Bariatric Surgery: Nutrition and Lifestyle

Bariatric Surgery is not a quick or temporary fix for weight loss. Diet and behavioral changes are required for long-term success.

How Does Weight Loss Occur After Bariatric Surgery?

Reduced Stomach Size

• The size of the stomach is about 3 ounces, or the size of an egg (gastric bypass) or small banana (sleeve gastrectomy). Only a small amount of food or liquid can fit into this stomach, which will limit daily calorie intake.

• A typical meal size shortly after surgery may be 2 Tbsp. to ¼ cup. About 1 year after surgery, a typical meal size is 1 to 1.5 cups.

Vitamin, Mineral, and Nutrient Absorption

• The smaller stomach size, decrease in stomach acids, and smaller portion sizes will reduce the body’s ability to absorb vitamins/minerals from food.

• After gastric bypass, the shortening of the small intestine will further limit absorption of nutrients.

• Vitamin and mineral supplementation is not temporary. They are required for life!

Food Intolerances

• After bariatric surgery the body may become intolerant to foods high in sugar and high in fat. These foods may cause nausea vomiting, gas, bloating, and diarrhea.

• Foods that may have been well tolerated before surgery may be less tolerated after surgery.

• Some people may not be able to tolerate healthy foods such as raw leafy greens, eggs, beef, and pork.

• Food intolerances are different for everyone.
LIFELONG Dietary Changes for Successful Weight Loss

Avoid high calorie foods, which do not provide proper nutrition:
- Fried or greasy foods, fast food
- High-fat processed meats: hot dogs, bacon, sausage, ribs
- Desserts or other sweet-bakery items
- Sweetened beverages: pop, sports drinks, energy drinks, juice, sweet tea
- High calorie condiments like ranch, BBQ sauce, dressings, mayo, and butter

Avoid the foods which may “swell” in the stomach and may cause vomiting. These foods are considered “filler foods”. This means they take away space in the stomach from protein, fruits, and vegetables.
- Pasta, including whole wheat and gluten free pasta (try spaghetti squash)
- Rice, both white and brown rice (try cauliflower rice)
- Bread products (bread, crackers, chips, wraps, and all other flour-based foods)
- Grains: quinoa, barley, buckwheat, bulgur, popcorn
- Cereal, especially those high in sugar and low in fiber

THE BARIATRIC DIET IS:
HIGH PROTEIN, LOW CARBOHYDRATE, AND LOW FAT

Avoid all pasta, rice, bread, crackers, pretzels, and grain-based foods.
What Side Effects May Occur After Surgery?

Inadequate Protein Intake
- A minimum of **70 grams of protein a day** is necessary to promote healing, maintain muscles, and protect organ function.
- After surgery, the goal of 70 grams of protein per day is reached through protein supplements (mostly protein shakes), skim milk, low fat dairy products, and lean meats.
- Include protein at every meal and snack and protein should be consumed FIRST at every meal or snack!

Dehydration
- It is necessary to take in **at least 64 oz.** of sugar-free, decaf, non-carbonated fluids every day. (Water or zero-calorie fluids are best).
- As you progress after surgery, you will be able to take in a larger volume of fluid at one time.

Nausea and Vomiting
- Can be caused by eating too fast, eating too much, drinking liquids while eating, eating foods you do not tolerate, or eating pieces of food that are too large.
- Practice the “fluid window”: do not drink fluids 30 minutes before eating, while eating, and wait 30 minutes after eating to drink any fluid. Drinking while eating can flush food through the stomach too quickly, leaving you hungry.

Pain in Upper Shoulder or Upper Chest
- Can occur when too much food is eaten at one time or a food is too difficult to digest. Chew all food well and take small bites.

Dumping Syndrome (with Gastric Bypass)
- Caused by eating simple sugars and drinking liquids with meals.
- Avoid foods and liquids with high sugar content along with fried, fatty foods.
- Symptoms include diarrhea, bloating, gas, sweating, rapid heart rate, headache, shakiness, dizziness, etc.

Lactose Intolerance and/or Diarrhea
- Use lactase-treated milk or lactase enzyme tablets (Lactaid® products). Usually people can tolerate yogurt and hard cheeses even if they are not tolerating milk. Diarrhea can also occur from high sugar, high fat foods (see #2, dumping syndrome).
**Constipation**
- Usually resolves within the first month of surgery. The most common cause of constipation is not drinking enough fluids. Aim for at least 64 oz. of fluids every day. Gradually increase fruits and vegetables to add fiber.

**Gas**
- Fiber in certain foods may cause gas, like broccoli, cauliflower, and beans. Take Bean-o or Gas-X to alleviate gas symptoms. Eventually, the body will adjust to this fiber.

**Heartburn**
- May be caused by swallowing extra air through carbonated beverages (soda, sparkling water, sparkling juice, any drinks with bubbles).
- Heartburn may also be caused by drinking with a straw or chewing gum.

**Weight Plateau or Weight Gain**
- Weight plateaus are normal in the first year after surgery. If your plateau lasts longer than a 3-4 weeks, consider increasing exercise or tracking your dietary intake (let a program dietitian know if you need help looking over your food log).
- Weight gain may occur after surgery if dietary changes are not made, exercise is not performed, or emotional eating habits are not addressed.

**Hair Loss/Hair Thinning**
- This is a temporary side effect caused by many factors such as: a reaction to the anesthesia, a reaction to the stress of the surgery, rapid weight loss, a lack of protein intake, and rarely, a vitamin deficiency.
- The life cycle of the hair follicle is about 3 months; so you may notice your hair falling out 3 months after surgery.
- To minimize hair loss: take in 70 grams of protein daily and take vitamin and mineral supplements as prescribed.

**Intolerance to Alcohol**
- Following gastric bypass surgery, the stomach no longer metabolizes alcohol therefore it enters the bloodstream at a much faster rate, which can increase your risk of alcoholic fatty liver disease.
- The risk of alcoholism greatly increases in bariatric populations, as well as the risk of transfer addiction (which is when one will replace food with alcohol as a way to cope).
- Alcohol is a source of empty calories (for all procedures) and can contribute to dumping syndrome.
Changes Required BEFORE Surgery

**IMPORTANT:** You are expected to make these changes before surgery and they will be addressed in your dietitian appointments. Our team will assess your compliance with vitamins, exercise, and dietary changes to ensure you are qualified for surgery. It may take multiple dietitian visits to prove compliancy.

Follow the guidelines below for ways to *slowly* ease into the bariatric lifestyle.

### WEEK 1 GOALS

Start bariatric vitamins and minerals before surgery.

*Before starting vitamins/minerals, please discuss with your primary doctor or medical team. Renal/kidney patients: your nephrology team will manage these supplements.*

- Iron and calcium cannot be taken together. Also, calcium citrate doses need to be separated.
- If you are taking thyroid medication, do not take any vitamins/minerals at the same time. Separate by 2-4 hours.
- Follow the daily schedule below. Separate each dose by 2-4 hours.
  - Morning/Breakfast: 1 multivitamin with 18mg of iron
  - Afternoon/Lunch: 500 mg of calcium citrate (2-3 tablets or 1 soft chew)
  - Dinner/Bed: 500mg of calcium citrate (2-3 tablets or 1 soft chew)

### WEEK 2 GOALS

Begin daily exercise. A minimum of 10 minutes per day to start, and increase exercise by 5-10 minutes every week. Start with walking at a brisk pace, every day.

### WEEK 3 GOALS

Eat 3-4 times per day. Start with breakfast daily, within 1-2 hours after waking up. Then, every 3-4 hours throughout the day, schedule a small snack or meal.

### WEEK 4 GOALS

Consume protein first at every meal and snack.
### WEEK 5 GOALS

Begin to change your BEVERAGE choices:

- **Sip on water and calorie-free beverages throughout the day.** Daily goal is >64 oz. of fluid. Remember not to drink a ½ hour before, during, and ½ hour after eating meals.

- **Taper off caffeine.** Wean down by ½ cup every day until you are caffeine-free. Caffeine is a diuretic.

- **Avoid alcoholic beverages.** Alcohol is a source of empty calories.

- **Switch carbonated beverages to non-carbonated, sugar-free versions.**

Use skim (non-fat) or 1% (low-fat) milk products.

### WEEK 6 GOALS

Begin to change your FOOD choices:

- **Avoid high fat, high sugar foods.** For example, fried foods, processed meats, cookies, cakes, candy, soda, sports drinks, lemonade, sweet tea, Kool-Aid.

- **Limit breads, rice, pasta.** For example, avoid all wraps, English muffins, pretzels, crackers, cereal, tortillas, and popcorn.

- **Eat very slowly and chew foods very well.** Chew at least 25 times before swallowing, this will be a life-long change.

- **Invest in a blender or food processor, crock pot, water bottle, and measuring cups.**

- **Try protein shakes or powders.** Unjury®, GNC AMP™, Premier Protein®, and Planet’s Purest Whey™ are the brands allowed on the pre-surgical diet. You will want to sample flavors before starting the pre-surgery diet (these shakes are used as meal or snack replacements).

Focusing on SMALL goals each week will help these habits to stick for life. These changes are required before surgery can be scheduled.
**Vitamins and Minerals Required FOR LIFE**

**Gastric Bypass**
- **Breakfast**: Multivitamin with 18mg of iron, Sublingual B12
- **AM Snack**: Calcium Citrate (2 tablets)
- **Lunch**: Calcium Citrate (2 tablets), Vitamin D (2,000 units or 50mcg)
- **PM Snack**: Calcium Citrate (2 tablets)
- **Dinner/Bed**: Multivitamin with 18mg of iron

**Sleeve Gastrectomy**
- **Breakfast**: Multivitamin with 18mg of iron, Sublingual B12
- **AM Snack**: Calcium Citrate (2 tablets)
- **Lunch**: Calcium Citrate (2 tablets), Vitamin D (2,000 units or 50mcg)
- **PM Snack**: Calcium Citrate (2 tablets)
- **Dinner/Bed**: Calcium Citrate (2 tablets)

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**LIFELONG SCHEDULE AFTER SURGERY**

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Pre-Surgical Nutrition Class

Once you are scheduled for surgery, you will be scheduled for a nutrition class.

This nutrition class will discuss:
- Pre-surgery diet
- What you eat in the hospital
- What you eat when you come home from the hospital
- Post-surgery diet transitions
- Protein supplements
- Important nutrition information to set you up for success

You will need to bring the person who prepares the meals and purchases the groceries to class with you. Please bring this folder to class! There will be other patients attending this class, and plan to be at class for at least 4 hours.

IMPORTANT: Some insurance policies do not cover group nutrition classes with a diagnosis of Morbid Obesity and you may receive a bill. You are encouraged to contact your insurance to learn about your policy coverage.

Pre-Surgery Diet

Every patient is required to follow a pre-surgical diet plan that lasts for 2-4 weeks (your surgeon decides the length/timeline). This diet is intended to shrink your liver, and you may also lose weight during this time. More details can be found on next few pages and in pre-surgery nutrition class.

Overview of Post-Surgery Diet

1. Bariatric Clear Liquids: starts the day after surgery.
2. Bariatric Full Liquids: starts the day you go home from the hospital.
3. Bariatric Pureed Food: starts at your 2-week post-op clinic visit.
5. Bariatric Regular diet: Begins at your 2-month post-op visit. You will follow this plan for the rest of your life! A bariatric diet is one that is low in fat, low in sugar, focuses on protein, fruits, and vegetables, and limits refined grain products like bread, pasta, white rice.

You will attend follow-up clinic appointments with your dietitian to monitor your nutritional health, diet progression, and food tolerance. You can call or message the dietitians with any food or nutrition-related questions both before and after surgery.