

Your Guide to Bariatric Surgery





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Welcome to the BayCare Comprehensive Bariatric Surgery Program

This guide will help you learn more about weight loss surgery and how to move toward weight loss success. Learning as much as you can about your digestive system and your surgical procedure will help you play an active role in your recovery. Please read this entire guide before your surgery and bring it with you when you come to the hospital for your procedure. Review any questions with your doctors, nurses, dietitian, fitness expert or bariatric program manager. They'll answer questions and help you and your family on your weight loss journey.

This guide is for information only. It shouldn't be considered a substitute for medical advice.

Meet Your Team

At the hospital, your surgeon is supported by a strong and talented team. These team members will help you prepare for surgery, make your hospital stay as comfortable as possible and help you recover as quickly as you can. Members of your team include:

Internal Medicine

Specialist/Hospitalist (Physician)

A medical doctor may follow your care and manage your conditions during your hospital stay.

Nurses

Licensed nurses will help coordinate your activities and provide your care. Along with your bariatric program manager, your nurse will be in charge of your personal care, pain management and discharge planning. The registered nurse (RN) and licensed practical nurse (LPN) wear royal blue or white scrubs.

Bariatric Program Manager

Your bariatric program manager coordinates your preoperative appointments and care and helps guide you through the surgery process. Your program manager will also help coordinate your care while you're in the hospital and will assist you and your family during your hospital stay.

Nurse Manager

Registered nurse managers will oversee your care while you're in the hospital. Your satisfaction is very important to them. Don't hesitate to contact the appropriate manager for any reason. Nurse managers wear royal blue or white scrubs with a white lab jacket.

Patient Care Leader (PCL)

This is a specialized nurse who will help coordinate your care with your doctor, primary nurse and other health care professionals. They wear royal blue or white scrubs.

Patient Care Tech (PCT)

The patient care tech works under the direction of an RN or LPN. They take your vital signs and assist you with activities such as bathing or getting to the bathroom. The PCT wears dark green scrubs.



My Bariatric Team

Bariatric Surgeon:

Physician Assistant:

Bariatric Surgery Coordinator:

Bariatric program manager:

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My Life Goals After Surgery

I want to be able to enjoy:

1. _____

2. _____

3. _____

How to Get Here



Tobacco-Free Campus

To promote a healthy lifestyle, BayCare hospitals are tobacco free and there are no smoking areas. Studies have shown that smoking negatively impacts healing, including the internal healing necessary with weight loss surgery. If you or a loved one smokes, you might

want to consider stopping prior to surgery. If you need a nicotine patch during your hospital stay, let your physician know and one will be ordered. Free resources include QuitNow at QuitNow.net/Florida or (877) U-Can-Now (877-822-6669).

The Normal Digestive System

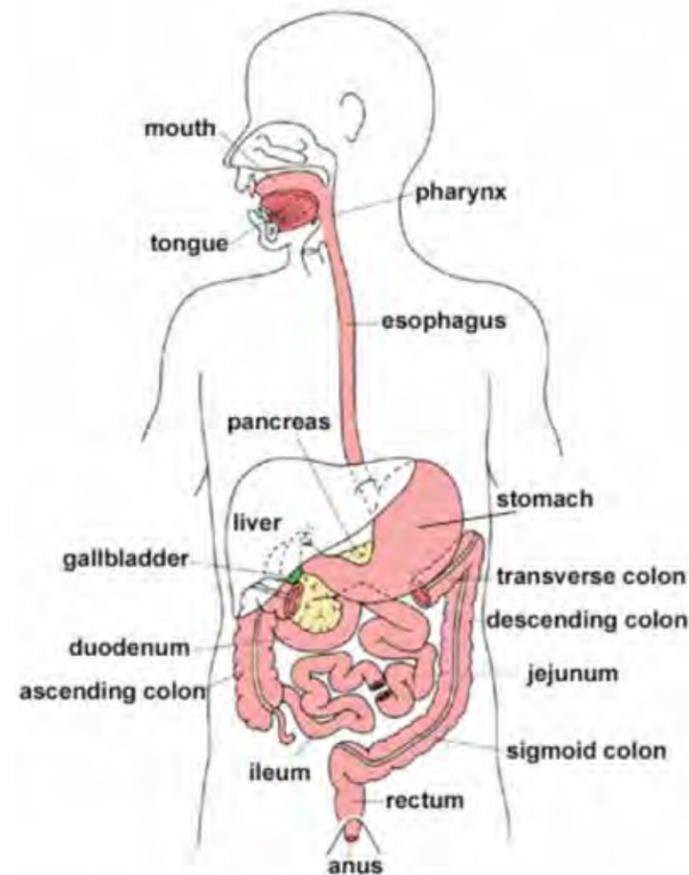
The digestive system is a group of organs that work together to convert food into energy and help basic nutrients feed the entire body. Food passes through the alimentary canal or the gastrointestinal (GI) tract. The alimentary canal is made up of the oral cavity, pharynx, esophagus, stomach, small intestines and large intestines. There are also several important accessory organs that help your body digest food, but food doesn't pass through them. Accessory organs include the teeth, tongue, salivary glands, liver, gallbladder and pancreas. To provide energy and nutrients to the body, six major functions take place in the digestive system: Ingestion, secretion, mixing and movement, digestion, absorption and excretion.

Digestive System Anatomy

Mouth: Food begins its journey in the mouth. Inside the mouth are many accessory organs that aid in the digestion of food—the tongue, teeth and salivary glands. Teeth grind food into small pieces, which are moistened by saliva before the tongue and other muscles push the food into the pharynx.

Pharynx: The pharynx, or throat, is a funnel-shaped tube connected to the far end of the mouth. The pharynx passes chewed food from the mouth to the esophagus. It also plays an important role in the respiratory system, as air from your nose goes through the pharynx on its way to the lungs. Because the pharynx does two different things, it contains a flap of tissue known as the epiglottis that acts as a switch in sending food to the esophagus or air to the larynx.

Esophagus: The esophagus is a muscular tube connecting the pharynx to the stomach. It carries swallowed masses of chewed food to the stomach. At the end of the esophagus is a muscular ring called the lower esophageal sphincter, which closes the end of the esophagus and traps food in the stomach.



Stomach: The stomach is a muscular sac that's located on the left side of the abdominal cavity, near the diaphragm. In an average person, the stomach is about the size of two fists placed next to each other. This major organ acts as a storage tank for food so that the body has time to digest properly. The stomach also contains hydrochloric acid and digestive enzymes that continue the digestion of food that began in the mouth.

Small intestine: The small intestine is a long, thin tube about 1 inch in diameter and about 10 feet long. It's located near the stomach and takes up most of the abdominal cavity. The small intestine is coiled like a hose, and the inside surface is full of ridges and folds that digest food and absorb nutrients.

Liver and gallbladder: The liver is a triangular organ located to the right of the stomach, near the diaphragm and the small intestine. It weighs about three pounds and is the second largest organ in the body. The liver's main function is the production of bile. The gallbladder is a small, pear-shaped organ located near the liver. The gallbladder is used to store and recycle excess bile from the small intestine so that it can be reused for future food digestion.

Pancreas: The pancreas is a large gland located near the stomach. It's about 6 inches long and shaped like a short, lumpy snake. The pancreas emits digestive enzymes into the small intestine to complete the chemical digestion of foods.

Large intestine: The large intestine is a long, thick tube about 2 inches in diameter and about 5 feet long. It's located near the stomach and wraps around part of the small intestine. The large intestine absorbs water and contains bacteria that helps break down waste. Waste in the large intestine leaves the body through the anal canal.

Digestive System Physiology

The digestive system is responsible for turning food into energy and nutrients. There are six main processes of the digestive system:

- Ingestion (eating)
- Secretion of fluids and digestive enzymes
- Mixing and movement of food and wastes through the body
- Digestion of food into smaller pieces
- Absorption of nutrients
- Excretion of wastes

Ingestion (eating): The mouth is responsible for this function. The mouth and stomach are also responsible for the storage of food as it waits to be digested.

Secretion: During the day, your digestive system produces approximately seven liters of fluid. These fluids moisten dry food, serve as a protective barrier and lubricant, help protect the body by killing bacteria and combine large amounts of food for easy digestion.

Mixing and movement: The digestive system uses three main processes to mix and move food:

- Swallowing: Uses muscles in the mouth, tongue and pharynx to push food out of the mouth, through the pharynx and into the esophagus
- Peristalsis: A muscular wave that travels the length of the GI tract, moving partially digested food. It takes many waves for food to travel from the esophagus, through the stomach and intestines, to reach the end of the GI tract.
- Segmentation: Short segments of the small intestine contract to mix food and increase absorption of nutrients

Digestion: Digestion is the breakdown of large pieces of food into smaller pieces. This begins with the chewing of food by the teeth, is continued through mixing of food by the stomach and intestines, and the food is broken down by chemicals throughout the other organs.

Absorption: Once food has been broken down, it's ready for the body to absorb. Absorption begins in the stomach, with simple molecules like water and alcohol being absorbed directly into the bloodstream. Most absorption takes place in the walls of the small intestine. Small blood and lymphatic vessels in the intestinal wall pick up the molecules and carry them to the rest of the body. The large intestine is also involved in the absorption of water and vitamins B and K before feces leave the body.

Excretion: The final function is the excretion of waste in a process called defecation. Defecation removes indigestible substances from the body so that they don't accumulate. Defecation is controlled by the conscious part of the brain, but must be done on a regular basis.

Taylor, T. (n.d.). Digestive System. InnerBody. Retrieved March 30, 2014, from Innerbody.com/image/digeov.html#full-description.



The Role of Ghrelin and Leptin The Importance of Sleep

Ghrelin

Ghrelin is a hormone which helps ensure that the body gets enough food. This hormone may also work against the body—it can encourage eating more food than required to meet your individual nutritional needs. This typically results in weight gain.

Leptin

Leptin is a hormone that helps us turn off our hunger signals when our body is properly fueled. When leptin levels are low, the body has difficulty turning off hunger signals. This typically results in weight gain.

According to a recent scientific study, poor sleep results in weight gain and an increased incidence of obesity. Poor sleep may also be a factor in diabetes, certain cancers, high blood pressure and premature death.

Sleep Apnea and Surgery

Immediately after surgery, it's common to continue to feel the effects of the anesthesia used during surgery. You may experience shallow breathing—postoperative pain and the medications used to treat it also contribute to this. If you have sleep apnea, you already experience breathing issues. The combination of postoperative anesthesia with sleep apnea is very dangerous. Bring your CPAP equipment with you to the hospital. It's vital that you use your CPAP equipment before and after surgery.

Still, C., Sarwer, D., and Blankenship, J. (2014). *The ASMBS Textbook of Bariatric Surgery* (Vol. 2: Integrated Health, p. 127). New York: Springer.

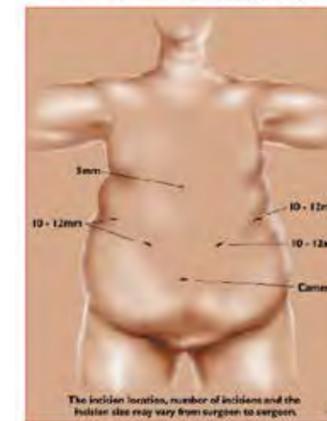
Weight Loss Surgery Options

All surgeries are done laparoscopically, which means the surgeon makes several small incisions on the abdomen. Using a scope and long instruments, the surgeon and the surgical team can clearly see what they're doing on large television screens, which are connected to the scope with a camera.

Advantages:

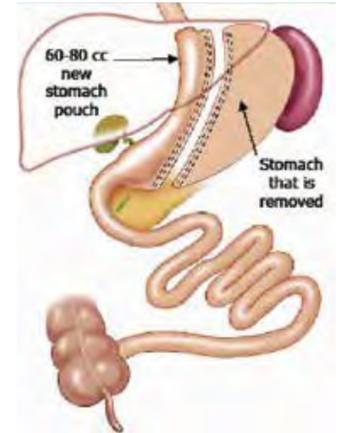
- Fewer wound complications
- Lower chance of infection
- Lower chance of herniation
- Less pain and faster recovery
- A better view of your anatomy for the surgeon

Incisions for Laparoscopic Weight Loss Surgery



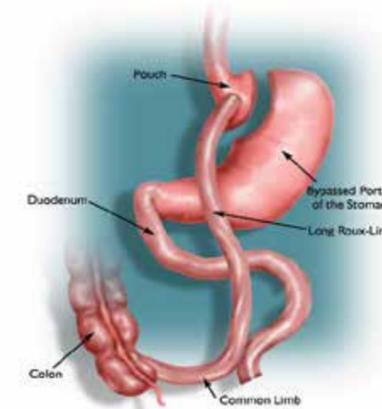
Gastric Sleeve

This option helps you lose weight by making your stomach smaller and by changing the way your hormones interact with your digestive system. Because the surgeon removes at least two-thirds of your stomach, including the part where most of the hormone ghrelin is made, you won't be hungry. You'll feel full after eating a very small amount. In addition, this surgery also will lower your body's "set point," making it easier for you to lose weight and maintain your weight loss.



Gastric Bypass

This option helps you lose weight by changing how your stomach and small intestine handle food. After surgery, your stomach will be smaller and you'll feel full with less food. The food you eat will no longer go into some parts of your stomach and small intestine. Because of this, your body won't absorb all the calories or nutrition from the food you eat. This surgery also will lower your body's "set point," helping you lose weight and maintain your weight loss.



Medical History and Physical Exam

No surgical procedure can take place until we review your overall health and medical history. The surgeon also needs to ensure that you're healthy enough to undergo surgery. Your primary care physician will need to provide a letter of medical clearance and your surgeon will examine you to determine your current health status.

You may be directed to continue taking any medications until the day of your surgery. Or you may need to stop taking certain medications before surgery. Talk with your doctor about which medications to take and which to stop. It's very important that you tell your doctor about all medications you take, prescription or over-the-counter. Aspirin products and medications such as ibuprofen (the active ingredient in Advil and Motrin), naproxen (Aleve), and aspirin (Excedrin) may need to be stopped several days before your surgery and not be taken after your surgery due to possible stomach irritation. This may also be true for diet pills and vitamin E, and herbal supplements such as echinacea, ephedra, garlic, ginkgo, ginseng, kava and St. John's Wort.

Insurance Coverage

Health care benefits are constantly changing. It's important for you to understand your benefits before having surgery. Call your insurance company or review your benefits with your surgeon's office and/or program manager prior to surgery to find out if you have weight loss surgery coverage.

Health Care Directives

A health care directive (also known as a living will) gives the person of your choice the power to act on your behalf during any medical emergency. This document is used to ensure that your wishes are followed even if you can't communicate them. A health care directive goes into effect when:

- You're in a coma or near death
- You can't communicate your wishes through speech, in writing or by gestures

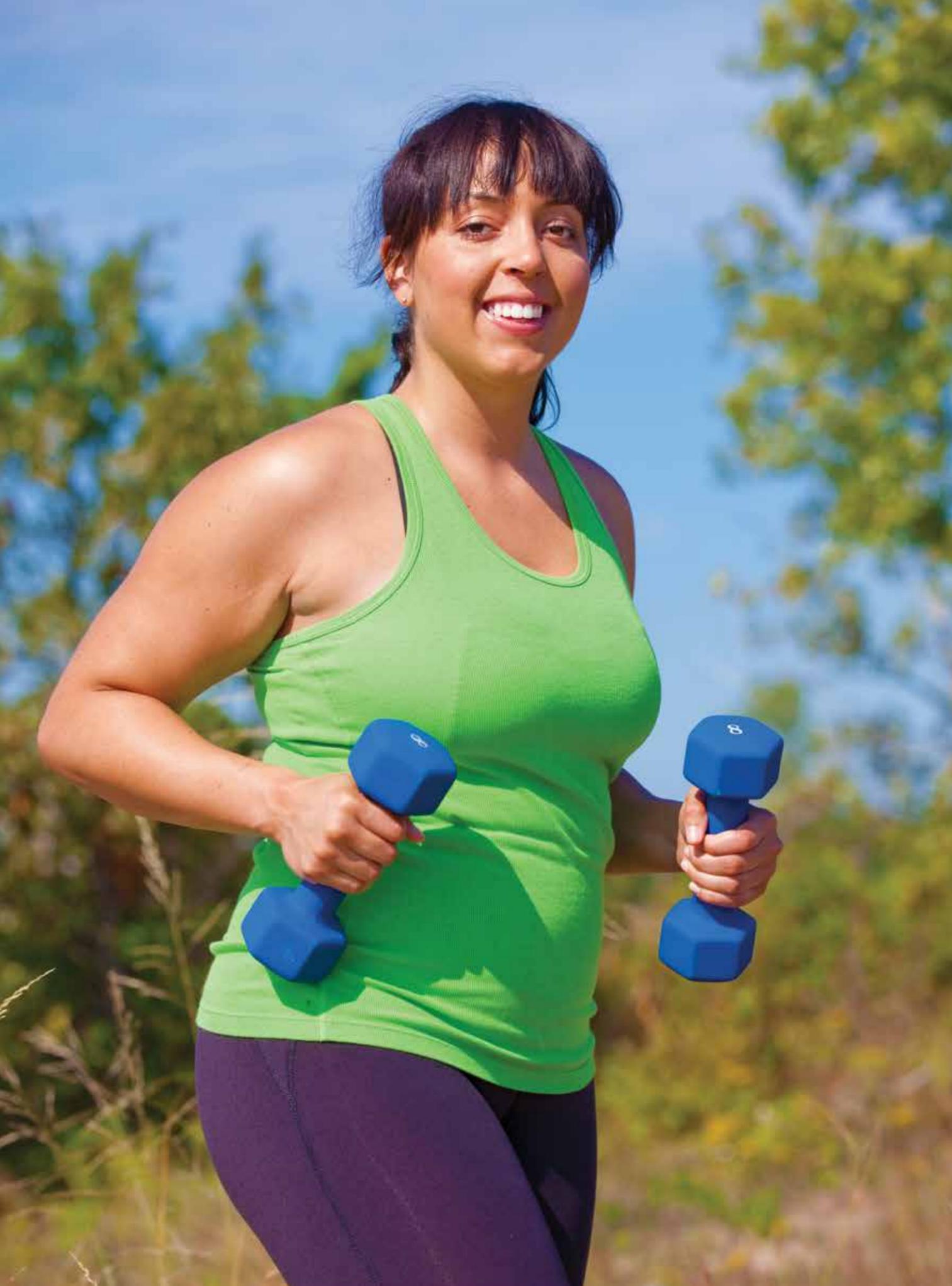
If you don't have a living will, you may request one when you're admitted to the hospital. Ask an admissions representative for a living will form. Since the medical team must know of your health care directives, bring a copy of your living will to the hospital with you and it'll become part of your records.

Discharge Planning

Typically, the hospital stay for bariatric surgery is one to two nights. However, there may be a situation when you might need to stay longer. We'll work with you to develop a discharge plan so that you can make arrangements before surgery. General discharge goals include the ability to drink an adequate amount of fluids, move around with little assistance, urinate, indicate that your bowels are moving (passing gas or bowel sounds), and adequate pain control (on a 0–10 scale, your pain should be at a 5 or below), and a good understanding of your nutrition plan.

Home Health Care

Although this isn't typical, some patients may need assistance beyond what family and friends can provide. Home health workers can help. BayCare can supply home health care workers who are specially trained in weight loss surgery to help you walk, regain strength and complete daily tasks. They also monitor your condition and safety.



Preparing for Your Return Home

Homecoming should be a joyful experience. Remember that although you still look like you, your body has changed. You may feel afraid or anxious on how to manage your new body. You can also experience excitement, sadness, grieving or other mixed emotions, which may surprise you. You may even feel regret at your decision to have surgery. This is normal and should get better. If you need help dealing with your feelings, contact your surgeon's office or program manager. Some things to consider before you're discharged:

- Review the Nutrition Advancement Guide for Metabolic and Bariatric Surgery that was given to you during your visit with the dietitian.
 - Keep several canisters of whey protein isolate on hand in assorted flavors, including unflavored.
 - Have sugar-free drinks available, such as Crystal Light, in your favorite flavors.
 - Clean out your cabinets, removing any food items that may be difficult for you to keep from eating.
 - Purchase measuring cups and a small food scale to help you to portion your foods.
 - Be sure to purchase chewable bariatric vitamins.
- If you're an emotional eater, you may find yourself replacing food with other unhealthy habits. Ask for help even if you aren't sure you need it.
- Medications
 - Be sure that all your medications can be broken or crushed and taken one at a time. If they're coated for your stomach or are time-release pills, they may NOT be broken or crushed. If they're 1mm size (the size of a Tic-Tac mint) or smaller, they may be swallowed whole. If your medications are available in a liquid form, you may ask your doctor to prescribe them that way before your surgery. Call your pharmacist with any questions regarding your medications.
 - Purchase liquid Tylenol in adult strength. You may not take ibuprofen or aspirin as these may harm your stomach lining. If your prescription pain medication contains acetaminophen (Tylenol), do NOT use any other form of acetaminophen (Tylenol) while taking it.

What to Pack

Bringing a few items from home can make your hospital stay more comfortable. We suggest you bring:

- Nonskid, closed-heel-to-toe slippers or sneakers for walking
- A toothbrush, toothpaste, mouthwash or denture supplies
- A comb or hairbrush
- Shaving supplies or cosmetics

Bring no more than \$5 cash to the hospital and leave jewelry and other valuables at home. We prefer that you wear a hospital gown rather than your own nightgown or pajamas. We supply plus-sized gowns for your comfort.

The Day Before Your Surgery

- Follow your anesthesia instructions regarding eating and drinking. Your surgery may be delayed or cancelled if you don't follow these instructions.
- Report any changes in your condition to your physicians. Some problems may require postponing your surgery. These include a sore throat, a cold, a fever, dental problems, difficulty urinating and skin conditions such as rashes or abrasions.

The Morning of Your Surgery

- If you've been instructed to take medication in the morning, swallow them with only a small sip of water. DO NOT drink or eat anything unless instructed by your surgeon.
- Bathe or shower.
- Allow plenty of time to arrive at the hospital as directed.
- If you use a CPAP or BiPAP, **you must bring it to the hospital.** Failure to do so may delay your surgery.



At the Hospital

Being in the hospital may be an unusual experience for you. This list may help you understand the hospital routine.

- When you arrive, you'll meet with a nurse. He/she will help review what you can expect before and after surgery.
- You'll receive a hospital gown and a bag for your clothes and belongings.
- You'll be admitted to the presurgical area. Friends and family members may wait with you. A nurse will take your vital signs and ask you questions to prepare you for surgery.
- You'll be wheeled on a stretcher to the surgery holding room, where you'll be introduced to your surgical team. Your friends and family will be shown to the waiting area outside the operating room. While you're in the holding room, an intravenous (IV) line will be started. You'll get medication through the IV to make you feel relaxed and comfortable.
- You'll then undergo surgery. The amount of time can vary in length. The actual operation is only one part of your time in the operating room. The rest of the time is spent preparing you for surgery.

- After the procedure, you'll be taken to the Post-Anesthesia Care Unit (PACU) until you wake up, usually one to two hours. During this time, your surgeon, nurse and/or program manager will talk with your family and friends.
- The anesthesiologist and recovery room nurse will care for you as you awaken. You may wake up with an oxygen mask or, if you use a CPAP, you may find that it's been placed on you. You might experience dry mouth, blurred vision, chills or pain. Your nurse will monitor your vital signs and make you as comfortable as possible.
- When you're fully awake and medically stable, you'll be transferred to the Medical/Surgical floor where you'll be in a bariatric-friendly room.

Keeping You Safe

Keeping you safe is our top priority. We'll regularly ask you to identify yourself by stating your name and birth date and we'll compare it to your identification armband. This makes sure that we provide you with the right treatment, tests and medications. One of our goals is to prevent the spread of infection. Your health care team will wash their hands with soap and water or use alcohol gel before and after they see you. If you have concerns that your health care provider hasn't washed his or her hands, please speak up and let them know. Your doctor will also order IV antibiotics before and sometimes after your surgery to help prevent surgical site infections.



About Anesthesia

Anesthesia is a type of medication that causes you to lose sensation so that you feel no pain. For weight loss surgery, you must have general anesthesia. This type of anesthesia acts primarily on the brain and nervous system and eliminates sensations of pain. General anesthesia is administered by injection into your IV or by inhaling it. Your level of sleep is closely monitored to ensure that you won't wake up during the operation. An anesthesiologist or certified registered nurse anesthetist will give you anesthesia. Your doctor or nurse will evaluate your medical status and discuss the anesthesia process with you before the surgery.

Managing Your Pain

Although most patients who undergo weight loss surgery have minimal pain (less than 5 on 0-10 scale), all patients have the right to pain management. Treating pain is an important part of your care and recovery. Only you can describe the type and degree of pain you're having. The pain caused by surgery may be more severe at first, but it'll ease as your body heals. A common area for pain is in your shoulder area. The carbon dioxide gas put into your abdominal cavity during surgery causes this. Moving around may help this pain, as well as an anti-gas medication. If you had a hiatal hernia repair during your surgery, your shoulder pain may be more severe and last longer.

We expect that you'll:

- Assist your team in measuring your pain. Your nurses will ask you to rate your pain on a scale in addition to checking your level of sleepiness, vital signs, etc.
- Discuss pain relief options with your team to develop a plan for pain management.
- Ask for pain relief when pain first begins and before any activity that might cause pain.
- Tell your team about any worries you have about taking pain medications.

Measuring Your Pain

To help measure your pain, we'll ask you to rate it before and after a dose of pain medication. You'll rate your pain on the 0-10 pain scale below:



Pain Medications

There are different methods by which we give you medications to treat your pain.

IV: Dilaudid, morphine and fentanyl are the most common pain medications used after surgery.

Oral: Once you're cleared to begin the bariatric sugar-free clear liquid diet and you're able to tolerate the diet, you'll be given an oral medication for home pain relief. If your medication contains Tylenol, **DO NOT** take any additional Tylenol once you're home.

The most common side effects associated with narcotics used for pain include:

- Decreased respirations/breathing
- Drowsiness
- Nausea/Vomiting
- Dizziness
- Constipation
- Rash
- Itching
- Dry mouth
- Decreased appetite

In order to prevent excessive bleeding as well as irritation of your stomach, avoid taking Advil, Aleve, Anacin, aspirin, ibuprofen, Indocin, Mobic and Motrin. If you feel you need to take these drugs, talk to your surgeon. You may take acetaminophen (Tylenol) in a liquid form. **Don't take Tylenol along with the prescription pain medication given to you by your surgeon, as this may already contain Tylenol.**

Preventing Complications

After surgery, your body is weak and at a greater risk for infection and other health problems. You and your caregiver can help reduce the chance of postsurgical complications.

- Nurses will measure your blood pressure, temperature and pulse.
- To improve your circulation and strength, walking is encouraged.
- When in bed, wear the compression leg wraps given to you before your surgery.
- Use your incentive spirometer each hour while you're awake. Also, perform deep breathing and coughing exercises.

- Your incisions/dressings/drain (if present) will be checked regularly.
- You'll have an IV. It's important that you're able to drink fluids without difficulty before it'll be removed.

Postoperative Respiratory Exercises

An incentive spirometer is a device that helps with lung expansion - expanded lungs are healthier lungs. Taking slow, deep breaths and coughing periodically will help keep your lungs clear. Use your incentive spirometer every hour while you're awake. If you feel lightheaded or dizzy, you may be overdoing it. Stop and rest. Resume deep breathing when you feel better.

Using an Incentive Spirometer

Exhale completely and close your lips tightly around the mouthpiece. Inhale slowly and deeply, keeping the small blue ball between the two arrows. When you can't inhale anymore, hold your breath for six seconds, then exhale slowly. Repeat as often as prescribed by your doctor.



How to Use an Incentive Spirometer

Patient Care Plan – Gastric Bypass and Gastric Sleeve

Day of Surgery

Activity plan

A nurse or patient care tech will help you get out of bed to sit in a chair and walk in the hallways. You'll also be encouraged to move from side to side.

Diet

- You'll begin the bariatric sugar-free clear liquid diet.
- No straws or carbonated drinks.
- You'll be given small sips of water and a journal to write down your fluid intake. You'll drink 1 ounce every 30-60 minutes depending on your surgeon's orders.

Pain control

- Use the pain scale.
- Tell your nurse if you have side effects from your pain medication.
- Sometimes pain medication causes nausea. Tell your nurse if you experience this so they can give you an anti-nausea medication through your IV.

Breathing exercises

- Ten times each hour you should:
 - Cough
 - Take deep breaths
- Use the incentive spirometer.
- Be sure to use your CPAP machine while napping or sleeping if you have sleep apnea.

Other equipment in your room or attached to your body may include:

- An IV
- Compression devices on your legs
- Possibly a drain in your abdomen
- Equipment for taking vital signs

Things to report to the nurse

- Increase in pain
- Nausea or vomiting
- Drainage from your incision site
- Sudden onset of shortness of breath
- Any other concerns you may have

First Day After Surgery and Remainder of Stay

Activity plan

- A nurse or patient care tech will help you get out of bed.
- You'll continue to walk in the hallways.
- You'll be helped into the bathroom for grooming.

Diet

- You'll continue the bariatric sugar-free clear liquid diet.
- Continue to take small sips of water and write down your fluid intake. You'll be instructed to drink 1 ounce every 30 or 60 minutes, depending on your surgeon's orders.
- You must be able to drink fluids without vomiting before you can be released from the hospital.
- You'll drink only bariatric, sugar-free clear liquids for the next two days after surgery. Follow the nutrition advancement guide.

Pain control

- Use the pain scale.
- Use pain medications as needed.
- Tell your nurse if you have side effects from your pain medication.
- Sometimes pain medication causes some nausea. Tell your nurse if you experience this so they can give you an anti-nausea medication through your IV.
- When you're able to drink fluids without nausea or vomiting you'll be given a liquid pain medication by mouth.

- Common side effects of narcotic pain medications include:
 - Nausea/vomiting/dizziness
 - Constipation
 - Rash/itching
 - Dry mouth
 - Decreased appetite
 - Decreased breathing

Things to report to the nurse

- Increase in pain
- Nausea or vomiting
- Any drainage at your incision sites
- Sudden onset of shortness of breath
- Any other concerns you may have

Discharge plan

- Most patients go home the first or the second day after surgery.
- Discharge education:
 - Pain management
 - Diet advancement
 - Wound care
 - Activities and restrictions
 - Medications
 - Follow up

When Can I Go Home?

A smooth and speedy recovery depends on you following your patient care plan. By strictly following this plan, you'll have a better chance of leaving the hospital on your scheduled day. The type of procedure you have and your general recovery will determine your length of stay. Your surgeon and bariatric manager will review this with you.

Discharge Instructions – Gastric Bypass/Sleeve

Wound care

- Your incision will be covered with surgical glue that will dissolve in two weeks. **Don't apply any ointments or hydrogen peroxide to the incision.**
- You may shower 24 hours after surgery.
- Don't soak in a bathtub, swimming pool or hot tub until your doctor approves.

Activity restrictions

Begin to walk as soon as possible after surgery. Move around the house and use the stairs at home during the first week. If it hurts to do any activity, stop doing it. You should be able to resume most of your usual activities in four to eight weeks. Until then:

- Don't lift anything heavier than 10–15 pounds until your doctor approves. Don't do any activities that involve pushing or pulling.
- You may take short walks inside or outside and you may go up and down stairs.
- Don't push yourself too hard. Increase activity slowly.
- If you're taking narcotic pain medication, **DON'T** drive or use machinery because these medications may make you drowsy.
- If you have pain in your stomach, try moving around. This may help.
- If you need to cough or sneeze, hold a pillow firmly over your stomach for support. You should be able to start exercising regularly six weeks after surgery, if your doctor approves.

Diet

Refer to the Nutrition Advancement Guide for Metabolic and Bariatric Surgery that you received before your surgery. You can request an electronic copy before leaving. Some reminders:

- Stop sipping liquids as soon as you feel full. Never force yourself to finish.
- Amounts: Your goal is to consume at least 32 ounces of fluids each day, one to two ounces every 30 minutes.

Signs and symptoms to report

- Temperature above 101°F
- Incisions are bleeding, red or warm to the touch, or have a thick, yellow, green or milky drainage
- Pain that your pain medication isn't helping
- Can't drink or eat or you're vomiting after eating or drinking
- Your skin or the white part of your eyes turns yellow
- Stools are loose or you have diarrhea
- Shortness of breath and/or worsening chest pain or pain in your leg
- A rapid heartbeat

Dumping syndrome (gastric bypass)

Symptoms of dumping syndrome can occur during your meal or to up to one to three hours after eating. Early symptoms (during a meal or up to 15–30 minutes following a meal) may include nausea, vomiting, abdominal pain, cramps, diarrhea, dizziness, lightheadedness, bloating, belching, fatigue, heart palpitations and rapid heart rate. Later symptoms (one to three hours after eating) may include diarrhea, dizziness, lightheadedness, fatigue, heart pounding, rapid heart rate, sweating, weakness, shakiness, feelings of anxiety, nervousness, fainting, mental confusion and low blood sugar (hypoglycemia). To avoid dumping syndrome:

- Avoid sugar and high carbohydrate food
- Don't overeat or drink with meals

Pain management

- Don't hesitate to take pain medication prescribed by your doctor.
- Don't take ibuprofen (Advil, Motrin), naproxen sodium (Aleve) and aspirin (Excedrin) as these may harm the lining of your stomach. Talk to your doctor if you feel you need to take these drugs. You may take acetaminophen (Tylenol).

Follow-up appointments

- You'll have several visits with your doctor in the first year after surgery. You may also see your dietitian and program manager.
- Strongly consider enrolling in the *Success* program to help to ensure weight loss success.

- You'll likely have a visit with your doctor in the first month after surgery. Your doctor will check your wounds and see how your diet is going.
- After this, your visits will probably be every one to two months.
- Your goal for weight loss will be approximately two to four pounds a week.

Special instructions

Exercise and support groups are very important to your success in losing weight and keeping it off. It's suggested that you attend a weight loss support group session once a month. In this group, you'll continue to learn how to manage your new ways of eating, your new body and the changes in relationships that you may encounter. Visit BayCareWeightLoss.org or contact your program manager for more information or for a support group schedule.

Management of Postoperative Complications

Airway Obstruction

All patients are encouraged to **keep the head of the bed elevated** after surgery. If you have sleep apnea and use a CPAP machine, **be sure to bring your CPAP machine to the hospital on the day of surgery.** CPAP will be applied immediately after surgery when you wake from anesthesia. Respiratory therapy will also consult with you to make sure everything is working correctly.

Bleeding

Internal bleeding is a rare but serious complication after surgery. Signs and symptoms include heart rate over 120 beats per minute, fever and belly distention. For gastric bypass and sleeve gastrectomy, your blood is tested for type as a standard admission procedure in the event a blood transfusion is needed.

Bypass Leak

A leak can occur at the site where the intestines are connected to the new stomach pouch. This is a rare but serious complication of gastric bypass surgery. Follow a nutrition plan as instructed to lessen the stress to the suture site. Signs and symptoms include unexplained increased heart rate over 120 beats per minute and left shoulder pain.

Deep Vein Thrombosis (DVT)

Blood clots can form in your legs as a result of surgery and decreased activity. Medical prevention consists of compression therapy to your legs and medication (lovenox or heparin) during your hospital stay to prevent clots. **Walking as soon as possible after surgery** will improve circulation and help prevent blood from pooling in your legs. Signs and symptoms include a calf that's swollen and warm to the touch.

Emotional Changes

Be prepared for emotional ups and downs after you go home from the hospital. If these feelings continue or get worse, contact our office.

Esophageal Spasms (Bypass)

Some patients will experience an occasional tightness and pain in the upper abdomen and lower chest, just below the breast bone. The pain can last from one hour up to a full day. **The pain doesn't radiate to the left arm.** Esophageal dilation may occur if your pouch is too full; it's not dangerous and pain medication won't help. Try to relax and it'll go away spontaneously.

Pneumonia

Surgery and decreased activity limit the expansion of the lungs, creating an environment for pneumonia. **Using the incentive spirometer** as instructed will help to expand the lungs. Walking soon after surgery also helps expand the lungs and decreases the chance of developing pneumonia. Signs and symptoms include elevated temperature greater than 101.5 degrees and difficulty breathing.

Stricture or Obstruction

For gastric bypass patients, the opening from the newly created small stomach pouch may narrow or close. This will occur three to six weeks after surgery with vomiting as you try to eat more solid foods. The obstruction can usually be opened by performing an endoscopic examination as an outpatient procedure.

Ulcer

There's a small chance of developing an ulcer after bypass surgery. You'll be prescribed a proton pump inhibitor (PPI) medication to take daily for a year.

Vomiting

Vomiting is often a result of overfilling the small stomach pouch, drinking liquids too soon after a meal or not

chewing food well. Eat slowly, chew your food well and stop eating at the first indication that you're full (satiety). Excessive nausea or vomiting should be reported to the team to be evaluated for risk of dehydration.

Wound Concerns

- Patients will be provided with a presurgical scrub at the pre-op evaluation to use the night before surgery to decrease the chance of wound infection.
- If wound separation occurs, it's usually not very deep and isn't a serious problem.
- It's common to have drainage of clear to reddish fluid from your wound in the first week or two after surgery.
- A small amount of blood can make the fluid appear bright red. A reddish appearance is no cause for alarm.
- If you notice signs and symptoms of infection (pus-like discharge, red streaks, fever, swelling or pain at incision sites), notify medical personnel.
- Contact our office with any concerns as soon as you notice any signs of infection or excessive drainage.

Long-Term At-Risk Considerations

- Gallstones and kidney stones
- Gastric outlet strictures
- Internal hernias
- Malnutrition
- Marginal or stomal ulcer secondary to the use of nonsteroidal anti-inflammatory drugs
- Nutritional deficiencies
- Periodontal disease
- Pregnancy is contraindicated for 18–24 months after bariatric surgery because of the rapid weight reduction resulting nutritional deficiencies (Thomas & Taub, 2010).
- Small bowel obstructions

Reflux

Reflux is common after sleeve surgery. You may need to increase your PPI medication. Eat more slowly and take smaller portions. Sit upright for a minimum of 30 minutes after eating. Don't lie down right after eating. Avoid foods that are spicy or acidic (coffee, tea, tomatoes).

Vitamin and Mineral Supplementation

Due to your decreased volume and variety of food, it'll be difficult to consume adequate amounts of various nutrients. The following vitamin and mineral supplements are required to insure proper lifelong levels of nutrients due to malabsorption and eating less food after surgery. **Vitamin and mineral supplementation is a LIFELONG requirement after bariatric surgery (refer to AACE/TOS/ASMBS 2019 Clinical Practice Guidelines online).**

Daily multivitamin plus minerals

The vitamin must be chewable and must contain minimally:

- Folate 400mg
- Iron 18mg
- Zinc 15mg
- Thiamin

Calcium citrate (1,200-1,500mg) with vitamin D (3,000IU)

- Must be in citrate chewable form (1,200-1,500mg per day, in divided doses of 500-600mg)
- Chewables can be ordered online. Citracal Petit capsules are available in most drug stores.
- If you're on iron supplements or there is iron in the multivitamin, *separate iron supplements from your calcium by at least two hours.*

Iron (may need if your iron levels are low)

- If you're a woman who's menstruating or have a history of anemia, take iron with your multivitamin or vitamin C for enhanced absorption.
- You may also want to take an over-the-counter stool softener when starting iron supplements as they may cause constipation and dark-colored stool.

B12

- You'll be required to take B12 by your three-month post-op visit and at intervals thereafter. Remember to discuss B12 at your clinic appointment. Refer to the FAQ section for more information on B12.

Medications

Your diabetes and blood pressure medications may need to be reduced, stopped or otherwise adjusted after surgery. **Follow up with your primary care doctor who normally prescribes these medications as soon as possible after surgery.** Also, if possible, keep a log of your blood sugar and blood pressure if you're on these medications to help determine changes in dosage.

You'll require lifelong vitamin and mineral supplementation. These will need to be in **chewable form** (no tablets or capsules) for **the first two months after surgery.** Follow the recommendations of the dietitian and your doctors to help maintain these levels appropriately. You should be taking chewable multivitamins daily with iron and 1200–1500mg of chewable calcium citrate (with vitamin D) in divided doses. Vitamins containing iron should be separated from calcium by a minimum of two hours to allow proper absorption. This should start during your pre-op liquid diet and continue as soon as you're home from the hospital.

You can take Tylenol (acetaminophen) for headaches or mild pain after you stop taking prescribed pain medication. Milk of magnesia, Benefiber or Miralax OTC may be used for constipation. Choose small pills (or sugar-free liquid forms) and take one at a time. **Never** take a handful of pills at once, as this can lead to a blockage.



Medications to Avoid

Changes in the structure of your stomach and absorption in your intestines doesn't allow your body to utilize some medications. Use **extreme caution when taking diuretics, NSAIDs and anticoagulants. Time and extended-released medications should be avoided.** Consult your bariatric doctor and pharmacist if you're unsure if a medication is appropriate or can be crushed. These medications should be avoided after surgery:

- Advil
- Meclomen
- Alka Seltzer
- Mobic
- Anacin
- Motrin
- Ascription
- Nalfon
- Aspirin
- Norgesic
- Bufferin
- Tolectin
- Coricidin
- Vanquish
- Cortisone
- Dolobid
- Empirin
- Excedrin
- Feldene
- Fiorinol
- Ibuprofen

Other Things to Avoid

- Using straws
- Ice chewing
- Gum chewing



Signs and Symptoms of Vitamin and Mineral Deficiencies

Adequate intake of vitamins and minerals is essential for optimal health. After bariatric surgery, you're at significant risk for malnutrition because your intake and/or absorption of these nutrients is compromised. You can protect yourself from nutrient deficiencies by proactively committing to your **daily vitamin and mineral supplement routine for a lifetime.** Because

everyone's unique, it's also important to follow up with routine labs as recommended by the bariatric team to determine if additional supplementation is needed. Below is a list of common signs and symptoms you might experience if you don't adhere to these recommendations.

Vitamin/Minerals	Deficiency Cause	Symptoms	Prevention
Iron	Inadequate dietary intake, decreased tolerance to iron-rich foods (e.g. meats), malabsorption	Fatigue, rapid heart rate, decreased work capacity, impaired learning ability	Bypass or sleeve: Two multivitamins with iron daily (minimum total of 36mg of iron per day)
Vitamin B12	Inadequate intake, decreased tolerance to B12 rich foods, malabsorption, medication interactions	Fatigue, light-headedness, vertigo, palpitations, rapid heart rate, ringing in ears, numbness, irritability, sore tongue	Bypass and sleeve: 1,000mcg monthly, injections starting three months after surgery, 500mcg nasal weekly or 1,000mcg sublingual daily
Calcium	Inadequate intake, decreased tolerance to calcium-rich foods, malabsorption	Leg cramping, muscle spasms, tingling in arms, hands and legs, bone loss	Take 1,200-1,500mg calcium citrate daily. Divide dose into two to three tablets daily (500mg-600mg per dose). Separate from multivitamin containing iron by two to four hours.
Vitamin D	Inadequate intake, decreased sun exposure, decreased bioavailability with excess body fat, malabsorption	Bone loss, bone pain, muscle weakness, increased risks for chronic diseases including cancer, heart disease, diabetes and kidney disease	Calcium supplement should contain between 400-800 I.U. of vitamin D. Current guidelines recommend a minimum goal of 3,000 I.U. daily.

Protein Supplement Comparisons

Drinks	Kcal	Protein	Sugar	Fat	Where To Buy
Atkins Shakes, 11oz	160	15	1	10	Walmart, Target, grocery stores
Bariatric Advantage meal replacements, one packet	160	27	0.5	2	BariatricAdvantage.com (800) 898-6888 UFHEALTH
Body Fortress Whey Protein Powder, one scoop	270	25	3	4	CVS, Walgreens, Walmart
Boost Glucose Control, 8oz	190	16	4	7	Grocery stores, Walmart
Carnation Instant Breakfast (no sugar added), 11oz	150	13	12	5	Grocery stores
Celebrate ENS	140	25	4	0.5	CelebrateVitamins.com (877) 424-1953
Premier Protein	160	30	1	3	Sams Club, PremierProtein.com
Designer Whey Protein Powder, one scoop	100	18	0	2	GNC, The Vitamin Shoppe
EAS AdvantEDGE Carb Control, 11oz	110	17	0	3	CVS, Walgreens, Big Kmart
Jillian Michaels Natural Whey Protein Powder, one scoop	100	15	3	2	Walmart
Nature's Best Isopure Zero Carb, 20oz	260	40	0	0	GNC, The Vitamin Shoppe
Nature's Best Isopure Zero Carb Powder, two scoops	210	50	0	1	GNC, The Vitamin Shoppe
Muscle Milk Light, 8oz	100	15	0	2.5	GNC, Target, Walmart
Optisource, 8oz	200	24	0	6	Walgreens.com (800) 828-9194 (888) 240-2713 (Nestle)
Slim Fast Low Carb, 11oz	180	20	1	9	CVS, grocery stores
Syntrax Nectar, one scoop	100	23	0	0	SI03.com (866) 333-7403
Unjury powder (unflavored), one scoop	80	20	0	0	Unjury.com (800) 517-5111
Beneprotein powder (unflavored), one scoop	25	6	0	0	Walgreens.com (800) 828-9194 (888) 240-2713

After Weight Loss Surgery: The First Few Weeks

After weight loss surgery, you must give your body and mind time to adjust. For example, you may feel very tired and have difficulty drinking enough fluids or protein because of a decrease in hunger. You may feel very emotional and experience feelings of regret. All of these are normal and they typically pass with time. It's important to have a good support system in place to help you deal with the changes you may experience. We offer free weight loss surgery support groups once a month. In addition, health care team members will help you adjust to the changes that occur after weight loss surgery:

- Your surgeon will manage your care after surgery. Keep all appointments and ask any questions you may have.
- Your program manager is always available to help you. Call if you need support or have any questions.
- A dietitian can help you set up a nutrition plan specific to your needs.
- A fitness professional can discuss fitness goals and help you design a program specific to your needs and physical limitations.
- A mental health professional can help you adjust to the psychological changes associated with weight loss surgery.

Call your program manager to make an appointment with a dietitian, fitness professional and/or mental health professional. It's been statistically proven that patients who participate in therapies after weight loss surgery lose more weight than those who don't. They're also able to better maintain their new weight. We recommend our *Success* program. This program features coaching sessions with a dietitian, fitness professional and psychologist, which will help you achieve your weight loss goals and help insure lifelong weight loss success. To enroll in the *Success* program, call your bariatric program manager.

After Weight Loss Surgery: The First Year

This is called the honeymoon period. Most patients typically experience a period of rapid weight loss during the first year after surgery. You may feel as though nothing you do (or fail to do) could stop you from losing weight. But this period will eventually end. Your hunger may return, and your weight loss will taper off and stabilize. Apply your new lifestyle during the first year so that it becomes normal for you.

After Weight Loss Surgery: Year Two and Beyond

When the honeymoon period ends, you'll find that what you eat takes on even greater importance and will affect your weight. This is true whether you're still losing weight or maintaining your weight loss. This is also the time that making poor food choices will cause weight gain or weight plateau. It's important that you find the support to help you identify the reasons for poor choices and to recognize difficulties with making positive lifestyle changes. You may want to reach out to your support group, weight loss team or a behavioral health specialist. If you continue to do things the way you did before your surgery, you'll achieve the same results – weight gain.

Frequently Asked Questions

Why do I have to stop smoking?

Smoking leads to complications during and after surgery. We want you to be successful with your decision to have weight loss surgery and eliminate any unhealthy habits that wouldn't lead to improving your health and lifestyle.

Will I lose my hair? Can I prevent hair loss?

Hair thinning can occur due to nutrient changes in your body. Meeting your protein goal, and taking vitamins and mineral supplements each day can help. Hair loss is usually noted three months after surgery; after seven months, regrowth begins. Not everyone has hair loss and it's temporary. Taking zinc and biotin may be suggested by your doctor.

When can I go home after surgery?

Usually patients stay three days and two nights in the hospital. You won't be discharged until your medical team is comfortable that you can tolerate small sips of water and protein supplement (Optisource). DON'T force this process; we want to discharge you so you can be successful with your new knowledge and habits.

Is it normal to feel full and that food is “stuck?”

Yes, after surgery you'll have a different feeling. During surgery you were intubated (a breathing tube was placed down your windpipe) and you may have a sore throat or hoarse voice. This is temporary. If you have ANY breathing difficulties, notify your medical team immediately or call 911 if you're at home. Remember, surgery affects how food travels in your digestive system and your satiety (feeling full). You're going to feel different. Time, patience and knowledge will help you be successful and healthy.

Do I have to take B12? My primary doctor said my levels are fine.

Yes. It's believed most patients have enough B12 for the first three months after surgery but after that, due to the weight loss surgery, your body will no longer be able to absorb enough B12 through your digestive system to keep you healthy. Have your primary doctor speak with our bariatric medical team if you have concerns.

Can I get B12 over the counter or do I need a prescription?

You have three choices of how get B12:

- Sublingual-SL (under the tongue): 350-500mcg every day. No prescription is required and it's available over the counter.
- Intramuscular-IM (a shot): Every month or less frequently, depending on your doctor's preference and your B12 lab levels. By prescription only.
- Nasal: 500mcg weekly, by prescription only

How often do I need to see a doctor after surgery?

You'll have appointments for the first year with your primary doctor, your bariatric surgeon and physician assistant. Your postsurgical appointments should be at two weeks, three, six and twelve months, and then yearly. Our patient care coordinators provided you with a form listing your scheduled appointment dates. The appointments will be in the Surgical Associates Clinic on the 1st floor.

How often do I need to see the dietitian?

You're scheduled to see our dietitian twice (at minimum) before surgery and again after surgery. Following up with appointments is key to your success and compliance. If you have concerns that would prevent you from making your appointments, share them with the bariatric coordinator.

What should I do about medications I was taking before surgery? Should I continue taking them?

It's your responsibility to make sure that your primary or prescribing doctor(s) are aware that your medications may need to be adjusted after surgery. DON'T stop taking medications after your surgery without consulting your doctor. Plan ahead - contact your primary doctor and discuss the possibility that your medications may need to be adjusted, especially diabetes and blood pressure medication. Also, medications should be in crushable, chewable or liquid form for two months after surgery. Time-release medications AREN'T recommended after surgery. Contact your prescribing doctor(s) prior to surgery. Don't wait until the day before surgery or after surgery.

How many pills can I take at once?

If the medication can't be converted to chewable or liquid, you can take one pill at a time if ordered by your physician. NEVER take a handful of pills; this can lead to a blockage. The pill should be smaller than a regular M&M candy.

When can I exercise?

Exercise should be similar to eating—creating a new lifestyle habit. Begin walking as soon as possible; this may even be four to six hours after surgery once the anesthesia has worn off. The first week you may be limited by fatigue and mild pain. Walk around the house or in a mall that has air conditioning and areas to sit and rest. Your discharge instructions recommend that you don't lift anything heavier than 10–15 pounds. When you have your two-week postsurgical appointment, you'll likely be cleared to return to work and can begin exercising (going to the gym, swimming, stationary bike, etc.). It's recommended that your long-term exercise goal should be to exercise 30 minutes, or three 10-minute sessions, each day. Get your body moving — a body in motion stays in motion.

I don't like to exercise. Will not exercising affect my weight loss after I have surgery?

Yes. Not exercising affects the simple equation of calories in and calories out. Regular exercise is another habit you need to develop after committing to weight loss surgery. Before having surgery, find exercise you enjoy and that you can also do by yourself. Join a gym or use free smartphone exercise applications to help you know how you're doing.

When can I go back to work?

Your discharge instructions recommend no lifting anything heavier than 10–15 pounds for three weeks. When you have your two-week postsurgical appointment, your ability to return to work can be addressed. Depending on your type of work, you may be cleared after two weeks to return to work.

Where do I buy vitamin and mineral supplements?

Where you buy them is your choice; it can be online, local drugstore, health food store, vitamin specialty shop or supermarket. We recommend looking for quality brands that are bariatric specific. If you have questions about the multiple choices of brands, ask a bariatric team member or call the company for product knowledge. Purchase your vitamins and supplements before surgery so that they'll be ready to take when you get home. You'll need to take these every day for the rest of your life to avoid serious nutrient deficiencies. **The vitamins and minerals you need to take every day include:**

- Multivitamin with iron
- Calcium citrate with vitamin D (the recommended form is calcium citrate, not calcium carbonate or phosphate)
- Vitamin B12 (if sublingual)

How will I stop losing weight?

The largest amount of weight loss is usually during the first 18–24 months. After that, you'll notice a plateau in your weight. How well you commit and dedicate yourself to your lifetime habits after weight loss surgery will affect how quickly you stop losing weight and start adapting to your new body.

What else do I need to remember after weight loss surgery?

- No smoking. If you had to quit for the surgery, keep at it.
- Make exercise a regular part of your life. Enjoy your journey in your new body.
- Follow up with a doctor yearly and provide us with annual labs. We suggest these labs be checked by a health care provider at least annually:
 - CBC CMP
 - Lipids TSH HA1C
 - Iron TIBC ferritin
 - Vitamin D (25 hydroxy)
 - B12



TampaBayWeightLoss.org