinic Staff. Gastric bypass surgery. <https://www.mayoclinic.org/tests-procedures/bariatric-surgery/basics/what-you-can-expect/prc-20019138>. Accessed January 16, 2018. 31. Weiner RA, Weiner S, Pomhoff I, et al. Laparoscopic sleeve gastrectomy—influence of sleeve size and resected gastric volume. *Obes Surg*. 2007;12:1297-1305.