

Bariatric Surgery: A Viable Option for Long-Term Weight Loss

“MBSAQIP Comprehensive Center”

What does this mean?

This means Presbyterian St Luke’s Medical Center meets all criteria as a Comprehensive Center according to national quality standards established to deliver safe, high quality bariatric patient care. This credential designates that a surgical facility has met rigorous standards for high-quality surgical care.

What does the designation mean?

- A multidisciplinary approach to treatment of bariatric surgery patients
- A program that meets the standards of both the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP), a joint program of the American College of Surgeons (ACS) and the American Society for Metabolic and Bariatric Surgery (ASMBS).
- Accredited centers with experienced bariatric surgeons have better outcomes
- The high volume consistent with a Comprehensive Center translates into lower complication rates

What are the areas of emphasis at our Facility?

At our Comprehensive Center, we have experienced professionals. Favorable results best highlight the success. Some of our program’s unique strengths:

- We have a compassionate and experienced multidisciplinary team
- We have a program with complete pre- and post-operation support
- Patient education is an integral part of our program, complete with an extensive patient “manual”, education series, and support groups.
- We provide long-term follow-up with our multidisciplinary team resulting in excellent continuity of care
- Follow-up and guidance provided to our patients aids them in making necessary lifestyle and dietary changes for long-term success

Testimony to the importance and effectiveness of bariatric surgery

It is not uncommon to hear negative press coverage regarding complications of deaths which have resulted from bariatric surgery. This is a testimony to the importance of seeking an accredited facility since these centers have low rates of complications and mortalities. It is equally important to recognize that for those with morbid obesity, there is NO other effective treatment. Bariatric surgery allows patients to:

- Lose significant weight
- Reverse many obesity-related health problems
- Favorably impact longevity and quality of life
- Our Bariatric Surgery program is committed to supporting this important trend in healthcare.
- Potentially “life-saving”

Facts and Stats for the Morbidly Obese:

- Life expectancy is shortened by approximately 15 years
- 300,000 obesity-related deaths expected yearly
- 33% of the world’s adult population is overweight or obese
- Obesity increases one’s risk of contracting diabetes, high blood pressure, high cholesterol, coronary artery disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and cancers of the breast, prostate, and colon.
- 95% of people fail diet and medical therapies for long-term weight loss
- Hundreds of dollars are spent on weight loss diets, programs, and products
- Co-morbidities appear early and continue to increase in severity
- Prescription drugs often become a life-long commitment
- Quality of life is greatly diminished
- Social discrimination is a reality

What Bariatric Surgery Offers

- An effective means of substantial long-term weight loss
- Improvement and resolution in 80% of co-morbidities
- Use of many medications no longer needed
- Quality of life improves
- Daily living is positively impacted (jobs, relationships, family life)
- Lasting opportunity to achieve good health

Potential Cost Savings in the Long Run

- Cost savings in absence of medications (≈\$100/mo)
- Cost savings in co-pays and medical procedures (≈\$100/mo)
- Cost savings in food with smaller portions/better choices (≈\$140/mo)
- Overall cost savings of potentially \$4,000/yr (fewer medications, fewer doctor visits, elimination of weight loss products, and reduced food/beverage consumption)
- Surgery would pay for itself within 4-5 years

An Overview: Laparoscopic Sleeve Gastrectomy “Weight Loss Surgery”

Goals and Objectives

Bariatric surgery, more commonly known as weight-loss surgery, is now considered to be the most effective way for those who suffer from clinical morbid obesity to lose and maintain a healthy weight. People who are morbidly obese have generally made multiple attempts at diet plans and exercise programs but have not achieved lasting success. Often, not only is the lost weight regained, extra pounds are added as well.

The goal of weight loss surgery is to reduce excess weight as well as co-morbid medical conditions. Co-morbid conditions are those which occur at the same time as another medical problem, often as a result of the initial condition. Co-morbidities associated with morbid obesity include type II diabetes, hypertension, sleep apnea, shortness of breath, asthma, joint pain, high cholesterol and depression. Many of these conditions will improve or even resolve as a result of surgery and subsequent weight loss.

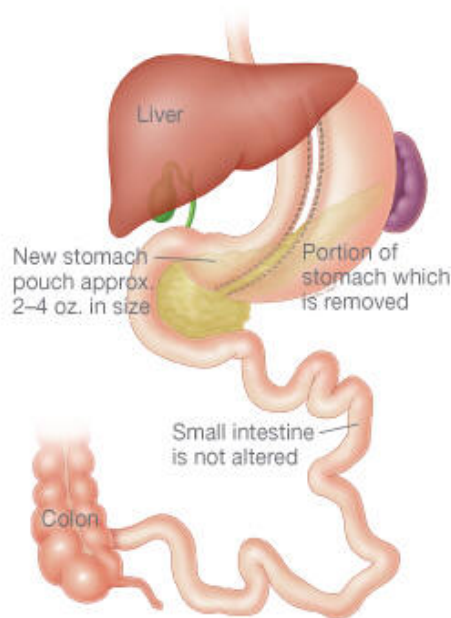
The Laparoscopic Sleeve Gastrectomy (or Gastric Sleeve) accounts for 42 percent of weight loss operations. Growing in popularity, the procedure helps obese patients lose up to 70 percent of their excess body weight during the 12 months following surgery (ACS September 2016). It is recognized as a safe and effective procedure for achieving weight loss in the treatment of morbid obesity. It is very important to realize that the Gastric Sleeve is a “tool” and that you will need to learn to use it correctly in order to be successful at long-term weight maintenance. It is a powerful way to limit the amount of calories that you consume each day without leaving you feeling deprived or hungry. However, you must also engage in behavioral modification, good nutrition, and a moderate exercise program to achieve long-term success.

You must realize that everyone’s experience is different. Unlike the gastric bypass, weight loss after the gastric sleeve occurs more slowly. Even with gastric sleeve, the weight loss will occur at different rates for different patients. The key to success is not to get frustrated or discouraged. Remember, we are here to support you and answer all of your questions.

Laparoscopic Sleeve Gastrectomy (LSG)

The laparoscopic sleeve gastrectomy (LSG) was originally used as part of a two-part process for those who were at a high risk for gastric bypass surgery. However, the Gastric Sleeve is now being used on its own as a primary restrictive weight loss procedure. The surgery is performed by removing 70-85% of the stomach longitudinally which results in a “sleeve” shape and a resulting stomach size of 70-100 cc (1/4-1/2 cup of 2-4 oz). The stomach is cut and stapled along the greater curve and the detached portion of the stomach is removed through one of the laparoscopic incisions. This portion of the procedure is not reversible. The nerves to the stomach and the pylorus remain intact allowing the stomach to continue to function normally while holding a limited volume. Note that there is no intestinal bypass with this procedure, only stomach reduction. The surgery functions to provide gastric restriction (≤ 300 mL) and decreases levels of the hormone ghrelin which is produced by the stomach and acts to stimulate hunger.

The projected weight loss expected with this surgery is approximately 50% of excess body weight in the first year post op. The LSG is also associated with improvement in co-morbidities such as diabetes, hypertension, dyslipidemia and joint pain. Studies have shown that LSG can significantly improve symptoms of diabetes independently of weight loss. There has been a connection, however, in improvement in diabetes control and duration of diabetes prior to surgery. There may be a lower rate of diabetes resolution the longer one has had diabetes. The exact mechanism for diabetes improvement is still being researched but some studies have shown an increase in hormones which act to enhance insulin sensitivity after LSG, low calorie intake may give the pancreas time to rest which may improve insulin sensitivity, decrease in the hormone grehlin (produced in the stomach) can improve insulin sensitivity and secretion, and quickened stomach emptying may enhance insulin secretion. It is important to remember that everyone is different and some may see a marked improvement in diabetes after surgery while others may not. It will be very important after surgery to follow up consistently with the doctor managing your diabetes to adjust medications as needed.



http://gaby.gastricsleevepatient.com/Gastric_Sleeve_Weight_Loss_Surgery.htm

Complications

As with any surgical procedure, there is a risk for complications with the Laparoscopic Sleeve Gastrectomy surgery.

Possible complications are:

- Bleeding
- Leak
- Stenosis
- Stricture
- GERD

Preoperative Process for Laparoscopic Gastric Sleeve Surgery

- Weight-loss surgery is a complex, personal, and life-altering decision. Many changes in lifestyle and dietary habits are required to make the surgery a success. Since old habits are hard to break and new ones difficult to establish, it is wise to begin implementing changes now that will continue for the rest of your life. By doing so, not only will you find it easier to accept and adopt the changes immediately following surgery, but you will also decrease the possibility of complications and improve your opportunity for overall success. Changes you can initiate prior to surgery include:
 - **Eat sensible.** Do not “binge” or eat each meal as if it were your “last.” Start making healthy nutrition choices, decrease intake of foods high in fat and simple sugars, eat slowly and deliberately, and chew food thoroughly. Increase your awareness of detrimental eating habits such as snacking or emotional eating.
 - **Exercise.** Do some investigating and choose the exercise program that is right for you. Exercise contributes significantly to overall success. Some recommended exercise programs include: daily walking, water aerobics, swimming, biking, and light weight lifting. Starting an exercise program prior to surgery will increase your strength and stamina, aiding in a faster recovery. Once you have recovered, it will be easier to resume an exercise routine you are already familiar with.
 - **Drink plenty of water.** Water is a key component in promoting weight loss, since it is needed to adequately metabolize fat. Water also aids in digestion and distribution of the nutrients in food. After surgery it is recommended that you obtain a minimum of 64 ounces of fluid daily. It is recommended that you do not drink water with meals, for 30 minutes after meals, or drink too much water at any single time following surgery. Therefore, it will be very important that you take frequent sips of water throughout the day. Become accustomed to carrying a water bottle with you at all times. Try using water to replace calorie-containing beverages like sodas, sports drinks, or coffee-beverages, which will not be part of your long-term weight loss plan.
 - **Start taking daily multivitamin and mineral supplementation and 1500 mg Calcium Citrate.** See vitamin and mineral supplementation section for specific times.
- Certain tests may be required following initial evaluation, such as a chest X-ray, EKG, and cardiology or pulmonary clearance. These can be scheduled through your primary care physician’s office or appropriate facility (based upon your insurance plan).
- Weight loss is recommended prior to surgery. Since weight is lost from the abdominal organs first, visibility is enhanced for your surgeon, improving the chances of having your procedure successfully performed laparoscopically. This will decrease surgical risk, complications before and after surgery, and bring you closer to your long-term goal.
- You **MUST** stop taking the following medications two weeks prior to surgery:
 - Anti-Inflammatory Medications- this includes any prescription medications as well as over-the-counter medications such as Advil, ibuprofen or aspirin
 - Estrogen Replacement Medications
 - Birth Control Medication
 - Herbal Products (some may cause blood thinning)
- Inform your surgeon if you are taking blood thinners for medical reasons so arrangements can be made.
- During your pre-operation appointment with your surgeon/physician’s assistant/nurse practitioner:
 - Bring a list of ALL your medications as well as any pertinent medical records or radiographic films.
 - You will be advised on how to take your prescription medication during your clear liquid diet.
 - The need for possible prescription medications following surgery, such as Pepcid (antacid) or Vicodin (pain) will be discussed. If needed, you will receive these prescriptions during your hospital stay.
 - Write down all questions that you may have about your surgery so that you don’t forget to ask before signing your surgical consent form.
- Wean yourself off of any caffeinated and carbonated beverages.
- Start your clear liquid diet 2 days before surgery.

- Discontinue usage of any vitamin or mineral supplements during your 2 day clear liquid diet.
- You should have nothing to eat or drink after midnight the evening before your surgery unless specifically told by the surgeon that you can have a sip of water with medication the morning of surgery.
- Notify your surgeon if any changes in health occur prior to surgery.

Hospital Admission

- Bring your identification card and health insurance card with you to the hospital. Do **NOT** bring jewelry or other valuables
- Upon arrival to the hospital check in at A.M. Admissions, located on the 1st floor by the cafeteria.
 - A small IV will be inserted into your arm to administer fluids and antibiotics.
 - Additional blood tests may be drawn if indicated.
 - You will receive an injection of blood thinning medicine (Lovenox) to prevent blood clots.
 - Education will be provided on how to prevent blood clots and respiratory complications.
 - You will be instructed on how to use the incentive spirometer (breathing exercise). A spirometer is a type of medical equipment used to help you maintain the function of your lungs after surgery.
- When it is time for your surgery:
 - You will be wheeled to the operating room (OR) suite and moved to the operating table.
 - You will notice that several people are in the OR to provide assistance.
 - The anesthesiologist will then give you a combination of inhaled and IV medications to put you to sleep.
 - After you are asleep, compression stockings will be applied to your lower legs to prevent blood clots. Pads and pillows will be placed under your arms and feet.
 - The surgery takes approximately 1-2 hours and is performed laparoscopically:
 - ❖ A few small incisions will be made in the abdominal wall.
 - ❖ Hollow tubes will be inserted into the incisions.
 - ❖ Surgical instruments and a small camera will be passed through the tubes.
 - ❖ The information taken by the camera will be seen on a monitor.
 - You will awaken in the recovery room and remain there for 1-2 hours.
 - The surgeon will speak with your significant others immediately following the surgery. If your family is not in the waiting room, the surgeon will call them at your request. Please be sure to provide this information to the nurse in the preoperative area.
- Once you are stable and awake:
 - You will be moved to your hospital room.

Postoperative Recovery

- Nurses and assistants will be available to help you begin walking.
- You will be encouraged to breathe deeply, cough, and walk as much as possible.
- Intravenous pain medication and anti-nausea medication will be provided to you as needed. You will also receive another dose of antibiotics and another injection of blood thinning medication that evening.
- Upon resuming liquids, GO SLOWLY. Small sips only. Gulping fluids may make you uncomfortable or vomit.
- Typical hospital stay is 1 night depending on fluid intake and post-operative recovery.
- When you arrive at home:
 - Continue your clear liquid diet.
 - Walk as much as you comfortably can.
 - Cough and breathe deeply in order to restore normal lung function.

Home Care Following Hospital Discharge

- Immediate Home Care
 - Breathe deeply and cough each hour.
 - Walk several times during the day. If you are traveling some distance, you will need to make frequent stops each hour to walk.
 - Maintain a liquid diet for 1 week following surgery.
 - Keep a water bottle with you at all times and sip, sip, sip. NO STRAWS
- Diet
 - It is very important that you follow our diet guidelines precisely.
 - You should be drinking at least 48 ounces (6 cups) of water or calorie-free beverages each day and slowly increasing towards 64 ounces (8 cups) daily.

- Start taking your chewable multi-vitamins, B12 or B50 complex daily as directed. If you are experiencing nausea after taking your supplements you may wait a couple of days and then retry.
- Activity
 - You are not under any formal restrictions. You may drive when you feel safe to do so and are off narcotic pain medications.
 - Exercise should begin on day one after surgery and continue. Gradually increase the time, intensity, and duration of your physical activity towards your recommended goal. You will be walking while in the hospital and should continue with walking as your exercise until you are cleared for more strenuous activity by your surgeon.
 - Do not engage in any strenuous activity or heavy lifting for at least 4 weeks.
 - You may shower, however, no swimming or soaking until your wounds are completely healed and you receive clearance from your surgeon/physician's assistant/nurse practitioner.
 - Any other unique activities such as air travel, long distance road trips, or special events should be brought to the attention of your surgeon for specific instructions.
- Wound care for your incisions:
 - There will be no dressings or sutures visible. The surgeon uses Dermabond which is a type of surgical glue
 - If you have any drainage from your incision you can place a bandage over it.
 - All stitches are buried and absorbable.
 - Do not apply hydrogen peroxide or antibiotic ointment
- Please **Seek Medical Attention (call your surgeon's office)** if any of the following occurs:
 - Fevers >101.5F
 - Difficulty breathing
 - Swelling or pain in one leg
 - Severe nausea
 - Persistent vomiting
 - Abdominal pain gets worse rather than better
 - Incision becomes red and tender
 - Foul smelling discharge from incision
 - Inability to maintain hydration or tolerate fluids
 - Any questions or concerns, remember we are here to answer them

Follow-Up

- You will need to call the office and make an appointment for 2 weeks after your date of surgery. You will meet with your surgeon during this visit. If you have any questions or concerns prior to this appointment, please don't hesitate to call the office.

Long Term Changes in Eating Habits

- The smaller stomach requires that you eat slowly, chew well, and limit your intake.
- Eat 5 to 6 small frequent meals of approximately ¼- ½ cup per serving. Long term, as your portion sizes increase to 1 cup per meal, your meal pattern will change to 3 meals per day and one protein containing snack.
- Your daily protein goal is 60-80 grams.
- Try to only eat solid foods. Solid foods will keep you full longer and fill you up with fewer calories.
- Eat slowly and chew your food until it is mushy. Increase the length of your mealtime to at least 20 minutes. After 20 minutes stop eating. This routine will allow you to chew foods better and will help prevent overeating.
- Eat only at specified meal times. Avoid snacking. Constant nibbling or "grazing" behavior throughout the day defeats the purpose of the operation. You will not reach your optimal weight loss goal and/or weight maintenance goal.
- Stop eating as soon as you are satisfied. One additional bite may make you feel very uncomfortable, perhaps causing you to vomit.
- Select a balanced diet. Since the quantity of food you can eat at each meal is reduced (only about 2-4 oz), it is important that what you eat is of good nutritional value. Meals should include a lean protein source (meat, fish, eggs, or cheese), fruit or vegetable, and whole grains. Remember to always eat protein first!
- Drink 8 cups (64 ounces) of water or low calorie beverages (**between meals**). Call the office if you cannot consume at least 32 ounces of fluids per day in the first couple of weeks following surgery.
- Do not drink any high calorie beverages (more than 20 calories per cup) between meals. This included soda, juice, alcohol, flavored coffee drinks and sports drinks.

- **Sip** your beverages slowly. The size of the sleeve will not let you gulp liquids initially. Gulping beverages may lead to vomiting and/or pain.

Medications

- **Regular Medications**
 - You may resume all of your preoperative medications when you go home. Your surgeon will discuss any changes to medications before you are discharged.
 - You should wait 2 weeks before resuming oral contraceptives or hormone replacement therapy.
 - ❖ Start a new birth control pill pack after your period.
 - ❖ You will need to progress through an entire pack to be protected against pregnancy.
 - Continue to consult your PCP for medication modifications as weight loss continues.
- **Medications to Avoid Following Sleeve Surgery**
 - Following your gastric sleeve surgery, it is advisable to refrain from using non-steroidal anti-inflammatory (NSAIDS) medications. One of the most common adverse effects of NSAIDS is gastrointestinal upset possibly leading to the development of an ulcer in your sleeve. Here is a list of NSAIDS to avoid:
 - ❖ **Salicylates**
 1. acetylsalicylic acid (Aspirin)
 2. choline Mg trisalicylate (Trilisate)
 3. diflunisal (Dolobid)
 4. salsalate (Disalcid)
 - ❖ **Arylacetic Acids**
 1. naproxen (Naprosyn, Aleve)
 2. naproxen sodium (Anaprox)
 3. fenoprofen calcium (Nalfon)
 - ❖ **Acetic Acids**
 1. indomethacin (Indocin)
 2. sulindac (Clinoril)
 3. tolmetin sodium (Tolectin)
 4. diclofenac (Voltaren, Cataflam)
 - ❖ **Anthranilic Acids**
 1. mefenamic acid (Ponstel)
 2. meclofenamate Na (Meclomen)
 - ❖ **Propionic Acids**
 1. ibuprofen (Motrin, Advil, Nuprin)
 2. ketoprofen (Orudis, Orudis-KT)
 - ❖ **Pyrrolacetic Acids**
 1. ketorolac (Toradol)
 - ❖ **Other**
 1. etodolac (Lodine)
 2. nabumetone (Relafen)

Nutrition Guidelines for Gastric Sleeve Surgery

Suggested Shopping List Prior to Surgery

Equipment:

- Measuring cups and spoons
- Food scale
- Small plates, bowls, and utensils
- Water bottle
- Blender or food processor
- Strainer
- Individual serving size freezer containers
- Bariatric cookbook/recipes

Food:

- Protein supplements (powder or ready to drink shakes), refer to approved list
- Skim, 1%, Lactaid or unsweetened soy milk
- Low-sodium broth (chicken, beef or vegetable)
- Low-fat, low-sodium canned soups
- Sugar free Jell-O™
- Sugar-free popsicles
- Low calorie beverages *refer to low calorie beverage choices

Supplements (please refer to the vitamin and mineral supplement section for brand selection).

- Chewable multi-vitamin (adult)
- Chewable or liquid calcium citrate with Vitamin D
- Iron (if not in multivitamin)
- B50 complex or B12 supplement

Pre Surgery: Clear Liquid Diet (2 days prior to surgery)

- Completely wean yourself off of any caffeinated and carbonated beverages prior to starting the clear liquid diet.
- The clear liquid diet will start three days before surgery.
- It is very important that you follow these instructions. The clear liquid diet will allow for initial weight loss, provide ample hydration, and adequately shrink your liver to allow for a better surgical view.
- Your goal should be to consume a minimum of 64 ounces (8 cups) of fluid daily.
- You may drink or eat as much of the clear liquids as you like.
- Clear liquids are to be sugar-free, low calorie, and non-carbonated.
- Discontinue consumption of liquids at midnight the night before surgery. You may have a sip of water with your medications the morning of surgery, ONLY if instructed during your pre-operation appointment to do so.

Clear liquids include the following:

Water
Broth (chicken, vegetable, beef)
Sugar-free gelatin
Decaffeinated tea
Sugar-free popsicles
Ocean Spray™ Diet Juice (made with Splenda®)
Crystal Light
Sugar-free Kool Aid™
Other sugar-free, low-calorie beverages that contain 5 calories or less per serving (see “Low Calorie Beverages Choices”)

Low Calorie Beverage Choices

Beverage	Serving	Calories	Sugar (g)	Protein (g)	Sodium (mg)
AquaFina Splash	8 oz	0	0	0	65
*Crystal Light	8 oz	5	0	0	10
*Crystal Light On-The-Go packs	1 pk	5	0	0	10
FUZE Slenderize (sweetened w/ Splenda & Sweet-One)	8 oz	10	1	0	5
Gatorade G2 Low Calorie Drink	8 oz	20	5	0	110
Glaceau Vitamin 10 Water	8 oz	10	3	0	0
Glaceau Vitamin Water Zero	8 oz	0	0-1	0	0
Hint Unsweetened Essence Water	16 oz	0	0	0	0
Joint Juice Performance Water	16.9 oz	10	2	<1g	50
Joint Juice Supplement Drink	8 oz	20	2	0	120
Kool Aid Sugar Free Drink Mix	8 oz	5	0	0	0-10
MetroMint	8 oz	0	0	0	0
Nestle Pure Life	8 oz	0	0	0	50
Ocean Spray Diet Juice (sweetened with Splenda)	8 oz	5	2	0	50
O Water	8 oz	0	0	0	
Powerade Zero	8oz	0	0	0	100
Propell Fitness Water	8 oz	10	2	0	35
Safeway Eating Right Brand Vitamin Water	20 oz	0	0	0	
Snapple Diet Drinks	8 oz	0-10	0	0	0-5
SoBe Lean- Diet (Sweetened w/ Splenda & Sweet-one)	8 oz	5	0	0	15

* Contains Aspartame

Criteria for low calorie beverages:

1. Contain 5 grams of sugar or less per serving.
2. Contain 20 calories or less per serving.
3. Total calories from fluids should not exceed 60 calories per day. **Do not drink your calories.**
4. If you consistently drink vegetable juice, skim, 1%, Lactaid, or soy milk limit to no more than 12 ounces per day as these beverages contain more than 20 calories per serving.
5. Watch sodium content of beverages. According to the American Heart Association one should not exceed 1500 mg sodium daily from both beverages and foods.

Fluids – Why Are They So Important?

Adequate fluid intake is absolutely vital to your health and well-being. While humans can survive weeks without food, we can survive only a couple of days without water! Throughout your weight loss journey, you will repeatedly hear us talk about the importance of adequate fluid intake. What you drink, and how much you drink, is just as important as the food you eat.

We ask that you drink a **minimum of 64oz** (or 8 cups) of water, or a low-calorie beverage, every day. Water is the optimal choice to meet your daily fluid needs, but there are several low-calorie beverage alternatives you may try as well (see provided list). You will need to sip your fluids gradually throughout the day, thereby *preventing* dehydration. In the early stages of dehydration, you may feel no symptoms at all. So please don't wait until you feel thirsty - by then you are already partially dehydrated.

Why Do I Need To Drink At Least 64 Ounces Of Fluid Each Day?

- Replenish fluids lost through normal bodily functions, such as breathing, sweating and urinating
- Facilitate numerous biochemical and metabolic processes, many of which involve weight loss!
- Enable proper muscle function, including your heart. (Muscle tissue is 70% water)
- Maintain healthy, glowing skin
- Feel alert and energetic
- Maintain a stable electrolyte balance in the body
- Ensure optimal functioning of the digestive and urinary tract
- Maintain healthy blood pressure levels

Beware the Consequences of Dehydration:

- Hunger
- Headaches
- Fatigue and Dizziness
- Irritability
- Heat exhaustion
- Muscle cramps
- Poor concentration and motor performance
- Dry skin and wrinkled appearance
- In extreme cases, death!

Post-Surgery Nutrition Guidelines:

This diet is designed to restrict caloric intake, help develop healthy eating habits, prevent disruption or obstruction to the pouch, and assure adequate nutrient intake while producing desired weight loss.

Primary Long Term Goals:

1. Eat **ONLY** 4-5 small meals or snacks of 1/4-1/2 cup per meal. Long term, when your portions have increased to ~1 cup per meal switch to 3 small meals and 1 high protein snack each day.
2. Protein goal is 60-80 grams per day. Eat protein first at each meal to help maximize protein intake.
3. Take 20-30 minutes to eat your meals. Eat very slowly. Chew foods thoroughly to prevent blockage.
4. Stop eating as soon as you feel satisfied. Consistently overeating can cause your sleeve to stretch out.
5. Drink at least 64 oz. (8 cups) of liquids each day:
 - a. Do not drink during meals and 30 minutes after a meal
 - b. Sip allowed beverages slowly
 - c. Do not use a straw
 - d. All beverages should be low calorie or calorie free (20 calories or less per serving)
 - e. Avoid beverages containing carbonation
 - f. Limit caffeinated beverages
6. A multivitamin with minerals and 1500 mg of calcium citrate with vitamin D, B-50 complex or vitamin B12, and iron supplements are required daily for the rest of your life. Chewable or liquid vitamins for the first couple of weeks may be better tolerated.
7. Start exercising now. Your long term physical activity recommendation is for 300 minutes of moderate intensity activity per week.
8. Avoid straws and gum chewing.
9. Calorie dense foods, beverages, and snacks should be limited to help achieve optimal weight loss and weight maintenance.

Stage I and II: ICE CHIPS to CLEAR LIQUID DIET (Post op Day 1 & 2)

1. After surgery, you will not be allowed to eat any food or drink any liquids until approved by the surgeon.
2. Once approved, you will be able to start on ice chips then advance to sips of clear liquids. The nurses will instruct you to take sips of liquids as tolerated. Your goal is to sip about 1 oz. of fluid every 30 minutes, which equals 2 oz. every hour. If you feel nauseated you may need to decrease the amount of fluid to 1 oz. every hour.
3. Remember to drink liquids slowly. Do not use a straw. Drinking from a straw will cause too much air to enter into the stomach.
4. It is not unusual to experience nausea and/or vomiting during the first few days following surgery. Remember to make sure to drink slowly and take small sips.

Clear liquids include the following:

Water
Broth (chicken, vegetable, beef)
Sugar-free gelatin
Decaffeinated tea

Stage III: FULL LIQUID DIET (Post op Day 3-7)

1. At each meal, sip 2 oz. (1/4 cup), or more if tolerated, of a liquid protein source over the course of 20 minutes. You do not have to finish everything. When you feel full STOP!
2. Drink at least 32 oz. (4 cups) of water or low calorie beverages between high protein drinks. Remember to avoid carbonation, caffeine, and citrus.
3. Make sure you keep track of the amount of protein you consume each day. Remember, you need a minimum of 35 grams of protein each day.
4. Start taking a chewable multi-vitamin with minerals and a B50 complex or vitamin B12 supplement daily. To help minimize nausea, take these with meals.

Foods Allowed	Protein (g)	Foods to Avoid
Broth (chicken, beef or vegetable)	0 g	All other liquids and foods
Sugar-free Jell-O™	0 g	
Sugar-free popsicles	0 g	
Diet Ocean Spray™ (made w/Splenda)	0 g	
Decaffeinated tea	0 g	
Sugar-free Kool Aid™	0 g	
Crystal light™	0 g	
Water	0 g	
1 cup skim, 1%, or Lactaid milk	8 g	
1 cup Fair Life skim milk*	13g	
1 cup unsweetened or light soy milk	6 g	
Protein shake (from approved list)	Varies	
1 cup blended and strained low-fat cream soup made with skim milk	8 g	

***You can add protein powder to all of the above items to either provide or increase the protein content.**

***Fair Life skim milk provides 13g protein, 0g fat and no lactose**

Protein Supplementation

There are numerous options for you in the protein supplement aisle. It is important that you choose supplements that will provide you with complete and high quality protein sources. You should look for products made from milk (whey or casein), eggs, or soy. **Products, which are collagen or gelatin based, are made from animal skins, are not complete, and should be avoided.** Many collagen and gelatin products may state that they have been fortified with amino acids, however, the added amino acids are often not in ample amounts to make it a complete protein. When reading the ingredients list on protein supplements look for:

- Whey protein isolate (best choice)
- Whey protein concentrate
- Whey protein
- Whey protein blends
- Casein protein
- Egg protein
- Soy protein
- Soy protein isolate

Approved Protein Supplements: Ready to Drink

5 grams of sugar or less

Product	Portion	Kcal	Protein	Sugar	Flavors	Where to buy
Atkins shakes	10 oz	160	15	1	Caramel, chocolate, strawberry, mocha, vanilla	Walmart Grocery store
Boost <i>Glucose Control</i>	8 oz	190	16	4	Vanilla, chocolate, strawberry	Grocery store www.boost.com
Cytosport Pure Protein	20 oz	160	40	0	Tangerine, tropical, watermelon	www.bariatriceating.com Vitamin Shoppe www.cytosport.com
Designer Drinks Protein Blitz	1 can	120	30	1	Punch, grape, orange	Vitamin Shoppe
EAS AdvantEdge Carb Control	11 oz	110	17	0	vanilla, chocolate, caramel, strawberry	Walmart Grocery store www.eas.com Vitamin Shoppe
EAS Myoplex Carb Control	11 oz	150	25	1	Vanilla, chocolate, strawberry, caramel	Grocery store http://eas.com Vitamin Shoppe
Isopure Plus	8 oz	60	15	0	Grape, fruit punch	www.bariatriciating.com www.theisopurecompany.com Vitamin Shoppe
Labrada Lean Body Protein Drink	1 can	190	25	0	Chocolate, vanilla, strawberry, banana, cookies and cream	www.bariatriceating.com Vitamin Shoppe
Muscle Milk Light	1 can	160	15	0	Café latte, chocolate, vanilla	Vitamin Shoppe
Muscle Milk Protein H2O	16	60	10	0	Grapefruit, grape	Vitamin Shoppe
Oh Yeah	1 can	220	32	3	Chocolate, cookies and cream, vanilla, banana, strawberry	Vitamin Shoppe
Optimum Nutrition	8.5 oz	140	20	2	Chocolate, Vanilla	Costco
Premier Protein	11 oz	160	30	1	Chocolate, strawberry, vanilla	Safeway, King Soopers
Pro Joe	9.5 oz	120	20	3.5	Chai, mocha, vanilla	www.bariatricadvantage.com
Slim Fast Low Carb	12 oz	190	20	1	Chocolate, vanilla	Grocery store
Worldwide Pure Protein	11 oz	170	35	1	Banana, vanilla, chocolate, strawberry, cookies & cream	www.sportnutrition.com
Zero Carb Isopure Glass	20 oz	150	40	0	Punch, green and black tea, raspberry, grape, mango peach, orange, passion fruit, apple melon, pineapple orange banana	GNC www.bariatriceating.com www.theisopurecompany.com Vitamin Shoppe

Approved Protein Supplements: Protein Powders

5 grams of sugar or less

Product	Portion	Kcal	Protein	Sugar	Flavors	Where to buy
365Whey Protein	1 scoop	80	16	0	Unflavored, chocolate, vanilla	Whole Foods
Bariatric Support Basic Essentials	1 scoop	80	15	1	Chocolate, vanilla	Sprouts
Beneprotein	1 scoop	25	6	0	Unflavored	www.walgreens.com www.nestlenutritionstore.com www.amazon.com
Betty Lou's Low Glycemic Whey	1 scoop	200	22	0	Chocolate, vanilla	Costco
Biggest Loser Protein 2 Go	1 pack	40	6	1	Raspberry, lemonade, blueberry	Whole Foods/Grocery store GNC
Product	Portion	Kcal	Protein	Sugar	Flavor	Where to buy
Biggest Loser Protein All Natural	1 scoop	50	6	2	Vanilla, raspberry, blueberry, chocolate	Whole Foods/Grocery store GNC 24 Hour Fitness
Biochem Sports Ultimate Lo Carb	1 scoop	80	20	<0.5	Natural, vanilla, strawberry, chocolate	Whole Foods Sprouts www.biochem-fitness.com
BSN Syntha-6	1 scoop	200	22	2	Vanilla, chocolate, strawberry	Sam's Club
Carnation Instant Breakfast (0 added sugar)	1 pack.	150	15	12	*sugar coming from milk Vanilla, chocolate	Grocery store
Celebrate ENS-plus MVI and Ca+	2 scoops	150	25	4	Vanilla Cake Batter, Chocolate, Strawberry	www.celebratevitamins.com
Designer Whey Protein 2 Go	1 pack	50	10	1	Pomegranate, orange mango	Whole Foods/Grocery store GNC 24 Hour Fitness
Designer Whey Protein	1 scoop	100	18	2	Unflavored, vanilla, chocolate	GNC Whole Foods/Grocery store www.designerwhey.com Vitamin Shoppe
EAS 100% Whey Protein Powder	1 scoop	120	23	1	Vanilla, chocolate, strawberry	Walmart/ Target Vitamin Shopp http://eas.com
Elite	1 scoop	117	24	0	Mocha, vanilla, chocolate,	www.eliteprotein.com
GNC Pro Performance 100% Whey Protein	1 scoop	140	24	2	Vanilla, chocolate, strawberry	GNC
IDS Multi Pro Whey	1 scoop	122	23	2	Unflavored, chocolate, vanilla, banana, berry	www.idssports.com
Infinite Protein 100% Whey	1 scoop	150	25	3	Vanilla, chocolate, strawberry	www.bariatriceating.com
Inspire Protein Drink	1 scoop	110	30	0	Caramel, peanut butter, chocolate peanut butter, cinnamon cappuccino, chocolate, ice cream sandwich	www.bariatriceating.com
Isopure Natural	1 scoop	115	25	2.5	Unflavored, chocolate, vanilla	GNC Vitamin Shoppe
Muscle Milk Light	2 scoops	100	25	1	Vanilla, chocolate, strawberry, cake batter	GNC www.amazon.com
Optimum Nutrition	1 scoop	120	24	1	Chocolate, Vanilla	GNC

Perfect Zero Carb	1 scoop	105	25	0	Strawberry, chocolate, vanilla,	http://theisopurecompany.com
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Isopure					pineapple orange banana, mango peach, cookies and cream, mint chocolate, banana, punch, melon	GNC Vitamin Shoppe www.bariatriceating.com
Permalink Protein	1 scoop	110	20	5	Chocolate, vanilla, berry	www.permalean.com
Procel Protein	1 pack.	28	5	<1	Unflavored	www.bariatricadvantage.com
Pure Protein	2 scoop	100	24	0	Unflavored	www.bariatriceating.com Vitamin Shoppe
Solgar Whey to Go	1 scoop	70	16	1	Vanilla	Whole Foods Vitamin Shoppe
Syntrax Nectar or Nectar Sweet	1 scoop	90	23	0	Cherry, lemonade, orange, lemon, straw-kiwi, apple, chocolate, vanilla, strawberry	www.bariatricadvantage.com www.si03.com
Unjury Protein Powder	1 scoop	100	20	3	Unflavored, vanilla, chocolate, strawberry, chicken soup	www.unjury.com

Recipes for the Liquid Diet

Basic ingredients to keep at home:

- 100% whey protein powder, 100% soy protein, non-fat powdered milk
- Fresh, frozen, or canned (in own juice or water packed) fruits. Fruits must be unsweetened meaning “no sugar added” and blended to smooth texture.
- Skim, 1%, unsweetened soy or Lactaid milk
- Pure extracts (vanilla, almond, coconut, etc.)
- Da Vinci or other sugar-free syrup (vanilla, hazelnut, caramel, raspberry, etc.)
- Unsweetened cocoa powder, cinnamon, nutmeg, apple pie spice

Basic Shake Starter:

1 scoop protein powder

½ to 1 cup milk, unflavored soymilk or Lactaid

½ cup ice cubes (optional)

- Portion size for protein shakes should be 6-8 oz.
- To increase variety, add your favorite fruit or flavored syrup to your shake.
- Add no more than ¼ cup of fruit for each protein shake.
- When using extract flavoring or sugar-free syrup measure ½ to 1 teaspoon depending on how strong you like the flavor.
- On average an 8 oz. shake will provide about 24 grams of protein (depending on the protein powder you use).
- Please see “Bariatric Cookbooks” list for additional recipe sources.

Recipe Ideas:

<p><u>Apple Pie Almandine</u> 1 scoop vanilla flavored protein powder 1 cup ice 4 ounces water ½ teaspoon apple pie spice ¼ teaspoon almond extract</p>	<p><u>Vanilla Orange Dreamsicle</u> 1 scoop vanilla flavored protein powder 4 ounces water 1 cup ice ¼ teaspoon sugar-free orange gelatin powder ¼ teaspoon vanilla extract</p>
<p><u>Caramel Cream</u> Basic shake starter 4 oz sugar-free vanilla yogurt 1 teaspoon caramel sugar-free syrup * cut back on the amount of ice</p>	<p><u>Chocolate Covered Banana</u> 1 scoop chocolate flavored protein powder 1 cup ice 4 ounces water 1/8 teaspoon banana extract</p>
<p><u>Tropical Blend</u> Basic shake starter ¼ cup frozen papaya 1 teaspoon pure coconut extract ½ teaspoon pure vanilla extract</p>	<p><u>Yogurt Smoothie</u> 1 container (6oz) of sugar-free/low-fat yogurt ½ cup skim milk ¼ cup powdered milk ½ banana or ¼ cup frozen fruit</p>
<p><u>Raspberry Delight</u> Basic shake starter 1 teaspoon sugar-free raspberry syrup</p>	<p><u>Caramel Mocha</u> 1 cup cold decaffeinated coffee 1-2 scoops chocolate flavored protein powder 1 teaspoon unsweetened cocoa powder 3 tablespoons sugar-free caramel flavored syrup 5 ice cubes</p>
<p><u>Blended Cream of Chicken Soup</u> 1 can low-fat cream of chicken soup 1 cup skim, soy or Lactaid milk Heat soup and milk, stirring frequently until just coming to a boil. Blend soup. Add 2 Tbsp. of non-fat powdered milk or 1 packet of Beneprotein to EACH ½ cup serving and mix until blended.</p>	<p><u>High Protein Gelatin</u> 1 box sugar-free gelatin (4 serving box) 2 scoops unflavored Unjury protein powder Follow package directions for dissolving gelatin in boiling water. In separate bowl combine ½ cup cold water and add one scoop of unflavored Unjury at a time until dissolved. Add ice to equal one cup total. Add Unjury mixture to dissolved gelatin and stir until ice has melted. Place in the freezer for at least 30 minutes to chill quickly. 1 cup gelatin = 20 grams of protein</p>

Stage III: FULL LIQUID DIET (Post-Op Day 3-7) SAMPLE MEAL PLAN

Below is a sample plan that you may use while on the full liquid diet. This meal plan provides a minimum of **36** grams of protein and 32 oz. (4 cups) of fluid. Portions may vary for each individual. Stop drinking when you are full. Meals should last 20 minutes.

Time	Portion	Food	Grams of Protein
8:00 AM	¼ cup	Protein Shake	6
Liquid between meal	1 cup	Water or low calorie beverage	
10:00 AM	¼ cup	Protein Shake	6
Liquid between meal	1 cup	Water or low calorie beverage	
12:00 PM	¼ cup	Protein Shake	6
Liquid between meal	1 cup	Water or low calorie beverage	
3:00 PM	¼ cup	Protein Shake	6
Liquid between meal	1 cup	Water or low calorie beverage	
5:00 PM	¼ cup	Protein Shake	6
Liquid between meal	1 cup	Water or low calorie beverage	
7:00 PM	¼ cup	Protein Shake	6
Liquid between meal	1-2 cups	Water or low calorie beverage	
Total Protein			36

- Remember, the serving sizes listed above is only suggestions. If you feel full after ¼ cup (2oz) of liquids then STOP.
- Liquids between meals should be sipped SLOWLY. It may take you one hour to sip 1 cup of fluid.
- If you cannot tolerate milk, try unsweetened soymilk or lactose-free milk (Lactaid). Rice or Almond milk is not acceptable as they are high in sugar and low in protein.
- Please refer to the next page for protein shake recipes.

STAGE IV: SOFT DIET (WEEK 2 through WEEK 5)

1. You will remain on the Soft Diet for 4 weeks, depending on your tolerance. Slowly start adding foods that are soft in consistency. Only try one new food at a time to see if it is tolerated. Soft foods can easily be mashed with a fork.
2. ****During week 2 start with easy textures such as: low-sugar/low-fat Greek yogurt, egg whites or egg substitutes, low-fat cottage cheese (small-curd), fat-free refried beans, sugar-free pudding and blended low-fat soups.**
3. Continue to measure your portions. Start with ¼ cup and increase to no more than a ½ cup serving at each meal. Remember to STOP eating when you feel satisfied.
4. To help with portion control, use smaller plates and bowls. Try using baby spoons and forks or cocktail forks. This will also help with the speed of your eating and bite size. Meals should take 20 minutes to consume.
5. Remember to stay hydrated. Drink 6 cups (48 oz.) of water or low calorie beverages between meals. Avoid drinking during meals and wait 30 minutes after meals before you resume drinking.
6. Start keeping track of the amount of protein you eat every day. Week 2 your protein goal is **50** grams daily. Starting week 3 and beyond your protein goal is **60-80** grams daily.
7. Foods should be cooked without added fats. Bake, steam, poach, boil, or crock pot meats to add moisture. You may season meats with herbs and spices instead of fat after week 3.
8. Moist meats are better tolerated. Add chicken or beef broths, fat free gravies and low fat cream soups to moisten meats. You can finely dice meats for better tolerance. Remember to chew well.
9. Continue to take your multi-vitamin with minerals, B-50 complex or vitamin B12 each day.

Soft Diet Allowed Foods (Week 3,4,5):

Food Group	Foods Allowed	Protein per serving	Foods to Avoid
Meat and meat substitutes *Average 7 grams of protein per serving*	2 Tbsp. (1 oz.) lean ground (turkey, chicken, beef) 2 Tbsp. (1 oz.) baked, broiled or grilled fish 2 Tbsp. (1oz.) water packed tuna or chicken ¼ cup low-fat cottage cheese (small curd) ¼ cup low-fat ricotta cheese 1 oz. low-fat cheese (less than 6 grams of fat) ¼ cup egg substitute or 1 scrambled egg 2 Tbsp. natural nut butter (peanut, almond, soy) ½ cup tofu ¼ cup tempeh 1 ½ oz. soy based meatless burger or nuggets ½ cup pinto, black beans, lentils, edamame or fat-free refried beans 1 cup protein shake	7 grams 7 grams 7 grams 7 grams 7 grams 7 grams 7 grams 8 grams 7+ grams 7+ grams 7 grams 7 grams Varies	Overcooked meats Crunchy peanut butter Lunch meat Sausage Bacon High-fat cheese (6 grams of fat or more per ounce)
Milk *Average 8 grams of protein per serving*	1 cup skim, 1%, or Lactaid milk 1 cup unsweetened or light soy milk ¾ cup (6 oz.) low-fat yogurt/soy yogurt (≤ 15 grams of sugar) ¾ cup (6 oz.) Greek yogurt (≤ 15 grams of sugar) 1 cup sugar free pudding made with skim milk or mixed unflavored whey protein powder 1 cup blended low-fat cream soup made w/ milk	8 grams 6 grams 5 grams 16 grams 4 grams 8 grams	Whole or 2% milk Chocolate milk Milkshakes Regular yogurt (more than 15 grams of sugar per serving)
Fruit	½ cup canned fruit (in own juices or water packed) ½ banana ½ cup soft melon ½ cup unsweetened applesauce	0 grams *Add protein powder or non-fat powdered milk to increase protein	Fruits with skins or seeds (oranges, berries, apples) Fruit Juice
Vegetable	½ cup cooked carrots, green beans, zucchini (no skin or seeds)	2 grams *Add protein powder or non-fat powdered milk to increase protein	Vegetables that are tough or stringy (corn, celery, asparagus, broccoli)

STAGE IV: SOFT DIET (WEEK 2)

SAMPLE MEAL PLAN

Below is a sample meal plan that you may use while on the soft diet. This meal plan provides 50 grams of protein and 6 cups (48 oz.) of fluid. Portions may vary for each individual. Make meals last 20 minutes.

Time	Amount	Food	Grams of Protein
8:00 AM	1	Scrambled egg or egg substitute	7
Liquid between meal	1-2 cup	Water or low-calorie beverage	
10:00 AM	½ cup	Protein Shake	10
Liquid between meal	1-2 cups	Water or low-calorie beverage	
12:00 PM	¼ cup	Sugar-free/low-fat yogurt Greek yogurt	6
Liquid between meal	1-2 cups	Water or low-calorie beverage	
2:00 PM	½ cup	Protein shake	10
Liquid between meal	1-2 cups	Water or low-calorie beverage	
5:00 PM	¼ cup	Low-fat Cottage Cheese	7
Liquid between meal	1-2 cup	Water or low-calorie beverage	
8:00 PM	½ cup	Protein Shake	10
Total Protein			50

** Meals should only be ¼ cup per serving. If you are full STOP eating.

STAGE IV: SOFT DIET (WEEK 3- WEEK 5)

SAMPLE MEAL PLAN

Below is a sample meal plan that you may use while on the soft diet. This meal plan provides 60 grams of protein and 6 cups (48 oz.) of fluid. Portions may vary for each individual. Make meals last 20 minutes.

Time	Amount	Food	Grams of Protein
8:00 AM	¼ cup ¼ cup	Cottage cheese Banana	7
Liquid between meal	1-2 cups	Water or low-calorie beverage	
10:00 AM	½ cup	Protein Shake	10
Liquid between meal	1-2 cups	Water or low-calorie beverage	
12:00 PM	2 ounces ¼ cup	Canned chicken (packed in water) Cooked green beans	14
Liquid between meal	2 cup	Water or low-calorie beverage	
2:00 PM	½ cup	Sugar-free/low-fat yogurt Greek yogurt	12
Liquid between meal	1-2 cups	Water or low-calorie beverage	
5:00 PM	1 ounces ¼ cup	Ground turkey (99% lean) Cooked zucchini (no skin or seeds)	7
Liquid between meal	2 cup	Water or low-calorie beverage	
8:00 PM	½ cup	Protein Shake	10
Total Protein			60

STAGE V – (A): REGULAR DIET (6 WEEK through WEEK 24)

1. After 4 weeks on the soft diet, you may begin the regular diet if ready 6-8 weeks after surgery. Be aware that everyone progresses differently.
2. This is the last stage of the diet progression. Continue to add new foods slowly. No more than 2 new foods per day.
3. During the first phase (A) of the regular diet focus on reaching your protein goal of 60 grams per day and adding in fruits and vegetables. Grains should not be added until the second phase (B) of the regular diet after 6 months post-op.
4. Follow a low fat diet and avoid simple sugars for life. Your protein goal remains between **60-80** grams daily.
5. Continue to measure your portions. Start with ¼ cup and increase to no more than ½ cup serving at each meal. Remember to STOP eating when you feel satisfied.
6. Continue to eat 5-6 small meals each day. As your sleeve expands, 3 meals and 1 high protein snack may be more appropriate.
7. Continue to take your multi-vitamin, B-50 complex and 1500 mg calcium citrate daily for life.
8. Hydration is very important. Continue to drink at least 8 cups (64 oz.) of water or low calorie beverages daily. Avoid drinking during meals and wait 30 minutes after meals before you resume drinking.
9. Continue to track your daily intake. Include portions, protein and fluid intake.

The following are examples of foods from each food group that should be included on the **Regular Diet, Phase A.**

Food Group	Foods Allowed	Protein per serving	Foods to limit/avoid for best weight loss
Meat and meat substitutes	2 Tbsp. (1 oz.) cooked lean meat (chicken, fish, turkey, pork, beef) moist meats are tolerated best 2 Tbsp. (1 oz.) water packed tuna or chicken 1 oz. lean lunch meat (chicken, turkey) 1 oz. (1 slice) low-fat cheese (6 grams of fat or less) ¼ cup cottage cheese ¼ c ricotta cheese ¼ cup egg substitute or 1 scrambled egg 2 Tbsp. natural creamy nut butter (peanut, almond, soy) 1 oz. nuts (in moderation) ½ cup beans, lentils, edamame ½ cup tofu ¼ cup tempeh 1 ½ oz. soy based meatless burger or nuggets 2/3 cup soy crumbles 1 oz. soy chick'n 1 cup protein shake Protein bar	7 grams 7 grams 7 grams 7 grams 7 grams 7 grams 7 grams ~ 7 grams depends on type of nut 7 grams 7+ 7+ 7 10 7 Varies Varies	Over cooked meats Regular peanut butter High fat lunch meat Salami Bologna Hot dogs Bratwurst Bacon Sausage High fat ground meats High fat cheese (6 grams of fat or more per ounce)
Milk	1 cup skim, 1%, or Lactaid milk 1 cup unsweetened or light soy milk ¾ cup (6 oz.) low-sugar/low-fat yogurt or soy yogurt ¾ cup (6 oz.) Greek style yogurt 1 cup sugar free pudding made w/ skim milk 1 cup low-fat cream soup made w/ skim milk	8 grams 6 grams 5 grams 16 grams 4 grams 8 grams	Whole or 2% milk Chocolate milk Milkshake/ Ice cream Regular yogurt (sugar greater than 15 grams per serving)
Starch	½ cup cooked oatmeal made with milk (add unflavored protein powder to help increase protein)	3 grams	Sweetened Cereal (sugar over 5 grams per serving) Pizza dough White bread Pastries Doughnuts Bagels White rice or pasta Instant noodles Chips Crackers Cake Cookies
Fruit	½ cup canned fruit (in own juice or water packed) ½ banana Small fresh fruit (such as peeled apple) ½ cup unsweetened frozen fruit	0 grams	Fruits with tough skins or membranes (may want to wait a couple of months before trying) Fruits with added sugar Fruit juice Dried fruits
Vegetable	½ cup cooked non-starchy vegetable 1 cup raw non-starchy vegetable	2 grams	Vegetables that are tough or stringy such as celery, asparagus, corn or peas (may want to wait a couple of months before trying)

**STAGE V – (A): REGULAR DIET (WEEK 6-24)
SAMPLE MEAL PLAN**

This meal plan provides **61** grams of protein and 8 cups (64oz) of fluid. Portions may vary for each individual. Make meals last 20 minutes.

Time	Amount	Food	Grams of Protein
8:00 AM	1 3 ounces	Scrambled egg Low-fat/sugar-free yogurt	7 8
Liquid between meal	1-2 cup	Water or low-calorie beverage	
11:00 AM	2 ounce 1 ounce ¼ cup	Lean lunch meat Low-fat cheese Vegetables	14 7
Liquid between meal	1-2 cup	Water or low-calorie beverage	
2:00 PM	1 ounce ¼ cup	Low-fat cheese Fruit (no added sugar)	7
Liquid between meal	1-2 cup	Water or low-calorie beverages	
5:00 PM	2 ounces ¼ cup	Baked Chicken Cooked vegetables	14
Liquid between meal	1 cup	Water or low-calorie beverage	
8:00 PM	½ cup	Skim milk	4
Liquid between meal	1-2 cup	Water or low-calorie beverage	
Total Protein			61

** Meals should only be ¼ cup to ½ cup per serving. Start with ¼ cup and if you are full STOP eating. Remember to always eat your protein first!

PHASE V–(B): REGULAR DIET (WEEK 24 AND BEYOND AFTER SURGERY)

1. This is the last stage of the diet progression. At this point you have been able to consistently meet your protein goal **60-80** grams per day and are able to eat a fruit or vegetable at each meal and snack.
2. During this phase (B) of the regular diet you may begin to add whole grains to your diet.
3. Continue to follow a low fat diet and avoid simple sugars for life. Your protein goal continues to remain between 60-80 grams per day. At this stage you should be trying to get the majority of your protein from solid foods rather than protein shakes.
4. Continue to measure your portions. Start with ¼ cup and increase to no more than ½ cup serving at each meal. Remember to STOP eating when you feel satisfied.
5. As your sleeve begins to expand and you are able to hold more, you should start moving towards eating 3 meals and 1 high protein snack.
6. Continue to take your multi-vitamin, B-50 complex, iron and 1500 mg calcium citrate daily for life.
7. Hydration is very important. Continue to drink at least 8 cups (64 oz) of water or low calorie beverages daily. Avoid drinking during meals and wait 30 minutes after meals before you resume drinking.
8. Continue to track your intake. Include portions, protein and fluid intake.

The following are examples of foods from each food group that should be included on the **Regular Diet, Phase B**.

Food Group	Foods Allowed	Protein per serving	Foods to limit/avoid for best weight loss
Meat and meat substitutes	2 Tbsp. (1 oz.) cooked lean meat (chicken, fish, turkey, pork, beef) moist meats are tolerated best 2 Tbsp. (1 oz.) water packed tuna or chicken 1 oz. lean lunch meat (chicken, turkey) 1 oz. (1 slice) low-fat cheese ¼ cup cottage cheese ¼ c ricotta cheese ¼ cup egg substitute or 1 scrambled egg 2 Tbsp. natural creamy nut butter (peanut, almond, soy) 1 oz. nuts (in moderation) ½ cup beans, lentils, edamame (cooked) ½ cup tofu ¼ cup tempeh 1 ½ oz. soy based meatless burger or nuggets 2/3 cup soy crumbles 1 oz. soy chick'n 1 cup protein shake Protein bar	7 grams 7 grams 7 grams 7 grams 7 grams 7 grams ~ 7 grams depends on type of nut) 7 grams 7+ 7+ 7 10 7 Varies Varies	Over cooked meats Regular peanut butter High fat lunch meat Salami Bologna Hot dogs Bacon Sausage High fat ground meats High fat cheese (6 grams of fat or more per ounce)
Milk	1 cup skim, 1%, or Lactaid milk 1 cup unsweetened soy milk ¾ cup (6 oz.) low-sugar/low-fat yogurt or soy yogurt ¾ cup (6 oz.) Greek style yogurt 1 cup low fat unsweetened Kefir 1 cup sugar free pudding made w/ skim milk 1 cup low-fat cream soup made w/ milk	8 grams 6 grams 5 grams 16 grams 8 grams 8 grams 8 grams	Whole or 2% milk Chocolate milk Milkshake/ Ice cream Regular yogurt (sugar greater than 15 grams per serving)
Starch	1 slice whole grain bread ½ cup cooked oatmeal made with skim milk ¾ cup unsweetened high fiber dry cereal (5 g sugar or less) ½ cup potatoes, winter squash, peas, corn 1/3 cup brown rice 1/3 cup whole wheat pasta 1/3 cup Quinoa, Millet, Bulgur 1 serving whole grain crackers (3 grams of fiber or more per serving)	3 grams	Sweetened Cereal (sugar over 5 grams per serving) Pizza dough White bread Pastries Doughnuts Bagels White rice or pasta Instant noodles Chips Regular crackers Cake Cookies
Fruit	½ cup canned fruit (in own juice or water packed) ½ banana Small fresh fruit (such as peeled apple) Unsweetened frozen fruit	0 grams	Fruits with tough skins or membranes (may want to wait a couple of months before trying) Fruits with added sugar Fruit juice Dried fruits
Vegetable	½ cup cooked non-starchy vegetable 1 cup raw non-starchy vegetable	2 grams	Vegetables that are tough or stringy such as celery, asparagus, corn or peas (may want to wait a couple of months before trying)

**STAGE V- (B): REGULAR DIET (WEEKS 24 AND BEYOND)
SAMPLE MEAL PLAN**

This meal plan provides **62.5** grams of protein and 8 cups (64oz) of fluid. Portions may vary for each individual. Make meals last 20 minutes.

Time	Amount	Food	Grams of Protein
8:00 AM	1 ¼ cup 1 Tbsp.	Scrambled egg Cooked oatmeal made w/skim milk ** add unflavored protein powder to help increase protein	7 4
Liquid between meal	1-2 cups	Water or low-calorie beverage	
11:00 AM	1 ounce 1 ounce ¼ cup	Lean lunch meat Low-fat cheese Vegetables	7 7
Liquid between meal	1-2 cup	Water or low-calorie beverage	
2:00 PM	1 ounce ¼ cup	Low-fat cheese Fruit (no added sugar)	7
Liquid between meal	1-2 cup	Water or low-calorie beverages	
5:00 PM	2 oz. ¼ cup ¼ cup	Baked Chicken Cooked vegetables Quinoa	14 2.5
Liquid between meal	1 cup	Water or low-calorie beverage	
8:00 PM	1/2 cup	Low fat cottage cheese	14
Liquid between meal	1-2 cup	Water or low-calorie beverage	
Total Protein			62.5

** Meals should only be ¼ cup to ½ cup per serving. Start with ¼ cup and if you are full STOP eating. Remember to always eat your protein first!

Nutrition 101

The key to good nutrition is to consume a wide variety of healthy, nutritious foods while limiting your intake of less healthy foods. Gastric sleeve surgery will impose upon you several dietary restrictions, as well as decrease the amount of food you consume. However, eating well can be fun and enjoyable! Following surgery, the food choices you make on a daily basis will determine your weight loss success as well as your long-term nutritional status.

Carbohydrates:

What are Carbohydrates?

“Carbohydrates” are a major macronutrient that serves as our body’s primary source of energy. In fact, the human brain requires energy from carbohydrate (and only carbohydrate!) to function properly. Carbohydrates are a vital component of a healthy diet and help us stay energetic and motivated.

Are all Carbohydrates the Same?

The simple answer to this is – NO, they are not all the same. Carbohydrates can be divided in to two general categories; simple carbohydrates and complex carbohydrates. Complex carbohydrates include beans and legumes, whole grains, and starchy vegetables such as sweet potatoes, squash, corn, and peas. These are generally the best choice!

Simple carbohydrates are derived from many processed foods like white bread, candy, donuts, white pasta, white rice and fruit juice. They may provide a quick burst of energy, but end up leaving you feeling down and depleted.

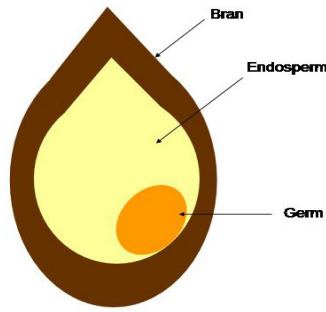
Consuming too many simple carbohydrates can cause dramatic fluctuations in your blood sugar levels, leading to poor concentration, dizziness, hunger and slowed weight loss.

Sugar also falls within the carbohydrate category. “Sugar” comes in many forms including: **brown sugar, powdered sugar, raw sugar, turbinado sugar, sucrose, fructose, corn syrup, high fructose corn syrup, corn syrup solids, honey, agave, maple syrup, molasses, evaporated cane juice, cane juice, white sugar, malt syrup, pancake syrup, fructose sweetener, liquid fructose, brown rice syrup, granulated sugar, jaggary, palm sugar, anhydrous dextrose, crystal dextrose, sucrose, refined cane sugar, beet sugar, dextrose, fructose, maltose, lactose, fruit juice concentrate, powdered sugar, sorghum, glucose, invert sugar, galactose, turbinado sugar, confectioner’s sugar, caramelized sugar, and caramel.** Even some of these naturally-derived sweeteners, such as molasses or genuine maple syrup, should be consumed in moderation. All sugar provides calories, but few nutrients, and may inhibit your weight loss when consumed in excess.

Why Choose Whole Grains?

Whole grain food products are those, which contain *all three components* of the whole grain (see image), each imparting valuable nutrients. The outer **bran** layer provides fiber to support cardiovascular and gastrointestinal health, along with B-vitamins and minerals. The **endosperm** layer is the primary carbohydrate (starch) source of the grain. Lastly, the inner **germ** layer is loaded with Vitamin E (a potent antioxidant), folic acid, phosphorus, thiamin, zinc, magnesium and essential fatty acids. To reap the benefits of these nutrients, we need to choose whole grain foods! Whole grains are rich in B vitamins (thiamin, riboflavin, niacin, and folate), iron, magnesium, and selenium. Examples of whole grains include barley, quinoa, buckwheat, bulgur, corn, millet, brown rice, rye, oats, sorghum, wheat berries, and wild rice.

Processed and refined grain foods, such as white bread, white rice, or instant oatmeal, have had the bran and germ stripped away during the milling process. Although some vitamins and minerals are added back in by a process called “enrichment”, the resulting food product remains nutritionally inferior to and lacking most of the fiber, of the original whole grain.



Health Benefits of Whole Grains Foods are Vast!

- Research has shown that consuming whole grains foods may reduce risk of heart disease, certain forms of cancer, and diabetes.
- Whole grains are naturally low in sodium and fat. They contain no cholesterol or saturated fats.
- Whole grains provide fiber to support digestive health and ward off disease of the gastrointestinal tract.
- Whole grains provide satiety – helping us feel full longer, curb hunger, and assist in weight loss.

Fiber

Dietary fiber is the part of a plant that cannot be digested or absorbed by the body. Fiber is found in fruits, vegetables, whole grains, legumes, nuts, and seeds. It is recommended that one ingest 25-35 grams of fiber daily. Good sources of fiber will contain 5 grams of fiber or more. High fiber foods tend to be low in calories and make one feel full for longer periods of time. There are two types of dietary fiber, soluble and insoluble.

- Soluble fiber absorbs water and turns into a gel. This can slow digestion and soften stool. Soluble fiber may help lower cholesterol and blood sugar levels. Good sources of soluble fiber are oats, peas, beans, apples, citrus fruits, strawberries, and carrots.
- Insoluble fiber adds bulk to stool and promotes the passage of food through your intestinal tract. Adequate insoluble fiber can help with constipation and irregularity. Good sources of insoluble fiber are whole wheat products, wheat bran, nuts, and vegetables.

Benefits of a high fiber diet are:

- Normalization of bowel movements
- Lowers blood cholesterol
- Control of blood sugar levels
- Aids in weight loss

After bariatric surgery it may be difficult to obtain adequate amounts of fiber from foods alone. If this is the case there are numerous fiber supplements available, some examples are: Metamucil, Benefiber, Citrucel, and FiberCon.

Whole Grains – Recommended Brands

Approved products based on fiber, calorie, and sugar content:

Crackers

The following are good choices for crackers. They are all 100% whole grain, have at least 3 grams of fiber, 0-1 grams of sugar, and 120 calories or less:

Brand	Serving	Calories	Fiber (grams)	Sugar (grams)
Ry Krisp Natural	4 crackers	120	8	0
Wasa Fiber Rye	3 crackers	90	7	0
Finn Crisp	6 crackers	120	6	0
Ry Krisp Seasoned	4 crackers	120	6	0
Kavli 5 Grain Crispbread	2 crackers	80	6	0
Wasa Light Rye	3 crackers	90	5	0
Ryvita Flavorful Fiber	3 crackers	90	5	0
Ryvita Dark Rye	3 crackers	110	5	1
Ryvita Sesame Rye	3 crackers	110	5	1
Kavli 5 Grain Crackers	3 crackers	90	4.5	0
Kavli Hearty Thick Crackers	3 crackers	90	4.5	0
Ak-Mak 100% Whole Wheat Stone	5 crackers	120	4	0

Ground Sesame				
Nabisco Reduced Fat Triscuits	7 crackers	120	3	0
365 (Whole Foods) Baked Woven Wheats	8 crackers	120	3	0

Bread

The following are good choices for breads. They are all 100% whole wheat, have at least 2 grams of fiber, less than 5 grams of sugar, and less than 150 calories per slice:

Brand	Serving	Calories	Fiber (grams)	Sugar (grams)
Rubschlager 100% Whole Wheat	1 slice	70	3	2
Rubschlager European Style	1 slice	70	3	1
Orowheat Light 100% Whole Wheat	1 slices	40	7	3
Earthgrains 100% Natural Whole Wheat	1 slice	120	3	5
Pepperidge Farm 100% Whole Wheat	1 slice	90	2	3
Arnold Stoneground Whole Wheat	1 slice	70	2	2
Whole Foods Whole Wheat Bread	1 slice	60	2	0
365 Whole Wheat Bread	1 slice	130	3	0
Rudi's Organic Whole Wheat	1 slice	100	3	2
Fresh Meadow Healthy Hemp Bagel	½ bagel	130	7	1
Fresh Meadow Healthy Hemp Sprouted Bread	1 slice	90	5	1

Cold and Hot Cereals

The following are good choices for cereals. They are all 100% whole grain, have at least 5 grams of fiber, 0-5 grams of sugar, and 200 calories or less:

Brand	Serving	Calories	Fiber (grams)	Sugar (grams)
Cold Cereals				
General Mills Fiber One	½ cup	60	14	0
General Mills Fiber One, Honey Cluster	1 ¼ cup	170	14	5
Kellogg's All-Bran, Extra Fiber	½ cup	50	13	0
Kellogg's All-Bran, Original	½ cup	80	10	6
Kashi GoLean	1 cup	140	10	6
Weight Watchers Flakes'n Fiber with Oats	½ cup	90	9	1
South Beach Diet Toasted Oats	1 ¼ cup	210	8	3
Kashi 7 Whole Grain Nuggets	½ cup	210	7	3
Post Shredded Wheat	2 biscuits	160	6	0
Post Spoon Size Shredded Wheat	1 cup	170	6	0
Weetabix Organic	3 biscuits	180	6	3
Kashi 7 Whole Grain Flakes	1 cup	180	6	5
Post Grape-Nuts	½ cup	200	6	5
Kellogg's Special K, Protein Plus	¾ cup	100	5	2
Kellogg's Complete Wheat Bran Flakes	¾ cup	90	5	5
Post Bran Flakes	¾ cup	100	5	5
Kashi Heart to Heart	¾ cup	110	5	5
General Mills Wheat Chex	1 cup	180	5	5
Hot Cereals				
Cooked				
Quaker Weight Control- Instant	1 cup	160	6	1
Uncle Sam Oatmeal- Instant	1 cup	130	5	0
Flax-Z-Snax Wheat-Free	1 cup	210	15	2
Arrowhead Mills Organic-4 Grain Plus Flax or Steel Cut Oats	1 cup	150	9	0
Bob's Red Mill Organic Cracked Rye	1 cup	110	7	1
Bob's Red Mill Soy Grits	1 cup	130	7	4
Bob's Red Mill Barley Grits	1 cup	130	6	1
Krusteaz Zoom	1 cup	140	5	0

Wheatena	1 cup	160	5	0
County Choice Organic Multigrain	1 cup	130	5	2
Bob's Red Mill 7 Grain	1 cup	140	5	1
Bob's Red Mill 5 Grain	1 cup	120	5	1
Post Bran Flakes	$\frac{3}{4}$ cup	100	5	5
Kashi Heart to Heart	$\frac{3}{4}$ cup	110	5	5
General Mills Wheat Chex	1 cup	180	5	5

Protein- A Building Block of Your Diet

After bariatric surgery your daily protein recommendation is 60-80 grams. Protein is not stored for later use, so daily intake is essential. It is important to understand that all post-operative weight loss patients are at risk for developing protein malnutrition. A variety of factors can lead to inadequate protein intake such as inadequate oral intake, excessive and chronic vomiting, diarrhea, food intolerances, depression, fear of weight gain, substance abuse, and economic stresses. Protein has many roles and is essential to the proper maintenance and functioning of your body. Obtaining adequate protein daily will prevent you from becoming protein deficient and will provide the following benefits:

- Provide energy
- Promote wound healing
- Muscle protein synthesis
- Sparing of lean muscle mass
- Provide satiety
- Prevent protein malnutrition
- Provide essential amino acids
- Synthesis of enzymes needed for reactions in the body such as digestion, blood coagulation and muscle function
- Synthesis of hormones needed to regulate metabolism
- Synthesis of immunoproteins to protect from infection and illness
- Formation of structural proteins that make up skin, bone, cartilage, blood vessels, hair, nails and muscle proteins
- Formation of transport proteins needed to carry nutrients and oxygen in our bodies
- Formation of lipoproteins which transport cholesterol, triglycerides and phospholipids
- Amino acids act as precursors for nucleic acids, coenzymes, hormones, and vitamins

Protein deficiency can have a number of negative consequences such as:

- Muscle wasting
- Hormonal imbalance
- Ketosis
- Weakness
- Hair loss
- Anemia
- Vitamin deficiencies
- Electrolyte and mineral disturbances
- Impaired immunity
- Loss of cardiac and respiratory function
- Poor wound healing
- Loss of cognitive function

There are three types of amino acids (the building blocks of protein): nonessential or dispensable, essential or indispensable, and conditionally indispensable. Dispensable amino acids can be made in adequate amounts by the body, however, dietary amino acids are needed to act as substrates for their synthesis. Indispensable amino acids cannot be made by the human body and must be obtained from the diet. Conditionally indispensable amino acids may become indispensable if adequate amounts of their precursors are not being met through the diet. Complete proteins contain all the essential amino acids in adequate amounts. Complete proteins are animal products such as meat, fish, poultry, pork, milk, cheese, yogurt, and cottage cheese. Incomplete proteins do not contain all the essential amino acids or the amounts of the amino acids are not available in adequate amounts. The inadequate amino acids are considered limiting. Most vegetables, grains, legumes, nuts, and seeds are sources of incomplete proteins. However, by combining different types of plant proteins, a complete protein can be made. These are called complementary proteins. These complementary proteins do not necessarily have to be eaten at the same meal, but do need to be eaten during the same day.

You can combine the following vegetable proteins to make complete proteins:

Grains	Legumes	Nuts/Seeds
Barley	Beans	Sesame seeds
Bulgur	Lentils	Sunflower seeds
Cornmeal	Dried peas	Walnuts
Oats	Chickpeas	Cashews
Buckwheat	Soy products	Pumpkin seeds
Pasta		
Wheat		
Rye		

Your long term goal is to get your nutrition from regularly textured (solid) foods. You will feel satisfied on smaller amounts and for longer periods of time when eating regularly textured foods. When you eat liquids or soft foods such as protein shakes or yogurt you may find you feel hungry sooner. If you are eating a soft food, like yogurt, add some texture to it. For example have yogurt and ½ an apple or some whole grain, high fiber cereal.

When preparing your proteins, remember that moist meats are better tolerated than dry meats. Moist preparations include steaming, boiling, baking, crock potting, or cooking in a low fat, low sugar sauce. These methods of cooking are also low fat. Some other low fat cooking methods are broiling and grilling, however these may also dry out your meats. For flavor, instead of adding fats you may add any combination of herbs and spices, just limit the amount of added salt.

Protein Source	Serving Size	Grams of Protein
Meat, poultry, fish, ground meats, wild game	1 oz.	7 g
Lean lunch meat	1 oz.	7 g
Canned tuna, salmon, chicken	1 oz.	7 g
Egg	1	7 g
Milk	1 cup	8 g
Unsweetened Soy Milk	1 cup	6-7 g
Cottage Cheese	¼ cup	7 g
Low-fat cheese	1 oz.	7 g
Peanut butter	1 Tbsp.	7 g
Tofu	½ c	7 g
Tempeh	¼ c	7 g
Soy based burger	1 ½ oz.	7 g
Low-fat/low-sugar yogurt	1 c	8 g
Fat free Greek yogurt	1 c	20+ g
1 c sugar free pudding (made with skim milk)	1 c	8 g
Dry beans, lentils, edamame	½ c	7 g
Nuts and Seeds	1 oz.	~6 g
Protein Supplements	Varies	varies

Litchford, M. Protein nutrition and bariatric patients. *Weight Management Matters*. Winter 2010: 20-22.

Meat and Meat Substitutes Nutritional Information

The following information will provide you with options for choosing low-fat protein sources. Choose the majority of your proteins from the very lean and lean groups. Choose proteins from the medium-fat and high-fat groups in moderation or avoid.

Type of meat or substitute	Protein (grams)	Fat (grams)	Calories
Very lean meat and substitutes	7	0-1	35
Lean meat and substitutes	7	3	55
Medium-fat meat and substitutes	7	5	75
High-fat meat and substitutes	7	8	100

Information is average per serving, please see below for specific product information.

Poultry

Very Lean	Portion Size
Chicken, white meat, skinless	1 oz.
Turkey, white meat, skinless	1 oz.
Cornish hen, skinless	1 oz.
Lean	
Chicken	1 oz.
White meat, skin	1 oz.
Dark meat, skinless	1 oz.
Turkey	
Dark meat, skinless	1 oz.
Domestic duck or goose (drained of fat, no skin)	1 oz.
Medium-fat	
Chicken, dark meat, skin	1 oz.
Ground turkey, chicken	1 oz.
Fried chicken, skin	1 oz.

Fish/Shellfish

Very Lean	Portion Size
Cod	1 oz.
Haddock	1 oz.
Halibut	1 oz.
Trout	1 oz.
Smoked salmon	1 oz.
Tuna (fresh or canned in water)	1 oz.
Clams	1 oz.
Crab	1 oz.
Lobster	1 oz.
Scallops	1 oz.
Shrimp	1 oz.
Imitation shellfish	1 oz.
Lean	
Herring	1 oz.
Oysters	6 medium
Salmon (fresh or canned)	1 oz.
Catfish	1 oz.
Sardines	2 medium
Tuna (canned in oil, drained)	1 oz.
Medium-fat	
Any fried fish product	1 oz.

Pork

Lean	Portion Size
Top loin chop	1 oz.
Tenderloin	1 oz.
Sirloin chop	1 oz.
Rib chop	1 oz.
Ham (fresh, canned cured, boiled)	1 oz.
Canadian bacon	1 oz.
Medium-fat	
Boston butt	1 oz.
Cutlet	1 oz.
High-fat	
Spareribs	1 oz.
Ground pork	1 oz.
Pork sausage	1 oz.

Lamb

Lean	Portion Size
Roast	1 oz.
Chop	1 oz.
Leg	1 oz.
Medium-fat	
Rib roast	1 oz.
Ground	1 oz.

Veal

Lean	Portion Size
Lean chop	1 oz.
Roast	1 oz.
Medium-fat	
Rib roast	1 oz.
Ground	1 oz.

Game

Very Lean	Portion Size
Duck (no skin)	1 oz.
Pheasant (no skin)	1 oz.
Venison	1 oz.
Buffalo	1 oz.
Ostrich	1 oz.
Lean	
Goose (no skin)	1 oz.
Rabbit	1 oz.

Beef

Lean (Select or Choice grades trimmed of fat)	Portion Size
Bottom round roast and steak	1 oz.
95% lean ground beef	1 oz.
Eye round roast and steak	1 oz.
Sirloin tip side steak	1 oz.
Chuck shoulder pot roast	1 oz.
Round tip roast and steak	1 oz.
Sirloin tip center roast and steak	1 oz.
Shoulder petite tender and medallions	1 oz.
Round steak	1 oz.
Bottom round (Western Griller) steak	1 oz.
Shoulder center (Ranch) steak	1 oz.
Top sirloin steak	1 oz.
Top round roast and steak	1 oz.
Tri-tip roast and steak	1 oz.
Flank steak	1 oz.
Top loin (strip) steak	1 oz.
Chuck shoulder steak	1 oz.
Brisket flat half	1 oz.
Tenderloin roast and steak	1 oz.
Shank cross cuts	1 oz.
T-bone steak	1 oz.
Medium-fat (Prime grades trimmed of fat)	
Ground beef	1 oz.
Corned beef	1 oz.
Short ribs	1 oz.
Prime rib	1 oz.

Cheese

Very lean	Portion Size
Low-fat cottage cheese	¼ cup
Fat-free cheese	1 oz.
Lean	
4.5%-fat cottage cheese	¼ c
Grated parmesan	2 Tbsp.
Cheese with 3 grams of fat or less	1 oz.
Medium-fat	
Cheese with 5 grams of fat or less	1 oz.
Feta, Mozzarella	1 oz.
Ricotta	¼ c
High-fat	
All regular cheeses (Cheddar, Swiss, etc.)	1 oz.

Other

Very lean	Portion Size
Low fat, low sugar yogurt	1 cup
Low fat, low sugar Greek style yogurt	½ cup
Fat free milk	1 cup
Processed sandwich meat (1 gram fat or less)	1 oz.
Egg whites	2
Egg substitutes	¼ c
Sausage with 1 gram fat or less	1 oz.
Beans, lentils, peas	½ c
Hot dogs with 1 gram fat or less	1 oz.
Lean	
1% milk	1 cup
Processed sandwich meat (3 grams of fat or less)	1 oz.
Hot dogs with 3 grams of fat or less	1 oz.
Medium-fat	
2% milk	1 cup
Eggs	1
Sausage with 5 grams fat or less	1 oz.
Tempeh	¼ c
Tofu	4 oz. or ½ cup
High-fat	
Whole milk	1 cup
Processed sandwich meats (8 grams fat or less: bologna, salami, etc)	1 oz.
Sausage (Italian, Polish)	1 oz.
Bratwurst	1 oz.
Hot dog	1 oz.
Bacon	3 slices
Peanut butter	1 Tbsp.

*Adapted from: Exchange Lists for Weight Management, American Dietetic Association and American Diabetes Association, 2003

Protein Content of Common Vegetarian Foods

Food	Serving Size	Grams of Protein
Almonds	¼ cup	8
Almond cheese	1 ounce	7
Barley	1 cup	3
Beans, Peas, & Lentils	½ cup	7
Boca Burger	1 patty	10
Cereal, unsweetened ready-to-eat	¾ cup	3
Cottage cheese	½ cup	14
Egg, large size or substitute	1 egg or ¼ c. substitute	7
Egg white	1 egg white	3
Fat free American cheese	1 slice	7
Fat free cheddar, shredded	¼ cup	9
Hummus	1/3 cup	3
Low-fat creamed soup	1 cup	6-9
Milk or soymilk	1 cup	8
Muesli	¼ cup	3
Nonfat dry milk	1 tablespoon	1
Oats	½ cup	3
Peanuts	¼ cup	9
Peanut butter	2 tablespoons	8
Pecans	¼ cup	2
Pistachios	¼ cup	7
Quinoa	1/3 cup	6
Quorn® Chicken Cutlet	1 Cutlet	11
Quorn® Turkey Roast	1 serving	14
Soynuts	¼ cup	14
Soy cheese	1 ounce	7
Texturized Vegetable Protein (TVP)	¼ cup dry	11
Tempeh, cooked	3 ounces	15
Tofu	¼ cup	5
Vegetables, starchy	½ - 1/3 cup	3
Vegetables, non-starchy	½ c. cooked or 1 c. raw	2
Walnuts	¼ cup	4
Whole grain bread	1 slice	3
Whole grain pasta or rice	1/3 cup	3
Yogurt, light	2/3 cup	8



Protein Bars

BARS	Calories	Protein	Fat	Sugars	Where to buy
Atkins	180-240	11-19	8-11	1	Atkins.com Grocery Store
Bari-15	150	15	6	5 or less	www.smartforme.setpointhealth.com
Detour Lower Sugar	170	15	5	3	www.bariatriceating.com www.detourbar.com
EAS AdvantEdge Carb Control	230	17	8	2	http://eas.com Vitamin Shoppe Walgreens Grocery Store
EAS Myoplex Carb Control	260	25	8	1	Supermarket Target Walgreens
Labrada Rockin Roll Protein Nut Roll	290	21	16	2	www.bariatriceating.com www.labrada.com
Met-Rx Protein Plus	310	32	9	3	www.metrx.com Vitamin Shoppe
Oh Yeah	190-210	14	9-13	2-5	www.bariatricchoice.com www.bariatriceating.com Vitamin Shoppe
Optimal complete Protein Diet Bar	180	20	2.5	0	www.optimumnutrition.com GNC Vitamin Cottage Bally Fitness/24 Hour Fitness, Vitamin Shoppe www.bariatricchoice.com
PermaLean Chocoholic Chocolate	190	21	7	2	www.permalean.com Whole Foods
Power Crunch	200	14	12	5	www.powercrunchbar.com Vitaminshoppe
Powerbar Protein Plus Reduced Sugar	270	22	9	1	www.powerbar.com Grocery Store
Pure Protein	190	18-32	6	3 or less	Grocery Store www.pureprotein.net
South Beach	210	19	6	0	Grocery Store
Supreme Protein Bar	360	30	16	4	www.supremeprotein.com Vitamin Shoppe GNC Bally Fitness Target
Think Thin	~200	20	6-8	1-2	Wal-Mart Vitamin Cottage www.thinkproducts.com
Universal Nutrition Doctor's Diet CarbRite	190	21	4	0	www.allstarhealth.com www.universlanutrition.com
Worldwide Sports Protein Revolution	280	32	9	2	www.allstarhealth.com

Remember to keep track of your protein. Here is an easy chart to assist you in keeping track of protein daily. Just make copies and keep on your person.

Foods Eaten	Portion Size	Protein
<i>Breakfast</i> Time:		
<i>Lunch</i> Time:		
<i>Dinner</i> Time:		
<i>Snack</i> Time:		
		Total:

The Truth About Fats

Despite its unfavorable reputation, fat is a major macronutrient that our body needs to function properly. Don't believe it? Fat from your diet carries fat-soluble vitamins – vitamins A, D, E and K – from the food you eat into your body. If your diet is too low in fat, you may become deficient in any one of these vitamins. Fat is used in the production of cell membranes, regulation of blood pressure, heart rate, blood vessel constriction, blood clotting and nervous system function. Fat gives us energy, maintains healthy skin and hair, protects our vital organs, provides warmth and insulation for our body, and imparts a sense of fullness after meals. Clearly, fat is a necessary component of a healthy diet.

That being said, fat should be consumed in moderation. Just one gram of fat contains 9 calories – that is more than *double* the calories provided by protein or carbohydrate. Excessive fat intake can sabotage your weight loss and, depending on the types of fat you eat, be harmful to your health. Eating too many high-fat foods, like fried foods or even nuts and oils, can quickly lead to weight gain and obesity.

What Are Healthy Fats And Why Are They Important?

The healthy fats include monounsaturated, polyunsaturated and Omega-3 fatty acids. **Monounsaturated fat** is liquid at room temperature and derived from olive, peanut and canola oil, as well as avocado and most nuts. **Polyunsaturated fat** is also liquid at room temperature and derived from various vegetable oils, such as safflower, corn, sunflower, soy and cottonseed oils. **Omega-3 fatty acids** are a form of polyunsaturated fatty acids that are believed to provide numerous health benefits, in particular cardiovascular health. Fatty cold-water fish, like salmon, mackerel and herring are rich sources of Omega-3 fatty acids. Good plant sources of Omega-3 fatty acids include flaxseeds and walnuts.

Choosing foods high in these healthy fats may significantly lower your risk of heart disease. Healthy fats reduce your blood levels of low-density lipoproteins (LDL), also known as “bad cholesterol” that cause fatty deposits (plaques) to accumulate in your arteries. Accumulation of LDL in your arteries can reduce blood flow through your vessels, leading to heart disease and stroke. Consuming healthy fats can also increase your blood levels of high-density lipoproteins (HDL), also known as “good cholesterol”. HDL functions as a “scavenger” by picking up excess cholesterol in the blood and carries it back to the liver to be broken down (rather than accumulate in your arteries!). The higher your HDL levels are, the lower your LDL levels will be. All this to say – **consumption of healthy fats will support your cardiovascular health.**

What Are Unhealthy Fats?

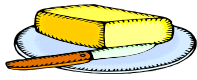
Saturated and trans fats fall under the category of “unhealthy” fats. When consumed in excess, these fats not only promote weight gain but are harmful to our health. Why? Saturated fat and trans fat both increase risk of heart disease by *raising* your “bad” LDL cholesterol levels – precisely what you want to avoid. Some evidence suggests that trans fat may pose a double threat to your health by simultaneously raising “bad” LDL cholesterol and lowering “good” HDL cholesterol. According to the American Heart Association, trans fat intake should not exceed 1 percent of total calories each day. Saturated fat intake should not exceed 7 percent of total calories each day.

Hydrogenated fats are the primary source of **trans fat** in food. The process of hydrogenation changes otherwise healthy liquid oils (naturally rich in unsaturated fats) to solid, saturated forms. While hydrogenation is used by food manufacturers to increase the shelf-life of various food products, it wreaks havoc on your health. Hydrogenated fat is a common ingredient in commercially-baked goods, pastries, cookies and cakes, as well as some seemingly “healthy” foods like wheat bread and whole grain crackers. Always check your ingredient label for hydrogenated fats or partially hydrogenated fats – these are synonymous with “trans fat” and should be avoided. If an item contains < 0.5 g trans fat, manufacturers are allowed to place the claim trans fat free on it. To be sure that your foods do not contain trans fats look for partially hydrogenated oils in the ingredients list. If a food contains partially hydrogenated oils, it contains trans fats

Dietary cholesterol is actually not a fat at all; rather a waxy substance derived from foods of animal origin, such as meat, chicken, eggs, seafood, and dairy products. Cholesterol is not found in plant-derived foods. Our body naturally produces all the cholesterol we need. Dietary cholesterol does promote increased blood cholesterol, but not as much as saturated and trans-fats do, and not to the same degree in all people.

A Simple Guide To Different Types Of Fat

	Saturated Fats	Trans Fats	Monounsaturated Fats (Healthy!)	Polyunsaturated Fats (Healthy!)
What do they look like?	Solid at room temperature	Solid at room temperature, contained in “partially hydrogenated vegetable oils”	Liquid at room temperature, turn solid when chilled	Liquid at room temperature and when chilled
What foods do they come from?	Animal sources: meats, dairy products, butter Plant sources: palm, palm kernel, and coconut oils	Baked goods Fried foods Processed foods Traditional stick margarine Vegetable shortening	Vegetable oils: olive, canola, peanut and sesame oil Avocados, many nuts and seeds	Vegetable oils: soybean, corn, safflower, sunflower Fatty fish: salmon, tuna, trout Most nuts and seeds
How do they affect my heart health?	Raise LDL (bad) cholesterol level Foods high in saturated fats are often high in cholesterol Increase risk of heart disease	Raise LDL levels May lower HDL (good) cholesterol Increase risk of heart disease	Reduce LDL cholesterol May lower risk of heart disease	Reduce LDL cholesterol May lower risk of heart disease
How much should I consume?	Less than 7% of total daily calories	Less than 1% of total daily calories	Total fats should be <30% of total daily calories	Total fats should be <30% of total daily calories



Butter Alternatives

<i>Name</i>	<i>Calories</i>	<i>Total Fat</i>	<i>Saturated Fat</i>	<i>Trans Fat</i>	<i>Uses</i>
Butter	100	11	7	0	Cooking, baking, spreading
<i>Compare to:</i>					
Smart Balance Original	80	9	2.5	0	Cooking, baking, spreading
Smart Balance Light Original with Flax	50	5	1.5	0	Spread or topping
Smart Balance with Calcium	80	9	2.5	0	Spreading, cooking, baking
Smart Balance Whipped Low Sodium	60	7	2	0	Spreading
Smart Balance Organic Whipped	80	9	2.5	0	Cooking, baking, spreading
Smart Balance Omega-3	80	8	2.5	0	Cooking, baking, spreading
Smart Balance Omega-3 Light	50	5	1.5	0	Spread or topping
Smart Balance with Extra Virgin Olive Oil	60	7	2	0	Cooking, baking, spreading
Smart Balance Light with Extra Virgin Olive Oil	50	5	1.5	0	Spread or topping
Smart Balance Light Original	50	5	1.5	0	Spread or topping
Smart Balance Heart Right	80	8	2.5	0	Cooking, baking, spreading
Smart Balance Heart Right Light	45	5	1.5	0	Spread or topping
Smart Balance Buttery Burst Spray with Organic Soy	0	0	0	0	Spray
Smart Balance Omega Non-Stick Cooking Spray	10	1.5	0	0	Cooking spray
Smart Balance 50/50 Butter Blend Original	100	11	5	0	Use like butter
Smart Balance 50/50 Omega-3 Butter Blend	100	11	5	0	Use like butter
Smart Balance 50/50 Butter Blend made with Extra Virgin Olive Oil	100	11	5	0	Use like butter
Brummel and Brown Spread made with Yogurt	45	5	1.5	0	Cooking, baking, spreading
Lucerne Light Spreadable Butter (Safeway brand)	50	5.5	2	0	Spread
I Can't Believe It's Not Butter Original	70	8	2	0	Cooking, baking, spreading
I Can't Believe It's Not Butter Sticks	100	11	3.5	0	Use like butter
I Can't Believe It's Not Butter Light	50	5	1	0	Spread or topping
I Can't Believe It's Not Butter Mediterranean Blend	80	8	2	0	Cooking, baking, spreading
I Can't Believe It's Not Butter Calcium and D	50	5	1	0	Spread or topping
I Can't Believe It's Not Butter Fat Free	5	0	0	0	Spread or topping
I Can't Believe It's Not Butter Spray	0	0	0	0	Cooking spray or topping
I Can't Believe It's Not Butter Squeeze	60	7	1	0	Cooking or topping
Land O Lakes Light Butter	50	6	3.5	0	Cooking, baking, spreading
Land O Lakes Light Butter with Canola Oil	50	5	2	0	Spreading
Land O Lakes Whipped Light Butter	45	5	3	0	Spreading
Land O Lakes Butter with Olive Oil	90	10	4	0	Cooking, baking, spreading
Land O Lakes Butter with Canola Oil	100	11	4	0	Cooking, baking, spreading
Promise Buttery Spread	80	8	1.5	0	Cooking, baking, spreading
Promise Light Buttery Spread	45	5	1	0	Spreading

Promise Fat Free Buttery Spread	5	0	0	0	Spreading
Promise Active Light Spread	45	5	1	0	Spreading
Promise Light Sticks	80	9	2.5	0	Cooking, baking, spreading
PAM Sprays (1 second spray)	7	<1	0	0	Cooking spray
Earth Balance Natural Buttery Spread	100	11	3.5	0	Cooking, baking, spreading

Alcohol

It is recommended after gastric sleeve surgery that one abstain from drinking alcoholic beverages for the first year after surgery. Alcohol is absorbed differently after surgery and you will likely feel the effects on much smaller amounts. Long term, alcohol is a moderation item and should be avoided most of the time. Alcohol contains “empty” calories. Empty calories are defined as calories with no nutritional value. One drink is considered 12 ounces beer (144 calories), 5 ounces of wine (100 calories) or 1.5 ounces of 80 proof distilled spirits (96 calories). As you can see, the calories can easily add up.

Caffeine

After surgery, caffeine consumption should be avoided for the following reasons:

- Large amounts of caffeine can irritate the stomach lining and lead to gastric ulcers.
- Caffeine acts as a diuretic (loss of water) which may cause you to become dehydrated.

Watch for products that contain “Guarana”. Guarana is a substance that is often put into energy drinks because of its’ stimulant effect. Guarana contains caffeine.

Coffee and Tea

Beverage	Portion	Caffeine (milligrams)
Brewed coffee	8 oz	95
Instant coffee	8 oz	62
Espresso	1 oz (1 shot)	64
Starbucks brewed coffee	12 oz (tall)	260
Starbucks Caffe Latte	12 oz (tall)	150
Decaffeinated brewed or instant coffee	8 oz	2
Brewed black tea	8 oz	47
Decaffeinated black tea	8 oz	2
Brewed green tea	8 oz	30-50
Sobe green tea	8 oz	14
Starbucks Tazo Chai Tea	12 oz	75
Yerba Mate Tea	8 oz	25-150 (depending on preparation)

References:

1. <http://www.mayoclinic.com/print/caffiene>
2. Bowes & Church Food Values of Portions Commonly Used. 1998, Lippincott-Raven.
3. <http://www.cbc.ca/consumers/market/files/health/guarana/tests.html>

Label Reading Tips for people who have had Bariatric Surgery

Nutrition Facts	
Serving Size 1 cup (240ml)	
Servings Per Container 2	
Amount per serving	
Calories 230 Calories from Fat 70	
	%Daily Value*
Total Fat 8g	12%
Saturated Fat 3.5g	18%
Trans Fat 0.5g	
Cholesterol 30mg	10%
Sodium 870mg	36%
Total Carbohydrate 25gm	8%
Dietary Fiber 8g	32%
Sugars 5g	
Sugar Alcohol 0g	
Protein 15g	
Vitamin A 10%	Vitamin C 2%
Calcium 4%	Iron 10%

Start with the Serving size-

Look for both the serving size and the number of servings per container. All of the nutrition information on the label is for the listed serving size, so if you eat more than one serving you will need to multiply all of the information by the number of servings you ingested.

Calories-

Choose foods that help you get the nutrients you need without going over your total daily calorie goal.

Total fat, saturated fat and Trans fat-

- To limit calorie and fat intake choose foods with less than 5 grams of total fat or less per serving. Try to choose foods that contain heart healthy fats such as mono and polyunsaturated.
- Less than 30% of your total daily calories should come from fat. This would mean that if you ate 1500 calories per day that your fat intake should be less than 50 grams.
- Saturated fat should be less than 7% of your total daily calories. If you consumed 1500 calories daily, saturated fat should be less than 11 grams.
- Trans fats should not exceed 1% of total daily calories. Therefore, if you consumed 1500 calories daily your trans fat intake should be less than 1.5 grams. You can determine if a product contains trans fats by reading the ingredients list. If you see the word hydrogenated or partially hydrogenated in the ingredients, then the product contains trans fats. Products are allowed to contain up to 0.5 grams of hydrogenated fats to be considered trans fat free.

Cholesterol-

Cholesterol is important for proper functioning of the body. However, the body itself makes ample amounts of cholesterol to maintain these functions. Therefore eating too much cholesterol can contribute to your risk for heart disease. Keep your total daily cholesterol intake to less than 300 mg daily. If you are at an increased risk for cardiovascular disease (have high LDL cholesterol or are on cholesterol lowering medications) you should keep your cholesterol intake to less than 200mg daily.

Sodium-

Some sodium is necessary for proper functioning of the body. However, too much sodium can have negative consequences on one's health, such as high blood pressure which can increase one's risk of cardiovascular disease, congestive heart failure, and kidney disease. Total daily sodium should not exceed 1500 mg according to the American Heart Association as compared to the average American intake of 3400 mg daily. A food is considered low sodium if there is 140mg or less per serving. To limit the amount of sodium you consume daily avoid table salt and limit your consumption of processed and pre-packaged foods.

Total Carbohydrate-

The total carbohydrates heading includes all starches, sugars, fiber, and sugar alcohols contained within a product. Carbohydrate needs vary from person to person. Looking at the breakdown of forms of carbohydrates will give you important information on the nutritional makeup of a product.

Sugars-

When reading the nutrition facts all naturally occurring and added sugars are contained in the grams of sugar per serving. One wants to limit their intake of added sugars. To know if a product contains added sugars you must read the ingredients list. Please see carbohydrates section for a list of added sugars. Naturally occurring sugars, such as those found in fruits and dairy products come packaged with vitamins, minerals, protein, fiber, and other health promoting components. One should limit their intake of added sugars as they provide only extra calories. The World Health Organization recommends that less than 10% of your total daily calories come from added sugars. This would mean that if you ate 1500 calories per day you should consume less than 37 grams of sugar daily.

Dietary Fiber-

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A product with 5 grams or more per serving is considered a good source of fiber. You should strive for at least 25 grams of fiber each day.

Sugar Alcohols-

Many sugar free products will contain sugar alcohols which are sweetening agents. Avoid excessive use of these because they can cause diarrhea. Sugar alcohols include sorbitol, maltitol, xylitol and isomalt. Erythritol would be the exception. This sugar alcohol does not cause any gastric side effects.

Protein-

You want to pay attention to protein and keep track of your daily protein intake. Protein is important for sparing your lean body tissue while you are losing weight as well as the maintenance of numerous bodily functions. Your post-surgery goal is to obtain 60-80 grams of protein each day. Remember to choose low-fat protein sources.

Percent Daily Values-

- Percent daily values are only a reference and pertain to healthy people eating either a 2,000 or 2,500 calorie diet. You can use this information in a general way to see how a particular food fits into your daily meal plan. If a food is 5 percent or less, it is considered low. If a food is 20 percent or higher, it is considered high.
- Focus on the exact amounts of each nutrient, especially if you have been given daily intake goals/limits by your dietitian.

Ingredient list information-

- Foods with more than one ingredient must have an ingredient list on the label.
- Ingredients are listed in descending order by weight. Those in the largest amounts are listed first.
- Manufacturers are required to clearly state if a food product contains any ingredients that contain protein derived from the eight major allergenic foods. These foods are milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat and soybeans.

Food Labeling information-

Here are some of the more common claims seen on food packages and what they mean:

- **Calories**
 - **Low Calorie-** Less than 40 calories per serving.
 - **Calorie Free-** Less than 5 calories per serving.
 - **Reduced-** 25% less of the specified nutrient or calories than the usual product.
- **Good source of-** Provides at least 10% of the daily value of a particular vitamin or nutrient per serving.
- **Sugar free-** less than ½ gram of fat or sugar per serving.
- **High Fiber-** 5 or more grams of fiber per serving.
- **Sodium**
 - **Sodium Free** = Less than or equal to 5 mg
 - **Very Low Sodium** = Less than or equal to 35mg
 - **Low Sodium** = Less than or equal to 140 mg
 - **Reduced Sodium** = Usual sodium content is reduced by at least 25%
 - **No Added Salt, Unsalted** = No salt added during processing, may still contain sodium
- **Fat**
 - **Fat free** = Less than 0.5 g fat
 - **Low fat** = Less than or equal to 3 g fat
 - **Reduced/less fat** = Usual fat content has been reduced by at least 25%
 - **Low in saturated fat** = Less than or equal to 1 g saturated fat and with less than or equal to 15% of Calories from saturated fat
 - **Lean** = Less than 10 g of fat, 4 g saturated fat, and 95 mg cholesterol
 - **Extra lean** = Less than 5 g of fat, 2 g saturated fat, and 95 mg cholesterol
 - **Light (lite)** = At least 1/3 fewer calories or no more than ½ the fat of the regular product
 - **Trans fat-free-** if an item contains less than ½ gram per serving it can be listed on the food label as 0 (zero). If the ingredients list states it contains partially hydrogenated oil, the food has a small amount of trans fat.
- **Cholesterol**
 - **Cholesterol free** = Less than 2 mg of cholesterol and less than or equal to 2 g saturated fat
 - **Low cholesterol** = Less than or equal to 20 mg cholesterol and less than or equal to 2 g saturated fat

- **Reduced cholesterol** = Usual cholesterol content has been reduced by at least 25% and contains less than or equal to 2 g saturated fat

Artificial sweeteners and other sugar substitutes

Original Article: <http://www.mayoclinic.com/health/artificial-sweeteners/MY00073>

Today artificial sweeteners and other sugar substitutes are found in a variety of food and beverages marketed as "sugar-free" or "diet," including soft drinks, chewing gum, jellies, baked goods, candy, fruit juice, and ice cream and yogurt.

Just what are all these sweeteners? And what's their role in your diet?

Understanding artificial sweeteners and other sugar substitutes

Sugar substitutes are loosely considered any sweetener that you use instead of regular table sugar (sucrose). Artificial sweeteners are just one type of sugar substitute. The chart lists some popular sugar substitutes and how they're commonly categorized.

Artificial sweeteners	Sugar alcohols	Novel sweeteners	Natural sweeteners
Acesulfame potassium (Sunett, Sweet One)	Erythritol	Stevia extracts (Pure Via, Truvia)	Agave nectar
Aspartame (Equal, NutraSweet)	Hydrogenated starch hydrolysate	Tagatose (Naturlose)	Date sugar
Neotame	Isomalt	Trehalose	Fruit juice concentrate
Saccharin (SugarTwin, Sweet'N Low)	Lactitol		Honey
Sucralose (Splenda)	Maltitol		Maple syrup
	Mannitol		Molasses
	Sorbitol		
	Xylitol		

The topic of sugar substitutes can be confusing. One problem is that the terminology is often open to interpretation. For instance, some manufacturers call their sweeteners "natural" even though they're processed or refined, as is the case with stevia preparations. And some artificial sweeteners are derived from naturally occurring substances — sucralose comes from sugar, for example.

Regardless of how they're classified, sugar substitutes aren't magic bullets for weight loss. Take a closer look.

Artificial sweeteners

Artificial sweeteners are synthetic sugar substitutes but may be derived from naturally occurring substances, including herbs or sugar itself. Artificial sweeteners are also known as intense sweeteners because they are many times sweeter than regular sugar.

Uses for artificial sweeteners

Artificial sweeteners are attractive alternatives to sugar because they add virtually no calories to your diet. In addition, you need only a fraction compared with the amount of sugar you would normally use for sweetness.

Artificial sweeteners are widely used in processed foods, including baked goods, soft drinks, powdered drink mixes, candy, puddings, canned foods, jams and jellies, dairy products, and scores of other foods and beverages.

Artificial sweeteners are also popular for home use. Some can even be used in baking or cooking. Certain recipes may need modification, though, because artificial sweeteners provide no bulk or volume, as does sugar. Check the labels on artificial sweeteners for appropriate home use.

Some artificial sweeteners may leave an aftertaste. You may need to experiment with artificial sweeteners to find one or a combination that you enjoy most.

Possible health benefits of artificial sweeteners

One benefit of artificial sweeteners is that they don't contribute to tooth decay and cavities. They may also help with the following:

- **Weight control.** One of the most appealing aspects of artificial sweeteners is that they are non-nutritive — they have virtually no calories. In contrast, each gram of regular table sugar contains 4 calories. A teaspoon of sugar is about 4 grams. For perspective, consider that one 12-ounce can of a sweetened cola contains 8 teaspoons of added sugar, or about 130 calories. If you're trying to lose weight or prevent weight gain, products sweetened with artificial sweeteners rather than with higher calorie table sugar may be an attractive option. On the other hand, some research has suggested that consuming artificial sweeteners may be associated with increased weight, but the cause is not yet known.
- **Diabetes.** Artificial sweeteners may be a good alternative to sugar if you have diabetes. Unlike sugar, artificial sweeteners generally don't raise blood sugar levels because they are not carbohydrates. But because of concerns about how sugar substitutes are labeled and categorized, always check with your doctor or dietitian about using any sugar substitutes if you have diabetes.

Possible health concerns with artificial sweeteners

Artificial sweeteners have been the subject of intense scrutiny for decades. Critics of artificial sweeteners say that they cause a variety of health problems, including cancer. That's largely because of studies dating to the 1970s that linked saccharin to bladder cancer in laboratory rats. Because of those studies, saccharin once carried a warning label that it may be hazardous to your health.

But according to the National Cancer Institute and other health agencies, there's no sound scientific evidence that any of the artificial sweeteners approved for use in the U.S. cause cancer or other serious health problems. And numerous research studies confirm that artificial sweeteners are generally safe in limited quantities, even for pregnant women. As a result of the newer studies, the warning label for saccharin was dropped.

Artificial sweeteners are regulated by the Food and Drug Administration (FDA) as food additives. They must be reviewed and approved by the FDA before being made available for sale. In some cases, the FDA declares a substance "generally recognized as safe" (GRAS). These GRAS substances, including highly refined stevia preparations, are deemed by qualified professionals based on scientific data as being safe for their intended use, or they have such a lengthy history of common use in food that they're considered generally safe and don't require FDA approval before sale. The FDA has also established an acceptable daily intake (ADI) for each artificial sweetener. This is the maximum amount considered safe to consume each day over the course of your lifetime. ADIs are intended to be about 100 times less than the smallest amount that might cause health concerns.

Sugar alcohols and novel sweeteners

Sugar alcohols (polyols) are carbohydrates that occur naturally in certain fruits and vegetables, but they also can be manufactured. They're not considered intense sweeteners, because they aren't sweeter than sugar. In fact, some are less sweet than sugar. As with artificial sweeteners, the FDA regulates the use of sugar alcohols.

Sugar alcohols aren't considered non-caloric or non-nutritive sweeteners because they contain calories. But they're lower in calories than is regular sugar, making them an attractive alternative. Despite their name, sugar alcohols aren't alcoholic. They don't contain ethanol, which is found in alcoholic beverages.

Novel sweeteners are combinations of various types of sweeteners. Novel sweeteners, such as stevia, are hard to fit into one particular category because of what they're made from and how they're made. Note that although the FDA has approved highly refined stevia preparations as a novel sweetener, it has not approved whole-leaf stevia or crude stevia extracts for this use.

Tagatose and trehalose are considered novel sweeteners because of their chemical structure. They're categorized by the FDA as GRAS substances. Tagatose is a low-carbohydrate sweetener similar to fructose that occurs naturally but is also manufactured from lactose in dairy products. Foods containing tagatose can't be labeled as "sugar-free." Trehalose is found naturally in mushrooms.

Uses for sugar alcohols

Sugar alcohols generally aren't used when you prepare food at home. Rather, they are found in many processed foods and other products, including chocolate, candy, frozen desserts, chewing gum, toothpaste, mouthwash, baked goods and fruit spreads, usually replacing sugar on an equal basis.

When added to foods, sugar alcohols add sweetness, bulk and texture. They also help food stay moist, prevent browning when heated and add a cooling sensation to products.

Sugar alcohols are often combined with artificial sweeteners to enhance sweetness. Check the food label to help see if a product contains sugar alcohols. Food labels may list the specific name, such as xylitol, or simply use the general term "sugar alcohol."

Possible health benefits of sugar alcohols

One benefit of sugar alcohols is that they don't contribute to tooth decay and cavities. They may also help with the following:

- **Weight control.** Sugar alcohols are considered nutritive sweeteners because they contribute calories to your diet. Still, sugar alcohols have fewer calories than does regular sugar — about 2 calories per gram on average. This means that sugar alcohols can be considered lower calorie sweeteners, and they may aid weight-control efforts.
- **Diabetes.** Unlike artificial sweeteners, sugar alcohols can raise blood sugar levels because they're carbohydrates. But because your body doesn't completely absorb sugar alcohols, their effect on blood sugar is less than that of other sugars. Different sugar alcohols can affect blood sugar differently. You can consume sugar alcohols if you have diabetes, but you still must pay attention to the total amount of carbohydrates in your meals and snacks. Talk to your doctor or dietitian for guidance.

Possible health concerns with sugar alcohols

As with artificial sweeteners, the FDA regulates sugar alcohols as food additives. Sugar alcohols used in U.S. manufactured food generally have GRAS status.

There are few health concerns associated with sugar alcohols. When eaten in large amounts, usually more than 50 grams but sometimes as little as 10 grams, sugar alcohols can have a laxative effect, causing bloating, intestinal gas and diarrhea. Product labels may carry a warning about this potential laxative effect.

Natural sweeteners

Natural sweeteners are sugar substitutes that are often promoted as healthier options than processed table sugar or other sugar substitutes. But even these so-called natural sweeteners often undergo processing and refining, including agave nectar.

Among the natural sweeteners that the FDA recognizes as being generally safe for consumption are fruit juices and nectars, honey, molasses, and maple syrup.

Uses for natural sweeteners

Natural sweeteners have a variety of uses both at home and in processed foods. They are sometimes known as added sugars because they're added to foods during processing. They may be used to sweeten drinks such as tea and cocktails, in desserts, as pancake and waffle toppings, on cereals, and for baking, for example.

Possible health benefits of natural sweeteners

Although natural sugar substitutes may seem healthier than processed table sugar, their vitamin and mineral content isn't significantly different from that of sugar. Honey and sugar, for instance, are nutritionally similar, and both end up in your body as glucose and fructose. Choose a natural sweetener based on how it tastes and its uses, rather than on its health claims.

Possible health concerns with natural sweeteners

So-called natural sweeteners are generally safe. But there's no health advantage to consuming added sugar of any type. And consuming too much added sugar, even natural sweeteners, can lead to health problems such as tooth decay, poor nutrition, weight gain and increased triglycerides. Also, be aware that honey can contain small amounts of bacterial spores that can produce botulism toxin. Because of that, honey shouldn't be given to children less than 1 year old.

Moderation is key with sugar substitutes

When choosing sugar substitutes, it pays to be a savvy consumer. Get informed and look beyond the hype. While artificial sweeteners and sugar substitutes may help with weight management, they aren't a magic bullet and should be used only in moderation.

Just because a food is marketed as sugar-free doesn't mean it's free of calories. If you eat too many sugar-free foods, you can still gain weight if they have other ingredients that contain calories. And remember that processed foods, which often contain sugar substitutes, generally don't offer the same health benefits as do whole foods, such as fruits and vegetables.

References

MY00073 Oct. 9, 2012

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Potential Problems Following Gastric Sleeve Surgery and Suggested Dietary Modifications

Nausea and Vomiting Potential Causes

- Eating or drinking too fast
- Eating or drinking too much
- Insufficient chewing
- Advancing your diet too quickly
- Dry meats, sticky breads, tough or stringy fruits/vegetables
- Individual food intolerances

To help limit/avoid nausea and vomiting abstain from the above.

Dehydration Potential Causes

- Inadequate fluid intake
- Persistent nausea, vomiting, or diarrhea
- Caffeine

To help prevent dehydration drink a minimum of 64 ounces (8 cups) of water or low calorie beverages daily.

Constipation Potential Causes

- It is not unusual to go for a week or more after surgery without having a bowel movement. Remember, you are only consuming liquids- your body has little to evacuate.
- Sudden change in your diet

To help prevent/relieve constipation:

- Drink a minimum of 64 ounces of water or low calorie beverages daily
- Exercise regularly
- If the problem persists, you may need to add a stool softener or fiber supplement, speak to your nurse or dietitian about available products.

Heartburn Potential Causes

- Carbonated beverages
- Caffeine
- Spicy foods
- Drinking with a straw

To help limit/avoid heartburn avoid the above.

Lactose Intolerance Potential Causes

- Occasionally lactose intolerance will develop after surgery

To limit/avoid symptoms of lactose intolerance use Lactaid (lactose-free milk) or unsweetened soy milk.

Weight Regain Potential Causes

- Consuming high calorie beverages such as regular sodas, juices, and alcohol
- Consuming high fat and high sugar foods
- Grazing between meals
- Increased portion sizes
- Eating to discomfort
- Physical inactivity

The gastric sleeve surgery is a tool that requires proper nutrition and dietary changes to achieve weight loss and weight maintenance. Returning to previous eating habits and avoiding exercise will result in weight gain. To maintain weight loss, avoid the above behaviors and follow your long-term recommendations.

Vitamin and Mineral Supplementation after Surgery

You will not be able to meet certain vitamin and mineral needs without supplementation after gastric sleeve surgery due to decreased portion sizes, decreased digestion, and decreased absorption of nutrients. Patients who have had gastric sleeve surgery are at increased risk of developing vitamin and mineral deficiencies and these deficiencies have been observed in numerous studies. Iron, folate, vitamin B12, thiamine, calcium, and vitamin D are common deficiencies following surgery. Taking daily vitamin and mineral supplements is a lifelong commitment to ensure your health and prevent possible deficiencies and their consequences. One should start taking the recommended supplementation prior to surgery to assist in habit creation and to provide micronutrient repletion. The American Society for Metabolic and Bariatric Surgery (ASMBS) recommends that post-surgery gastric sleeve patients take:

- Multivitamin-mineral (MVI) supplement daily
 - **Begin on day 1 after hospital discharge**
 - Supplement should contain
 - ❖ 200% of daily value for at least 2/3 of nutrients (may take 2 vitamins that contain 100% of 2/3 of nutrients)
 - ❖ 1.5 mg or 100% daily value for thiamin
 - ❖ 18 mg iron (if multivitamin does not contain iron can take a supplemental iron)
 - ❖ 400-800 mcg folic acid (should not exceed 1000 mcg folic acid because can mask B12 deficiency)
 - ❖ Selenium and zinc
 - ❖ 2 mg of copper
 - Avoid time-released supplements
 - Avoid enteric coating
 - Avoid children's formulas
 - Tolerance may be improved when taken close to meal time
 - May separate dosage
 - Take separate from calcium supplement if contains iron
 - If you are experiencing nausea after taking your multi-vitamin try taking after meals or at bedtime.
- **1500 mg of Calcium Citrate**
 - Begin 6 weeks after hospital discharge
 - Contains vitamin D3
 - Separate into doses of 500-600 mg at one time
 - Separate each 500 mg dose by at least 2 hours and 2 hours from iron or multivitamin that contains iron
 - Separate thyroid medications by 4 hours from any calcium dose
 - Combined dietary and supplemental calcium intake of greater than 1700 mg may be necessary to prevent bone loss during rapid weight loss
- Iron
 - **Begin on day 1 after hospital discharge (only is MVI does not contain iron)**
 - Total **36-45 mg** per day
 - Avoid enteric coating
 - Take separate from calcium supplement by at least 2 hours
 - Take separate from thyroid medication
 - Avoid excessive intake of tea due to tannin interaction
 - Take with vitamin C to increase absorption
- Vitamin B12
 - **Begin day one after hospital discharge**
 - Total of **350-500 micrograms** orally per day or 1000 micrograms every other day
- Optional B-50 Complex
 - **Begin day one after hospital discharge**
 - Avoid time release tablets
 - Greater than 1000 mg of supplemental folic acid (total in all supplements) could mask vitamin B12 deficiency

It is essential to obtain adequate amounts of vitamins and minerals because they ensure the proper functioning of our bodies. They help to regulate hunger, appetite, nutrient absorption, thyroid and adrenal function, metabolic rate, blood sugar levels, fat and sugar metabolism, energy storage and many other important processes.

When selecting your vitamin and mineral supplements you have a variety of options. The dietitian will help you with selecting a plan that works best for you. Recommended bariatric specific vitamins can be purchased at:

Bariatric Advantage Vitamins
www.bariatricadvantage.com
 800-898-6888

Celebrate Vitamins
www.celebratevitamins.com
 877-424-1953

Brand	Supplement	Dose
Multi-Vitamin Brands		
Bariatric Advantage-Advanced Mutli EA chewable	Multivitamin plus Iron (45 mg)	2 chewables
Bariatric Advantage- Multi-Formula Crystals with Calcium	Multivitamin w/o Iron Calcium Citrate (500 mg/serving)	3 scoops
Bariatric Advantage- Ultra Multi-Formula with Iron	Multivitamin plus Iron (45 mg)	3 capsules
Celebrate- Multivitamin Capsule (not chewable)	Multivitamin plus Iron (36 mg)	3 capsules
Celebrate- Multivitamin Soft Chew	Multivitamin w/o Iron	2 soft chews
Celebrate – Multi Complete	Multivitamin plus Iron (36 mg)	2 chewables
Celebrate – ENS Multivitamin with Calcium drink mix	Multivitamin w/o Iron Calcium Citrate (500 mg/serving)	2 servings
Celebrate – ENS Multivitamin, calcium, and protein shake	Multivitamin w/o Iron Calcium Citrate (500 mg/serving) Whey protein isolate (25 g/serving)	2 shakes
Centrum	Multivitamin plus Iron (36 mg)	2 chewables or 2 pills
Calcium Brands		
Bariatric Advantage- Calcium Citrate Lozenges	Calcium Citrate- 500 mg each	3 chewable daily = 1500 mg , Vitamin D 900 IU
Bariatric Advantage- Calcium Crystals	Calcium Lactate-Gluconate – 600 mg per 2 scoops	5 scoops = 1500 mg, Vitamin D 1250 IU
Bariatric Advantage- Calcium Chews	Calcium Citrate- 250 mg each OR 500 mg	3 chewable daily= 1500 mg OR 6 chewable daily = 1500 mg , Vitamin D 1500 IU
Celebrate – Calcium PLUS 500 w/extra Vitamin D and Mg	Calcium Citrate – 500 mg each	3 chewable daily = 1500 mg, Vitamin D 1000 IU
Calcium Soft Chews	Calcium Citrate-500 mg each	3 chewables =1500 mg/day, Vitamin D 1500 IU
Calcet Creamy Bites	Calcium Citrate – 500 mg each	3 chews = 1500 mg, Vitamin D 1200 IU
Citracal Petites pills	Calcium Citrate- 200 mg each (may take 2-3 at a time)	8 pills = 1600 mg, Vitamin D 1600 IU
Citracal Pills	Calcium Citrate – 630 mg each pill	5 pills daily = 1500 mg, Vitamin D 1575 IU
Blue Bonnet (liquid) Available at Whole Foods/Sprouts	Calcium Citrate - 500 mg per 1 Tbsp	3 servings daily= 1500mg, Vitamin D 600 IU

Vitamin and Mineral Supplementation Daily Examples:

Month 1 Examples:

Bariatric Advantage Cost \$ 60.00/month

8:00 am	Advanced Multi EA Chewable Tablet	2 Tablets= 45 mg iron, 3000 IU Vitamin D, 1000 mcg Vitamin B-12
12:00 pm	Calcium Lozenges	500 mg Ca+ Citrate, 300 IU Vitamin D
5:00 pm	Calcium Lozenges	500 mg Ca+ Citrate, 300 IU Vitamin D
8 pm	Calcium Lozenges	500 mg Ca+ Citrate, 300 IU Vitamin D

Celebrate Cost \$73.00/month

8:00 am	Celebrate Calcium Citrate soft chew	500 mg Calcium Citrate and 500 IU Vitamin D
12:00 pm	Celebrate Calcium Citrate soft chew	500 mg Calcium Citrate and 500 IU Vitamin D
5:00 pm	Celebrate Calcium Citrate soft chew	500 mg Calcium Citrate and 500 IU Vitamin D
8:00 pm	<ul style="list-style-type: none"> • Two Celebrate Multivitamin Soft Chews • Chewable iron 	<ul style="list-style-type: none"> • 2 chews = 3000 IU Vitamin D, 500 mcg vitamin B12 • 45-60 mg Iron

Over the Counter Cost \$40.00/month

8:00 am	Blue Bonnet liquid Ca+ Citrate	1 Tbsp= 600 mg Ca+ Citrate, 400 IU Vitamin D
12:00 pm	Blue Bonnet liquid Ca+ Citrate	1 Tbsp= 600 mg Ca+ Citrate, 400 IU Vitamin D
5:00 pm	Blue Bonnet liquid Ca+ Citrate	1 Tbsp= 600 mg Ca+ Citrate, 400 IU Vitamin D
8:00 pm	<ul style="list-style-type: none"> • Centrum Chewable MVI • Vitamin B-12 OR B-50 complex 	<ul style="list-style-type: none"> • 2 chewable Centrum = 36 mg iron, 12 mcg B12, 800 IU Vitamin D • 350-500 mcg Vitamin B-12 OR B-50 Complex (Any Brand)

Month 2 and Beyond Examples:

Bariatric Advantage Cost \$48.00/month

8:00 am	Bariatric Advantage Calcium Citrate Chewy Bite	500 mg and 500 IU Vitamin D
12:00 pm	Bariatric Advantage Calcium Citrate Chewy Bite	500 mg and 500 IU Vitamin D
5:00 pm	Bariatric Advantage Calcium Citrate Chewy Bite	500 mg and 500 IU Vitamin D
8:00 pm	BA Ultra- Multi w/Iron (45 mg)	3 capsules = 1000 mcg Vitamin B-12, 3000 IU Vitamin D, 45 mg Iron

Cost \$ 60.00/month

8:00 am	Advanced Multi EA Chewable Tablet	2 Tablets= 45 mg iron, 3000 OU Vitamin D, 1000 mcg Vitamin B-12
12:00 pm	Calcium Lozenges	500 mg Ca+ Citrate, 300 IU Vitamin D
5:00 pm	Calcium Lozenges	500 mg Ca+ Citrate, 300 IU Vitamin D
8 pm	Calcium Lozenges	500 mg Ca+ Citrate, 300 IU Vitamin D

Celebrate

Cost \$68.50/month

8:00 am	ENS Multivitamin, calcium drink mixed w/ 8-16 oz of water	1 packet= complete MVI, 175 mcg B12, 1000 IU Vitamin D and 500 mg Ca+ Citrate
12:00 pm	ENS Multivitamin, calcium drink mixed w/ 8-16 oz of water	1 packet= complete MVI, 175 mcg B12, 1000 IU Vitamin D and 500 mg Ca+ Citrate
5:00 pm	Celebrate Calcium Citrate soft chew	500 mg Calcium and 500 IU Vitamin D
8:00 pm	<ul style="list-style-type: none"> • chewable iron • Vitamin D 	<ul style="list-style-type: none"> • 45-60 mg of iron • 500 IU Vitamin D

Cost \$73.00/month

8:00 am	Celebrate Calcium Citrate soft chew	500 mg Calcium Citrate and 500 IU Vitamin D
12:00 pm	Celebrate Calcium Citrate soft chew	500 mg Calcium Citrate and 500 IU Vitamin D
5:00 pm	Celebrate Calcium Citrate soft chew	500 mg Calcium Citrate and 500 IU Vitamin D
8:00 pm	<ul style="list-style-type: none"> • Two Celebrate Multivitamin Soft Chews • Chewable iron 	<ul style="list-style-type: none"> • 2 chews = 3000 IU Vitamin D, 500 mcg vitamin B12 • 45-60 mg Iron

Over the Counter Cost \$33.00/month

8:00 am	Citracal Maximum	2 caplets = 630 mg Calcium Citrate and 500 IU Vitamin D
12:00 pm	Citracal Maximum	2 caplets = 630 mg Calcium Citrate and 500 IU Vitamin D
5:00 pm	Citracal Maximum	2 caplets = 630 mg Calcium Citrate and 500 IU Vitamin D
8:00 pm	<ul style="list-style-type: none"> • Centrum Chewable MVI • Vitamin B-12 OR B-50 complex • Vitamin D 	<ul style="list-style-type: none"> • 2 chewable Centrum = 36 mg iron, 12 mcg B12, 800 IU Vitamin D • 350-500 mcg Vitamin B-12 OR B-50 Complex (Any Brand) • 700 IU Vitamin D

Causes and consequences of common deficiencies:

- Iron
 - Functions
 - ❖ Formation of hemoglobin which is found in red blood cells and carries oxygen to cells.
 - ❖ Formation of myoglobin which stores oxygen.
 - ❖ Sensing when oxygen is too low in the body.
 - ❖ Immune system functioning
 - ❖ DNA synthesis
 - ❖ Metabolism and detoxification of chemicals, alcohol, drugs, toxins, and pollutants
 - ❖ Energy formation
 - Causes of deficiency
 - ❖ Reduced hydrolysis of iron in the stomach
 - ❖ Insufficient dietary intake
 - ❖ Decreased iron absorption can be caused by taking iron with calcium, coffee, and black tea
 - Consequences of deficiency
 - ❖ Anemia
 - ❖ Fatigue
 - ❖ Leg cramping
 - ❖ Restless legs
 - ❖ Hair loss
 - ❖ Irritability
 - ❖ Brittle nails
 - ❖ Persistent coldness
 - ❖ Decreased immune function
 - ❖ Depression
 - ❖ Tachycardia/rapid pulse
- Thiamin (Vitamin B1)
 - Functions
 - ❖ Energy production
 - ❖ Nerve transmission
 - Causes of deficiency
 - ❖ Low thiamin intake
 - ❖ Vomiting
 - ❖ Alcohol intake
 - ❖ Limited adherence to post surgery nutrition recommendations
 - Consequences of deficiency
 - ❖ Beriberi
 - ❖ Wernicke-Korsakoff Syndrome
 - ❖ Neuropathy
 - ❖ Fatigue
 - ❖ Burning sensation in the feet
 - ❖ Loss of sensation, pain, and feeling of heaviness in the legs
 - ❖ Mental confusion
- Folate
 - Functions
 - ❖ Synthesis of nucleic acids
 - ❖ Synthesis of amino acids
 - ❖ Cell division
 - ❖ Red blood cell maturation
 - Causes of deficiency
 - ❖ Inadequate dietary intake
 - ❖ Noncompliance with multivitamin supplementation
 - ❖ Medications (anticonvulsants, oral contraceptives, cancer treating medications)
 - Consequences of deficiency
 - ❖ Increased homocysteine levels
 - ❖ Birth defects (neural tube defects, heart, and limb malformations)

- ❖ Colon and breast cancer
- ❖ Cardiovascular disease
- ❖ Fatigue
- ❖ Anemia
- Vitamin B12
 - Functions
 - ❖ Red blood cell maturation
 - ❖ Creation of energy from food
 - ❖ Synthesis of DNA and RNA
 - ❖ Myelin and nervous system health
 - ❖ Production of the neurotransmitters dopamine, norepinephrine, serotonin
 - Causes of deficiency
 - ❖ Decreased hydrochloric acid which is necessary for the release of vitamin B12 from protein foods
 - ❖ Malabsorption of vitamin B12 due to decrease in intrinsic factor which is produced by the stomach and is necessary for absorption.
 - ❖ Poor nutrient intake
 - ❖ Pernicious anemia
 - ❖ Atrophic gastritis
 - ❖ Helicobacter pylori infection
 - ❖ Alcoholism
 - ❖ Medications (neomycin, metformin, proton pump inhibitors, and anticonvulsants)
 - Consequences of deficiency
 - ❖ Anemia
 - ❖ Polyneuropathy
 - ❖ Neurologic damage
 - ❖ Fatigue
- Calcium
 - Functions
 - ❖ Bone and teeth health
 - ❖ Nerve impulses
 - ❖ Muscle and heart contraction
 - ❖ Blood vessel contraction and relaxation
 - ❖ Secretion of endocrine hormones
 - ❖ Blood clotting
 - Causes of deficiency
 - ❖ Inadequate dietary intake
 - ❖ Vitamin D deficiency
 - ❖ Hypomagnesemia
 - ❖ Decreased acid produced by the stomach
 - ❖ Hypoparathyroidism
 - ❖ Low protein
 - ❖ High intake of sodium and caffeine can increase calcium loss
 - ❖ Improper ratio of calcium to phosphorus in foods which can cause overall net bone loss. For example, soda contains phosphorus and no calcium.
 - Consequences of deficiency
 - ❖ Osteoporosis
 - ❖ Osteomalacia
 - ❖ Bone fracture
 - ❖ Dry skin
 - ❖ Brittle hair and nails
 - ❖ Poor dental health
 - ❖ Depression
 - ❖ Hypertension
 - ❖ Increased risk of cancer (colon, breast, and prostate), diabetes, inflammatory bowel disease, multiple sclerosis, rheumatoid arthritis, metabolic syndrome, and peripheral vascular disease
- Vitamin D
 - Functions

- ❖ Regulation of gene expression
- ❖ Bone health
- ❖ Calcium absorption and regulation of blood calcium levels
- ❖ Immunity
- ❖ Insulin regulation
- ❖ Fetal and placental development
- ❖ DNA transcription
- ❖ Pituitary function
- ❖ Heart health
- Causes of deficiency
 - ❖ Inadequate dietary intake
 - ❖ Decreased absorption
 - ❖ Inadequate exposure to sunlight
 - ❖ Age
 - ❖ Skin color
 - ❖ Kidney or liver disease
- Consequences of deficiency
 - ❖ Osteoporosis
 - ❖ Osteomalacia
 - ❖ Bone fracture
 - ❖ Joint pain
 - ❖ Increased risk of cancer (colon, breast, and prostate), diabetes, inflammatory bowel disease, multiple sclerosis, rheumatoid arthritis, metabolic syndrome, and peripheral vascular disease
 - ❖ Hypertension

Hair Loss After Bariatric Surgery

Hair loss may occur after bariatric surgery for a variety of reasons and is a common and normal side effect of the surgery. Some of these factors include lower calorie intake, decreased absorption of nutrients needed for the maintenance or growth of hair, rapid weight loss, lack of adherence to recommendations, and telogen effluvium. As hair is not important to the functioning of our bodies, nutrition is prioritized to the proper functioning of organs and away from hair maintenance.

In order to understand why one may lose hair after surgery, it is important to understand the lifecycle. The growth phase of hair is called the anagen phase and lasts approximately 3 years. The resting or telogen lasts approximately 3 months. When in the telogen phase the hair remains in the follicle until it is pushed out by a new anagen hair. Telogen hairs make up 10% of all hairs on our scalp unless triggered by significant events.

Bariatric surgery and the resulting weight loss can be significant events that trigger an increase in telogen phase hairs, a condition called telogen effluvium and is characterized by increased hair loss. Other common triggers for telogen effluvium are major surgery, weight loss, infection, hormonal disruption, low protein intake, nutrient deficiencies, medications, fever, childbirth, hyper or hypothyroidism, and chronic illness.

Hair loss after surgery often starts becoming noticeable 3 months post-op and may last for up to 6 months. This is a normal side effect of surgery and rapid weight loss. Because the hair follicle has not been damaged, hair should start to re-grow after all telogen phase hairs have been shed. If the condition continues to last more than 6 months, it is likely that there is also a nutritional cause. As the initial causes of telogen effluvium are surgery and weight loss, there is nothing that can be done to prevent it. However, continuing hair loss can be prevented through adequate nutrition and vitamin and mineral supplementation.

Possible nutrient deficiencies causing a continuation of telogen effluvium are iron, protein, zinc, and biotin.

- Protein deficiency has been associated with increased hair loss. Bariatric patients may be consuming inadequate amounts of protein for a variety of reasons. Decreased protein intake could be caused by intolerance of high biological value (HBV) proteins, not chewing foods sufficiently, vomiting, diarrhea, depression, fear of weight regain, or decreased digestion in the stomach due to decreased digestive enzymes, acid production, and churning in RNY patients. HBV proteins contain all essential amino acids and typically come from animal sources. Furthermore, amino acids are the building blocks of protein and compose a significant percentage of

the protein content of hair. Studies have shown that L-lysine may have an effect on hair growth and is also found in HBV proteins such as fish, meat, and eggs.

- Your post-surgery protein recommendation is 60-80 grams of protein daily.
- Iron is the nutrient most highly correlated with hair loss. Iron deficiency can occur because of a decreased intake of iron rich foods and decreased absorption and breakdown to the bioavailable form of iron in patients.
- Zinc is important for hair growth and development and a deficiency may contribute to hair loss. The tolerable upper intake level for zinc is 40 mg for adults, so one should not take doses higher than this without medical supervision.
 - Zinc is usually found in your multivitamin. 15 mg per day is recommended for hair loss. Do not exceed 40 mg per day.
- Biotin is important for the development of hair follicles and a deficiency may cause hair loss and pigmentation changes.
 - Biotin is found in most multivitamins. The upper limit for biotin intake is 2.5 mg, do not exceed this dosage.

Remember that hair loss starting 3 months after surgery is a common side effect of surgery and weight loss. If hair loss continues for more than 6 months it may have a nutritional factor. Having your recommended lab values drawn at appropriate times and faxed to our office will help us to determine if there is a nutrient deficiency. The above nutrient recommendations are general and can be individualized if you become deficient. In order to prevent deficiencies and continued telogen effluvium it is important that you take your vitamin and mineral supplementation and consume adequate amounts of protein daily as outlined.

Sources:

Mechanick JI, Youdim A, Jones DB, et al. Clinical Practice Guidelines for the Perioperative Nutritional, Metabolic, and Nonsurgical Support of the Bariatric Surgery Patient – 2013 Update. *Surgery for Obesity and Related Diseases* 2013;9:159-191.

Aills L, Blankenship J, Buffington C, et al. ASMBS Allied Health Nutritional Guidelines for the Surgical Weight Loss Patient. *Surgery for Obesity and Related Diseases*. 2008;4: S73-S108

Faria S, Faria O, Lins R, deGouvea R. Hair Loss Among Bariatric Surgery Patients. *Bariatric Times*. 2010;7(11):18-20.

Jacques J. Nutrition and Hair Loss. *Bariatric Times*. September 2008.

Exercise after Gastric Sleeve

Before starting any exercise program please consult with your doctor.

Participating in physical activity has been shown to be the best predictor of weight loss maintenance.

You already know that surgery is not a miracle. Along with dietary and behavioral changes, exercise is an important component to your weight loss success. Exercise not only helps you lose and maintain weight, it provides many physical, emotional and health benefits.

According to the American College of Sports Medicine Position Stand (2011) and Appropriate Physical Activity Intervention Strategies for Weight Loss and Prevention of Weight Regain For Adults (2009)

- Adults should participate in “a program of regular exercise that includes cardiorespiratory, resistance, flexibility, and neuromotor exercise training *beyond* activities of daily living to improve and maintain physical fitness and health is *essential* for most adults.”
 - Aerobic activity:
 - A **minimum** of 150 minutes of moderate-intensity activity, 75 minutes of vigorous-intensity activity, or an equivalent combination of moderate and vigorous-intensity activity per week for **health benefits**.
 - Aerobic activity should be performed in bouts of at least 10 minutes and should, preferably, be spread throughout the week on at least 3 occasions.
 - Should achieve a target volume of 500-1000 Met.min.week
 - For weight loss 150-250 minutes of moderate intensity activity per week provide modest weight loss. Greater than 250 minutes of moderate intensity activity per week may provide more significant weight loss.
 - **For weight maintenance after weight loss greater than 300 minutes of moderate intensity activity per week is recommended.**
 - Resistance exercise:
 - 2-3 days per week
 - Perform resistance exercises for each of the major muscle groups
 - Repetitions
 - 8-12 repetitions to improve strength and power
 - 10-15 repetitions to improve strength in middle aged and older persons starting exercise
 - 15-20 repetitions to improve muscular endurance
 - Sets
 - 2-4 sets to improve strength and power
 - A single set can be effective among older and novice exercisers
 - Neuromotor exercises involving balance, agility and coordination
 - 2-3 days per week for 20-30 minutes
 - Examples: balance, agility, and coordination exercises, yoga, and tai chi
 - Can help maintain physical function and reduce risk of falls
 - Flexibility exercises
 - 2-3 days per week perform stretches for each of the major muscle-tendon units
 - Repeat each exercise 2-4 times
 - Stretch to the point of feeling tightness or slight discomfort
 - Hold a static stretch for 10-30 seconds
 - Perform when muscle is warmed – after exercise or warm bath
 - Improves joint range of motion

Aerobic exercise utilizes large muscle groups for a sustained period of time. It causes your heart, lungs and muscles to work harder than usual, therefore, building fitness and increases the body’s ability to use oxygen. Aerobic exercise burns calories enabling you to reach and maintain your weight loss goal.

Resistance training is important to build muscle and slow bone loss. Since muscle burns more calories than fat, the more muscle you have the more calories you will burn. Your muscles need time to recover after strength training, avoid exercising the same muscles two days in a row. If you plan on strength training two days in a row, train different body

parts, for example one day exercise your upper body and the next day exercise your lower body. When starting a strength-training program it may be helpful to take a class or hire a personal trainer. You will be instructed on proper form and use of equipment to avoid any possible injuries.

Everyone will be starting out at a different fitness level. One may not initially be able to meet these recommendations. From your current abilities gradually increase as tolerated until you meet or exceed these recommendations. Exercise sessions can be broken down into 10-15 minute segments. You do not have to accumulate the entire 30 minutes in one bout. For example you could walk for 10 minutes three times per day to meet your recommendations. Also remember to incorporate more activity into your leisure time and activities of daily living such as: parking farther from your destination, using the stairs instead of the elevator, walking instead of using a cart while golfing, or going bowling instead of to a movie with your family.

There are a variety of activities one can do to meet their exercise guidelines:

Aerobic Exercise Examples	Resistance Exercise Examples
Walking, Jogging, Running	Weight lifting
Biking	Yoga
Stair climbing	Pilates
Swimming	Push ups
Hiking	Sit ups
Dancing	Squats
Step aerobics, Kickboxing, aerobics classes	Resistance tubing
Tennis	Shoveling
Elliptical trainer, Rowing machine, Treadmill	Stair climbing
Water aerobics	Jumping
Jumping exercises	Walking, jogging, running
Marching in place	Body weight exercises
Basketball, volleyball, soccer, etc	Lunges
Cross-country skiing	Kettle bells

As stated in the recommendations, exercise needs to be of moderate to vigorous activity. This means that one needs to be working at an above normal intensity. For example while doing aerobic activities you should feel your heart rate increase, it should become more difficult to breathe, and you should break a sweat. You can use your heart rate or the rate of perceived (RPE) scale to assess the intensity of your exercise.

To figure out your individualized heart rate use the following formula:

1. $220 - \text{your age} = \text{Max Heart Rate (MHR)}$
2. $\text{MHR} - \text{Resting Heart Rate (RHR)} = \text{Heart Rate Reserve (HRR)}$
*To figure out your RHR take your pulse while you are sitting quietly for 30 seconds then multiply that number by two
3. $\text{HRR} \times \% \text{ desired intensity (50-85\%)} = \text{percent of HRR}$
4. $\text{Percent of HRR} + \text{RHR} = \text{Target Heart Rate}$

Example:

1. $220 - 40 \text{ years of age} = 180 \text{ (MHR)}$ Your heart rate should not exceed this number
2. $180 - 85 \text{ beats per minute (RHR)} = 95 \text{ (HRR)}$
3. $95 \times 0.50 = 47$; $95 \times 0.85 = 80 \text{ (Percent of HRR)}$
4. $47 + 85 = 132$; $80 + 85 = 165$
5. Therefore your target heart rate during exercise is 132 to 165 beats per minute. If your heart rate is below these numbers during exercise you need to increase your intensity.

One can also use the Rate of Perceived Exertion Scale (RPE). The RPE scale allows you to assess how hard you are working.

RPE 1-2	No exertion, takes no effort to talk
RPE 3	Easy, talking with almost no effort
RPE 4	Somewhat easy, can talk with little effort
RPE 5	Moderately easy, can talk with moderate effort
RPE 6	Moderately hard, takes some effort to talk
RPE 7	Difficult, requires effort to talk
RPE 8	Very difficult, requires maximal effort to talk
RPE 9 - 10	Maximum effort, not able to talk

For moderate intensity activity you should be between a 4 and 6 on the RPE scale. Vigorous activity would be above a 6 on the scale. Remember the scale allows you to assess your intensity. Everyone is unique an activity you feel is a 6 may be a 3 or 8 to someone else.

As you become more fit, activities that once seemed difficult will become easier. Use the FIT principle to improve your fitness level.

- F (Frequency): Increase the number of times you do an activity. For example if you walk 3 times a week, increase to 5 times per week
- I (Intensity): Increase how hard you are working. For example if you walk 3 miles in 45 minutes, increase how fast you are walking and walk 3 miles in 40 minutes.
- T (Time): Increase the amount of time you are active. For example if you walk 30 minutes, increase to 45 minutes.

By changing any or all of these factors you improve your fitness. It is important to change your routine so that your body is continually challenged.

In addition to promoting weight loss, physical activity has numerous benefits:

- Improves cardiovascular fitness and health
 - Decreases blood pressure, triglycerides, and cholesterol
 - Reduces risk of heart attack, high blood pressure, and stroke
 - Improves circulation
 - Stronger heart
- Preserves and increases lean muscle mass
- Promotes fat loss
 - Reduces the decline in resting metabolic rate that accompanies calorie restriction
 - Decreases intra-abdominal fat
- Improves muscular strength and endurance
 - Reduces risk of injury
 - Improves endurance and ability to do activities of daily living
- Builds and maintains healthy bones, muscles and joints
 - Reduces risk for osteoporosis and hip fractures
- Reduces risk of diabetes/ Improves blood glucose control
 - Decreases insulin resistance
 - Decreases blood sugar levels during and after exercise
- Improves mood
 - Relieves symptoms of depression and anxiety
 - Decreases stress
 - Improves sleep
 - Improves self-esteem and psychological well being
 - Improves quality of life
- Increases energy and endurance
- Improves overall health
- Burns calories
- Slows the effects of aging
- Extends life

- Improves immune system function

Tips:

- Start out slow and increase as tolerated
- Use proper form to avoid injury
- Exercise at the same time daily to create a habit
- Make an exercise appointment and honor it as you would any other appointment
- Find activities that you enjoy doing
- Find an excuse to exercise instead of not to exercise
- Vary workouts to alleviate boredom
- Set realistic and achievable goals
- Find a workout buddy to keep you motivated
- Put yourself and your health first!

Many exercise/fitness books, videos, and magazines are available to provide tips on getting and staying in shape and can inspire you to stick with an exercise program. Exercising with a friend or spouse can help keep you motivated. Most importantly, plan your exercise program to suit your interests and lifestyle.

1. Donnely, JE, Blair SN, Jackicic JM, et al. Appropriate Physical Activity Intervention Strategies for Weight Loss and Prevention of Weight Regain for Adults. *Medicine & Science in Sports & Exercise*. 2009;41(2):459-471.

2. Garber CE, Blissmer B, Deschenes MR, et al. Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory, musculoskeletal, and Neuromotor Fitness in Apparently Healthy Adults: Guidance for Prescribing Exercise. *Medicine & Science in Sports & Exercise*. 2011;43(7):1334-1359

Sometimes it is a challenge to fit exercise into the day. Utilize the following schedule to find blocks of time in which you can fit in exercise. If you can find three 10 minute blocks you will have achieved your minimum recommendations.

	5-6 am	6-7 am	7-8 am	8-9 am	9-10 am	10-11 am	11-12 pm	12-1 pm	1-2 pm	2-3 pm	3-4 pm	4-5 pm	5-6 pm	6-7 pm	7-8 pm	8-9 pm	9-10 pm	10-11 pm
Monday																		
Tuesday																		
Wednesday																		
Thursday																		
Friday																		
Saturday																		
Sunday																		

At Home Exercise Options

Exercise Videos:

Video	Website	Description
Sit and be Fit	www.sitandbefit.org Can also be found on PBS (check local listings)	Variety of videos. The exercises can be done while sitting. Good for beginners, people with mobility difficulties and joint pain.
Chair Dancing	www.chairdancing.com	Variety of videos. Provides an aerobic workout while sitting. Also appropriate for those with mobility difficulties and joint pain.
Winning Weighs (pre and post surgery workouts)	www.gundluth.org/nutrition Go to products for healthy living link	Series of videos. Provides basic exercise instruction and modifications. Includes both seated and standing exercises. Post-bariatric surgery patients are the exercisers.
The Nia class experience workout series	http://nianow.com	Nia stands for neuromuscular integrative action. It is a combination of dance, martial arts, and healing arts. It allows you to go at your own pace and is safe for any fitness level. Provides a cardiovascular and conditioning workout.
Arm Chair Fitness	www.armchairfitness.com	Series of videos that can be done seated. A good start for any participant and also appropriate for those with decreased mobility or joint pain.
Biggest Loser videos	www.target.com www.nbcuniversalstore.com	Variety of fitness videos including: bootcamp, yoga, cardio, and sculpting.
Gin Miller's: Build up your muscles Everybody Steps	www.ginmiller.com	Explanation on how to use weights, tubing, and an exercise ball. Contains four different 45 minute workouts. Exercises start out on the floor. You can advance to the step when ready.
"For Dummies" series	www.dummies.com Go to store then fitness links	A variety of options (weights, pilates, yoga, etc). Provides thorough instruction for beginners
"10 minute solution" series	www.exercisetv.tv Go to store link	Each video has six 10 minute workouts. Better for those at an intermediate level.
Minna Lessing's One Minute Workouts	www.1minworkout.com	Choose which part of your body you want to work, your level, and duration. The DVD then selects a random workout for you.
Videos by Leslie Sansone	www.walkathome.com	Walking and toning videos.
Debbie Rucker's Walking for Weight Loss	www.walkvest.com	Basic moves for everyone's ability.
Gaiam Yoga Conditioning for Weight Loss	www.gaiam.com	Allow you to choose from 4 levels of flexibility.
On Demand Tv		On demand exercise tv has a variety of workouts that change periodically. Requires subscription to On Demand Television.
TiVo/DVR		If you have subscriptions to these you can record exercise shows and participate when it is convenient for you.

Exercise Websites:

www.exercisetv.tv	Provides free online full length workouts (10-45 minutes) and downloads for purchase
www.workoutondemand.com	Provides access to online workouts from \$6.99-\$11.99 per month
www.sparkpeople.com	Provides free online workouts
www.collagevideo.com	Allows you to sort videos by level and to see clips prior to purchase.
www.exercisevideosreviews.com	Provides descriptions and ratings of exercise videos.
www.beYou.tv	Provides free preview workouts, memberships, and downloads for purchase.

Dining Out After Bariatric Surgery

Dining out can be a challenging event after your bariatric surgery. However, eating out is a reality for most of us today. In fact, more than half of Americans eat out daily. It can be difficult to follow a low fat meal plan when dining out due to being served large portions, tempting food options, and meals being prepared with high calorie oils, butter, and sauces. In fact, some of the entrees at restaurants have more than 1,000-2,000 calories and 50-100 grams of fat per serving. When dining out avoid meal deals and super-sized items which only add more calories and fat. Also, be aware of the sodium and sugar content when dining out as they are often higher especially in fast food establishments.

It is possible to make dining out a pleasurable experience by being aware of what choices are healthier, learning how to order and making modifications to your meals, and enjoying the company of your dining companions. Here are some tips to assist you while dining out to make better choices and keep you on track with your new healthy lifestyle habits:

- Before you leave your house
 - Preview the menu at home and choose your meal before you leave
 - Make reservations
 - Avoid all you can eat restaurants
- Make special requests so your food is prepared how you want it
- Ask for foods to be prepared without butter/margarine
- Substitute steamed vegetables, side salad with romaine lettuce, or fruit for other sides
- Say yes to: grilled, baked, steamed, broiled, poached, roasted
- Say no to: butter, breaded, fried, pan fried, creamed, scalloped, au gratin, gravy, skin
- Order a la carte
- Avoid brown and white foods; they are usually fried
- Order a healthy appetizer for an entrée
- Share an entrée
- Box a portion of your food as soon as you get it

Healthier Fast Food Choices

Restaurant	Menu Item	Calories	Protein (g)	Fat (g)
McDonald's	Premium Grilled Chicken Sandwich	370	32	4.5
	Asian Salad with Grilled Chicken	300	32	10
	Southwest Salad with Grilled Chicken	320	30	9
	Hamburger- kids	250	12	9
	Snack Wraps Grilled (Ranch, Honey, Chipotle)	260-270	18	9-10
Wendy's	Mandarin Chicken Salad (*hold crispy noodles)	300	25	13.5
	Small cup of Chili	220	17	6
	Ultimate Chicken Grill Sandwich	320	28	7
	Jr. Hamburger	230	13	8
Burger King	Tender Grill Chicken Garden Salad (*hold cheese and w/light dressing)	300	33	16
	BK Veggie Burger (*hold the mayo and ask for extra veggies)	340	23	8
Taco Bell	Fresco Style Ranchero Chicken Soft Taco	170	12	4
	Fresco Crunchy Taco	150	7	2.5
	Pintos 'n Cheese	160	9	6
Subway	6" Oven-Roasted Chicken Breast (*try eating only half of the bread)	310	24	5
	4" Roast Beef Sandwich-minis (* try eating only half of the bread)	190	13	3.5
	Roasted Chicken Noodle Soup	80	6	2
	Vegetable Beef Soup	100	6	2
Chick-fil-A	Chargrilled Chicken Sandwich	270	28	3
	Chargrilled and Fruit Salad	290	22	8
Jack in the Box	Asian Chicken Salad with Grilled Chicken Strips	160	22	1.5
	Chicken Fajita Pita	300	23	9

KFC	Tender Roast Sandwich (*hold the sauce)	300	37	4.5
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Mexican Cuisine

Characteristics:

These dishes often come in large portions and one can easily consume a full day's worth of calories in a single meal if not careful. Dishes are often prepared with lard and topped with cheese and sour cream. Most dishes are combined with several other items to create even larger portions.

Common Ingredients:

Mexican cuisine contains many high calorie items, such as cheese, sour cream, chips, fried tortillas, and guacamole. Staples include sources of complex carbohydrates and protein like rice, beans, tomatoes, fresh fish, corn, beef and poultry.

Foods to Limit or Avoid:

- Refried beans are made with added fat which is often lard. Most restaurants have an option for whole black or pinto beans, choose this option instead.
- Guacamole, sour cream, and cheese are very high in calories. Choose to have a small amount of one instead of having all three.
- Taco salads may contain more than 1,000 calories.
- Avoid deep-fried entrees like Chile Rellenos, Chimichangas and Flautas.
- The fish in fish tacos is often deep fried, ask for grilled fish instead.
- Watch for these words:
 - Chorizo (Mexican sausage)
 - Con Queso (with cheese)
 - Rellenos (stuffed, usually with cheese)
 - Combination (usually a supersized portion)
 - Crispy (fried)
 - Plato Gordo (fat plate)
- Cheese Quesadilla: 900 calories
- Paella a la Valenciana: 900 calories, 42 grams of fat
- Refried Beans (frijoles): 640 calories per cup
- Nachos: 800 calories and as much as 65 grams of fat
- Cheese Enchiladas: 980 calories
- Chicken Tostada: as much as 935 calories

Healthier Options and Tips:

- Look for baked dishes. Make sure you order with light or no cheese.
- Order a la carte
- Avoid the chips
- Go light or avoid the cheese
- Avoid sour cream and guacamole
- Choose tomato sauces over cream sauces and ask for the sauce on the side
- Choose grilled items over fried items
- Choose chicken and fish over beef
- Gazpacho is a cold soup with green peppers and cucumber. It's low fat, full of vit C and beta carotene, and only has 60 calories.
- Salsa is packed with vitamins A and C, contains no fat, and is low in calories.
- Fajitas (stir-fried meat and lots of veggies, limit cheese and sour cream, ask for it to be made light on the oil)
- Ceviche (fish or shrimp marinated in citrus, sometimes with tomato and avocado)
- Chile Verde (pork simmered with green chilies and vegetables)
- Chicken Fajitas: 200 calories and 7 g fat
- Tortilla Soup: 240 calories
- Black Bean Soup: 180 calories, 5 g fat
- Ceviche: 150 calories, 5g fat
- Grilled Shrimp Taco: 320 calories, 19 g fat
- Clams Marinera: 330 calories, 16 g fat

- Arroz Abanda: 340 calories, 8g fat

Substitution Ideas:

Try This	Skip That
Whole beans (black or pinto)	Refried beans
Steamed “soft” shell taco	Fried “hard” shell taco
Salsa or pico de gallo	Sour cream or guacamole
Whole-wheat or corn tortillas	Flour tortillas
Picante sauce	Cheese sauce
Fajita	Chimichanga or quesadilla
Chicken fajita salad (don’t eat the tortilla shell)	Quesadillas
Chicken or beef enchilada with light cheese Flautas (fried tortilla with meat)	Flautas (fried tortilla with meat)
Guava, papaya or mango	Fried ice cream/sopapilla
A la carte chicken or seafood enchilada with red sauce	Combination platter
Grilled fish or chicken	Beef, chorizo, or fried meats
Chicken, seafood, or vegetarian burrito or enchilada	Beef burrito or enchilada

Chinese Cuisine

Characteristics:

Multiple regions of China are reflected in different cooking styles, traditions, customs, ingredients and flavors than encompass Chinese cuisine. Cantonese, the most popular form in the U.S., features grilled, steamed and stir-fried meats and vegetables.

Common Ingredients:

Most dishes contain a variety of vegetables and complex carbohydrates. Rice or noodles are usually served along with meals. Meat, poultry and seafood are usually sliced and served in smaller portions. Tofu is a popular ingredient.

Foods to Limit or Avoid:

- Avoid anything fried, including spring rolls, dumplings, fried rice, crispy beef, egg foo yung and battered pork.
- One spare rib can contain 1-3 tablespoon of fat.
- Avoid the crispy noodles served in soup.
- Soy sauce is very high in sodium.
- Sweet and sour dishes are usually fried and/or high in fat and calories.
- Stir fried dishes can be oily and fatty, but can be prepared with smaller amounts of oil.
- Tangerine or orange beef is usually fried.
- Walnuts can be healthy, but are often caramelized.
- Eggplant can soak up a lot of oil during preparation.
- Beef Chow Mein: 940 calories and 60 grams of fat.
- Sweet and Sour Fish: 1160 calories and 58 grams of fat.
- Chicken/Shrimp Omelet: 990 calories and 82 grams of fat.
- Lemon Chicken: 1,350 calories and 88 grams of fat.

Healthier Options and Tips:

- Order a side of steamed vegetables to mix with your dish.
- Look for dishes that are braised, roasted, simmered or steamed.
- Ask for sauces to come on the side
- Ask for meals to be steamed instead of stir-fried
- Share a meal
- Ask for food to be made without MSG
- Moo Goo Gai Pan
- Marinated spinach salad has about 100 calories.
- Steamed vegetable dumplings (3): 115 calories and 2.5 gms of fat.
- Steamed tofu and vegetables: 293 calories and 9 gms of fat.
- Steamed vegetables and chicken: 490 calories and 12 gms of fat.
- Chicken Chop Suey: 600 calories and 20 gms of fat.

- Egg Drop Soup: 93 calories and 5 gms of fat.

Substitution Ideas:

Try This	Skip That
Wonton soup	Velvet clam chowder
Black bean soup	Sweet and sour sauce
Steamed brown rice	Fried rice
Steamed dumplings	Egg roll, crab rangoon, won ton
Hot mustard	Soy sauce or sweet and sour sauce
Light soy sauce	Soy sauce
Chicken	Duck
Dishes with water chestnuts	Dishes with nuts
Steamed chicken, shrimp, beef and vegetables	Stir-fried or fried meals
Soft noodles	Fried noodles
Chicken or shrimp	Beef or duck
Order off the menu	Buffet

Thai Cuisine

Characteristics:

Dishes are usually packed with lots of fresh ingredients. Flavor options include hot, spicy, sweet and sour.

Common Ingredients:

These foods feature chili peppers, rice, noodles, sugar, citrus fruits, fish, chicken, and fresh vegetables. They're often light in fats and meats, and heavier in noodles and vegetables.

Foods to Limit or Avoid:

- Pad Thai noodles are stir-fried with a lot of oil, and often include eggs and peanuts.
- Nam Prik (spicy peanut sauce) and Sao Nam (coconut sauce) are very high in fat and calories.
- Watch out for peanuts, cashews, coconut, and any nut oils or sauces, which can be high in fat.
- Avoid deep fried noodles and entrees.
- Say “no” to the heavy sauce.
- Avoid anything with full-fat coconut milk.
- Tom Ka Gai (chicken in coconut milk soup)
- Gaeng Keow Wan Gai (curry chicken with eggplant)
- Gaeng Ped Gai(red curry chicken)
- Gluay Kaeg (fried banana slices)

Healthier Options and Tips:

- You can find a sweet, fat-free chili sauce.
- Try sauces that are made with basil, chilies and lime juice.
- Order a side of steamed vegetables to mix with your dish.
- Ask for sauces to come on the side
- Ask for meals to be steamed instead of stir-fried
- Share a meal
- Ask for food to be made without MSG
- Look for dishes that are steamed, sautéed, stir fried (with small amount of vegetable oil), grilled, braised, roasted, or simmered.
- Thai chicken (sautéed chicken with lots of vegetables and pineapple.
- Poy Sian (sautéed seafood with cabbage, beans, and mushrooms)
- Gai Yang (grilled chicken on cabbage or rice)
- Tom Yam Goong (hot and sour shrimp soup)
- Nuea Pad Prik (pepper steak)

Substitution Ideas:

Try This	Skip That
Request vegetable oil	Foods made in lard or coconut oil
Chicken or seafood	Duck or beef
Fresh spring rolls	Fried spring rolls
Steamed brown rice	Fried rice
Hot & sour soup	Coconut-based soup
Steamed rice noodles	Fried noodles

Italian Cuisine

Characteristics:

These simple menu items have lots of flavor. Portions in the U.S. tend to be large. Many dishes are very high in fat and calories.

Common Ingredients:

Many entrees center around cheese, meat, and pasta. A variety of breads, and tomato-based sauces and creamy sauces dominate the menu. Olive oil is used in many lighter Southern Italian dishes while Northern Italian cooking often uses more butter.

Foods to Limit or Avoid:

- Antipasto is generally a collection of cheeses, smoked meats like salami, olives and marinated veggies, so it can be very high in calories.
- Avoid ordering pizzas with high fat meats such as: sausage, pepperoni, and hamburger.
- Pass up dishes with lot of high-fat cheese, such as lasagna, veal parmigiana and cannelloni.
- Pesto sauce often contains cream.
- Cream sauces are higher in fat and calories than red sauces.
- Olive oil is lower in saturated fat but still contains the same amount of calories as butter.
- Bread is often served before the meal ask them not to bring it to the table or have only one piece.
- Stuffed mushrooms often contain cheese, sausage and cream.
- Bruschetta is often coated with fat before the vegetables are added. One piece can carry 240 calories and 20 grams of fat.
- Caesar salads are high in fat and calories.
- Tortellini (20 pieces): 530 calories and 20 grams of fat.
- Chicken Parmigiana: 1,000 calories.
- Fried Calamari: 1,077 calories and 53 grams of fat.
- Meat Lasagna: 625 calories and 37 grams of fat.
- Pasta Carbonara: 1,200 calories and 60 grams of fat.
- Watch for these words:
 - Alfredo (cream sauce)
 - Alla cream (with cream)
 - Fritto (fried)
 - Parmigianan (breaded and fried)
 - Scampi (drenched in garlic olive oil or butter)
 - Pan-fried
 - Crispy

Healthier Options and Tips:

- Combine a hearty Italian soup with a garden salad for a well-balanced meal.
- Order extra steamed vegetables as a substitute for other sides.
- Beans are a complex carbohydrate with some protein that can be found in many dishes.
- Primavera dishes are prepared with fresh vegetables, herbs and a touch of olive oil.
- Insalata is a fresh garden salad, tossed with a variety of fresh vegetables. Ask for dressing to be served on the side.
- Minestrone soup is a tomato-based hearty option that's filled with beans, vegetables and pasta and only 200 calories and 5 grams of fat per serving.

- Scampi al vino blanco (shrimp sautéed in white wine).
- Dishes with tomato-based sauces.
- Chicken Marsala, if made with wine and broth rather than butter or cream.
- Veal or chicken piccata if made with wine rather than butter.
- Chicken Cacciatore: 300 calories.
- Chicken Risotto: 275 calories and 7 grams of fat.
- Pasta e fagioli (pasta, beans and tomatoes in broth): 300 calories and 8 grams of fat.
- Spinach Gnocchi: 300 calories and 18 grams of fat.

Substitution Ideas:

Try This	Skip That
Plain espresso	Cappuccino
Marinara (red tomato sauce)	Alfredo or other cream based sauces
Italian Ice	Cannoli
Red wine vinegar, lemon slices, vinegar and small amount of oil, Traditional Italian dressing	Creamy Italian dressing, Caesar salad
Chicken or seafood (grilled)	Sausage, hamburger, or pepperoni
Green peppers	Olives
Onions	Anchovies
Shrimp cocktail	Fried calamari
Chicken, shrimp, or vegetable pizza	Meat pizza
Minestrone or broth based soup	Cream based soups
Thin crust pizza	Thick crust pizza
Garden salad	Caesar salad

Steakhouse

Characteristics:

A Steakhouse serves extra-large portions of hearty, filling foods containing meats and starches without much spice or variety. Plain side dishes and a smaller number of sauces and toppings can make it easier to control calories with smart choices and special preparation requests.

Common Ingredients:

Menus are dominated by meats, pastas, various preparations of potatoes, and deep-fried appetizers. Most offer salads, but many have only starch and pasta-based side dishes. Many restaurants offer chicken, fish, and vegetables.

Foods to Avoid or Limit:

- Steakhouse cheeseburgers can contain nearly 1,000 calories.
- Shrimp scampi is cooked in butter and may contain nearly 1,000 calories.
- Large steaks greater than 8 ounces.
- Fried chicken has 910 calories and 54 grams of fat.
- Two potato skins can have almost 500 calories- before adding sour cream.
- Jalapeno poppers (2): 660 calories and 36 grams of fat.
- 6 Buffalo wings with blue cheese dressing: 1,000 calories and 68 grams of fat.
- 16 oz Porterhouse: 1,300 calories and 104 grams of fat.
- Au Gratin Potatoes: 400 calories and 22 grams of fat.
- BBQ ribs: 1,680 calories.
- Nachos: 800 calories
- Crab cakes (2): 240 calories and 15 grams of fat.
- Watch for these words:
 - Breaded
 - Crispy
 - Country-Style
 - Encrusted
 - Béarnaise (sauce made with butter and egg yolks)

Healthier Options and Tips:

- 6 oysters on the half shell carry less than 150 calories.
- Order steamed vegetables as a side dish and ask that they be prepared without added fat.
- Choose smaller steaks, 4-8 ounce options.
- Skip the bread or have 1 small slice without butter
- Share an entrée and order extra vegetables
- Skip the sauces or order on the side
- Skip the steak toppers they are usually sauteed in butter or oil
- 5 peel and eat shrimp: 114 calories and 1 gram of fat.
- Broiled salmon: 353 calories and 21 grams of fat.
- Steamed Broccoli: 50 calories
- Look for words: baked, steamed, grilled, blackened, broiled, charbroiled, roasted, rotisserie, brochette (meat, fish, poultry or veggies on a skewer)

Substitution Ideas:

Try This	Skip That
Manhattan clam chowder	New England clam chowder
Peel & Eat shrimp	Fried shrimp
Spinach salad	Creamed spinach
Baked potato (plain, with salsa, or steamed vegetables)	Mashed, scalloped, or loaded potatoes, French fries
Steamed lobster tail	Crab cakes
Poached, baked, grilled, or steamed fish	Fried fish
Veggie burger	Bacon cheeseburger
Lean cuts of meat: sirloin, round, or flank	T-bone, ribeye, porterhouse, or prime rib
Rice	French fries
Garden salad	Caesar salad
Vinaigrette, lite dressing, red wine vinegar, lemon wedges, vinegar and small amount of oil	Caesar, bleu cheese, ranch dressing
Fish, shrimp, or chicken	Beef
Steamed vegetables	Fried vegetables

Japanese Cuisine

Characteristics:

This cuisine features smaller portions that are lower in calories and fat (if you avoid fried options) and emphasize rice and soybean products. Often highlighted by tabletop stir-fry cooking, some foods are fried, but most are grilled, broiled, braised, simmered or steamed.

Common Ingredients:

Generally meat, fish or chicken with fresh vegetables. Dishes contain lots of rice, noodles, tofu, and seafood, a limited amount of additional oils and fats, and are usually accompanied by edible garnishes, such as vegetables or seaweed.

Foods to Avoid or Limit:

- Egg rolls are fried and usually include high-fat pork.
- Ask that your dish not be prepared with soy sauce, fish sauce or MSG, all of which are high in sodium.
- For lower sodium, also go light on miso and teriyaki sauces.
- Avoid crispy noodles and duck sauce that is often served before the main course.
- “Tempura” dishes are batter-coated and fried. Just 3 large tempura prawns with veggies will cost you 320 calories and 18 grams of fat.
- Breaded and fried dishes like Tonkatsu (pork) or Torikatsu (chicken)
- Chawan Mush (chicken and shrimp in egg custard)
- Rainbow Roll: 480 calories and 10 grams of fat.
- One servings of fried rice: 700 calories and 30 grams of fat.
- Beef Teriyaki with sauce and white rice: 1,100 calories and 37 gram of fat.

- 10-ounces of Teppan Yaki (steak, seafood and veggies): 470 calories and 30 grams of fat.
- Watch out for words:
 - Tempura (battered and fried)
 - Agemono (breaded and fried)
 - Katsu (breaded and fried)
 - Oshinko (pickled veggies)

Healthier Options and Tips:

- Udon (wheat noodles) or Soba (buckwheat noodles) are both healthy alternatives to rice.
- Sushi and sashimi (raw fish) are low in fat.
- Simmered or grilled dishes
- Yosenabe (seafood and vegetables)
- Shabu Shabu (meat, vegetables and seafood in boiling broth)
- Yakitori (broiled chicken)
- Domburi (rice covered in vegetables, meat, poultry and egg)
- Nigiri-Zushi (fish-wrapped sushi)
- Nori-Maki-Zushi (seaweed-wrapped sushi)
- Egg omelet
- Tofu Dengaku (grilled tofu with miso)
- California roll: 180 calories and 6 grams of fat.
- Clear soups like miso (50 calories and 1 grams of fat)

Substitution Ideas:

Try This	Skip That
Steamed rice	Fried rice
Lemon slices	Miso dressing on salad
Stir-fried dishes	Deep-fried dishes
Stir-fried tofu	Deep-fried tofu
Edamame	Vegetable tempura
Fish sushi	Shrimp tempura
Vegetable roll	Eel avocado roll
Tuna sashimi	Spicy tuna roll
Salmon cucumber roll (231 calories and 4 gms fat)	Salmon, cream cheese, cucumber roll (370 calories and 19 gms fat)
Sashimi	Pickled fish
Hot mustard	Soy or teriyaki sauce
Chicken or beef teriyaki	Tonkatsu (breaded pork)

Information adapted from www.sparkspeople.com
03/30/09

Staying on Track

Morbid obesity is a lifelong, chronic condition much like diabetes or high blood pressure. Gastric Sleeve surgery is not a cure. It is a very powerful tool to allow you to keep the disease of morbid obesity in remission. You need to use your tool effectively. Sometimes, people will regain a significant amount of weight after weight loss surgery. This happens because they did not make lifestyle changes and are not following the recommendations given to them. Here are some suggestions to keep you successful.

Support Group Helps

Since morbid obesity is a lifelong condition, you will need continued support from your bariatric team as well as other weight loss surgery patients. We hold various types of support groups monthly. A range of topics pertinent to life after surgery are covered. Support groups provide a forum for you to share your successes with others as well as gather good advice from patients who are in similar situations. You want to be cautious about following internet advice. There are many well-meaning misinformed people happy to give you advice online. This information may be inconsistent with recommendations from your bariatric team and may potentially be dangerous. All your questions should be directed to one of the staff at CBSI.

Accountability Makes a Difference

To one degree or another, we all need to be accountable. It will be important for you to set up a system of accountability to assist you in becoming and maintaining weight loss success. You should make and keep regular appointments with the CBSI staff, attend support group, weigh yourself on a regular basis, and keep food and exercise logs. Our staff is available to you to help you with these activities.

Seek Medical Attention When Needed

Although the gastric sleeve is a safe surgery, it does carry long term complications that can occur years after the original surgery. If you experience any gastrointestinal problems you should contact your surgeon. These symptoms include: abdominal pain, severe heartburn, loss of satiety, unexplained weight gain, frequent vomiting, and tolerating larger meals.

Follow-up is Key

During the first 6 months post operatively weight loss is rapid. It is vital to your success to implement the recommended lifestyle changes during this period. Eating a healthy diet, exercising and learning how to manage emotional eating are essential for your optimal success.

You should also make appropriate appointments to meet with the surgeon and dietitian at 2 weeks, 6 weeks, 3 months, 6 months and annually post-surgery to ensure that you are following your recommendations, staying on track, and allow for professional guidance. When you had gastric sleeve surgery, you entered into a long term relationship with your bariatric surgeon and the staff at CBSI that should continue for many years. Although you will see the staff very regularly during the first year, you will be able to reduce your appointments to annually after the first twelve months. It will also be important for you to follow up with your primary care physician (PCP) as they are vital to your success. If you suffer or suffered from any of the obesity related co-morbidities (diabetes, hypertension, sleep apnea, high cholesterol, etc) you will need monitoring by your PCP as these conditions go into remission. Medications may need to be discontinued or decreased in dosage.

The Importance of Follow-Up

As a post-surgical bariatric patient, you have a lot on your mind. Managing stress, increasing physical activity and making time for healthy eating are just a few of the lifestyle changes which accompany bariatric surgery. As the weight comes off, many patients find themselves being more productive, as they are able to participate in a wider variety of activities and have the stamina to keep up with friends and loved ones. It can be tempting to skip follow-up appointments. However, regular attendance at follow-up appointments is an important part of taking care of your body and mind following surgery.

[A 2007 article in Reuters Health](#) summarized the results of a study which analyzed the connection between attendance at follow-up appointments and weight-loss success. The study found that the patients who kept all of their appointment for 3 years lost an average of 74% of their excess body weight, those who kept all appointments for only the first year lost an average of 60%, and those who missed appointments within the first year only lost 56% of their excess weight.

The message is clear. The benefits gained by regular clinic visits far outweigh any hassle associated with follow-up appointments. Protect the investment you have made in your health by making sure you schedule and attend the appropriate appointments. Please remember, not only is follow-up *your* responsibility, it is part of the commitment you made to us when you joined our bariatric program.

And Finally...

We congratulate you on making the decision to pursue a new and healthy lifestyle. There is nothing more gratifying for us than to see you succeed. We continually strive to improve our program to better meet the needs of our patients. We are committed to providing you with the necessary support throughout your weight loss journey.

Schedule for Post-Operative Visits

During your first day at home, make an appointment with the office for a 2 week post-op visit (wound check) and 6 week diet progression visit. Come in sooner if you are having any difficulties.

Visit	Provider	Purpose	Labs
2 weeks	Surgeon	Assess Stability/Recovery	Only by Request
6 week	Dietitian	Diet progression	Only by Request
3 months	Dietitian	Track Progress	Only by Request
Pre-6 month	PCP or QUEST	Blood Panels	CBC, Ferritin, Iron, IBC, B12, Folate
6 months	Surgeon	Track Progress	Above should be faxed to office prior to visit
Pre-Annual (1-5 years)	PCP or QUEST	Blood Panels	CBC, Ferritin, Iron, IBC, B12, Folate, PTH Ionized Calcium
Annual (1-5 years)	Surgeon	Track Progress	Above should be faxed to office prior to visit

***Lipids and/or Hgb A1C may be added at discretion of provider**

Visit	Your Appointment Schedule
Surgery Date	
2 weeks	
6 weeks	
3 months	
6 months	
Annual- 1 year	
Annual- 2 year	
Annual- 3 year	
Annual- 4 year	
Annual- 5 year	

Required Laboratory Tests: Gastric Sleeve

The following is a list of laboratory tests that we require. Labs should be drawn prior to your appointment. Please have the results faxed to your surgeon's office, so we may analyze the results and discuss them with you at your appointment.

PRIOR TO POST-OPERATIVE VISITS

6 MONTH

CBC	Vitamin B-12/Folate
CMP	Lipid Panel
Ferritin	Iron & IBC
Thiamin	Vitamin D, 25 Hydroxy

ANNUALLY

CBC	Vitamin B-12/Folate
CMP	Ferritin
Iron & IBC	PTH & Ionized Calcium
Thiamine	Vitamin D, 25 Hydroxy

Psychological Aspects of Bariatric Surgery

With so many things to keep track of both preparing for and following bariatric surgery, it is not surprising that people find themselves a bit overwhelmed. Anticipating surgery can be anxiety provoking. The lifestyle changes accompanying the decision to have bariatric surgery are intense. As with any major transition, sometimes old issues reemerge in surprising ways. Those people who falsely accused you of “taking the easy way out” couldn’t have been more wrong!

While adapting to all the changes involved in bariatric surgery requires ongoing determination and resilience, it is absolutely achievable. Understanding the psychological aspects of this process will empower you to take more control of your weight loss and ultimate success.

What to Expect Immediately Before and After Surgery

It is very common to experience doubt and anxiety prior to surgery. You may find yourself worrying about whether you will be able to make the lifestyle changes needed for your procedure to be successful. You may question whether or not you chose the right procedure. You will probably be anxious about the surgery itself.

Now is not the time to make any major decisions. It is absolutely natural to have fears and doubts before you take on a new change in your life. Instead, focus on how hard you worked to get to this point and how excited you were when you discovered you were a surgical candidate. Remember that when you weren’t feeling so scared, you thought very hard about what you wanted and made the decision that your planned procedure was right for you. Finally, distract yourself with pleasant things. Read a good book, go to the movies, spend time with people you love. Recovery will be here before you know it.

In the first few weeks after surgery, you may find that you feel exhausted and overwhelmed. The new diet is strange, you don’t have your normal energy and you might be feeling like you made a mistake. This is the part of the bariatric surgery process that experienced patients rarely talk about, because they seem to have forgotten it happened to them. Don’t panic, this is normal and it will pass.

Have faith in your body’s ability to heal and adjust. Remember, you just had surgery, and your body is spending a lot of energy recovering. In time, the diet will get easier, both because you will be able to eat more “normal” foods, and because it will become second nature. Give yourself time to make adjustments and don’t expect that you will be up to speed immediately. Exercise kindness and compassion with yourself and allow others to help care for you. Finally, remember that you had this surgery for a very good reason. Although things feel difficult right now, this too, shall pass.

The Window of Opportunity

Once you have recovered from surgery, there are two phases you will go through: the weight loss phase and the weight maintenance phase. During the weight loss phase, it *may* feel as if you are losing weight no matter what you do. This can sometimes give patients a false sense of security. If this happens to you, you may find yourself thinking: “I must have a different metabolism from everybody else. I don’t really need to worry about all the stuff in these nutrition plans. I am a weight loss machine...”

Don’t be fooled. Weight might come off easily at first, but if you don’t develop really good habits during the weight loss phase, it will come back just as easily later on. Remember, bariatric surgery is a tool, which combined with appropriate diet and regular exercise will result in long-term weight loss. Additionally, don’t compare your progress with others who have had bariatric surgery. It is important to remember that everyone progresses at their own pace.

Stress? What Stress?

One of the biggest disservices bariatric patients do to themselves is minimizing the amount of stress they are under. The reason for this is that bariatric surgery and the resulting weight-loss and resolution of co morbidities is seen as a very positive change and we always forget that positive changes can be stressful too.

From the time you begin preparing for your surgery through the first year and beyond, you will be experiencing an increased level of stress which goes along with making major lifestyle changes and experiencing changes in your body. This means that along with taking care of yourself physically through a new diet and exercise regime, you will need to take care of yourself emotionally by paying attention to how stressed you are feeling. Signs of stress include but are not limited to:

- Increased irritability
- Disrupted sleeping

- Headaches/muscle tension
- Confusion/ difficulty focusing
- Loss of temper or emotional overreaction
- Nervous habits such as nail biting
- Apathy
- Isolation
- Feeling overwhelmed
- Decreasing self-care (sudden change in follow through with bariatric diet and exercise plan)

More than ever, it is important to take time to care for yourself. This not only includes taking time for diet, exercise and follow-up appointments, but also for stress reduction activities such as yoga or meditation, journaling, deep breathing or just taking a half-hour to read a good book. Making time to attend the CBSI support group is another self-care strategy. Make sure you get enough sleep and take care of any physical illnesses which come up. The important thing is to make sure it is time set aside for you and that it gets the same priority as time you set aside to take care of others. You will find that monitoring and managing your stress level will greatly enhance your ability to achieve your weight-loss and health goals.

Setting reasonable limits with others is an important part of stress management as well. A word to the wise: While others may support your decision to have bariatric surgery and make lifestyle changes, they may have difficulty accepting the fact that you need more time to take care of yourself. A boss who expects you to routinely skip lunch or a teenager who wants help with a school project at 10:00 aren't going to be happy that the rules have changes and will initially try to sway you back into old routines. Stand firm, no matter how guilty you may feel. Explain the reason for the change and what you are willing to do. Eventually, they too will get used to the new limits. Remember, it is not only your right to minimize the stress in your life, it is your responsibility.

Eating When You Aren't Hungry

Eating for reasons other than physical hunger usually falls into one of two categories. Emotional eating is defined as eating in order to soothe or distract from unpleasant feelings or situations. You are bored, depressed or anxious and without realizing it, you begin to graze, often non-nutritious foods. Situational eating is eating which is done because it has become associated with a specific time, place or activity. You *always* snack in front of the television; *everyone* gets popcorn at the movies; it's *time* for lunch; your *friends* are having a burger so...

Both classes of eating have nothing to do with providing your body with the nutrients it needs and both are usually done without the individual even being aware of what they are doing. Both can have devastating results for weight-loss goals and overall health.

The treatment of choice is to increase mindfulness and change behavior. Mindfulness can be defined as paying attention on purpose. In other words, you need to learn to tune into what is going on *prior* to engaging in eating. Even before your surgery, learn to ask yourself "why am I eating?" as you move towards the kitchen. If the answer is that you are hungry, ask yourself how you know that. Signs of true hunger include:

- Pain and rumbling in the stomach
- A feeling of emptiness in the stomach
- Lightheadedness, dizziness or shakiness
- Headache
- Irritability and or Difficulty Concentrating
- Also ask "how long has it been since my last meal?"

If you are hungry, then eat according to your appropriate diet.

If the answer is "I don't know", then give yourself a minute. Think about whether anything stressful or unpleasant is going on. Are you engaging in a situation in which food consumption is expected? Are you bored or involved in an unpleasant activity? If the answer to any of these questions is yes, then food is not really what you are craving.

This is where behavioral change comes in. Try to use another coping strategy. Take a break from unpleasant activities. Make a connection with other people you care about. Go for a walk or do some deep relaxation breathing. Imagine filling yourself with positive, pleasant experiences instead of food. If you have trouble identifying techniques to use instead of eating, contact the office so that we can help you come up with solutions that will work.

An Explanation of Addiction Transfer

There is growing concern over the phenomenon where bariatric patients appear to develop addictive behaviors such as drinking, spending or sexual indiscretion anywhere from 6 months to several years following their procedures. Known as Addiction Transfer, this is something that all bariatric patients need to be aware of, so that you can watch for any changes in your behavior and get help if needed.

Addiction Transfer is simply the trading of one compulsive behavior for another. This happens when the original behavior is no longer available, but the stressors which triggered it continue. In the case of a bariatric patient, eating, which may have been used to dull painful emotions, is no longer an option. Needing something to fill the gap, the patient may find him or herself turning to alcohol, tobacco or other substances, as well as shopping, sex or gambling.

It is important to realize that addiction transfer is not unique to bariatric patients. Treatment providers in the substance abuse community have known about it for decades. The tricky things in bariatric patients is that changes in behavior often surface many months or even years *after* surgery, making the cause and effect difficult to establish.

Risk Factors for Addiction Transfer

(Remember, these are only markers of increased risk, not predictions of whether or not you will have problems)

- History of substance abuse or dependence
- Family history of addiction
- History of turning to food for emotional comfort
- History of clinically diagnosable eating disorder such as bulimia or anorexia (not merely “disordered eating”)

Gastric sleeve surgery alters the absorption and/or metabolism of alcohol in such a fashion as to increase alcohol sensitivity. It will take less alcohol to become intoxicated. Your blood alcohol levels will be higher after even one drink. This increased sensitivity puts gastric bypass patients at additional risk of developing tolerance and addiction. If you drive or engage in other activities which require fast reaction time and good coordination, you are at increased risk for accident, injury or arrest.

The best prevention of addiction transfer is awareness of and treatment of the underlying problems.

- Identify the triggers behind emotional eating and work on developing effective coping skills.
- Channel that energy into a healthy pursuit such as exercise or a needed activity such as cleaning.
- Monitor your behavior and be on the lookout for changes.
- If you or those in your support system notice changes, seek help right away. Call the office and make an appointment to speak with the social worker.

The longer you allow potentially detrimental behaviors to develop, the harder they will be to overcome.

Changes in Body Image

Our thoughts, feelings and attitudes about our body are what defines our body image, rather than our actual shape or size. Bariatric patients tend to struggle with body image, both before and after weight-loss.

Interestingly enough, most patients *overestimate* their size and continue to feel large, even after their bodies have returned to a normal weight. You may find yourself still gravitating towards the “plus size” or “big and tall” sections of clothing stores, or sucking in a now smaller stomach in order to squeeze between two obstacles. You may be unclear about how to dress your new body, or worry excessively about developing excess skin. For some people, there is anxiety about transformation associated with weight loss. They worry they may lose their identity, even though being overweight was not an identity they wanted. Some people worry that they will continue losing weight until they become unhealthy or disappear altogether.

The good news is that as long as you follow a healthy bariatric diet, you won’t disappear. There are many ways to work on increasing awareness of your actual body and improving your body image. Developing a healthy connection with your body as well as healthy thought patterns about yourself can really make an enormous impact on body image.

- Start paying attention to the messages you give yourself. All people engage in self talk, or as one author puts it, we all have an “inner critic”. Tune in to the negative messages you give yourself about your body. Maybe you can identify where they come from (“my brother always used to tell me I was fat”) or maybe you can’t. What is important is that you can learn to hear how you think about yourself.
- Begin to reframe these comments. Once you can really hear the negative thoughts, begin to gently question whether they are realistic or not. Is there any exaggeration? Could they be put in a nicer way? A good way to test this is to ask yourself “would I put up with somebody saying this to my spouse/friend/child?” If the answer is no, they you need to find a nicer way to put it to yourself. Note that this is not denial of the truth. A large stomach will not become “washboard flat”, but it could be reframed as “round and soft” as opposed to “ugly and flabby”.

- Learn to connect with your body. Once you develop a less abusive language for your body, you can spend more time looking at it. Get to know how your body is changing. Spend some time in front of the mirror getting used to the changes as they happen. Use your body for activity and really focus on how it is feeling as you stretch, move and strengthen. Staying in tune with your body will help you feel more comfortable with changes.
- Don't obsess. Try not to get attached to a target weight, size, BMI or anything else for that matter. Your body knows what it is doing; when it is done losing weight, it will stop. It is up to you to work with your body by following your diet, taking your supplements and engaging in daily exercise. Daily weigh-ins will not help, and will only encourage an adversarial relationship with your body.

A Note to Trauma Survivors

If you are a survivor of sexual abuse or physical trauma, you are not alone. Approximately 25% of patients undergoing bariatric surgery acknowledge a history of sexual abuse. Since not all patients disclose this part of their history, it is expected that the actual percentage may be even higher. While there are no concrete numbers for survivors of physical abuse, certain considerations or care remain the same.

What is important for survivors to remember is that trauma to and changes in your body are going to have additional psychological effects. For anyone, even a minimally invasive laparoscopic surgery feels anxiety-provoking and uncomfortable. For the trauma survivor, having one's body vulnerable to inspection and intrusion by others can be terrifying. Be aware of changes in your anxiety level and be prepared to use techniques which calm you and make you feel safe in order to separate this experience from past trauma. Make sure to communicate your needs to your providers so that they may be sensitive to things which may trigger unpleasant memories. Remember that this is a decision *you* have made about what happens to your body. Ultimately, *you* are in charge, which is very different from when you were originally traumatized.

A common problem encountered by sexual abuse survivors occurs long after the surgery is just a memory. As weight starts coming off, people begin to notice changes in your body. For a survivor who has learned to use obesity as a shield, this new attention can feel overwhelming and bring up negative memories of the past. Some patients find this so uncomfortable that they begin to wish they never had surgery and to regain weight. Some find themselves gaining weight, but aren't conscious of the reason why. If this happens to you, or you think your abuse history may be having an impact on your progress, physical or emotional, seek help. Gaining the empowerment to have the healthy body you want and deserve is a big part of your recovery process.

Building a Support System

The importance of a support system cannot be overstated. Adjustment and adherence to your new lifestyle will be much easier if you have people around you who can encourage you and remind you of your goals. Below are some tips for creating a successful network:

- Choose more than one person. Support systems don't have to be huge, but it helps to have more than one person with whom you can touch base when you need to
- Educate your supporters. Let them know what to expect at every stage so that they can anticipate some of your needs. Do it early, you may not feel like explaining your diet progression when your best friend brings you a milkshake immediately post op.
- Communicate your needs. Although you have educated them on what to expect, nobody can read your mind. Be clear about what you need and what you want.
- Don't feel that you have to tell everybody. You have a right to your privacy and you probably know by now which people in your life are reliable. If somebody hasn't been trustworthy in the past, chances are they still aren't

Additionally, monthly support groups are open to all patients and their loved ones. This is a great way to expand your support network and have a chance to talk with people who know firsthand what you are going through.

Think (realistic) Success!

Positive thinking is a powerful tool, but only if you are realistic about it. We want the best for you and we want you to work hard, but we also know that nobody is perfect. Mistakes and slip-ups happen. They aren't what we aim for, but sometimes they are what we get and we all have to know how to handle them. As you adapt to and maintain your new lifestyle, think hard about how you will handle mistakes along the way.

A huge threat to success (and sane living) is "All or Nothing Thinking". This is also known as the "Well, I had one Oreo so there goes my diet I might as well eat the whole bag and skip going to the gym" approach. A more reasonable way to look at yourself is as a work in progress who aims for about 95% success. More important than whether you fall off the wagon is how long it takes you to get back on track. Just as there is a big difference between the calorie content in one Oreo vs. a whole bag, there is a huge difference between a day of poor choices and six months. Guilt is not helpful here, it tends to get people demoralized and encourage them to give up. Try to live your life as if every moment is a chance to do good things for your body, regardless of what you did the moment before. If you focus on the good things you are doing, it will become more difficult to persevere on your mistakes.



Additional Resources/Websites

For Additional information about weight loss surgery, please check out these websites:

American Society for Metabolic and Bariatric Surgery

Organized in 1983 as an association of bariatric surgeons and allied health professionals dedicated to the safe surgical treatment of morbid obesity.

<http://www.asmb.org/>

American Obesity Association (AOA)

Founded in 1995 to publicize obesity as a disease. The AOA was also established to support and urge further funding for research and treatment.

<http://www.americanobesityassociation>

Statistics Related to Obesity

<http://www.niddk.nih.gov/health/nutrit/pubs/statobes.htm>

Obesity Law and Advocacy Center

Walter Lindstrom is an Attorney and gastric bypass patient. His private law firm is dedicated to representing obese persons in a variety of legal matters.

<http://www.obesitylaw.com/>

Academy of Nutrition and Dietetics

<http://www.eatright.org/nfs/>

Shape Up American

<http://www.eatright.org/adap0197.html>

Obesityhelp.com

A resource for patients to learn more about bariatric surgery. This website provides a forum for patients to describe their bariatric surgery experiences.

<http://www.obesityhelp.com/>

Beyond Change—Information regarding obesity

A professionally printed newsletter providing information about obesity and obesity surgery. Each issue addresses medical and psychological issues surrounding obesity, nutrition, exercise and many other topics.

www.beyondchange-obesity.com

Weight Loss Surgery Information

<http://www.weightlossurgeryinfo.com/>

Bariatric Advantage (vitamin and mineral supplement company)

www.bariatricadvantage.com

Bariatric Cookbooks

Title	Author	Available at
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Before & After. Living & Eating Well After Weight Loss Surgery	Susan Maria Leach	bariatriceating.com
Cook Wise with Chef Dave	Chef David Fouts	amazon.com
Cooking for Weight Loss Surgery Patients	Dick Stucki	amazon.com
Culinary Classics: Essentials of Cooking for the Gastric Bypass Patient	Chef David Fouts	amazon.com
Eating Well After Weight Loss Surgery	Patt Levine	amazon.com
Extraordinary Taste: A Festive Guide for Life After Weight Loss Surgery	Shannon Owens-Malett, RD	bariatricadvantage.com
Hungry Girl 1-2-3	Lisa Lillien	amazon.com
Recipes for Life After Weight Loss Surgery	Margaret M. Furtado, RD	amazon.com
The Complete Idiots Guide to Eating Well After Weight Loss Surgery	Margaret Furtado, RD	amazon.com
The Everything Post Weight Loss Surgery Cookbook	Jennifer Heisler	amazon.com
The Volumetrics Eating Plan	Barbara Rolls, Ph.D	amazon.com
Weight Loss Surgery Cookbook for Dummies	Brian K Davidson, David Fouts	amazon.com bariatricadvantage.com

Bariatric and Healthy Recipe Websites

www.bariatriceating.com
<http://theworldaccordingtoeggface.blogspot.com>
www.sparkpeople.com
www.bariatricchoice.com
www.mybariatric.net
www.barixclinicsstore.com
www.americanheart.org
www.diabetes.org
<http://tracker.diabetes.org>
www.myfitnesspal.com

Products

www.bariware.com Bariware- 1oz portion lunch pal- holds up to 8 oz
www.amazon.com or Bed, Bath & Beyond -Libbey appetizer forks/spoons
www.amazon.com OXO Tot Baby Blocks Freezer Storage Containers, 2oz
www.amazon.com Dressing To Go Containers, 2 oz
www.amazon.com Ball Freezer Storage Containers, 8 oz
<http://www.livligahome.com/Just-Right-Set-bariatric-portion-dishes-p/wdcz126.htm>
 Beautiful Dinnerware with markings to help you with eating the right portion size
<https://portiondiet.com/portion-perfection/bariatrics.html/> Dinner ware to help your with portions and remembering to eat slowly. Also have book to support your bariatric lifestyle and menu book