

Understanding Surgical Weight Loss

The Johns Hopkins Center for Bariatric Surgery

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Who is Eligible?

The National Institutes of Health has standardized guidelines and criteria for determining whether or not the patient is a qualified candidate for bariatric surgery. The Johns Hopkins Center for Bariatric Surgery adheres to these guidelines. The candidate should:

- ❖ Have a Body Mass Index greater than or equal to 40 kg/m², or BMI of 35+ if the patient has significant obesity-related disease.
- ❖ Have tried and failed dietary management regimes.
- ❖ Free from untreated mental health diseases.
- ❖ See his or her primary care physician to evaluate their medical condition and decide if other tests or interventions (i.e., heart, lungs) are needed before obesity surgery.
- ❖ Quit smoking for at least 6 months before surgery to decrease risks.

Additionally, the patient should...

- ❖ Have a support system of friends and family to help him or her physically and psychologically after the operation.
- ❖ Agree to lifelong vitamins, supplements, and medical follow-up.

Preparing for Surgery

Insurance Approval

- ❖ Research your insurance policy to determine if surgical weight loss is covered. By understanding your insurance requirements, you can begin to prepare the necessary materials and records. This will expedite the insurance authorization process when the time comes.
- ❖ If your insurance authorization request is rejected, find out the exact reason. Get the names of the insurance company's physicians and nurses who are in charge of your surgery approval. We can help you appeal your denial.
- ❖ NOTE: Many insurance providers require bariatric surgery candidates to have a documented six-month diet history before they will authorize surgery. You can begin this process by setting up an appointment with your primary care physician or by calling Stacey Crawford at 410.550.0311 to sign up for our own six-month diet and nutrition group.

The Surgical Consultation

- ❖ During your surgical consultation, you'll meet the surgeon and a nurse practitioner and have the opportunity to have questions answered about the procedures we offer and the risks, benefits, and complications of each. We recommend you bring your major support person with you to this visit. A support person is a key aspect to your success with surgical weight loss.

Pre-Surgical Evaluations

- ❖ Nutrition Evaluation
 - ❖ Bariatric surgery is a life-altering event. After surgery, you'll need to change your eating habits to accommodate your pouch and your new dietary requirements. In order to fully understand the post-surgical way of eating, all patients are required to meet with a registered dietitian at least once prior to surgery.
 - ❖ At Johns Hopkins Bayview and the Weight Management Center, you will be seen by a dietitian who is specially trained in adult weight management and the dietary needs of the obesity surgery patient. During this visit, the dietitian will discuss the pre- and post-operative dietary guidelines, behavioral changes, and the supplements you'll need following the surgery.
 - ❖ Please bring a referral to this appointment if your insurance company requires you to do so. To set up an appointment at Johns Hopkins Bayview, please call Access Services at 410-550-7728. To set up an appointment at the Johns Hopkins Weight Management Center at Greenspring Station, call 410-583-2860.

Pre-Surgical Evaluations

- ❖ Psychiatric Evaluation
 - ❖ Bariatric surgery is a life-changing event for the patient and his or her family. Weight loss is quick and significant and can cause psychological, body image, and social disturbances. Therefore, it's mandatory that a patient who intends to have bariatric surgery receive a psychiatric evaluation.
 - ❖ The purpose of this evaluation is to ensure that the patient is aware of the risks and benefits of the surgery and fully understands and is able to comply with the post-operative requirements.
 - ❖ During the evaluation, the practitioner will address other areas, such as body image and sexuality, to help improve the surgical result and the patient's quality of life.
 - ❖ After the initial psychiatric evaluation, the patient may be referred to the Cognitive Behavioral Therapy (CBT) group if he or she demonstrates binge eating or emotional eating behavior. CBT has been shown to reduce abnormal eating behavior and to assist in weight loss when combined with nutrition and exercise.

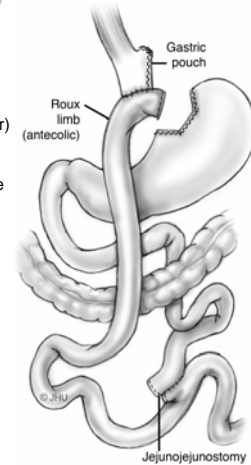
Pre-Surgical Evaluations

- ❖ Pre-Operative Anesthesia Evaluation
 - ❖ Approximately 1 to 6 weeks prior to your scheduled surgery, you'll be scheduled for a visit with the Pre-Operative Evaluation Center (PEC) at Johns Hopkins Bayview. This session will last about 45 minutes. You'll meet with a nurse who will perform an anesthesia screening to determine if you have any special anesthesia needs. She will conduct a brief physical assessment to evaluate your heart and lungs, and she'll provide some education to better prepare you and your family for the upcoming surgery.
- ❖ Other Evaluations
 - ❖ Based on your past medical history you might be asked to have additional evaluations prior to surgery, such as a sleep study for sleep apnea, a cardiac assessment for a history of cardiac problems, or a pulmonary function test if respiratory problems are present.

Surgical Options

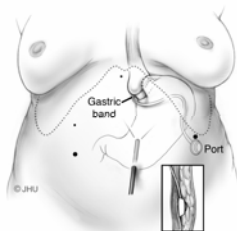
Roux-en-Y Gastric Bypass

- ❖ The gastric bypass is the most commonly performed bariatric procedure in the U.S.
- ❖ In this procedure, the stomach is partitioned into a small upper pouch which is the size of an egg, and the distal stomach (the remainder) which is not removed. The small intestine is divided and connected to the small pouch which allows food to mix downstream with bile and pancreatic fluids.
- ❖ Typically, gastric bypass patients lose about 60-75%^{1,9} of their excess body weight following surgery.



Lap Band

- ❖ The Lap Band is a silicone band which is placed around the upper stomach and is then stitched in place.
- ❖ A port sits under the skin and is injected with saline to fill the silicone band. This makes the band tighter, the pouch smaller, and emptying of food from the stomach slower.
- ❖ In general, the Lap Band carries fewer complications of bleeding, ulcers, intestinal obstruction, hernias, calcium malabsorption, and protein deficiency when compared to other types of bariatric surgery.
- ❖ Lap Band patients can expect less weight loss (an average of about 18%³), and at a slower rate, than patients with gastric bypass or duodenal switch.



Biliopancreatic Diversion with Duodenal Switch

- ❖ The biliopancreatic diversion with duodenal switch is a malabsorptive procedure. This type of procedure restricts the amount of calories, vitamins, and minerals absorbed from food, resulting in weight loss.
- ❖ The surgeon removes about 67-75% of your stomach and rearranges your small intestines to separate food from digestive juices, allowing the malabsorption to occur.
- ❖ The pylorus, the valve at the outlet of your stomach, is left intact, which helps to reduce "dumping syndrome."
- ❖ Weight loss for this procedure is estimated at 66-73%⁴ excess body weight.

Sleeve Gastrectomy

- ❖ The sleeve gastrectomy works by limiting the amount of food you're able to eat. The surgeon will remove about 70-85% of your stomach. Your new stomach then takes on the shape of a banana.

Restrictive vs. Malabsorptive

- ❖ You might hear surgical procedures, or aspects of procedures, referred to as "restrictive" or "malabsorptive."
- ❖ Restrictive procedures limit the amount of food and calories a person can ingest.
- ❖ Malabsorptive procedures limit the amount of calories and nutrients the body absorbs.

	Restrictive	Malabsorptive
Roux-en-Y Gastric Bypass	X	X
Lap Band	X	
Biliopancreatic Diversion with Duodenal Switch	X	X
Sleeve Gastrectomy	X	

Open or Laparoscopic?

- ❖ Bariatric procedures can be performed as laparoscopic or open surgery. Whether a procedure is performed by a laparoscopic or open approach, the procedure performed internally is the same; the surgeon just uses a different method to enter the abdomen.
 - ❖ With laparoscopic surgery, the surgeon makes several small incisions of about ¼" to ½" in size in the abdomen to access the stomach and intestines. The abdomen is inflated with gas and the surgeon inserts a light, camera, and operative instruments through the tiny incisions. The surgeon uses a high-definition monitor to view the organs and guide the surgical instruments.
 - ❖ With open surgery, a larger incision is made through the skin and tissues so that the surgeon can directly view the stomach and intestines.
 - ❖ Length of stay is usually shorter for laparoscopic procedures⁵. Laparoscopic patients can anticipate a 2 or 3-day length of stay, and open patients can anticipate a 3 or 4-day length of stay.
- ❖ Wound-related complications and incisional hernias are more common after open surgery than after laparoscopic surgery⁵.

Open or Laparoscopic?

- ❖ In Roux-en-Y gastric bypass, late anastomotic stricture was found to be less frequent in open procedures than in laparoscopic⁵.
- ❖ Individuals can usually return to work and other daily activities more quickly after laparoscopic than after open surgery⁵.
- ❖ Anyone who agrees to a laparoscopic operation must be prepared for the possibility that the surgeon will need to convert to an open procedure if the surgeon encounters problems during or after the operation which can't be resolved laparoscopically.
- ❖ You are more important than the size of your incision! A laparoscopic-to-open conversion is required in less than 1% of our patients.

	Laparoscopic	Open
Roux-en-Y Gastric Bypass	X	X
Lap Band	X	
Biliopancreatic Diversion with Duodenal Switch	X	X
Sleeve Gastrectomy	X	X

Special Considerations During and After Surgery

Gall bladder and Gallstones

- ❖ Gallstones are formed by clumps of cholesterol and other matter that form in the gall bladder. During rapid weight loss, the risk of developing gallstones increases. If your gall bladder is diseased or is causing you pain, it may need to be removed.
- ❖ Most laparoscopic patients keep their gall bladders and are put on a medication (Ursodiol) for 6 months to prevent gallstone formation.
- ❖ The gall bladder is usually removed during open gastric bypass.
- ❖ Gallstones can irritate the gall bladder wall, block the cystic duct, which carries bile to and from the gall bladder, and block the common bile duct, causing jaundice or pancreatitis.
- ❖ Gall bladder removal has some risks which can include:
 - ◊ Bleeding
 - ◊ Infection
 - ◊ Bile leak or bile duct stricture
 - ◊ Bowel injury
 - ◊ Need for reoperation and/or multiple endoscopies

Nerve and Joint Problems

- ❖ For your surgery we use specialized bariatric operating room tables. Despite this precaution, you may still have postoperative nerve, joint, and limb problems.
- ❖ You must take your vitamins and you must get follow-up labs as instructed by your physician.

Sleep Apnea

- ❖ If your sleep apnea is severe, you might require a ventilator during the first night.

Risks and Side Effects

Blood Clots

- ❖ Obesity, recent surgery, and immobility are risk factors for blood clots⁶.
- ❖ Clots may develop in your legs and in some cases, they may travel to your lungs and cause a pulmonary embolism, a very serious and potentially fatal complication.
- ❖ To prevent blood clots, patients have pumps or compression stockings placed on their legs in the operating room before the start of surgery. Some patients are also placed on a blood thinner such as Lovenox[®] or Heparin while they are in the hospital.
- ❖ **Walking after surgery is known to help prevent the formation of clots⁶.** Our nurses and physical therapists will help you get out of bed and get moving after your surgery.
- ❖ If you are currently using birth control pills or estrogen supplements, ask your surgeon if he or she wants you to stop using these medications prior to surgery. You may resume them after surgery. Use a barrier contraceptive to prevent pregnancy while you're not taking your birth control pill.
- ❖ **Symptoms of blood clots are calf pain and swelling, chest pain, shortness of breath, and blood in sputum. If you have symptoms of a blood clot, report them to your doctor immediately, or go straight to the nearest Emergency Room.**

Leaks and Infections

- ❖ Any part of the divided stomach, the small intestine, the connection of the small intestine to itself, or the pouch can leak.
- ❖ A leak can lead to a serious infection in your abdomen. This may need to be fixed with a reoperation requiring drainage tubes. This may be an open operation.
- ❖ Wounds can get infected. Wound management may require some additional outpatient doctor visits and dressing changes.
- ❖ If the Lap Band develops an infection at the port site, it's possible to change the port only. If the Lap Band gets infected at any time, it will need to be removed. This is usually performed laparoscopically.
- ❖ Pneumonia occurs infrequently. Use of an incentive spirometer after surgery, which will be provided to you in the hospital, will keep your lungs clear and reduce your risk of pneumonia.
- ❖ Stop smoking 1 month before your surgery to reduce the risk of healing and lung complications. Smoking after surgery can lead to ulcers. Ask your primary care doctor for advice on how to quit.

Bleeding

- ❖ The risk of significant bleeding, that which would require a blood transfusion, during or after your operation is estimated at 1.8 – 2.4%¹⁰.
- ❖ The risks associated with a blood transfusion include allergic reaction, immune reaction, and infections such as HIV, Hepatitis B, and Hepatitis C. Your likelihood of acquiring a disease from a blood transfusion is low but not zero.
- ❖ If you'd like to donate blood to bank before your surgery, call the Red Cross at 1-800-452-5663 1 month before your surgery to make arrangements. Your surgeon will write a prescription for your donation, and the Red Cross will coordinate with the hospital to make your blood available during surgery.
- ❖ You are responsible for arranging this donation, and you must call our office at 410.550.0409 to let us know you donated.
- ❖ After donating, you must take iron supplements three times per day.
- ❖ If you're severely anemic on the day of surgery, we will have to cancel your case.

Ulcers

- ❖ Ulcers are seen in 2 – 10% of post-operative gastric bypass patients⁷.
- ❖ Most of the time, ulcers are treatable with medication and time. Occasionally, a blood transfusion may be needed. If conservative treatment fails, an operation may be required, but this is infrequent.
- ❖ For prescription pain relief, consult with your physician.

Reoperation

- ❖ A reoperation may be required immediately after your operation if it appears you have an infection, leak, obstruction, or other serious condition.
- ❖ Reoperations are required infrequently.

Stomach and Bile Ducts

- ❖ There is no increased risk of gastric cancer reported in gastric bypass patients to date.
- ❖ Your partitioned distal stomach and your bile ducts will be much harder to access in the future.

Hernia

- ❖ In open procedures, hernias occur in about 7.9% of cases⁵.
- ❖ In laparoscopic procedures, hernias occur much less frequently, and they're smaller, since the laparoscopic incisions are smaller in size.
- ❖ Internal hernias occur less than 2% of the time and can cause bowel obstructions which might need to be fixed with surgery.
- ❖ If you have abdominal pain, call us. The potential risks of hernia include bowel obstruction or strangulation.

Adhesions

- ❖ An adhesion is a common but potentially serious risk of abdominal surgery where bands of tissue grow like internal scars and connect tissue surfaces that are normally separated.
- ❖ Adhesions can block your intestines and cause pain and vomiting.
- ❖ Adhesions occur less frequently in laparoscopic operations, but they're not entirely preventable. Adhesions can usually be fixed laparoscopically.

Vomiting

- ❖ Patients usually experience vomiting because they eat too fast and fill up their tiny new pouch too quickly. Listen to your body and slow down. Chew well and listen to what your body is saying. You don't want to stretch your pouch.
- ❖ After gastric bypass, vomiting can be caused 3 – 10% of the time by stomal stenosis or severe narrowing at the connection of the pouch to the intestine. This usually requires an outpatient endoscopy and one or more balloon dilations. Rarely, a reoperation is required.
- ❖ Occasionally, patients take months to adjust to their new stomachs and may require nutrition through their veins.
- ❖ In even rarer instances (less than 0.1%), a reversal of the operation is required because of continuous malnutrition or vomiting.
- ❖ Vomiting after the lap band may be due to a slip of the stomach through the band which will require a reoperation. This is seen in up to 10% of patients.
- ❖ If the pouch is dilated, you may need to have fluid removed from your band and rest.
- ❖ It's not normal to vomit often. Call us if you're vomiting! Vomiting can lead to dehydration, thiamine deficiency, and neurological problems.
- ❖ If you do vomit, think about what's causing it: are you eating too fast, are you eating too much sugar, solid food, or fat?

Chronic Nausea

- ❖ A few patients may have continued nausea past the first month.
- ❖ We are not able to predict who will have it and who won't.
- ❖ Medication may help.
- ❖ In some cases, intravenous nutrition or food through a temporary tube into the distal stomach may be necessary.
- ❖ Nausea almost always resolves itself.
- ❖ It's rare to have to reverse the procedure and in fact, this may not even help.
- ❖ You might not be able to work out or go to school until you feel better.

Constipation or Diarrhea

- ❖ Constipation is usually the result of low water intake. Increase the amount of fluid to help with constipation.
- ❖ Adding more fiber to your diet may also help.
- ❖ Diarrhea is infrequent with gastric bypass and the Lap Band.
- ❖ Diarrhea may be seen after the Duodenal Switch and can be foul smelling. This may require a revisional surgery in some cases.

Dumping Syndrome

- ❖ After gastric bypass, you won't be able to eat sweets, but NutraSweet® and Splenda® are ok.
- ❖ Dumping syndrome is a reaction that can occur after a meal high in carbohydrates. The food moves too quickly through the small intestine and you may experience nausea, a racing heart, lightheadedness, abdominal pain, weakness, and diarrhea.
- ❖ Dumping syndrome can help reinforce good eating principles after gastric bypass – don't try to beat it.

Special Issues with the Lap Band

- ❖ The band can erode through the stomach. In this case it will need to be removed and the stomach repaired.
- ❖ In some instances the band can cause the esophagus to dilate. In this instance we may need to let fluid out of the band and let the esophagus rest; in some cases the band will need to be removed.
- ❖ Heartburn or gastroesophageal reflux usually gets better after weight loss, but in some cases it may get worse.
- ❖ The band can break and need to be replaced or removed.
- ❖ If the port breaks, then usually only the port will need to be replaced.
- ❖ This is a mechanical device that is FDA-approved. That doesn't mean it's perfect and flawless!

Pregnancy

- ❖ A recent study shows that 1.5 years after weight loss surgery, pregnancy is less complicated than if one remains morbidly obese.
- ❖ Most women are more fertile after surgically-induced weight loss.
- ❖ You MUST use contraception before your surgery and for 18-24 months following the surgery. During this phase of rapid maternal weight loss, a fetus could experience severe disease or even death.
- ❖ After 18-24 months, discuss your desire to get pregnant with your obstetrician and your obesity surgeon. They can help you plan a safe pregnancy.
- ❖ Stay on your vitamins!

Severe Complications

- ❖ Heart attack and stroke risk depend on your individual risk factors. You should discuss this with your primary care provider and your surgeon.
- ❖ The risk of death from a gastric bypass is around 0.6%⁸, but if you have a serious heart or lung disease, the risk can be higher. Usually, the more you need to lose weight, the more risk the procedure carries.
- ❖ Splenectomy is a risk but it's unlikely unless there has been a previous stomach surgery with has created scar tissue.

Life After Surgery

The Post-Operative Diet

- ❖ Your Patient Resources binder, which you'll receive during your clinic visit, contains post-operative diet information specific to your procedure. You can also download this information from the "Resources" section of our website: www.hopkinsbayview.org/bariatrics.
- ❖ During your first post-surgical month, you'll be on a liquid/puree diet. This is to help your stomach heal and to prevent complications. It will be a challenge, but stick to it and be creative!
- ❖ After the first month you can proceed to a soft foods diet. After 2-4 weeks of the soft food diet, you can gradually introduce more food choices.

Fluids

- ❖ Make sure you get enough water each day to remain hydrated. Drink at least 6-8 glasses (48-64 oz) of fluid per day. Liquids should be sipped in between meals. Liquids taken with meals can cause nausea, vomiting, or dumping.
- ❖ If your urine is concentrated or you're urinating infrequently, you're dehydrated.
- ❖ At first, you will need to drink very slowly since your pouch is still small and swollen.
- ❖ You MUST stop drinking when you feel full. Do not overfill, or you'll stretch your pouch.

Fruit Juice

- ❖ Avoid fruit juice after the first month, even if it's organic or natural.
- ❖ Fruit juice has too many calories and it's like sugar sodas which you cannot drink at all.

Protein

- ❖ Be sure to consume enough protein or your body will consume your muscle to meet its daily protein needs.
- ❖ Most patients need 60 – 80 grams of protein per day. Protein should be consumed first at each meal, then vegetables, then whole grains.
- ❖ During the first few months after surgery, use protein drinks to supplement your dietary needs.
 - ❖ Look for drinks made with whey protein isolate, which is absorbed well
 - ❖ Strive for a protein drink with at least 20g protein per serving
 - ❖ Mix with skim milk for an additional 8g of protein per serving
 - ❖ Aim for a product with less than 3g of sugar per serving
- ❖ Track your protein intake so you can report it at follow-up.
- ❖ After your first post-surgical month you can decrease your use of protein drinks. These drinks do have calories which will contribute to weight gain if you overdo it while also on a solid diet.

Vitamins

- ❖ Each day you will need:
 - ❖ A multivitamin – one chewable multivitamin twice a day for the first month, then switch to one adult multivitamin or prenatal vitamin per day.
 - ❖ Calcium – take 1200mg of calcium citrate per day. Your calcium supplement must contain at least 200 IU Vitamin D.
 - ❖ Vitamin B12 – take 500mcg sublingual tablet once a day, or 1000mcg sublingual tablet every other day.
- ❖ Duodenal switch patients will need iron and vitamins A, D, E, and K supplementation.
- ❖ Tips:
 - ❖ Take all vitamins separately to increase their absorption.
 - ❖ Take iron and calcium at least 2 hours apart.
 - ❖ Don't take calcium or iron with a dietary calcium source.
 - ❖ Don't take vitamins with coffee or tea.

Failure

- ❖ Up to 10% of gastric bypass patients will not achieve greater than 40% excess weight loss. However, most will still be successful at reducing their medical problems.
- ❖ Chips, buttered popcorn, and other non-nutritious calories need to be removed from your house. You can't graze on these food products which will move through your pouch too quickly.

Revision

- ❖ Gastric bypass patients who fail to lose enough weight (approximately 10%) can consider increasing the length of the Roux limb for more malabsorption.
- ❖ Lap band patients who fail to lose enough weight can have the band removed and convert to a gastric bypass or duodenal switch, which can usually be done laparoscopically.
- ❖ Approximately 6% of Biliopancreatic Diversion with Duodenal Switch patients need a revision of the intestinal length due to too much weight loss or too much diarrhea.
- ❖ Some of these patients may need reversal.
- ❖ These patients may need to be on nutrition by vein injection before the revisional surgery.

Reversal

- ❖ Reversal is very rare in gastric bypass patients, but it can be done.
- ❖ Reversal can be difficult due to scar tissue.
- ❖ It's very rare for a patient to lose too much weight and need a reversal.

Follow-Up

- ❖ Follow-up care is very important after bariatric surgery. After the procedure, you will need to return to see the surgeon at least:
 - ❖ 2 weeks after surgery
 - ❖ Every 3 months after surgery for the first year
 - ❖ And then annually
- ❖ All patients should call our office or visit the emergency room with any abdominal problems.
- ❖ Let our office know if you're having any lower chest or abdominal problems such as pain, nausea, or vomiting.

“Except for smoking, obesity is now the number one preventable cause of death in this country. Three hundred thousand people die of obesity every year.”

- Dr. C. Everett Koop, former U.S. Surgeon General

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Understanding Risks and Complications

I have read and understand the contents of this PowerPoint presentation about bariatric surgery. I realize that this in no way represents a complete understanding of all bariatric surgery, nor does it go into full detail about every operation and its possible complications. I do understand that I may ask questions at anytime about the risks associated with bariatric surgery. I also understand that new information and studies are continuously being presented, and that the information given on the Johns Hopkins Center for Bariatric Surgery's website may change in the future.

Patient's Signature

Date

Patient's Name, Printed