



BARIATRIC SURGICAL PROCEDURE GUIDE



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WHY CHOOSE MEMORIAL?

Awards & Accolades:

- Metabolic and Bariatric Surgery Accreditation & Quality Improvement Program Center of Excellence (MBSAQIP)
- Blue Cross & Blue Shield of Florida Blue Distinction Center for Bariatric Surgery
- Aetna Preferred Hospital for Bariatric Surgery
- Cigna 3 Star Quality Bariatric Center



Understanding Accreditation:

According to the American Society for Metabolic and Bariatric Surgery (ASMBS), when deciding where to have metabolic or bariatric surgery, patients have many options. One significant choice to make is whether you will have your surgery at an accredited or a non-accredited facility. In making this choice, it is critical for patients and referring physicians to understand what makes a facility “accredited”, and why that accreditation is so important.

The bariatric and metabolic surgery accreditation process is called MBSAQIP, which stands for Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program. MBSAQIP was developed jointly by the American College of Surgeons and the ASMBS, to foster patient safety and surgical excellence. To become accredited, a facility undergoes a rigorous process of evaluations to ensure their level of quality across safety, training, followup, and surgical volume standards.

Importance of Accreditation: A recent study showed that the mortality rates at non-accredited facilities are on average three times greater than the mortality rates at accredited facilities.

Accreditation is an important, life-saving process and we encourage patients and referring physicians to seek out those facilities that meet these rigorous standards.

<http://asmbs.org/patients/making-choices>

SURGICAL OPTIONS**:

**All Surgery information referenced is from the American Society of Metabolic and Bariatric Surgery

Bariatric surgical procedures cause weight loss by restricting the amount of food the stomach can hold, causing malabsorption of nutrients, or by a combination of both gastric restriction and malabsorption. Bariatric procedures also often cause hormonal changes. Most weight loss surgeries today are performed using minimally invasive techniques (laparoscopic surgery).

All surgical options should be considered “Tools” for weight loss not “Cures”. **Compliance with dietary and behavioral recommendations will determine your weight loss success. Compliance with follow-up visits and care and strict adherence to dietary and vitamin supplementation guidelines are critical to avoiding serious complications from protein and certain vitamin deficiencies.** The most common bariatric surgery procedures are gastric bypass, sleeve gastrectomy, adjustable gastric band, and biliopancreatic diversion with duodenal switch. Each surgery has its own advantages and disadvantages.

Open vs. Laparoscopic Approach:

Most bariatric procedures can be performed either open or laparoscopically.

Open surgeries are performed by making a relatively large incision in the abdomen and carrying out the operation by direct observation through the open incision.

While many surgeons still perform open bariatric surgery successfully, these surgeries typically have a longer recovery time, a bigger risk of infection and a higher risk of adhesions (internal scarring that can lead to other problems). Obese patients' bodies often have more difficulty healing which can complicate things further.

With laparoscopic weight loss surgery, the surgeon makes five or six small incisions that are just big enough to pass surgical instruments through. Smaller incisions mean less healing time, so you could leave the hospital in as soon as 2 days or less.

In addition to other medical instruments, the incisions are used to insert a special camera. The surgical camera projects the inside of the patient's body onto a screen, and the surgeon uses that image to perform the surgery.

Most weight loss surgeries today are performed using minimally invasive techniques (laparoscopic surgery).

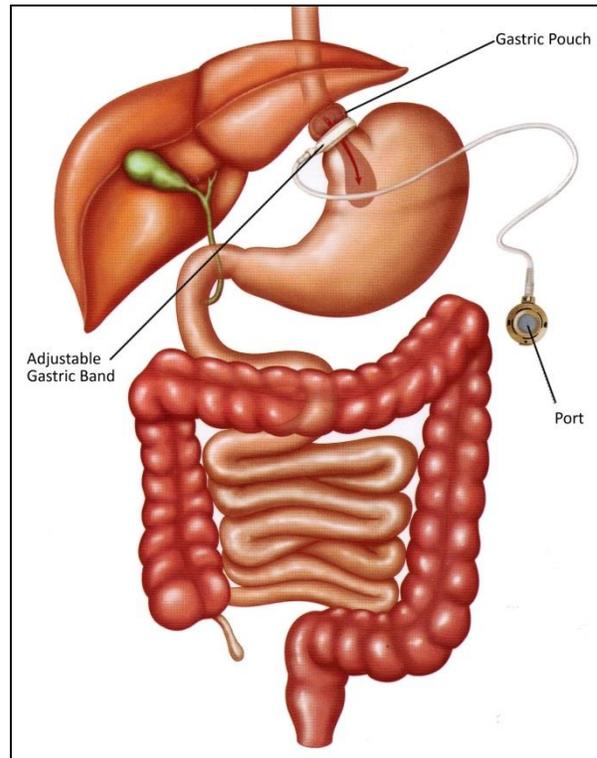
ADJUSTABLE GASTRIC BANDING(AGB)

The Adjustable Gastric Band – often called *the band* – involves an inflatable band that is placed around the upper portion of the stomach, creating a small stomach pouch above the band, and the rest of the stomach below the band.

The common explanation of how this device works is that with the smaller stomach pouch, eating just a small amount of food will satisfy hunger and promote the feeling of fullness. The feeling of fullness depends upon the size of the opening between the pouch and the remainder of the stomach created by the gastric band. The size of the stomach opening can be adjusted by filling the band with sterile saline, which is injected through a port placed under the skin.

Reducing the size of the opening is done gradually over time with repeated adjustments or “fills.” The notion that the band is a restrictive procedure (works by restricting how much food can be consumed per meal and by restricting the emptying of the food through the band) has been challenged by studies that show the food passes rather quickly through the band, and that absence of hunger or feeling of being satisfied was not related to food remaining in the pouch above the band. What is known is that there is no malabsorption; the food is digested and absorbed as it would be normally.

The clinical impact of the band seems to be that it reduces hunger, which helps the patients to decrease the amount of calories that are consumed.



SURGICAL OPTIONS

ADJUSTABLE GASTRIC BANDING (AGB)

Key Points

- Operation takes less than one hour
- Most patients go home same day
- Quick recovery time
- Evaluation every six to eight weeks for gradual tightening when necessary through the port
- Induces excess weight loss of approximately 40-50 percent

Advantages

- Reduces the amount of food the stomach can hold
- Induces weight loss of approximately 40-50 percent
- Involves no cutting or stapling of the stomach or rerouting of the intestines
- Is Reversible and adjustable
- Requires shorter hospital stay, typically less than 24hrs, with some centers discharging same day as surgery
- Has the lowest rate of early postoperative complications and mortality among the approved bariatric procedures
- Has the lowest risk for vitamin/mineral deficiencies

Disadvantages

- Slower and less early weight loss than other surgical procedures
- Greater percentage of patients failing to lose at least 50 percent of excess body weight compared to the other surgeries commonly performed
- Requires a foreign device to remain in the body
- Can result in possible band slippage or band erosion into the stomach in small percentage of patients
- Can have mechanical problems with the band, tube or port in a small percentage of patients and can result in dilation of esophagus if patient overeats
- Requires strict adherence to the postoperative diet and to postoperative follow-up visits
- Highest rate of re-operation

Resource: <https://asmbs.org/patients/bariatric-surgery-procedures#band>

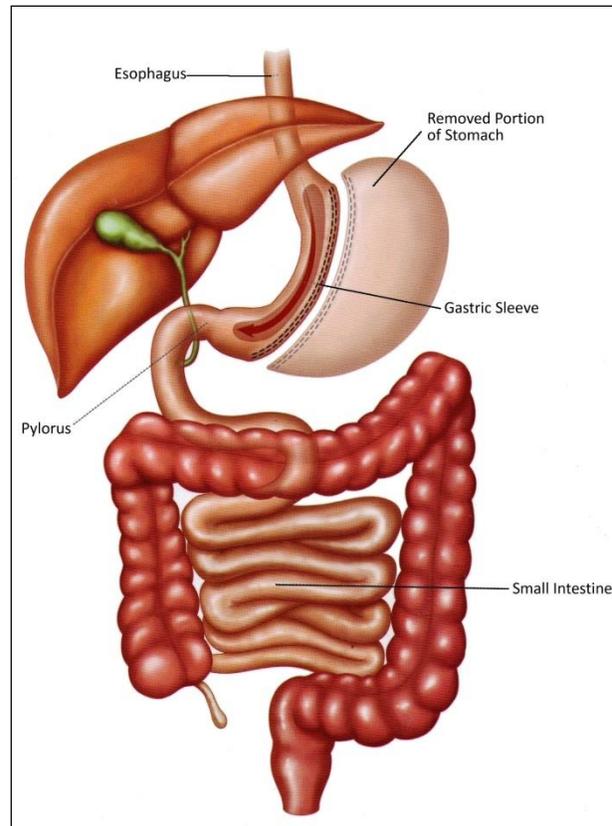
SURGICAL OPTIONS

VERTICAL SLEEVE GASTRECTOMY (LSG)

The Laparoscopic Sleeve Gastrectomy – often called the sleeve – is performed by removing approximately 80 percent of the stomach. The remaining stomach is a tubular pouch that resembles a banana.

This procedure works by several mechanisms. First, the new stomach pouch holds a considerably smaller volume than the normal stomach and helps to significantly reduce the amount of food (and thus calories) that can be consumed. The greater impact, however, seems to be the effect the surgery has on gut hormones that impact a number of factors including hunger, satiety, and blood sugar control.

Short term studies show that the sleeve is as effective as the roux-en-Y gastric bypass in terms of weight loss and improvement or remission of diabetes. There is also evidence that suggest the sleeve, similar to the gastric bypass, is effective in improving type 2 diabetes independent of the weight loss. The complication rates of the sleeve fall between those of the adjustable gastric band and the roux-en-y gastric bypass.



VERTICAL SLEEVE GASTRECTOMY (LSG)

KEY POINTS

- Operation takes approximately one hour
- Hospital stay is one to two nights
- Large portion of stomach is removed
- Creates a sleeve of the remaining stomach about the size of a hotdog or banana
- Weight loss comparable to gastric bypass
- Works by restricting amount of food intake which results in smaller portions
- Removes Ghrelin and Leptin, the neurohormones that stimulate appetite
- Complication rates fall between those of the adjustable gastric band and the roux-en-y gastric bypass

ADVANTAGES

- Restricts the amount of food the stomach can hold
- Induces rapid and significant weight loss that comparative studies find similar to that of the Roux-en-Y gastric bypass. Weight loss of >50% for 3-5+ year data, and weight loss comparable to that of the bypass with maintenance of >50%
- Requires no foreign objects (AGB) or re-routing of the food stream (RYGB)
- Involves relatively short hospital stay of approximately 1-2days
- Causes favorable changes in gut hormones that suppress hunger, reduce appetite and improve satiety

DISADVANTAGES

- Is a non-reversible procedure
- Has the potential for long-term vitamin deficiencies
- Has a higher early complication rate than the AGB. **Early major complications could include: Leak, Infection, Abscess, Blood Clot, Pulmonary Embolism, or Strictures**
- Success is extremely dependent upon patient dietary compliance
- As with all bariatric procedures, there is a possibility of weight regain

Resource: <https://asmbs.org/patients/bariatric-surgery-procedures#sleeve>

SURGICAL OPTIONS

GASTRIC BYPASS ROUX-EN-Y (RYGB)

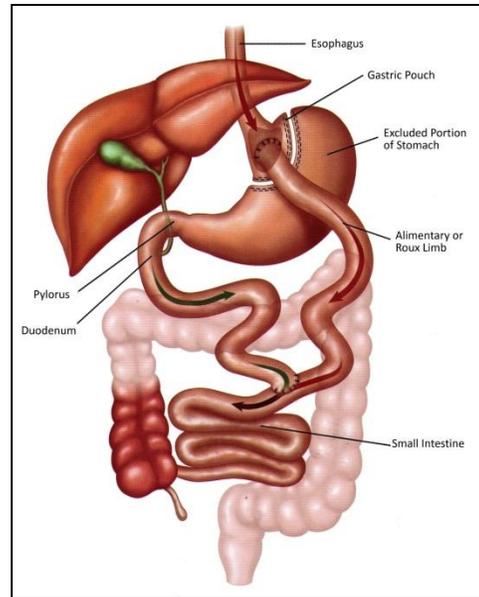
The Roux-en-Y Gastric Bypass – often called gastric bypass – is considered the ‘gold standard’ of weight loss surgery.

There are two components to the procedure. First, a small stomach pouch, approximately one ounce or 30 milliliters in volume, is created by dividing the top of the stomach from the rest of the stomach. Next, the first portion of the small intestine is divided, and the bottom end of the divided small intestine is brought up and connected to the newly created small stomach pouch. The procedure is completed by connecting the top portion of the divided small intestine to the small intestine further down so that the stomach acids and digestive enzymes from the bypassed stomach and first portion of small intestine will eventually mix with the food.

The gastric bypass works by several mechanisms. First, similar to most bariatric procedures, the newly created stomach pouch is considerably smaller and facilitates significantly smaller meals, which translates into less calories consumed.

Additionally, because there is less digestion of food by the smaller stomach pouch, and there is a segment of small intestine that would normally absorb calories as well as nutrients that no longer has food going through it, there is probably to some degree less absorption of calories and nutrients.

Most importantly, the rerouting of the food stream produces changes in gut hormones that promote satiety, suppress hunger, and reverse one of the primary mechanisms by which obesity induces type 2 diabetes.



GASTRIC BYPASS ROUX-EN-Y (RYGB)

Key Points

- Operation takes approximately an hour and a half
- Hospital stay is one to two nights
- A small stomach pouch is created and the small intestines are rerouted
- Combines the advantages of a restrictive and malabsorptive procedure

Advantages

- Produces significant long-term weight loss (60 to 80% excess weight loss)
- Restricts the amount of food that can be consumed
- May lead to conditions that increase energy expenditure
- Produces many favorable changes in gut hormones that reduce appetite and enhance satiety
- Typical maintenance of >50% excess weight loss

Disadvantages

- Is technically a more complex operation than the AGB or LSG and potentially could result in greater complication rates. **Major complications may include: Bleeding, Leakage, Infection, Bowel Blockages, Blood clots, or death.**
- Can lead to long-term vitamin/mineral deficiencies particularly deficits in vitamin B12, iron, calcium, and folate
- Generally has a longer hospital stay than the AGB
- Requires adherence to dietary recommendations, life-long vitamin/mineral supplementation, and follow-up compliance
- Dumping physiology to prevent consumption of foods high in fat and/or sugars
 - Consumption of large meals, foods high in fat content, and/or foods high in sugar content, results in rapid stomach emptying leading to nausea, vomiting, diarrhea, cramps, and cold sweats.

Resource: <https://asmbs.org/patients/bariatric-surgery-procedures#bypass>

SURGICAL OPTIONS

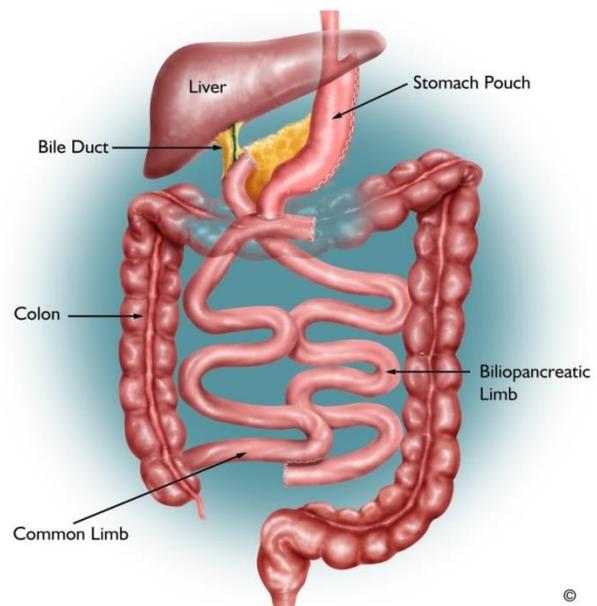
BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH (BPD-DS)

The Biliopancreatic Diversion with Duodenal Switch – abbreviated as BPD/DS – is a procedure with two components. First, a smaller, tubular stomach pouch is created by removing a portion of the stomach, very similar to the sleeve gastrectomy. Next, a large portion of the small intestine is bypassed.

The duodenum, or the first portion of the small intestine, is divided just past the outlet of the stomach. A segment of the distal (last portion) small intestine is then brought up and connected to the outlet of the newly created stomach, so that when the patient eats, the food goes through a newly created tubular stomach pouch and empties directly into the last segment of the small intestine. Roughly three-fourths of the small intestine is bypassed by the food stream.

The bypassed small intestine, which carries the bile and pancreatic enzymes that are necessary for the breakdown and absorption of protein and fat, is reconnected to the last portion of the small intestine so that they can eventually mix with the food stream. Similar to the other surgeries described above, the BPD/DS initially helps to reduce the amount of food that is consumed; however, over time this effect lessens and patients are able to eventually consume near “normal” amounts of food. Unlike the other procedures, there is a significant amount of small bowel that is bypassed by the food stream.

Additionally, the food does not mix with the bile and pancreatic enzymes until very far down the small intestine. This results in a significant decrease in the absorption of calories and nutrients (particularly protein and fat) as well as nutrients and vitamins dependent on fat for absorption (fat soluble vitamins and nutrients). Lastly, the BPD/DS, similar to the gastric bypass and sleeve gastrectomy, affects gut hormones in a manner that impacts hunger and satiety as well as blood sugar control. The BPD/DS is considered to be the most effective surgery for the treatment of diabetes among those that are described here



ADVANTAGES

- Results in greater weight loss than RYGB, LSG, or AGB, ie. 60-70% excess weight loss or greater, at 5 year follow up
- Allows patient to eventually eat near “normal” meals
- Reduces the absorption of fat by 70 percent or more
- Causes favorable changes in gut hormones to reduce appetite and improve satiety
- Is the most effective against diabetes compared to RYGB, LSG, and AGB

DISADVANTAGES

- Higher complication rates and risk for mortality than the AGB, LSG, and RYGB. **Major complications may include: Bleeding, Leakage, Infection, Bowel Blockages, Blood clots, or death.**
- Requires longer hospital stay than the AGB and LSG.
- Has a greater potential than the gastric band, gastric sleeve, and gastric bypass to cause protein deficiencies and long term deficiencies in a number of vitamin and minerals, ie. iron, calcium, zinc, fat-soluble vitamins such as vitamin D
- Compliance with follow-up visits and care and strict adherence to dietary and vitamin supplementation guidelines are critical to avoiding serious complications from protein and certain vitamin deficiencies

Resource: <https://asmbs.org/patients/bariatric-surgery-procedures#bpd>