

Our Location

Surgery is performed in the state-of-the-art operating room suite at New York Methodist, located in Park Sope, Brooklyn.

DIRECTIONS

By Bus: #67 runs along Seventh Avenue

By Subway: Take the **F** to Seventh Avenue station. Walk two blocks to the Hospital. You can transfer to the **F** from the **R** at the Smith/Ninth Street station. Transfer from the **A** at the Jay Street/Boro Hall station.

By Car: The parking garage entrance is on Sixth Street opposite the Hospital, between Seventh and Eighth Avenues.

www.nym.org
718.780.3000



506 Sixth Street
Brooklyn, New York
11215

718.780.3000
www.nym.org

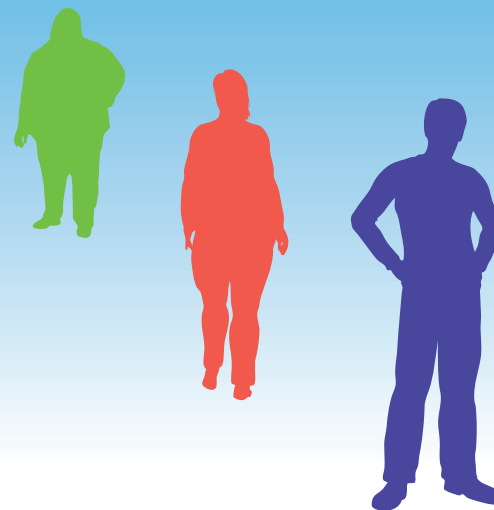


Member
NewYork-Presbyterian Healthcare System
Affiliate: Weill Cornell Medical College

LAPROSCOPIC SURGERY for MORBID OBESITY

The Brooklyn Center
for Advanced Laparoscopy

Department of Surgery
NEW YORK METHODIST HOSPITAL



MORBID OBESITY



Medically, the word *morbid* means causing disease or injury. *Morbid obesity* is a serious disease process, in which the accumulation of fatty tissue in the body becomes excessive and interferes with or injures other body organs, causing serious and life-threatening problems, which are called *co-morbidities*. Its true cause is unknown, but strong genetic predisposition is observed in the majority of patients. Therefore, specific therapy directed to cure severe obesity is not currently available.

Obesity is a major health problem in the United States. More than 58 million American adults ages 20 through 74, are obese. Each year, Americans spend 33 billion dollars on weight-reduction products and services.

Obesity causes an increased risk of health problems such as diabetes, high blood pressure, sleep apnea, high cholesterol, chronic heartburn and joint diseases. It is also accompanied by a significant reduction in life expectancy. Nearly 80 percent of patients with adult-onset diabetes and 70 percent of heart related diseases are related to obesity. In severely obese people, the body size interferes with walking, family function and employment. Unfortunately, dietary programs are largely ineffective for these individuals and there is no effective medical therapy for morbid obesity. Multiple scientific studies have shown that surgery is the most effective treatment for this condition. A successful operation can not only significantly reduce excess body weight, but also can result in the improvement or reversal of most of obesity related health problems including diabetes, hypertension and many others.

LAPAROSCOPIC BARIATRIC SURGERY: Laparoscopic Surgery for Morbid Obesity

PATIENT INFORMATION

Laparoscopic Bariatric Procedures

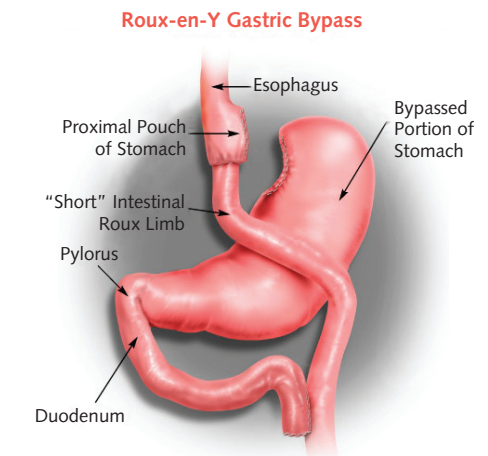
Laparoscopic surgery duplicates the anatomy and physiology of the standard, open procedure. Laparoscopic surgery utilizes small, lightweight, high-resolution video cameras that allow surgeons to “see” into the abdomen using a pencil-thin optical telescope, and to project the picture from the video camera on a video monitor at the head of the operating table.

The benefits of the laparoscopic approach come from the very small incisions, which cause less pain, and very little scarring. Patients are able to get up and walk within hours after surgery, can breath more easily, and move with less discomfort. Bowel activity usually is less affected than it is with the open operation. The recovery to normal activities is quicker than with an open operation.

When performed by an experienced and skilled laparoscopic surgeon, the overall risks of surgery performed laparoscopically are fewer than those of the standard operation. Fewer wound problems and improved cosmetic results are of additional benefit. Both gastric bypass (RYGB) and Lap Band can be performed laparoscopically. Ask your surgeon whether you are a candidate for a laparoscopic operation.

The *Roux en-Y gastric bypass* (RYGB) and *laparoscopic gastric banding* (Lab Band) are the two most commonly performed operations for obesity.

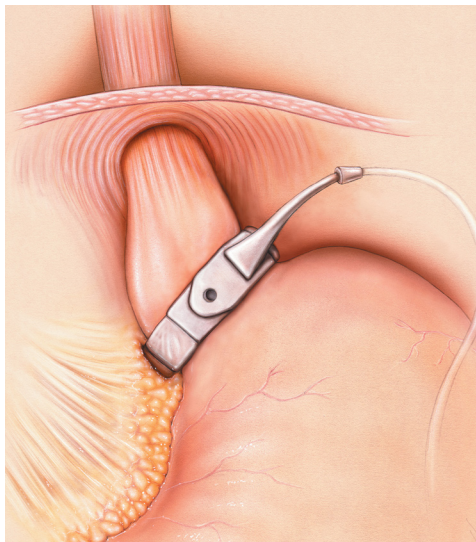
RYGB is considered the “gold standard” of modern obesity surgery. This operation achieves its effect by creating a very small stomach pouch (about an ounce), from which the rest of the stomach is permanently divided and separated. The



continuity of the digestive tract is restored in the form of a “Roux-en Y” loop, also creating some degree of malabsorption, which additionally helps to reduce weight because not all food that is swallowed is absorbed. This operation alters the absorption of some vitamins and minerals, therefore, vitamin and mineral supplements such as multivitamins, calcium and iron are recommended after the operation. This operation, however, has been shown to give consistent weight loss averaging 60 to 80 percent of excess body weight.

Lap band surgery is the least invasive approach to obesity because neither the stomach nor the intestine is cut. The procedure involves the laparoscopic placement of a hollow silastic band around the upper part of the stomach. This band divides the stomach into a small upper pouch above the band and a larger pouch below the band. This small gastric pouch limits the amount of food that a patient can eat at any one time, and will result in a feeling of fullness after eating a small amount of food. Adjusting the size of the opening between the two parts of the stomach controls how much food passes from the upper to the lower part of the stomach. The opening (stoma) between the two parts of the stomach can easily be decreased or increased, through the injection or removal of saline from the band. A tube to a reservoir, placed beneath the skin during surgery, connects the band. The surgeon or nurse practitioner can later control the amount of saline in the band by piercing the reservoir through the skin with a fine needle. Being able to adjust the band is a unique feature of this surgery and is a normal part of the follow-up.

Lap Band



BENEFITS OF SURGICAL TREATMENT OF MORBID OBESITY



Most obesity related problems and co-morbidities can be greatly improved, or will entirely disappear, with successful weight loss. It has been shown that the weight loss achieved with gastric bypass can average 60 percent to 80 percent of excess body weight, and can be maintained for years following surgery.

In addition, numerous medical conditions that result, partially or entirely, from obesity, may be relieved through the loss of weight that results from the surgery. These include:

Diabetes Mellitus

Over 90 percent of Type II diabetics obtain excellent results, usually within a few days after surgery: normal blood sugar levels, normal hemoglobin A1C values, and freedom from all medications, including insulin injections. Based upon numerous studies of diabetes and the control of its complications, it is likely that the problems associated with diabetes will be stopped in their progression, when blood sugar is maintained at normal values. There is no medical treatment for diabetes in morbidly obese patients, which can achieve as complete and profound an effect as surgery — which has led some physicians to suggest that surgery may be the best treatment for diabetes, for these patients. Abnormal glucose tolerance or “borderline diabetes” is even more reliably reversed by gastric bypass. Since this condition progresses to diabetes in many cases, the operation may actually prevent this disease.

High Blood Pressure

At least 50 percent of all patients who have high blood pressure and are taking medications to control it are able to stop all medications and have a normal blood pressure, usually within two to three months after surgery. If medications are still required, the dosage can be lowered, producing a reduction in side effects.

High Blood Cholesterol

Over 60 percent of all patients will return to normal lipids and cholesterol levels within two to three months after the operation.

Heart Disease

The improvement in problems such as high blood pressure, high blood cholesterol and diabetes is likely to reduce the risk of heart disease.

Asthma

Most asthmatics find that they have fewer and less severe attacks, or sometimes none at all. When asthma is associated with gastroesophageal reflux disease, it is particularly responsive to gastric bypass.

Respiratory Insufficiency

Increased exercise tolerance and breathing ability usually occurs within the first few months after the surgery. Often, patients who have barely been able to walk, find that they are able to participate in family activities and even sports activities.

Sleep Apnea Syndrome

Dramatic relief of sleep apnea occurs as patients lose weight. Many report that within a year of surgery, their symptoms are completely gone, and they have even stopped snoring completely.

Gastroesophageal Reflux Disease

Relief of symptoms of reflux disease (heartburn) usually occurs within a few days of surgery, for most patients.

Gallbladder Disease

When gallbladder disease is present at the time of surgery, it is “cured” by removing the gallbladder during the operation.

Urinary Stress Incontinence

This condition responds dramatically to weight loss, usually by abating entirely. A person who is still troubled by incontinence can choose to have specific corrective surgery later, with much greater chance of a successful outcome, because of reduced body weight.

Low Back Pain, Degenerative Disk Disease and Degenerative Joint Disease.

Patients usually experience considerable relief of pain and disability from degenerative arthritis and disk disease, and from pain in the weight-bearing joints. This tends to occur early, with the first 25 to 30 pounds lost, usually about a month after surgery. However, if there is nerve irritation, or structural damage already present, it may not be reversed by weight loss and some pain symptoms can persist.

SIDE-EFFECTS OF SURGICAL TREATMENT OF MORBID OBESITY



Side effects may occur with any operation. They may be permanent and may require a change in lifestyle to avoid continuing discomfort.

Nausea

Continuing to eat after feeling full may result in an episode of vomiting. Most patients have this happen few times and then quickly learn to eat slowly, chew food well and avoid that last bite when fullness occurs.

During the first few days or weeks, another kind of nausea may follow the gastric bypass. This results from delayed function of the Y-limb, and spontaneously resolves with time.

Food Intolerance

RED MEATS

Red meats are not well tolerated after weight reduction surgery and may cause vomiting. Red meat does not easily break down to fit through the small stomach outlet. If the outlet becomes plugged, vomiting will result. Patients are advised to avoid red meats until their stomach is functioning very well, usually at least three to four months after surgery.

SUGAR

Refined sugars and candy consist of many small molecules, which tend to draw fluid into the intestine. After the gastric bypass, a condition called "*dumping syndrome*" may occur. This happens when sugar is taken on an empty stomach, passes rapidly through the stomach into the intestine, and draws a large amount of fluid into the bowel. The physiology is complicated, but the result is a condition like shock: the patient turns pale, breaks out in a profuse sweat, feels butterflies in the stomach, a rapid pulse and a feeling of prostration. Nausea and vomiting, cramps and diarrhea may follow.

Dumping can be avoided by not eating sweets, candies, and fruit juices on an empty stomach. Certain dressings, barbecue sauce and mayonnaise may also cause this problem.

MILK AND MILK SUGAR

To digest milk sugar (lactose), our bodies need an enzyme called lactase, which is often in short supply in the lower small intestine. After gastric bypass, milk and milk products may not be fully digested. Bacteria ferment them, and this causes gas, cramps and diarrhea.

Milk can be treated to make it more tolerable. However, it is probably better to avoid it. Many prepared foods (those that come in a box, or frozen entrees) contain milk sugar as an additive. It is important to learn to be a label-reader, or to avoid packaged foods and especially junk food.

Changed Bowel Habits

After restrictive surgery, the amount of food consumed is greatly reduced and the quantity of roughage consumed may be much smaller. Correspondingly, the number of bowel movements will be diminished, causing less frequent bowel activity and constipation. If this becomes a problem, a stool softener supplement may be needed.

Transient Hair Loss

During the phase of rapid weight loss, calorie intake is much less than the body needs, and protein intake is marginal. The body moves into a panic state, similar to that which would occur during a period of starvation. One of the side effects, in some patients, is inactivation of 30 to 40 percent

(rather than the usual ten percent) of hair follicles, causing a noticeable amount of hair to fall out. This is a transient effect, and resolves when nutrition and weight stabilize. We advise patients to avoid hair treatments and permanents, and to be sure to get adequate protein. Sometimes a zinc supplement will help, and minoxidil (a drug to prevent and reverse hair loss) may be tried.

Loss of Muscle Mass

When the body is in a panic state, and trying to combat starvation, it hoards fat until any other usable fuel has been burned. Therefore, the body will burn muscle mass before consuming fat. If muscle is not regularly used for exercise, it will be consumed to meet energy needs.

Loss of muscle mass is preventable. It is very important, during active weight loss after surgery (or even when on a diet), to exercise vigorously every day. We recommend at least 20 minutes a day of aerobic activity, and it is important to devote attention to upper body strength as well. Many people find, after a few weeks or months of regular daily exercise, that they enjoy it, and start to work out even more. Fairly vigorous exercise, for more than 30 minutes a day, can greatly enhance fat burning, and hasten weight loss.

Pregnancy

Many severely overweight women are also infertile, because the fatty tissue soaks up the normal hormones, and makes some of its own as well, causing a lack of ovulation. As weight loss occurs, this situation may change quickly.

It is important to avoid conception during the phase of rapid weight loss until about one year after surgery, to maintain adequate nutrition. This requires special attention to contraception, even by those who believe that they are infertile.

RISKS AND COMPLICATIONS OF SURGERY

The risks of a weight control operation are the same as those for any abdominal operation. Severely obese people are at a disadvantage and their risks are higher than they would be at a normal body weight.

Having an abdominal operation places significant stress on the body. It creates a wound that can bleed or fail to heal and it opens the door to potential infection. The emergency reaction of the body to injury can itself be harmful, leading to various complications.

Lung Problems

ATELECTASIS

This condition is a partial collapse of a part of the lung caused by lack of motion of the chest wall. Atelectasis can cause a fever after surgery and can also lead to pneumonia. Normally, the lung is filled with tiny air spaces, like the tiny spaces in a loaf of bread, only much smaller. This condition can often be prevented with deep breathing and lung exercises. These exercises are taught before the surgery for use afterwards.

PNEUMONIA

Pneumonia, an infection of the lungs, can be especially serious after surgery. The infecting organisms often come from the gastrointestinal tract and are very destructive. We reduce the risk of pneumonia by using antibiotics at the time of operation as well as by using the most effective anesthesia and respiratory treatment for the prevention of atelectasis.

PULMONARY EMBOLISM

This problem affects the lungs and the heart, but it usually starts in the legs with the formation of blood clots. Although embolisms can occur at any time, they are more likely in overweight patients, especially at the time of and soon after surgery, because of lack of movement of the legs. The blood becomes stagnant and clots in the leg veins, and a clot (embolus) can break off and float through the veins to the lungs. The blood clot (pulmonary embolism) blocks the arteries in the lungs and can cause a part of the lung to lose its circulation and die. This is known as a pulmonary infarction. If the circulation to a large part of the lung is affected, the heart is placed under excessive strain, which can cause it to fail suddenly.

To prevent a pulmonary embolism, we first thin the blood with heparin, making it less likely to clot. We use special stockings to compress legs and keep the blood flowing faster in the veins. We encourage patients to get up and walk as soon as possible after the operation, preferably on the same day.

Infections

ABSCESS

An abscess is a collection of infected fluid, or pus, which occurs somewhere in the body. After an abdominal operation, a pocket of fluid may develop, and if any bacteria are present, they may infect it and create an abscess. An abscess is treated by draining away the infected fluid and killing the bacteria, with the help of antibiotics.

We prevent abscesses by trying to avoid any collections of fluid or blood in the abdomen at the time of surgery, and by placing a drain if one might possibly occur. If an undrained abscess develops, we now have very skillful specialists (interventional radiologists) who often can achieve drainage and resolve the problem without the need for additional surgery.

WOUND INFECTION

A wound infection is a type of superficial abscess that also is treated with drainage. Severely obese people have a very deep layer of fat under the skin that may delay the detection of the infection. These infections are relatively easy to treat although they can cause discomfort and inconvenience.

URINARY TRACT INFECTION

Urine flow is altered after surgery and patients also have trouble sitting down to void. Use of a tube, or catheter, may be necessary to drain the bladder. In rare cases, this can lead to infection of the bladder. Usually such infections can be readily eliminated with antibiotic treatment, without an additional hospital stay.

Bleeding

HEPARIN EFFECT

We use heparin to prevent blood clotting and pulmonary embolism. At the same time, if blood does not clot at all, bleeding will occur when the surgery is performed. We try to find a middle ground, but because

the sensitivity of different individuals may vary, delayed bleeding may occur after surgery in some patients. We watch closely for this and can discontinue the heparin if bleeding becomes too risky.

HEMORRHAGE

When surgery is performed, blood vessels must be cut. We tie them with a piece of thread called a ligature, or use a device called an electrocautery, which coagulates the blood at the end of the blood vessel. Sometimes a blood vessel may escape and begin to bleed again several hours later. This can cause a hemorrhage either inside the abdomen or at the skin level. A hemorrhage must be stopped. There are several strategies for this, but in some cases, a return to the operating room may be necessary. This is a rare event.

TRANSFUSIONS

When blood loss occurs, pulse and blood pressure tend to become unstable and a transfusion may be necessary. The blood bank has very high quality standards, so the blood is quite safe, but there is still a slight possibility of getting hepatitis, and a very small risk of receiving the AIDS virus (about one in 100,000) from a transfusion. Donating your own blood — a procedure called autologous donation — and having it saved for your surgery can reduce these risks.

Bowel Problems

BOWEL OBSTRUCTION

After any abdominal operation, scars called adhesions will form in the abdomen. These look like strands of latex, or sometimes like a piece of fibrous cord, and can snag a piece of bowel — just like your garden hose can wrap itself around the smallest bump when you pull on it. Sometimes, even many years after the original operation, the bowel becomes kinked around an adhesion, becomes obstructed, and nothing can get through. Another cause of obstruction may be an internal hernia, which is a twist of the bowel around its mesentery attachment. Both conditions must be relieved quickly, before the bowel loses its blood supply and dies, which can make a bad situation even worse. Usually an emergency operation is necessary. Occasionally, a bowel obstruction can occur within a few days after surgery, at which time the adhesions are much softer, and can often come apart on their own.

LEAKAGE OF BOWEL CONNECTIONS

When the surgeon fastens bowel to bowel, or bowel to stomach, the connection is called an *anastomosis*. If it does not form a complete seal, and leakage of fluid from within the bowel occurs, it is called an *anastomotic leak*. Fluid from the gastrointestinal tract, containing at least some bacteria, leaks out into the abdomen where it doesn't belong. This causes a serious infection, accompanied by inflammation, a rapid pulse rate, and sometimes formation of an abscess. This is always a very serious complication, and its diagnosis and treatment are made much more difficult by severe obesity.

Conventional wisdom indicates that an immediate operation is required to seal the leak and drain away the infection. With a small leak, a repeat operation can sometimes be avoided. An anastomotic leak almost always causes some increase in hospital stay and increased discomfort.

OBSTRUCTION OF THE STOMACH OUTLET

During gastric bypass surgery, when the stomach is connected to the bowel, the opening is deliberately made small, about one half inch in diameter, to slow the flow of food out of the small stomach pouch. All healing occurs through scar formation and scars always have a tendency to contract. This may cause the opening between the stomach and the bowel to become too small, so that no food can get through, resulting in repeated vomiting. This is a rare event but if it occurs it must be corrected. However, surgery is rarely necessary and most of the strictures can be stretched with a balloon passed through an endoscope.

STOMACH OR OUTLET ULCERATIONS (MARGINAL ULCERS)

Stomach or outlet ulcers (marginal ulcers) may develop in a small percentage of patients. It is imperative that patients do not smoke, since smoking is the major risk factor for ulcers. This condition can be treated medically; however, on rare occasions an operation may be required to correct it.

Gallstones

If the gallbladder is not removed, there is some increase in the risk of developing gallstones after the surgery. Studies have shown an incidence of 30 to 35 percent in gallstone formation during the first six months after

gastric bypass surgery. Effective medication to prevent the formation of gallstones following gastric bypass can be prescribed. You may wish to discuss taking such medication with your doctor.

Chronic Nutritional Problems

With a healthy diet and the use of proper vitamin and mineral supplements nutritional problems are quite rare after the gastric bypass. The most important objective during the lengthy follow-up period is training in a healthy eating regimen. One of the most important affects of bariatric surgery is a progressive change in attitudes toward eating. Our goal is to teach patients to eat to live—not to live to eat.

PROTEIN DEFICIENCY

Protein is the essential matter that forms our muscles and organs. Our bodies require a constant supply of protein building materials to repair and replace tissues that become worn out or damaged. *Gastric bypass* and *lap band* both reduce the capacity of the stomach, so that protein-containing foods must be carefully eaten with each meal, ensure that the body gets enough to maintain itself. If the first half of each meal is taken as protein-containing foods, deficiency is very unlikely to occur. We do not advise the use of protein supplements or beverages.

VITAMIN DEFICIENCY

Conventional nutritional teaching teaches that vitamins are contained in adequate amounts in a well-balanced diet. Supplements should not be required. However, after weight reduction surgery, food intake is initially much less than before and not enough to supply complete nutrition. To get enough vitamins, a high potency multivitamin supplement must be taken daily.

A few people may develop vitamin B-12 deficiency even when taking a multi-vitamin supplements. A simple injection of B-12 vitamin may correct this problem.

MINERAL DEFICIENCY

Our recommended multivitamin preparation contains mineral supplements in generous amounts. We also recommend daily use of calcium. Many patients, particularly women, will require a special iron supplement to maintain adequate iron stores and prevent iron deficiency anemia.