

Bariatric and Metabolic Institute

Minimally Invasive Surgery for Treating Type 2 Diabetes



Dear Friend,

If you struggle with diabetes and are overweight, you are not alone. More than half of Americans are overweight and roughly 12 million Americans have severe obesity (defined as being 100 pounds or more overweight). Obesity is one of the most important factors for the development of type 2 diabetes.

Studies have shown that bariatric surgery (also known as gastric bypass, or weight-loss surgery) is not only an effective tool for treating obesity, but also for preventing, treating and even resolving diabetes in some cases.

The Bariatric and Metabolic Institute works closely with Cleveland Clinic endocrinologists to treat patients with diabetes and develop a program tailored to suit their needs.

Carefully researching your options is an important step in your search for the best diabetes and weight management program. We are confident that you will discover how the Cleveland Clinic Bariatric and Metabolic Institute excels in so many ways and how the program is right for you.

At Cleveland Clinic, you'll have easy access to many of the nation's best physicians not only in bariatrics and endocrinology, but also in such specialties as cardiac care, orthopaedics and gastroenterology. Cleveland Clinic is an ideal setting for bariatric surgery. When you come to Cleveland Clinic, ranked among the nation's top hospitals for the last 16 years by *U.S. News & World Report*, you are assured that all of your medical care will be of the highest quality available anywhere. All of our surgeons have completed Fellowship Training in Advanced Laparoscopy and Bariatric Surgery.

Please call us with any questions. We look forward to serving you.

Sincerely,



Philip Schauer, MD

Director of Advanced Laparoscopic
and Bariatric Surgery



Bipan Chand, MD

Advanced Laparoscopic and Bariatric Surgery
Director of Surgical Endoscopy



Stacy Brethauer, MD

Advanced Laparoscopic
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Matthew Kroh, MD

Advanced Laparoscopic
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Tomasz Rogula, MD

Advanced Laparoscopic
and Bariatric Surgery

The link between weight and diabetes

Obesity is one of the most important factors for the development of type 2 diabetes, a lifelong disease marked by high levels of sugar in the blood. It occurs when the body does not respond correctly to insulin, a hormone released by the pancreas. A mildly obese person has double the risk of developing diabetes, and a severely obese person has 10 times the risk. The risk of diabetes increases with age, family history and obesity localized more in the abdomen (central obesity). Consuming foods high in fats and carbohydrates leads to more fatty acids in the blood and a buildup of lipids in the liver and skeletal muscles, causing resistance to insulin and consequently diabetes. Over time, diabetes usually worsens and insulin production by the pancreas dramatically decreases.



When conventional diabetes treatment isn't enough

Diabetes needs to be treated to improve or normalize blood glucose levels, thereby preventing long-term complications like eye and kidney disease and damage to nerves and blood vessels. Normalized blood glucose reduces the risk of death, stroke, heart failure and other complications.

Testing glycosylated hemoglobin (HbA1c) levels in the blood can determine one's risk for long-term complications. The test measures how much glucose has been sticking to red blood cells and other cells. Reduction of HbA1c by even 1 percent can decrease the risk for complications by 25 percent.

The immediate goal in treating diabetes is to improve the symptoms through normalizing blood glucose levels. The ongoing goals are to prevent long-term complications like eye and kidney disease and damage to nerves and blood vessels. Recent studies show strict control of blood glucose can reduce the long-term risk of developing several long-term complications of diabetes such as eye, kidney, and nerve damage.

The primary treatments for type 2 diabetes are diet and exercise. When these are not sufficient to maintain normal blood glucose levels, you may need to take medications that trigger the pancreas to make more insulin, help insulin work better, decrease the absorption of carbohydrates in the gut, or decrease glucose production in the liver. If you have poor blood glucose control despite lifestyle changes and medication, you will need to take insulin.

Some people with type 2 diabetes can stop medications after dieting, but achieving and maintaining a healthy weight is sometimes very challenging. If you have tried and been unsuccessful with a variety of diets, surgically induced weight loss can be a lasting resolution.

American Diabetes Association: Standards of Medical Care in Diabetes-2009

Bariatric surgery should be considered for adults with BMI >35 kg/m² and type 2 diabetes, especially if the diabetes is difficult to control with lifestyle and pharmacologic therapy.

Source: Diabetes Care, volume 32, Supplement 1, January 2009

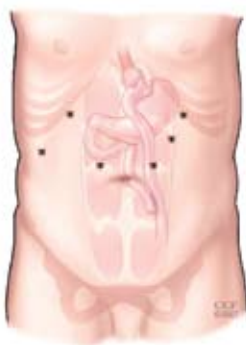


Proven Procedures

The most common forms of bariatric surgery are Roux-en-Y gastric bypass, adjustable gastric banding and sleeve gastrectomy. Our experts will work with you to determine the procedure that is best for you.

Minimally invasive techniques

More than 95 percent of all procedures performed at the Bariatric and Metabolic Institute are performed using minimally invasive (laparoscopic) techniques. In fact, our surgeons are pioneers in advanced laparoscopic techniques. Minimally invasive surgery means faster operations, less anesthesia, much smaller incisions and less scarring, all of which contribute to faster healing and recovery.



Laparoscopic Roux-en-Y Gastric Bypass

How it works: This procedure involves creating a small stomach pouch, so less food can be consumed. The intestine is connected to the pouch and rerouted. Food bypasses the lower stomach, the first segment of the small intestine (duodenum) and part of the second segment (jejunum). A direct connection is created from the small stomach pouch to the lower segment of the small intestine. The anatomic changes created during gastric bypass cause changes in the way the gut and the pancreas interact and have effects on diabetes control that precedes weight loss. Patients generally can return to work within three to four weeks.

Laparoscopic Adjustable Gastric Banding (LAGB)

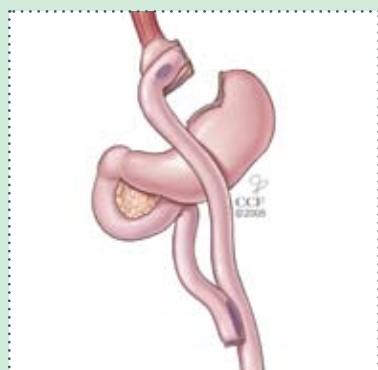
How it works: The laparoscopic adjustable gastric banding procedure involves placing an adjustable, inflatable silicone band around the upper part of the stomach. The technique restricts the amount of food that can be eaten and, when properly adjusted, controls hunger. Patients generally can return to work after two weeks. The inner balloon of the band can be incrementally inflated after surgery to increase the feeling of fullness after eating and improve hunger control. The disadvantages of LAGB include the need for frequent postoperative visits for band adjustments and band slippage or gastric prolapse through the band (5 to 10 percent), which would require reoperation.

Laparoscopic Sleeve Gastrectomy

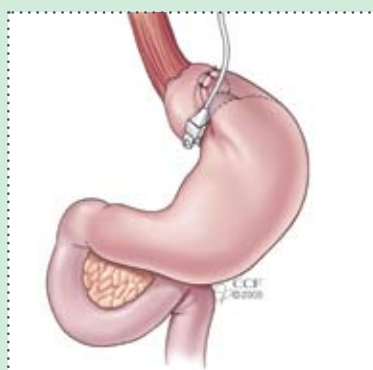
How it works: Laparoscopic Sleeve Gastrectomy (LSG) is a restrictive procedure that reduces the size of the stomach and limits food intake. This procedure may be used as part of a staged approach to surgical weight loss. Patients who have a very high BMI, who are at risk for undergoing anesthesia or who have a heart or lung problem and should not undergo a long surgical procedure may benefit from this staged approach.

As a stand alone procedure, there is significant evidence that sleeve gastrectomy is comparable in safety and efficacy to gastric banding. Unlike gastric banding, there is no silicone band and no return visits for adjustments are required. Patients generally can return to work within three to four weeks. Overall, the risks are similar to those seen with the laparoscopic adjustable band, but lower than the risks associated with gastric bypass.

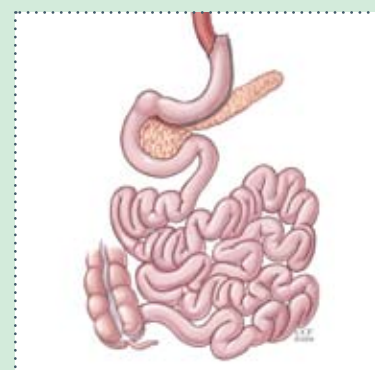
Laparoscopic Roux-en-Y Gastric Bypass



Laparoscopic Adjustable Gastric Banding



Laparoscopic Sleeve Gastrectomy



What you can expect to lose...and gain

Most of our patients lose between 50 and 80 percent of their excess body weight during the 18 to 24 months following surgery. The weight loss you achieve can only be sustained with your commitment to dietary changes and regular exercise. Better control or remission of your diabetes tends to occur even before significant weight loss.

Effects of surgery on glucose levels, blood pressure and cholesterol

Immediately following bariatric surgery, blood sugar levels improve rapidly, allowing reduction or elimination of medication. Recent studies show that loss of fat tissue following bariatric surgery leads to improved insulin resistance.

Roux-en-Y gastric bypass is highly effective in controlling diabetes. Approximately one-third of patients do not require any further diabetes medication immediately after the surgery and 85 percent of patients have remission of their diabetes (normal glucose off all diabetic medication) within two years of surgery.

Patients who have a milder form of diabetes (controlled with diet), have had diabetes for less than five years, and who achieve greater weight loss after surgery are more likely to achieve complete resolution of diabetes. Many patients with diabetes also suffer from high blood pressure and elevated cholesterol, which significantly increase the risk of heart attacks and strokes. Bariatric surgery improves or resolves high blood pressure and cholesterol in most patients, decreasing these risks.



Recovery and Support Following Surgery

Patients considering bariatric surgery are most afraid of failure; afraid they won't be able to stay committed to the lifestyle changes required for success. This is why bariatric surgery patients benefit from lifetime follow-up and a solid support network.

Early postoperative visits with the surgeon focus on potential complications and dietary changes. Diet is progressively advanced from liquid to solid food over the first month in consultation with a dietitian. Later follow-up visits focus on psychological support, nutritional assessment, vitamin supplementation and exercise programs. Patient support groups are held every month and cover

a variety of topics such as nutrition, fitness, plastic surgery and psychosocial issues.

After surgery, patients are referred back to their primary care physicians for their routine healthcare. In addition, Cleveland Clinic specialists require patients to follow the comprehensive post-surgery schedule as described below:

	1 wk	1 mo	3 mos	6 mos	9 mos	1 yr	Annually
Surgical follow-up	✓	✓	✓	✓	✓	✓	✓
Lab work				✓		✓	✓
Dietary counseling		✓	✓	as needed			
Psychological counseling		✓	as needed				
Exercise prescription		✓	as needed				

Find out the advantages of Cleveland Clinic

The Bariatric and Metabolic Institute at Cleveland Clinic is a comprehensive program providing you with personalized attention as you work toward your goals of diabetes resolution and weight loss. An entire team of professionals, led by board-certified surgeons and endocrinologists, works to provide superior care for our patients. The team comprises professionals from many disciplines: surgeons, physicians, anesthesiologists, psychologists, specialized nurses, dietitians, coordinators and more. This team is backed by a wide range of Cleveland Clinic specialists – from endocrinology, gastroenterology/nutrition, cardiology and internal medicine – who assist in patient care before and after surgery.

Participate in a research study on type 2 diabetes and obesity

The Cleveland Clinic Bariatric and Metabolic Institute has a study underway to compare the effectiveness of advanced medical therapy versus bariatric surgery and therapy combined in treating patients with type 2 diabetes.

The STAMPEDE (Surgical Therapy and Medications Potentially Eradicate Diabetes Efficiently) trial examines the short- and long-term outcomes of each approach, including their effect on the disease, complications and organ damage.

The five-year randomized, controlled study will enroll 150 men and women with type 2 diabetes who are between the ages of 20 and 60 years and whose body mass index is between 30 and 40 kg/m² (about 30 to 75 pounds overweight).

Patients who consent to participate will be randomly assigned to receive one of the following treatments:

- Advanced medical therapy
- Advanced medical therapy combined with Roux-en-Y gastric bypass
- Advanced medical therapy combined with laparoscopic sleeve gastrectomy, a surgical procedure that reduces the size of the stomach by approximately two-thirds

For information about enrolling in the study, please call 216.445.3983 or visit clevelandclinic.org/stampede1.

Our specialists will work with your primary care physician and endocrinologist, keeping in close communication with them about your course of surgery and recovery, including any special needs or medication changes as a result of weight-loss surgery.

Are you eligible for surgery?

Bariatric surgery is major surgery, and should be considered only after non-surgical treatments for diabetes have proven unsuccessful. If you're considering weight-loss surgery, you must make a serious, lifelong commitment to lifestyle changes, and follow up with your bariatric team.

Our program follows the National Institutes of Health (NIH) guidelines for patient selection. If you have a BMI (Body Mass Index) of 35 or more with type 2 diabetes and/or other illnesses related to excess weight, and have not been able to achieve normal fasting blood sugar (<125 mg/dl or HbA1c <7 percent) you probably are a candidate for diabetes surgery. In some cases of inadequately controlled diabetes, patients may be eligible for bariatric surgery even if they have a BMI of less than 35. Our center accepts candidates between the ages of 12 and 70, with some exceptions.

If you do not meet these guidelines, or we find that you are not eligible for diabetes surgery for health reasons, our nationally ranked Endocrinology Department can help you control your diabetes by utilizing the latest advancements in diabetes medications.

Every surgery has risks

All surgical procedures carry risks that must be balanced with their benefits. Your surgeon will discuss potential risks of surgery with you so you can make an educated and informed decision.

Confidence in our program

The Cleveland Clinic Bariatric and Metabolic Institute has been named a Bariatric Surgery Center of Excellence by the American Society for Metabolic and Bariatric Surgery. We also have been accredited as a Level 1 facility by the Bariatric Surgery Center Network (BSCN) Accreditation Program of the American College of Surgeons (ACS). Additionally, several major insurance providers have designated the Bariatric and Metabolic Institute as a distinguished program, including Anthem Blue Cross Blue Shield, Aetna and Medical Mutual of Ohio.

Find out more

For more information about the Cleveland Clinic Bariatric and Metabolic Institute, visit our Web site at clevelandclinic.org/bariatricsurgery. You also may call 216.445.2224 or 800.CCF.CARE (223.2273), ext. 52224, or email us at weightmanagement@ccf.org.

We look forward to helping you beat diabetes!

Is Surgery the Cure for Diabetes?



A Struggle for Control

Ms. Malanca had been unable to focus on her four children or her career as a psychotherapist due to her diabetes. Its health complications eclipsed everything else. And at 37 years old, she had no energy.

She had developed diabetes when she was pregnant with her first child. It subsided after the pregnancy but “came back with a vengeance” a year later, she says. During her second pregnancy, she was forced to inject 700 units of insulin a day to keep her diabetes under control. That amount is seven times what is considered to be a high level for a young adult. She had laser surgery on her eyes three times to correct complications from the disease and was suffering from high blood pressure.

“I kept thinking, ‘What will happen five years or 10 years from now if I continue to suffer the consequences of diabetes?’” Ms. Malanca says. “I need to live for my kids. I want a long, healthy, happy life.” Knowing that it was being studied as a possible cure for diabetes, her doctor in Switzerland cautiously recommended she consider gastric bypass surgery.

“It was a huge decision,” she says. But in researching gastric bypass surgery she learned a lot about its potential benefits in treating diabetes.

With a body mass index (BMI) of 33.8, Rahele Malanca’s weight did not fall within the clinical parameters for severe obesity. So in her hometown of Geneva, Switzerland, she was not considered a candidate for gastric bypass surgery – a surgery commonly used for weight loss.

But Ms. Malanca desperately wanted to have the surgery – not to lose weight, but to take back control of her life from her type 2 diabetes. Her hopes were pinned on a cure.

“I wanted the best,” Ms. Malanca says. “My goal was to get my diabetes as much under control as possible. It is important to put yourself in good hands. You don’t necessarily go with what is most convenient when it comes to your health.”

As Good as Cured

So in February 2007, Ms. Malanca made her first contact with Cleveland Clinic to discuss her options for the surgery. Dr. Schauer, she says, “immediately put me at ease.”

After much preparation, she underwent gastric bypass surgery in August. Since then she has been able to stop taking all of her diabetes medicine. She has lost 55 pounds and her BMI has dropped from 33.8 to 25.5. “She’s about as close to a cure for (type 2) diabetes as you can get,” says Dr. Schauer.

Ms. Malanca, of course, is pleased. But she cautions that this surgery isn’t an easy way out. She still must be careful with her diet and exercise regularly. “This is not a surgery for everyone,” she says. “It was right for me but it is not a magic bullet. It is a tool.” She advises those facing this decision to do the appropriate research on the surgery and commit to taking responsibility for their health afterward.

“Don’t rush into it, but don’t wait too long either,” Ms. Malanca says. “It can improve the quality of your life.”



Directions to the Bariatric & Metabolic Institute

From the South

Take I-77 or I-71 North to downtown Cleveland. I-77 and I-71 merge with I-90 East. Take I-90 East to Chester Ave. exit and turn right. Take Chester Ave. to Cleveland Clinic's main campus.*

From the Southeast or East

Take I-80 West to I-480 (exit 187), or take I-480 West to I-271 North (do not use express lanes) to the Cedar Rd. exit. Turn right on to Cedar Rd. Take Cedar to Carnegie Ave. (approximately eight miles). Take Carnegie Ave. west to E. 105 St. and turn right. Take E. 105 St. to Chester Ave. and turn left. Proceed to Cleveland Clinic's main campus.*

Or take I-90 West to Martin Luther King, Jr. Dr. (MLK) exit. Turn left on to MLK. Take MLK to E. 105th St. and turn right. Take E. 105th St. to Chester Ave. and turn right. Take Chester Ave. to Cleveland Clinic's main campus.*

From the West

Take I-90 East to Chester Ave. exit and turn right. Follow Chester Ave. to Cleveland Clinic's main campus.*

* Parking is available in various garages/lots. If you are visiting a patient at the main hospital, park in Parking 1, located on E. 93rd Street between Chester and Euclid avenues. Please see map on opposite side to locate the parking garage nearest to your appointment location.

Check in at desk M60.

Notes

- Greeters in red coats are available to assist you.
- Valet parking is available at the H Main Entrance, at the Crile (A) Building, Cole Eye Institute (i) and at Taussig Cancer Center (R). Patients are responsible for parking fees.
- Information desks are indicated on the map with (?) question marks.
- The H (★) Main Entrance is the patient drop-off and pick-up for most buildings (F, G, H, M, S, T).



9500 Euclid Avenue, Cleveland, OH 44195

The Endocrinology & Metabolism Institute is one of 26 institutes at Cleveland Clinic that group multiple specialties together to provide collaborative, patient-centered care. The institute offers specialized centers of care for diabetes, and thyroid, pituitary and weight disorders. Our surgeons perform the most endocrine surgeries in the region, and the bariatrics program is designated a Bariatric Surgery Center of Excellence by the American Society for Metabolic and Bariatric Surgery. Cleveland Clinic is a nonprofit, multispecialty academic medical center. Founded in 1921, it is dedicated to providing quality specialized care and includes an outpatient clinic, a hospital with more than 1,000 staffed beds, an education institute and a research institute.

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