



Houston Bariatric SURGERY

Patient Education Manual

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Introduction

Thank you for your interest in our weight loss center. Let us begin by stating that morbid obesity is a serious disease. Morbid obesity is an epidemic affecting over 15 million Americans. Obesity impacts both the quantity and quality of life. Being obese can cause many life threatening problems, and too commonly it interferes with social and personal activities. Recent medical research has shown that obesity is a genetic abnormality that is expressed in variable degrees, even between individuals within the same family. When a person's weight increases in excess of 100 pounds above one's ideal body weight or a Body Mass Index (BMI) greater than 40, medical implications become very important. The obese individual is at increased risk for developing obesity-related diseases (comorbidities) which include diabetes mellitus, hypertension, obstructive sleep apnea, arthritis, depression, gastroesophageal reflux disease (GERD), hyperlipidemia (high cholesterol and/or triglycerides), certain cancers, and coronary artery disease. Even if an obese person does not yet have any known medical problems, they are at an increased risk for developing all of these conditions and are at an increased risk of early death. For these types of patients, structured dietary programs have universally been unsuccessful. For many individuals, dieting, hypnosis, self-help groups, and behavior modifications are met with minimal or only temporary success. The data suggests that the only long-term solution for many morbidly obese patients is surgical intervention.

Patients often report that whatever weight loss is accomplished is ultimately followed by weight regain and all efforts are associated with feelings of guilt and depression. Life for people with morbid obesity can be difficult. Weight can be lost, but then regain occurs, resulting in feelings of failure, frustration and hopelessness. It is this population of patients that bariatric surgery is intended to help.

Bariatric surgery offers a surgical option for the treatment of obesity when other measures have been unsuccessful. The current procedures of Vertical Sleeve Gastrectomy and Roux-en-Y Gastric Bypass have consistently resulted in excellent weight loss in properly selected patients. Such significant weight reduction has a tremendous impact on all aspects of life, and as excess weight is lost, the way you feel about yourself, your family, and your friends will change.

This informational guide is an introduction to the surgical treatment plan for obesity offered by Dr. Balette, Dr. Howard, and Dr. Waggoner. Questions that are not answered in this patient guide should be directed to members of our team. These team members include: surgeons, dietitians, nurse practitioners/physician assistants, nurses, psychologists, and bariatric program coordinators.

Weight loss surgery cannot accomplish or maintain the necessary weight loss without your cooperation. To accomplish and maintain weight loss after surgery, you must consume fewer calories, change the types of foods that you eat, and increase your activity level. Bariatric surgery is a proven method on the road to resolution of all of the above-mentioned comorbidities associated with obesity.

Laparoscopic Surgery

Laparoscopic (minimally invasive) surgery is an advanced surgical technique. It is the safest way to perform bariatric surgery. Surgery is performed through small incisions using cameras and long, thin surgical tools. Laparoscopic techniques result in less post-operative pain, fewer complications, shorter hospital stays, and quicker recovery times. The laparoscopic approach to weight loss surgery has been proven in studies to reduce the risk of post-operative complications, which include wound infection and incisional hernias.

Multiple small incisions (each usually 12 mm or less) are used for laparoscopic surgery. The abdominal cavity is filled with gas (carbon dioxide) to provide the surgeon with visibility. A video camera is introduced through one of the small incisions, and the surgery is completed using instruments to perform the operation while looking at video monitors. At the end of the operation, the small incisions are closed with dissolvable sutures.

Vertical Sleeve Gastrectomy

The sleeve gastrectomy is presently the most commonly performed weight loss surgery. This procedure leads to weight loss by reducing the size of the stomach, making you feel full after eating only small portions. Approximately 75-85% of the stomach is removed, leaving behind a smaller, tubular-shaped stomach (or “sleeve”). This limits the amount of food that is required to feel full. In addition, the portion of the stomach that makes the hormone ghrelin, which is responsible for making us feel hungry, is removed.

Advantages to this procedure include no implantation of an artificial device, and no re-routing of the intestinal tract. The primary disadvantage of this procedure is that the sleeve could dilate (or stretch) over time, or patients could experience some reflux after surgery. Expected weight loss for this surgery is from 55-80% of excess body weight.

Gastric Bypass

The Roux-en-Y Gastric Bypass results in weight loss by creation of a small stomach pouch, thereby reducing the amount of food you can consume, and by bypassing a portion of your small intestine so you will absorb less nutrients from the foods that you eat. This operation has been in existence the longest, since 1967. Expected weight loss for this surgery is 65-75% of excess body weight.

For both sleeve gastrectomy and gastric bypass, weight loss is greatest during the early months following surgery. During this time, it is very important to remain hydrated and to take in sufficient protein so that you can recover from your surgery. The rate of weight loss slows during each succeeding month, and usually stabilizes between 12 and 18 months following surgery.

Gastric Balloon

The intra-gastric balloon procedure is performed as an outpatient procedure. A dual balloon is inserted in your stomach endoscopically. No incisions are made during this procedure. The device remains in your stomach for a 6 month period. During this time, you will feel full quicker, resulting in decreased intake, which results in weight loss. Expected weight loss during this time is 20-40 pounds. You will be counseled pre- and post-insertion regarding diet and lifestyle changes which will assist with weight loss. These lifestyle changes should continue after the balloon is removed, which will result in continued weight loss even after the device has been removed.

Risks and Complications

Any surgery has risks. Weight loss surgery is not without risks. There are complications that can arise with any procedure. It is impossible to predict every possible complication of surgery. Your surgeon will advise you of the risks of surgery in detail prior to the procedure, and you will have the opportunity to discuss these risks with your surgeon at your appointments in the office. The main risks associated with these procedures are blood clots or leakage at a staple line or anastomosis. The percent risk of either complication is less than 1%.

Pre-Operative Requirements

All patients may have slightly different requirements prior to surgical approval, depending on insurance coverage. You will receive a folder at your first office visit with your surgeon which outlines your requirements specific to your insurance plan. All patients will be required to complete the following prior to submitting to insurance for approval for surgery:

- Psychological Evaluation
- Nutritional Evaluation
- Laboratory Studies (labs are dependent on your surgeon's recommendation)
- Medical Records (usually from your primary care physician for the last 5 years)
- Any other imaging or studies recommended by your surgeon at your consultation
- Medical history, surgical history, current medication list (bring to your consultation or fill out on patient portal prior to your office visit).

Patient Web Portal

We recommend that you give us your email address at your first appointment, and begin logging on to our patient web portal. The web portal is an excellent means of communication with our office as far as asking questions regarding the surgical process, or post-operative questions. You also many view future appointments, lab results, and fill out medical information for your records online.

Surgery Information

Day of Surgery

Surgery is performed in the hospital, under general anesthesia. When you wake up, you will be observed in the recovery room, and then transferred to a regular hospital room for the night. Patients are very rarely observed in the intensive care unit (ICU) after surgery. The most common problems after surgery are pain and nausea. To help prevent these, you will be given pain and nausea medications before you awake from anesthesia. You also may be instructed to take some medications before arriving at the hospital to control nausea after surgery. Everyone is different when it comes to how much pain they experience after surgery. A variety of pain medications are made available, given through an IV by your nurse. Your vital signs, urine output and lab tests will be monitored. You should be discharged home the day after surgery unless you are unable to tolerate sufficient amounts of liquids due to nausea or your surgeon determines it is necessary that you are monitored for another night. A leak test will be completed during your hospital stay, most likely intra-operatively by your surgeon.

Once you arrive to your room for the evening, you will be expected to ambulate. You inevitably will be ambulating to the bathroom, as a foley catheter is not used during the surgery. You will wear sequential compression stockings while in bed to help protect against blood clots. You also will receive injections into your abdomen while in the hospital as another protective factor against blood clots. You will be allowed to consume water and ice chips 1 oz at a time every 15 minutes once you arrive to the floor after the recovery process. All pain and nausea medications will be given as needed through your IV on the day of surgery, and IV fluids will be given continuously throughout your hospital stay until you are discharged.

Post-op Day #1

In the morning, you may feel drowsy. You may feel nauseated, which is normal and expected. Serving size for clear fluids at this point will be 30 cc (1 oz, medicine cup size), every 15 minutes. This is a goal to work towards. Your stomach will be full after drinking only 1 oz of liquid at this stage. If you feel full or nauseated, but a 15 minute increment has passed since your last liquid was consumed, wait until this feeling passes to start drinking again. Eventually the inflammation will subside and you will feel comfortable with this serving size. Take it slowly during this period with drinking. Use the medication cups as a tool to know what it feels like to drink an ounce of fluid at a time.

You will now be allowed to start oral pain medications. It is a good idea to try the oral pain medication at this point, as you will receive a prescription for this medication for home. You may not need a full dose of the pain medication, and if you would like a non-narcotic medication at home, acetaminophen (Tylenol) in liquid or crushable form is okay to take.

You will be expected to ambulate in the hallway today and use your incentive spirometer. We will take most of this day to ensure you are tolerating fluids in sufficient quantities before we discharge you to home. You will be discharged as long as you are tolerating clear liquids.

Medications

Before you are discharged, your surgeon will review your medications that you took before surgery. You will most likely be going home with a much shorter list of medications than which you came in on. We will discontinue many medications immediately following surgery including: diabetic medications, diuretics, hormones, NSAIDs and steroids. All pills must be smaller than a tic-tac, crushed, cut in small pieces or taken in liquid form after surgery. Your nurse will let you know if there are any medications that cannot be crushed or cut in half. **Some medications are contraindicated after bariatric surgery for certain periods of time. Please avoid:** NSAIDs (ibuprofen, naproxen, etc), arthritis medications, oral steroids (prednisone), aspirin- or caffeine-containing products, pseudophedrine, diuretics, or hormones (estrogen, testosterone, birth control pills). **Please check with our office if you are unsure if a medication is safe to take after surgery.**

Recovery

Most patients take one to three weeks off of work, depending on job duties. We expect you to fatigue easily in the first few weeks after surgery, so going back to work with a reduced work day or “light duty” restriction is a good idea at first. Staying hydrated is the main concern in the first few weeks after surgery, so make sure you will have constant access to liquids at work. You will return at 2 weeks after surgery to our office to see your surgeon for your post-operative visit.

Exercise

We do expect light activity for the first 2 weeks after surgery. Activities of daily living are recommended. Walk at least 5-10 minutes, 5 times per day. Do not plan strenuous activities or prolonged exercise until after your post-operative visit with your surgeon. Do not lift anything over 15 pounds for 4 weeks after surgery. At your post-operative visit, you will receive instructions on how to gradually increase your physical activity. Daily cardiovascular exercise is recommended, and resistance exercise is recommended long term to gradually build lean body mass which inevitably will help your metabolism.

Lifelong commitment

Obesity is a lifelong problem, and managing it takes a lifetime of effort. Weight loss surgery makes changes in the way your body reacts to food, but you have to work with these changes to achieve good weight loss. The goal of weight loss surgery is to improve health and well-being. You are expected to adhere to the dietary principles outlined in the following pages for the rest of your life. We expect you to consume a low-fat, low-calorie, low-sugar, low-sodium, high protein diet for long term. Our team is available for questions at any stage of the process.

Lifestyle Changes

Eat only at mealtime

A meal is not just what and when you eat, but also how you eat. You should be eating five to six small meals per day. These meals will be small portions, so will feel more like “snacks”. You will need to plan out these meals as much as possible, eliminate distractions while eating, and although portions will be small, think of these small portions as a meal. Many of our calories throughout the day come from mindless eating, snacking, grazing, and liquid calories. Your total caloric intake will determine how much weight you will lose long-term.

Protein

Protein is the main source of the building materials our bodies require to repair and maintain our organs. Your protein needs as a bariatric patient are 1.5 times more than someone who has not had surgery. When you eat, always **eat your protein first**, and plan your meals around your protein source. You will need protein for healing of your stomach, staple line, and incisions. In a state of severe caloric restriction, your body likes to take muscle mass for energy. Prevent this from occurring by ensuring you are meeting your protein needs through foods and supplements. Healthy hair, skin, and nails rely on sufficient protein in your diet as well. Hair loss can be temporary for the first 6 months following surgery due to the stress of surgery and hormone shifts that occur, but ultimately is dependent on your protein intake, as is collagen and elastin in your skin tissue. Protein also is the nutrient that keeps you satisfied (feeling full), and protein takes more energy to burn in your body than other nutrients.

Eat slowly

You should be consuming your meals over a 20-minute period, as this is the time it takes for your brain to get the signal that your stomach is full. Your stomach capacity will be much smaller after surgery, so you will fill up quickly. It is essential that you slow down your meal time to ensure you do not overfill your stomach. A good way to slow down your meal time is to chew every bite 15-20 times before swallowing. This will not only force you to slow down, but will also make sure that your food is adequately chewed so that it is safe to swallow.

Avoid Sweets and Sugars

Foods that contain added sugar may not make you feel well after surgery. “Dumping syndrome” (for bypass patients) is the rapid transit of sugar into the small intestine. Symptoms experienced with dumping syndrome include weakness, lightheadedness, diarrhea, and cramping which usually lasts 30 to 40 minutes after ingestion of sugary foods or liquids. Regardless of which procedure you are having, sugar should be avoided. Sugar is an addictive substance that adds to caloric intake without providing any nutritive value. To identify added sugars in foods, read the food labels. Learn “code words” for sugar. If the list of ingredients contains sucrose, glucose, corn syrup or fructose in the first 4 ingredients, it should be avoided. There is another section in this packet that will outline how to read a food label so you can identify added sugars in a product.

Stay Hydrated

Drink generous amounts of water or any calorie-free, caffeine-free, non-carbonated beverage frequently throughout the day. You should try to drink a minimum of 64 ounces per day. Fluid needs are calculated based on your height, so taller than average patients will need more than 64 ounces per day. Carry a bottle of water or other beverage with you at all times, and take small sips of this liquid throughout the day. Gauge your hydration by the fact that you are urinating several times during the day, and that your urine is light yellow in color. The main focus immediately following surgery is staying hydrated.

Take Your Vitamins

Vitamins are necessary for the proper functioning of the body's systems. The body does not make vitamins. We must take them in as food or supplement them as needed. Following bariatric surgery, there are some nutrients that have the potential to be depleted. We recommend that you take a bariatric-specific multivitamin and calcium every day (starting 2 weeks after surgery) to avoid nutritional deficiencies.

Limit Fats

Fats have a very high content of calories (9 calories per gram vs 4 calories per gram for protein or carbohydrates), but no real nutritional value. Any significant intake of fats, such as cooking oils, salad dressings, mayonnaise, or butter will seriously decrease your rate of weight loss. Avoid adding fats during cooking or at the table to reduce your overall caloric intake. Remember that daily total caloric intake will determine your weight loss. When cooking, it is better to bake, poach, broil or boil instead of frying or sautéing.

Avoid Carbonated Beverages and Straws

It is recommended that you avoid carbonation and straws after surgery due to the introduction of air into the stomach, which potentially could stretch your stomach. Stretching of the stomach leads to you taking longer to feel full when eating, which could lead to weight regain. Pain is usually experienced when drinking carbonated beverages due to the introduction of air into the stomach.

Avoid Alcohol

It is recommended that you avoid alcohol for 6 months following surgery due to the stress on the liver. Alcohol will be absorbed quickly, as your stomach is the site of alcohol absorption. You will metabolize alcohol differently as well. You must count calories of alcoholic drinks if you choose to consume alcohol after the 6 month period, as calories will add up quickly. Never consume more than 2 drinks within a 24 hour period.

Do Not Smoke

You must quit smoking prior to surgery due to the dangers of nicotine and tobacco after surgery. Nicotine constricts blood vessels and therefore decreases blood flow to the stomach. It can slow healing of your staple line or anastomosis. Tobacco has been linked to bleeding and the formation of marginal ulcers in bariatric surgery patients.

Nutrition Guidelines

Basic Guidelines after Bariatric Surgery

- No Carbonated Beverages
 - No Sugar-Sweetened Beverages
 - No Alcoholic Beverages (for 6 months)
 - No Caffeinated Beverages (for 2 months)
-
- You may use any zero-calorie sweetener. These include:
 - Equal (aspartame)
 - Splenda (sucralose)
 - Sweet & Low (saccharin)
 - Truvia (stevia)
 - Monk fruit
 - Sweet One (acesulfame potassium)
 - Swerve (erythritol)

 - Caffeine should be avoided because it can cause you to become dehydrated. You may include small amounts of caffeine at least 2 months following surgery, but do not count these beverages towards your daily fluid goal.

 - Drink at least 64 ounces of water or any sugar-free, caffeine-free fluid daily. Look for drinks with less than 15 calories per 8 oz serving. Some suggestions (see shopping list at end of manual for more suggestions):
 - Water flavoring drops/powders with less than 15 calories/serving:
 - Crystal Light, Mio, Skinny Girl, Vitamin Water Zero, Dasani, True Lemon
 - Water infused with: lemon, lime, orange, strawberry (Hint, SmartWater)
 - Decaffeinated coffee or tea
 - Low-calorie electrolyte replacement
 - Gatorade Zero, Powerade Zero, Propel, SmartWater, Mio w/electrolytes, Body Armour Lyte, Liquid IV, Hydrate, Banana Bag
 - Diet juices (Ocean Spray, Minute Maid, Lemon Perfect)
 - Avoid regular juices and “light” juices: these still have at least 50 calories per serving, and would need to be diluted with water if used.

 - Sugar alcohols are a non-absorbable form of sweetener that can cause unpleasant gastrointestinal symptoms such as bloating, and act like a laxative. You may want to avoid these types of sweeteners 1-2 months following surgery. They are listed on the food label and are commonly found in gum, sugar-free candies, and protein bars. Examples: sorbitol, xylitol, erythritol. Gum should be avoided at first because of dangers if swallowed.

Nutrition Facts Label

- **Servings per container/serving size:** learn to recognize portion size of each food and number of servings for the entire container of food.
- **Calories:** look at calorie content per serving.
- **Total Fat:** look for “low-fat” foods: less than 3 grams of total fat per serving.
 - Note: many low-fat or fat-free products have more sugar than their regular counterparts, so note sugar content and calories when comparing products.
- **Protein:** note the grams of protein per serving.
- **Sugars:** look for “low sugar” foods (less than 5 grams per serving)
 - Lactose is a naturally occurring sugar (okay to consume).
 - Milk contains 12 grams of lactose (sugar) per serving.
 - Yogurt: acceptable sugar content is 7 grams or less per serving.
 - Get used to reading the ingredient list to find out if added sugars are present in the food.
- **Added sugars:** should be avoided because they add calories without nutrients, do not fill you up, and can be addictive. When you read the ingredient list, look for “code words” for sugar, which include:
 - Agave nectar, Turbinado, Raw Sugar, Brown Sugar
 - Honey, Organic Cane Juice, Maple Syrup, High Fructose Corn Syrup
 - There are many ways to name sugar, beware of added sugars that are used that seem to sound healthier than regular sugar.
 - All of these sources of added sugar have 15 calories or more per teaspoon.

Journaling

It is recommended that you log your intake of food. If you know you will be writing down or recording what you are eating daily, it will make you think twice before consuming that food. Journaling is an excellent tool to facilitate weight loss. You can use a hand-written food diary, or electronic app such as “Baritastic”. Smartphone apps can track calories, protein, fat, sodium, and many other nutrients for you and keep you motivated towards your weight loss goals. If you are logging your food daily, that information is great for our team to have when you return to the office for your follow up visits. The first couple of weeks after surgery you will be on a liquid diet, so at this time you may want to use a written journal to keep track of how you respond to liquids. Food intolerances do not commonly develop after surgery, but in the healing phase, you may have some different reactions to foods that are most likely temporary.

Diet Before Surgery

It is recommended to start changing dietary habits a few weeks before surgery or longer. A low fat, low carbohydrate, high protein diet is recommended. This results in caloric restriction which will help to shrink the liver to potentially reduce your operative time and facilitate your surgery for your surgeon. At your pre-operative visit with your surgeon, you will receive instructions as to when to start a liquid diet. You will start your pre-operative liquid diet 1 to 3 days prior to surgery, as determined by your surgeon. The pre-operative liquid diet includes any liquids on the clear or full liquid diet outlined in this packet (pages 13 and 14).

During this time before surgery, it would be a good idea to start a protein supplement. Taste several varieties to see which one suits you. With bariatric surgery, you most likely will have a change in food cravings and taste buds, so you may want to wait until after surgery to decide which protein supplement to stock up on. Many patients report intolerance to sweet foods and artificial sweeteners, but every patient is different. It is also recommended that you start a thiamine (B1) supplement as early as possible before surgery, to build up stores of this nutrient.

Protein Supplements

Protein shakes will provide the majority of your protein needs immediately following surgery, and they can be used long-term as an assured way to meet your daily protein needs. When selecting a protein shake, look for one with less than 5 grams of sugar and greater than 20 grams of protein per serving. Whey protein isolate is the highest quality protein on the market. It is digested easily and absorbed the best after bariatric surgery, and whey protein isolate does not contain lactose. If you are allergic to whey, you may try soy protein instead. The next page of this packet contains a “protein shopping list” with suggestions for supplements and where you can buy these shakes.

Start taste-testing different shakes. You may mix protein powders with water, skim milk, high-protein skim milk, or unsweetened almond or soy milk. Mix small volumes at first, as these shakes tend to thicken upon standing. Ready-to-drink shakes are very convenient, and they do not change consistency regardless of how long the package is opened. Once on the pureed diet, you may experiment with smoothies, by adding low calorie items such as fat-free Greek yogurt, frozen fruit, peanut butter powder, or sugar-free coffee flavoring syrups. Vary the types of protein shakes you are drinking so you will not become bored of the same flavor. Use protein powder (unflavored is an option) to mix into your soup, yogurt, water or flavored water. Protein waters are available as an option, and some are listed on the supplement list.

Pre-Surgery Shopping List

It is recommended that you go to the grocery store and start reading food labels prior to surgery. Get an idea of products that you will be consuming after surgery. It can take a considerable amount of time at the grocery store to shop and research food labels. Have the following items at your house for when you are discharged from the hospital: protein powder, ready-to-drink supplements, clear liquids, electrolyte replacement drinks, full liquid diet items.

Protein Shopping List (where to buy in parentheses)

Protein Water (can use on clear liquid phase of diet)

- Isopure: 40 grams (GNC/Amazon/Vitamin Shoppe)
- Lift (Atkins): 20 grams (Walmart)
- Trusource Protein Water: 20 grams (Kroger)
- Optimum Nutrition Protein Water: 20 grams (Amazon)
- Premier Protein Water: 20 grams (Sam's Club, Amazon)
- Protein2o: 20 grams (Sam's Club, Walmart)
- Bariatric Advantage Clearly Protein: 20 grams (our office or online)

Protein Shakes (Ready-to-Drink or Powder)

- Premier Protein (160 calories): 30 grams (Ready-to-Drink) (Walmart, Sam's, Costco)
- Bariatric Advantage: 27 grams of protein (preferred) (our office/online)
- Jay Robb Whey Protein: 25 grams (preferred) (Kroger/HEB)
- Isopure (unflavored or flavored): 26 grams (preferred) (GNC/Vitamin Shoppe/Amazon)
- Unjury (unflavored or flavored): 20 grams (online only)
- Syntrex Nectar (unflavored or flavored): 20 grams (online only)
- Quest Protein: 23 grams (GNC/HEB/Vitamin Shoppe)
- Lean Body on the Go: 20 grams (Walmart)
- Jay Robb Egg White Protein: 24 grams (Kroger/HEB)
- Gladiator: 22 grams (Smoothie King)
- Teras Whey: 21 grams (HEB)
- Slim Fast High Protein: 20 grams (grocery stores)
- Cytosport Whey Isolate: 32 grams (GNC)
- GNC Amplified 100% Protein Drink: 20 grams (GNC)
- Pure Protein: 23 grams (grocery stores)
- Arnold Iron Whey: 22 grams (Walmart, Sam's)
- Muscletech whey isolate: 30 grams (Walmart, Sam's)
- Ensure Max: 30 grams (Walmart, Kroger)
- Fairlife Nutrition Plan: 30 grams (Sam's)

Protein Bars (maintenance phase of diet)

- Think Thin
- GNC Total Lean
- Lift (by Atkins)
- Detour Low Sugar
- Quest
- Met-Rx Protein Plus
- Pure Protein
- Power Crunch
- Fit Crunch
- Built Bar
- Barebells

Diet Progression After Bariatric Surgery

- **Clear liquids: 3 days**
- **Full liquids: 2-3 weeks**
- **Pureed: 3 weeks**
- **Soft: 3 weeks**
- **Regular/Maintenance: lifetime**

Clear Liquid Diet

- **Post-op Days 1, 2 & 3**
- Consume 30 cc (1 ounce) of liquid every 15 minutes (maximum).
- Use a timer to remind you to drink at this frequency.
- Sip fluids slowly, do not gulp. It should take you about 30-60 seconds to drink the one ounce serving of fluid.
- No straws, caffeine, or carbonation.
- Always have something to drink with you.

Clear liquids allowed:

- Water
- Flavored water (Crystal Light, Mio, infused waters)
- Decaffeinated coffee or tea
- Sugar-free popsicles or gelatin
- Low-sodium broth, bone broth
- Diet juices
- Electrolyte replacement drinks (Propel, G2, Gatorade Zero, Powerade Zero)
- Protein Waters (Premier Water, Atkins Lift, Trusource, Protein2o)
- Diluted juices

Full Liquid Diet

- **Begin Post-op Day #4**
- **Follow for 2-3 weeks (UNTIL your post-operative visit with your surgeon)**
- Consume 30 cc (1 oz) of liquid every 15 minutes, slow continual sips of fluids throughout the day.
- Do not advance to pureed stage until you have seen your surgeon and he tells you to advance your diet.
- Hydration is still the main focus, so don't be frustrated if you are not able to obtain your complete protein goal during this phase. You eventually will be able to achieve your protein goal.
- Track your daily protein! As long as you are drinking plenty of liquids, extra protein is not contraindicated (as long as you do not have kidney problems).
- **Your personal protein goal: ____ (see page 25) ____ grams per day**

Full liquids allowed:

- Protein supplements: ready-to-drink shakes, powders, protein water
- Milk: non-fat (skim), or ½%
- High-protein non-fat milk: Fairlife, Mootopia
- Cream soups: strained
- Sugar-free, non-fat pudding or custard
- Cream of Wheat or Cream of Rice cereal, thinned to liquid consistency
- Unsweetened almond or soy milk
- Sugar-free, non-fat yogurt (less than 7 grams of sugar per serving)
 - Dannon Triple Zero Oikos
 - Dannon Light and Fit Greek
 - Yoplait Greek 100
 - Activia Greek Light
 - Dannon Two Good
 - Plain, non-fat Greek yogurt (any brand)
- “Double milk”
 - Mix 1 cup of non-fat milk with 1/3 cup of non-fat dry milk powder
 - Use as a base for your cream soup, pudding, custard, or hot cereals
- Add protein powder to your soup, pudding, etc.

Pureed Diet

- **Begin after your post-operative visit with your surgeon.**
- **Do not start this phase of the diet until your surgeon gives you a start date at your post-operative visit.**
- **Follow this diet for 3 weeks.**
- Serving size is 2 ounces of food or fluid at a time (2 medication cups).
- Do not drink immediately after eating pureed foods! This will overfill your stomach and could lead to vomiting. Let the food digest for about 15 minutes or until the feeling of fullness passes, and then start drinking liquids again. You may drink fluids before meals, as liquids pass through your sleeve easily at this point.
- Continue to focus on hydration. Always have water/non-caloric beverage and protein supplements with you and take small sips of these continuously throughout the day.
- You are “experimenting” with pureed foods at this point. Pureed foods will not be supplying you with a lot of protein or nutrition. Eat these foods about 3-4 times during the day, whenever you have a break and have time to sit down to eat.
- Protein supplements can always be used as a meal replacement.

Pureed foods allowed:

- Meats (chicken/beef/turkey/lean pork): pureed in food processor/blender
- Fish: finely mashed with fork
- Tuna fish: mixed with non-fat plain yogurt, fat-free mayonnaise
- Vegetables: cooked, then pureed in food processor/blender
- Fruits: canned (pureed), applesauce, mashed banana, mashed avocado
- Eggs: scrambled or soft-boiled/poached, finely mashed
- Cottage cheese (low-fat or non-fat)
- Ricotta cheese (part-skim or non-fat)
- Sweet potatoes: finely mashed
- Hummus
- Whipped peanut butter
- Soups: blended
- Protein smoothies (add fruits/vegetables, peanut butter powder, etc)

Soft Diet

- **Follow this diet for 3 weeks.**
- This diet consists of soft, cooked foods that are easy to chew and digest.
- Your total portion of food on your plate should be ½ cup of food (at most).
- Remember to always eat your protein first!
- Starchy foods (rice, bread, pasta) expand in your stomach after ingesting, so watch portion sizes, chew well, or avoid these foods.
- You should start incorporating fruits and vegetables into each meal to increase dietary fiber.
- Wait 15 minutes after eating solids before you start drinking fluids to avoid overfilling your stomach.
- Carbohydrates in your diet should be complex, which include fruits, vegetables, and low-fat or fat-free dairy. These are preferred over starchy foods. Avoid white flours/sugars as carbohydrate sources.
- Protein supplements should still count as a large portion of your protein goal. With time, you will obtain more protein from foods and less from supplements, but not at this stage.
- Protein portions: 1 ounce of lean meat/cheese/egg (7 grams of protein, equivalent to 1 egg or 1 cheese stick). This amount of protein should fill you up at this point.

Soft foods allowed:

- Chicken, pork, beef: should be ground or very tenderly cooked
- Fish: baked or broiled, or tuna fish
- Eggs
- Low-fat cheeses: mozzarella, part-skim ricotta, low-fat cottage, low-fat cheddar
- Vegetables: cooked, no seeds or skins
- Fruits: canned, no seeds or skins, banana, applesauce (no added sugar)
- Rice, bread, pasta: small portions (1/4 cup maximum)
- Dairy: low-fat/fat-free milk, sugar-free/fat-free yogurt

Maintenance Diet

- **Starts 8-9 weeks after surgery.**
- This is a calorie-controlled, low-fat, low-carbohydrate, low-sodium, high protein diet.
- It is recommended that you always adhere to these dietary principles.
- Use My Fitness Pal or food journal to keep track of your daily calories, protein, fat, and sodium intake.
- Sodium recommendation is 2300 mg/day, or 1500 mg/day if you have high blood pressure. Most of the salt that we consume is hidden in foods. Do not add salt or seasonings with salt during cooking or at the table. Use alternative seasoning methods.
- Total carbohydrates should be in the range of 50-100 grams per day.
- Total fat should be in the range of 40-50 grams per day.
- Remember your personal protein goal! Track this every day.
- You now can have any type of raw fruit or vegetable. Remember to chew each bite 15-20 times before swallowing.
- Your food should only fill a small plate, ½ to ¾ cup of food at a meal.

Maintenance foods allowed:

- Meats: any type of meat, chew thoroughly
 - Portion size will start at 1 ounce, gradually will increase to 2-3 ounces by 6 months post-surgery.
- Vegetables: raw or cooked, ¼ to ½ cup serving
- Fruits: raw or canned, no seeds until 3 months after surgery
- Breads: no nuts/seeds until 3 months after surgery. Avoid breads with added sugars.
- Pasta/Rice: whole grain preferred, portion size is ¼ cup
- Eggs
- Dairy: low-fat cheeses, low-fat/fat-free milk or yogurt
- Protein bars
- Protein supplements and powders
- **No popcorn, nuts or seeds until 3 months after surgery**
- You may use any spice as long as it does not contain added sodium/salt

Vitamin & Mineral Supplements

In addition to eating much less food, you will absorb vitamins and minerals differently after surgery. You will require a multivitamin daily for the rest of your life. Vitamins are critical for the body to function properly: they help you to use energy, help your brain and nerves to function, help fight infections, and help your teeth, skin, and bones to stay healthy. Your vitamin must be specifically designed for bariatric patients, so that it contains all of the vitamins in the amounts recommended post-surgery. Your surgeon will advise you as to which vitamin is recommended at your appointments in the office. We will recommend that vitamin levels are checked at specified intervals following surgery.

Multivitamin (choose one)

- **Bariatric Advantage Ultra Solo Multi Capsule (iron/no iron)** (1 per day)
- **Bariatric Advantage EA Chewable (contains iron)** (2 per day)
- **Bariatric Advantage Multi Chewy Bite (no iron)** (2 per day)
- **Bariatric Advantage Solo Chewable (contains iron)** (1 per day)

Calcium Citrate (choose one)

- **Bariatric Advantage Calcium Citrate Chews, 500 mg** (2 per day)
- **Bariatric Advantage Calcium Crystals**
- **Upcal D** (liquid)
- **Lifetime Calcium Citrate** (liquid)
- **Bluebonnet Calcium Citrate** (liquid)

Thiamine (B1)

- **Bariatric Advantage: 100 mg capsule** (1 per day): Start as early as possible before surgery up until the day before surgery.

Vitamin D3:

- You will receive 4000 IU vitamin D3 by taking your bariatric multivitamin and calcium in their full dosages, so will not have to take extra supplemental vitamin D after surgery.

Guidelines:

- Start your vitamins 2 weeks after surgery. You may start them prior to surgery to build up nutrient stores, but please hold them for 2 weeks after surgery.
- Space out multivitamin and calcium by 2 hours. Do not take iron-containing vitamins with calcium.
- Do not take gummy vitamins or vitamins larger than a tic-tac. Capsule form from Bariatric Advantage is okay to take, as the outer layer disintegrates prior to reaching your stomach.
- Online validation codes at Bariatricadvantage.com: Dr. Balette "BAL", Dr. Howard "DDH", Dr. Waggoner "WAGGONER".

Support Groups

Support groups offer a means to discuss common experiences with other bariatric patients. The support group can be very helpful throughout the surgical process and following the procedure to know that you are not alone. Other patients sharing the same journey are great resources for what to expect at each stage before and after surgery. You are welcome to attend any support group that is offered regardless of where surgery was performed. There is no fee associated with the session. Support groups are offered virtually.

- Memorial Hermann The Woodlands Hospital:
 - **1st Thursday of each month: 7 pm to 8:30 pm**
 - **3rd Wednesday of each month: 6 pm to 7:30 pm**
 - Lauren Thompson, Bariatric Manager: 713-897-5994,
Lauren.Thompson@memorialhermann.org for meeting ID and passcode.
- Houston Methodist The Woodlands Hospital
 - **2nd Tuesday of each month: 3:30 pm to 4:30 pm**
 - Sign up: join.houstonmethodist.org, search for “support”
 - Questions: weightmanagement@houstonmethodist.org, or call: 713-441-4984.

Apps/Website References

- **Baritastic (app)** (recommended)
- Bariatric Pal (app)
- Lose It (app)
- BariLife: www.barilife.com
- My Fitness Pal (food journal/website/recipes): www.myfitnesspal.com
- Livestrong (app/website): www.livestrong.com
- BMI Calculator (app/online)
- **The Gastric Sleeve Cookbook, by Sarah Kent** (recommended): Amazon
- Bariatric Eating: www.bariatriceating.com
- Obesity Help: www.obesityhelp.com
- The Daily Plate: www.thedailyplate.com
- Bariatric Advantage: www.bariatricadvantage.com (vitamin reference/ordering)
- My Plate (app/food journal)
- www.theworldaccordingtoeggface.com
- Podcast: Weight Loss Surgery Podcast (Reeger Cortell, FNP)
- Dietminder (Food Journal): available online

Answers to Frequently Asked Questions

Incision Care

Your incisions are closed with internal dissolvable sutures and a liquid bandage (purple color). You will be allowed to shower with the incisions uncovered. You may wash your abdomen with soap and water, but do not rub or scrub the incisions. You may place a dressing on your incisions if any drainage is present. It is normal to have a small amount of drainage from your incision. If drainage increases in amount or looks like pus or is foul smelling, please call the office. Do not soak in a bathtub or swim until you have seen your surgeon at your post-operative visit 2-3 weeks after surgery.

Constipation

Constipation is normal for the first few weeks after surgery. This is from a combination of factors: pain medication/anesthesia, limited intake of fluids and solids, decreased activity, and surgery performed on your stomach. You may take either **Milk of Magnesia** (liquid laxative) or **Miralax** (powdered laxative which you mix with water) as needed. Read the label of each bottle for specific instructions on dosing amount and frequency. Make a conscious effort to increase fluid intake following surgery and if constipated.

Nausea

Nausea is a common occurrence following surgery. You will receive nausea medications during your surgery in an attempt to prevent nausea. Unfortunately, you may still experience nausea. You may receive nausea medications in the hospital through your IV, and you will receive a prescription for nausea medication. Nausea is usually short-lived and subsides within a few days. The scopolamine patch behind your ear placed on day of surgery should be removed on the 3rd day after surgery.

Pain

Your procedure is done laparoscopically, through small incisions in your abdomen. You will have pain medications ordered while in the hospital, and will receive a prescription for pain medications upon discharge from the hospital. Hydrocodone/acetaminophen (Norco/Lortab) is usually prescribed unless you are allergic to this medication. It will either be in liquid or tablet form. If tablets are prescribed, please crush or cut in small pieces. We do have alternate medications if you are not able to tolerate Lortab. Most patients do not need pain medication for more than a few days following surgery. You may take liquid or chewable Tylenol (acetaminophen) in place of the prescription pain medication. Gas is expected after laparoscopic surgery. Pain medication will not relieve gas pain, and may make it worse. It is okay to take over the counter gas-reducing medications if desired.

Driving/Travel

It is recommended that you do not drive for about 5 days following surgery, and if taking pain medications. We recommend that you do not plan extended travel for 4-6 weeks following surgery, as we would like to be available to see you in the office if any concerns arise. It is always recommended that you get up and move around every hour on a long flight or car ride.

Answers to Frequently Asked Questions

When to call the doctor

- Vomiting lasting longer than 8 hours (unable to hold anything down).
- Urinating less than twice per day despite increasing fluid intake, or pain/burning/difficulty with urination.
- Abdominal pain that worsens and is not controlled by pain medication.
- Signs of infection: incisional redness, swelling, pus-like drainage, &/or fever over 101.5.
- Redness, swelling, and/or pain in one or both legs (may be sign of a blood clot).
- Sudden shortness of breath, chest, or upper abdominal pain
- Rapid heart rate (over 115 beats per minute) which does not go down with rest or pain medication.

If you do need emergency attention, we would like you to report to the emergency room at the hospital where your surgery was performed. Tell the provider that you have had recent bariatric surgery. Please do not hesitate to call our office if you have any of the above symptoms or concerns, or just do not feel like your symptoms are part of the normal healing process.

Pregnancy

Pregnancy is not recommended for 12-18 months following surgery due to concerns regarding proper nutrition for the fetus. Contraception is strongly advised due to increases in fertility immediately following the procedure. Birth control pills/injections/implants are not advised for 2 months following surgery due to the risk of blood clots with these medications. If you do become pregnant, please notify our office, and follow up with your OB/GYN to discuss proper nutrition and vitamins during pregnancy.

Medications Before Surgery

You will need to hold blood thinners, aspirin, NSAIDs (ibuprofen, naproxen, etc) for 7 days prior to the procedure. You will see your surgeon one week prior to the surgery for your pre-operative appointment. At this appointment, we will review your medications and discuss if any other medications need to be discontinued prior to the surgery.

Medications After Surgery

All pills larger than a tic tac must be crushed, cut in small pieces, or taken in liquid form. **Some medications are contraindicated after bariatric surgery for certain periods of time. Please avoid:** NSAIDs (ibuprofen, naproxen, meloxicam, diclofenac, etc), oral steroids (prednisone, Medrol dosepak), aspirin- or caffeine-containing products, pseudophedrine, diuretics, hormones (estrogen, testosterone, birth control pills), oral diabetic medications, and long-acting insulin. **Take only those medications which are listed on your discharge paperwork from the hospital. Please check with our office if you are unsure if a medication is safe to take after surgery.**

Shopping List (for 2 week post-op period)

- Water
- Flavored water (Crystal Light, Mio, infused waters)
- True Lemon/Lime packets (usually next to sugar in the grocery store)
- Decaffeinated coffee or tea
- Sugar-free popsicles
- Sugar-free Jello
- Low-sodium broth or bone broth
- Diet juices
 - Ocean Spray Diet, Minute Maid Light Lemonade
- Electrolyte replacement drinks
 - Propel, G2, Gatorade Zero, Powerade Zero, Liquid IV, Banana Bag oral solution, Hydrate (Plexus)
- Protein Waters
 - Premier Water, Atkins Lift, Trusource, Protein2o, Clearly Protein
- SmartWater, Hint Water, Lemon Perfect Water
- Protein supplements (see page 13)
- Milk: non-fat (skim), or ½%
- Fairlife, Mootopia Milk (lactose-free)
- Cream soups
- Sugar-free, non-fat pudding or custard
- Cream of Wheat or Cream of Rice cereal
- Unsweetened almond or soy milk
- Sugar-free, non-fat yogurt (less than 7 grams of sugar per serving)
 - Dannon Triple Zero Oikos, Dannon Oikos Pro
 - Ratio
 - Chobani Complete, Chobani Zero
 - Dannon Light and Fit Greek
 - Yoplait Greek 100
 - Activia Greek Light
 - Dannon Two Good
 - Plain, non-fat Greek yogurt (any brand)
- Unflavored protein powder (Syntrax Nectar, Isopure, etc.)

Sample Meal Plans: Post-op Maintenance Phase

Breakfast Ideas:

- Non-fat Greek yogurt, mixed with ¼ cup berries or other fruit, few almonds
- Steel cut oats or Irish oatmeal ½ c, mix with ¼ c. Non-fat Greek yogurt, few raisins
- Eggs/egg whites (1 egg or 2 whites), saute with spinach/mushroom/onion/pepper/veg of choice
- Low-sugar, high fiber cereal (Kashi/Cascadian Farm), with skim milk and berries
- Chia seeds, soak overnight with plain non-fat Greek yogurt, berries, stevia or non-calorie sweetener of choice
- Whole wheat toast or waffle with 1 Tbsp peanut butter (whipped Jif has less fat)
- Protein smoothie (see previous recipe)

Lunch/Dinner Ideas:

- Pick one food from protein list (2-3 oz)
- Pick one food from vegetable list (1/4 cup cooked, ½ cup raw)
- If you are still hungry/not full, pick one food from grains/fruits list (1/4 cup)

Protein:

- Chicken breast (no skin)
- Ground chicken
- Ground turkey
- Turkey (no skin)
- Low-sodium cold cuts: chicken, turkey, ham
- Pork tenderloin
- Lean ground beef (93% lean or greater)
- Lean beef: flank steak, round cuts
- Fish: salmon, tuna, cod, etc.
- Shrimp
- Other seafood: lobster, scallops, etc.
- Eggs/egg whites
- Tuna or chicken salad (with non-fat Greek yogurt or fat-free mayo)
- Beans/lentils
- Edamame
- Soy protein products (tofu, veggie burger, etc)
- Turkey jerky (use in moderation bc it is higher in sodium)
- Cottage cheese
- Low-fat cheese: mozzarella, skim ricotta, low fat cheddar

Vegetable:

- Salad (any ingredient except cheeses/bacon/high fat dressings)
- Asparagus
- Broccoli
- Spinach
- Kale
- Artichoke
- Beets

- Squash: zucchini, yellow, butternut, spaghetti
- Tomato
- Cucumber
- Carrots
- Sugar snap peas/Snow peas
- Green beans
- Cabbage
- Brussel sprouts
- Cauliflower
- Mushrooms/onion/pepper
- Celery
- Greens: collard, mustard
- Avocado

Grains/Fruits:

- Brown rice
- Whole wheat pasta
- Whole grain bread
- Quinoa
- Potato/sweet potato
- Corn
- Apple
- Berries: black/straw/blue
- Banana: ½
- Peach
- Mango
- Pineapple
- Plum
- Orange
- Grapefruit

Protein Goals (height-based)-- these are starter goals, and may be adjusted at follow up appointments:

5'5" or less: 60-80 grams/day

5'6" - 5'7": 70-90 grams/day

5'8" - 5'11': 80-100 grams/day

6'0" - 6'1": 100-120 grams/day

6'2" – 6'3": 120-140 grams/day

6'4 and over: 140-160 grams/day