



Bariatric[™]
INSTITUTE

Bariatric Surgery Nutrition Guide

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Introduction

Long-term weight loss and improved health are typical goals for individuals undergoing bariatric surgery. It is important to remember that bariatric surgery is a tool. Together with a healthy diet, regular exercise, and a commitment to lifestyle changes, this new tool will allow you to achieve these goals.

This packet outlines the nutritional guidelines you will follow after bariatric surgery, including diet progression, vitamin and mineral supplementation, steps to aid in long-term success, guidance on eating carbohydrate foods, and answers to common nutritional concerns. This packet is also intended to be used as a guide for you as you progress down the road of weight loss (and later, maintenance) after surgery.

Always feel free to contact our medical team at 210-651-0303. You can request an appointment with the Registered Dietitian Nutritionist at any time to review intakes, meal ideas, and behaviors for long-term success.

Keys to Successful Weight Loss after Bariatric Surgery

Will I lose enough weight? Will I keep it off? These are the two biggest concerns most patients have about bariatric surgery. Your surgery is a highly-effective tool for weight loss, but there are some very important principles that you must understand in order to use your tool optimally. This guide will teach you how to give yourself the best shot at losing your excess weight and keeping it off. Remember, this tool is highly effective. It is unbelievably powerful. But it only works if you operate it properly. It is not magic. Your proper understanding and use of the tool may make it seem like magic, but it is not magic. Patients who are successful long-term, follow these guidelines. Learn them and live by them. They are your “weapons” against obesity.

---WEPNSS---

Water..... Hydration is an important part of your recovery post surgery.

- Drink consistently throughout the day.
- Minimum of 64 ounces of zero or <10 calorie, sugar-free fluids
- Avoid caffeine for 3 months after surgery. Decaf is OK.
- Avoid alcohol for 1 year following surgery.
- Avoid carbonation.
- Avoid any empty calories particularly from beverages (juice, soda, sweet tea, coffee drinks, smoothies, alcohol)
- Do not drink and eat at the same time and wait 1 hour after meals to resume drinking. Stop drinking at your first bite and wait 1 hour after meal to resume drinking. May cause reflux, ability to eat more or more frequent hunger.

Exercise..... Consistent purposeful movement not only will help you lose weight and keep it off, it also helps to maintain lean muscle mass during active weight loss.

- Goal is to work up to at least 30 minutes 5 times per week of aerobic activity such as walking and 15 minutes 3 times per week of a strength training activity.

Protein..... Protein provides high-quality nutrition that promotes more satisfaction and fullness while assisting in healing and maintaining muscle mass. AVOID carbohydrates. They can be addictive and cause weight regain.

- Work up to a goal of 60 grams per day for women and 80 gram per day for men.
- Protein sources include lean meats (such as fish or tuna, skinless chicken or turkey, lean beef, pork loin), eggs, low fat dairy (such as Greek yogurt, fat free cottage cheese, low fat cheese), beans, or tofu.
- Eat protein foods first.
- 50-70% of meals should be lean protein, 30-50% non-starchy vegetables (anything other than corn, peas, potatoes)
- Less than 15% of your meal should be from healthy carbohydrates such as beans, vegetable, low fat dairy, 1/3 cup or less of whole fruit once per day. Avoids sweets and processed, refined carbohydrates as they will interfere with your weight loss... juice, soda, sweet tea, candy, cookies, breads, tortillas, rice, pasta, crackers.
- Take your time to eat. Be mindful of taking small bites, chew food well. Meal times should take at least 15 minutes but no longer than 30 minutes

Keys to Successful Weight Loss after Bariatric Surgery

No Snacking or Grazing. Purposeful FASTING.....

Bariatric surgery is a tool designed to restrict how much you can eat per meal. You are supposed to feel satisfied with a smaller portion of food at each meal. But if you have many small intakes of calories per day, whether you call it a meal, or a snack, or whatever, then you will defeat your tool. Again, the tool can only limit how much you get in per meal. If you take calories of any type in between the 3 meals a day that we recommend for you, then you won't lose as much weight as you could have lost, and you will likely regain weight.

- Eat 2 to 3 times per day. No more. No less. The rest of the time you should be fasting.
- We call taking calories of any type in-between meals **SNACKING**. This is the saboteur of your tool. It doesn't matter if the calories are liquid or solid, good for you or bad for you, don't snack in between meals.
- **FASTING** periods between meals leads to the greatest amount of fat burning... space meals at least 3-4 hours apart and avoid eating 3 hours before bedtime.
- It's ok to be hungry and looking forward to your next meal. Water intake between meals is recommended. Water has no calories and it may help you to avoid snacking.
- If you eat for reasons other than hunger (such as social, stress, boredom), work on finding other ways of coping with these habits rather than eating.
- It only takes an extra 100 calories per day to be equivalent to 10 pounds in a year.

Supplements.....Take your vitamin and mineral every day for the rest of your life no matter how great you are feeling. This helps prevent nutritional deficiencies that may be caused by limited food intake or absorption of nutrients with the change in anatomy.

- Use **bariatric-specific vitamins**. They are created to deliver the quantity, type and form of nutrients that will be best absorbed after weight loss surgery.
- Particular nutrients that you will need include a high potency, bariatric multivitamin that includes extra iron, vitamin B12 and vitamin D, as well as calcium in the form of calcium citrate or calcium lactate.

Support.....Having a good support system helps to ensure accountability and can help improve long-term weight control and health management.

- Regular visits with your healthcare team (surgeon, doctor, nurse practitioner/physician assistant, dietitian)
- Attend support groups
- Utilize the smartphone App 'Baritastic'. Connect with us via code 10303. Track progress, keep photo journal, track intakes, email your dietitian, access resources
- Receive newsletters
- Follow us on Facebook, Pinterest, and Twitter
- Utilize Patient Support on our website, www.sagebariatric.com. The password **fit4life** will allow you access to the Diet and Nutrition Education.

Stage 1: Sugar-Free Liquids

- Stage 1 begins **immediately after your surgery** and continues **until you see your surgeon 7 to 10 days after your surgery**. This stage promotes healing and maintains hydration after surgery.
- You should drink zero-calorie fluids almost constantly in small sips. Carry some fluid with you at all times. You should aim to drink 64 ounces of fluid each day. Keep an eye on the appearance of your urine – if the color is light and clear then you probably have enough hydration; if the urine is deep yellow or amber in color then you probably need to drink more fluids.
- Imagine your new stomach as a small funnel. Thin liquids will flow out of the bottom steadily and it should be OK to take a small sip every few seconds. Like a funnel, it will be possible to overfill it by drinking too fast or “plug it up” by eating something too thick before it has healed sufficiently.
- It’s normal to have no appetite for a few weeks following surgery on your stomach. We recommend that you only take in thin sugar-free (less than 10 calories per 8 ounces), noncaffeinated, noncarbonated liquids. If you force food (including soup or protein drinks) “to keep your energy up” you may make yourself feel sick, delay your recovery, and impair weight loss. You came into surgery with a normal nutrition level, so for the time being there is no daily nutritional ‘requirement.’
- You can try flavored water and fluids with sweeteners, or you can try broth to get some taste variety. Sometimes the artificial sweeteners or broth can cause diarrhea, so if you’re having loose BM’s it’s probably best to hydrate with pure water.

Sugar-Free Liquids	
<p>Water <i>May flavor with lemon, lime, herbs (e.g., mint, basil), or spices (e.g., cinnamon, ginger)</i></p> <p>Sugar-Free Flavored Waters (e.g., SoBe Life Water, Vitami nWater 10 or Zero)</p> <p>Sugar-free Fruit-Flavored Drink Mixes (e.g., Crystal Light, Hawaiian Punch, Kool- Aid, Tang, Wyler’s Light, Mio)</p> <p>Tea (decaf), including bottles and drink mixes (e.g., Lipton Diet Decaf LemonIced Tea mix, Wyler’s Light, bagged fruit and herbal teas from Bigelow, Celestial Seasonings, Lipton, and others)</p>	<p>Coffee (decaf) Popsicles (sugar-free)</p> <p><i>Drink one of the following daily to help restore your electrolytes in the early months after surgery:</i></p> <p>Broth/bouillon (e.g., beef, chicken, vegetable)</p> <p>Zero-Calorie Sports Drinks (e.g., Powerade Zero, Propel Zero, Replenish)</p>

- Remember to sip fluids slowly in order to recognize fullness. **Stop sipping if you feel fullness, pain, or nausea.**
- **Be aware of dehydration.** If you experience any of these symptoms, drink more fluids:
 - Less frequent urination and / or dark colored urine
 - Dizziness / lightheadedness
 - Flushed face
 - Dry mouth / tongue
 - Headaches
 - Arm / leg cramps

Stage 2: Soft Protein Foods

- Stage 2 begins **between weeks 1 and 2** (7 to 10 days) after you see your surgeon in follow up and get clearance to advance your diet. Continue Stage 2 **through week 4** (day 28).
- You may eat soft **protein** foods starting with soft, mushy proteins first.
- Try to eat at least twice per day but no more than 3 times per day. Choose from the table below. Remember the benefit of purposeful FASTING between meals.

Stage 2 Food Choices	
Step 1 Choices: Soft, Mushy Proteins	Step 2 Choices: Textured Proteins
<ul style="list-style-type: none"> ▪ Beans/Soybeans—whole (boiled/steamed) / fat-free refried ▪ Eggs or egg substitute—scrambled ▪ Cheese—reduced-fat cottage, ricotta, 2% shredded, goat, part skim string ▪ Milk—fat-free, Mootopia (limit to 8 ounces/day in a shake or cooking) ▪ Yogurt—light, low-fat, ideally Greek 100 or <10 grams sugar perserving <p><small>**moisten with low-fat mayo/salad dressing/yogurt or mustard if needed</small></p>	<ul style="list-style-type: none"> ▪ Eggs**—whole, whites, substitute; hard-boiled or prepared in a low-fat way ▪ Canned meats**—chicken, tuna, salmon, crab ▪ Chicken/turkey**—skinless, shredded white meat ▪ Crab—boiled/steamed ▪ Deli Meats—lean 96% fat-free (such as chicken, turkey, roast beef, ham)—shaved ▪ Fish—baked/broiled/steamed (no breading) ▪ Ground beef, chicken, turkey—at least 90% lean ▪ Tofu/Soy

- Continue to drink plenty of fluids—aim for 64 ounces daily. Remember **not to drink while eating and wait 1 hour after eating to resume drinking.**
- Food journaling can be helpful to both you and your dietitian/provider to aid in success after surgery. Try out our Smartphone App! Journaling helps you ensure you are staying hydrated, taking your vitamins and minerals, exercising, and eating foods suitable to your current diet stage.
- Try new foods one at a time and in **very** small amounts to avoid overeating as well as recognize any food intolerances that may arise.
- Take small bites –about the size of your pinky nail or a black bean per meal – Chew solid foods to a pureed consistency.
- Take time to eat, pausing 2 to 4 minutes between each bite. This will help you learn when to stop eating and to improve tolerance of foods as time goes on.
- **REMEMBER: Stop eating when you feel satisfied—not full.** One extra bite could make you uncomfortable and nauseated and may eventually stretch your pouch.
- Feel free to use herbs, spices, and other seasoning blends or non-caloric condiments to enhance your meals.

Stage 3: Solid Foods

- Stage 3 begins **week 5** (about 29 days) after your surgery once you are comfortably tolerating Stage 2 foods and ready to progress your diet. Your surgeon recommends you follow it for the **rest of your life** to achieve long-term weight loss and maintaining good nutrition.
- Remember to focus on protein first, working up to a goal of 60-80 grams of protein daily. Eat no more than 3 times per day! FAST in between meals.
- Remember that foods should be particularly well-chewed and eaten slowly (pausing 2 to 4 minutes between bites). As you progress and are tolerating a variety of proteins, this time may be shortened to a minute between bites.
- Meals should take you **20 to 30 minutes** to eat. This will help you learn to identify your satisfaction cues when eating more solid and textured proteins. Always stop eating or drinking when you feel **satisfied – not full**.
- For the first months after surgery, don't worry about eating a "balanced meal" that consists of several different foods. Gradually work your way up from soft to more solid meats such as white meat chicken/turkey, beef, and pork, as these meats may be tough, dry, stringy, and/or fibrous and you may only tolerate small amounts of them.
- Add non-starchy vegetables, small amounts of fruits (less than 1/3 cup per day), and healthy fats when you feel comfortable. However, you should be eating 2 to 3 bites of the protein food per bite of other foods.
- Continue to drink plenty of fluids as recommended. Remember not to drink while eating and wait 1 hour after eating to resume drinking.

Protein

Protein should be the biggest part of your diet – it provides a longer sense of fullness, is highly nutritious, and helps control blood sugar levels. Include protein at all meals. Choose high quality, leaner choices that are not breaded or fried.

Solid Proteins (Primary Choices)	Softer Proteins (Secondary Choices)
<ul style="list-style-type: none"> ▪ Beef/Game (lean)—USDA Select or Choice grades trimmed of fat, such as tenderloin; roast (rib, chuck, rump); steak (T-Bone, cubed, flank, porterhouse, sirloin, round); at least 90% lean ground ▪ Deli/processed meats—lean, 96% fat-free deli meats, e.g., turkey, roast beef, ham, chicken; low-fat turkey/beef hot dogs or sausage ▪ Lamb/Veal (lean)—Roast, chop, or leg ▪ Pork—Lean pork, such as fresh ham; Canadian bacon; tenderloin, center loin chop ▪ Poultry—Skinless chicken or turkey ▪ Shellfish—Clams, crabs, lobster, scallops, shrimp 	<ul style="list-style-type: none"> ▪ Beans—Garbanzo, pinto, kidney, white, split, black, black-eyed ▪ Dairy—Milk: non-fat or 1% cow, Mootopia, unsweetened soy/coconut/almond milk (≤8 ounces per day in shakes or cooking) Cheese (≤3 g. fat/ounce): Sliced cheese (2% milk); string cheese; hard and shredded cheese; non-fat/low-fat cottage cheese Yogurt: light, low-fat Greek 100 (<10 g. sugar per serving) ▪ Eggs—Whole eggs, egg whites, egg substitutes ▪ Fish—Cod, flounder, haddock, halibut, tilapia, trout, tuna, herring, salmon, catfish, oysters,

Stage 3: Solid Foods

Non-starchy Vegetables

Non-starchy vegetables are an excellent source of vitamins, minerals, and dietary fiber. Begin adding in a few bites when you are tolerating your proteins well. Watch the use of high fat or high calorie condiments such as salad dressing or butter.

Artichoke	Artichoke hearts	Asparagus
Beans (green, wax, Italian)	Bean sprouts	Beets
Broccoli	Brussels sprouts	Cabbage
Carrots	Cauliflower	Celery
Cucumber	Eggplant	Green onions/scallions
Greens (collard, kale, turnip)	Lettuce/Salad	Mushrooms
Okra	Onions	Peppers
Radishes	Sauerkraut	Spinach
Sugar snap/snow peas	Summer squash	Tomato
Turnips	Water chestnuts	Zucchini

Fruits

Fruits contain natural sugar/carbohydrate. They should be eaten last or only as a condiment to your meal no more than once a day. Use the following guidelines when choosing fruits.

In limited amounts	Seldom	Rarely/Never
<ul style="list-style-type: none"> Fresh fruit: choose any kind, preferably with the skin to increase fiber content. Frozen fruit: choose unsweetened fruit of any kind. <p><i>Limit bananas and tropical fruits</i></p>	<ul style="list-style-type: none"> Canned fruit: choose canned in natural juice or extra light syrup, and unsweetened applesauce to decrease added sugars. <p><i>*Tip: to remove added sugars, rinse drain and rinse before eating.</i></p>	<ul style="list-style-type: none"> Dried fruits: (e.g., raisins, banana chips) high-calorie foods that usually have added sugars. Fruit juice: high-calorie liquids that will not cause fullness.

Healthy Fats

Monounsaturated and polyunsaturated fats are considered healthy fats. Fats play an essential role in the body. However, saturated and *trans*-fatty acids which are found in processed and fried foods should be avoided because they are not good for the heart. Aim for **2 servings per day** of healthy fats, as these are high-calorie foods and too much may negatively impact your weight.

Monounsaturated Fats	Polyunsaturated Fats
Avocado1/8 medium or 2 tbsp.... (1 oz.)	Flaxseed, ground 1 ½ Tbsp
Oil (canola, olive, peanut) 1 tsp.	Margarine, (stick, tub, squeeze)..... 1 tsp
Olives, black.....8 large	Margarine, low-fat (30-50% vegetable oil) 1 Tbsp
Olives, green, stuffed..... 10 large	Mayonnaise, regular..... 1tsp
Nuts: almonds, cashews, mixed..... 6 nuts	Mayonnaise, reduced-fat..... 1Tbsp
Pistachios..... 14kernels	Oil (corn, safflower, soybean)..... 1tsp
Peanuts..... 10 nuts	Pumpkin or sunflower seeds..... 1 Tbsp
Pecans 4 halves	Salad dressing & Miracle Whip, regular..... 1 Tbsp
Peanut butter (smooth or crunchy) 2tsp	Salad dressing & Miracle Whip, reduced-fat..... 2 Tbsp
Sesameseeds 1Tbsp	Walnuts.....4halves

Vitamins and Supplements

You need to take these vitamins and minerals every day for the rest of your life so that you do not become deficient in them. Deficiencies can cause you serious and permanent health problems.

Bariatric-specific vitamins have been shown to improve health and vitamin profiles!

(Your surgeon may require additional supplementation as needed.)

Supplement	Multiple Vitamin Mineral Supplement	B vitamins	Iron Supplement	Calcium Citrate and Vitamin D3
Amount you need every day:	BA Ultra Multi capsules 3/day BA Advanced Multi EA chewable 2/day	1000 mcg B12 (may be included in multi)	Up to 45 mg daily <i>Ferrous Fumarate</i> (may be included in multi)	1500 mg calcium daily 3000 IU Vit D3 daily (may be included in multi)
How to take:	Split into 2 doses and take right before the start of a meal. DO NOT take with thyroid medication	Can be taken at any time	Do not take with thyroid medication. Do not take within 2 hours of calcium. Sleeve & Band: Males & postmenopausal females may not need iron after first 6 months.	Split into 3 – 500 mg dosages. Do not take with other meds or within 2 hrs of iron. <i>Calcium can interfere with the way many medications are absorbed and thereby decrease the medication's effectiveness!</i>
Why you need it every day:	To prevent low levels of required vitamins and minerals, which your body needs to have daily.	To break down the food you eat; for healthy skin and muscles; immune and nervous system function.	To aid in oxygen transport; immune system regulation and cognitive function.	For the health of your bones and muscles; immune system and blood pressure regulation; insulin function.
Read the label to check that your supplement contains the following:	Should contain at least 100-300% of daily value of B2, B3 (niacin), B5(pantothenic acid), Folate, biotin, 200% of B1 (thiamin), 30-200IU of vitamin E , 100-200% of vitamin A, 60-500 mg of vitamin C, 100% of daily value for zinc, selenium, copper, manganese, chromium, molybdenum		<ul style="list-style-type: none"> ▪ Ferrous fumarate or byglycinate is easier to tolerate than sulfate. (Most over the counter brands are of a sulfate variety) ▪ Vitamin C will increase your body's absorption of iron ▪ Avoid slow or extended release 	<ul style="list-style-type: none"> ▪ Calcium citrate is better absorbed than calcium carbonate. (Do not buy Caltrate, Tums, Viactiv, etc). ▪ Vitamin D helps your body absorb the calcium. ▪ Magnesium may help reduce constipation

Vitamins and Supplements

Determining how and when you should take your vitamins can be a challenging task, particularly if you take other medications that may interfere with absorption of the supplement, medication or both. Consider the following tips when starting your supplement regimen after surgery. If you need assistance, seek help from your dietitian in finding a schedule that will work best for you.

- 1. Establish a routine.** Take your supplements at the same time every day. It may take some time to get used to it at first, but the longer you practice this technique, the more second nature it will become- similar to washing your face or brushing your teeth every day. Set reminders to your phone, use sticky notes on your refrigerator or computer, and *keep them handy*. Be creative!
- 2. Be a label reader.** Not only is it advantageous to know what you are eating by reading food labels, it is essential to become more familiar with reading supplement labels in order to ensure you are getting the right dosage. WE ENCOURAGE THE USE OF BARIATRIC SPECIFIC VITAMINS AS WE SEE IMPROVED ABSORPTION AND HEALTH WITH THE USE OF THEM!
- 3. Consistency is key!** It is extremely important that you take your supplements every day. *This will prevent long term complications such as osteoporosis, poor immunity and healing, neurological deficits and malnutrition.* If you are having difficulties with swallowing your supplements or are not tolerating them well, it is imperative that you discuss this with your dietitian or surgeon.
- 4. Be flexible.** It may take trying numerous brands before finding the right type of supplement for you. Talk to your provider about alternatives.

Sample Schedule	
6:00-7:00am	Take any thyroid medication <ul style="list-style-type: none">▪ On an empty stomach with no other medications▪ Avoid eating for at least 1 hr▪ Avoid taking other supplements for 4 hours
10:00am	<ul style="list-style-type: none">▪ 500 mg of calcium citrate
Noon	<ul style="list-style-type: none">▪ Multivitamin (2 capsules or 1 chewable)
2:00pm	<ul style="list-style-type: none">▪ 500 mg of calcium citrate
5:00-6:00pm	<ul style="list-style-type: none">▪ 500 mg of calcium citrate
Bedtime	<ul style="list-style-type: none">▪ Multivitamin (2 capsules or 1 chewable)

Monitor Nutrient Levels

Labs

It is critical that you adhere to a follow-up visit schedule and lab draws in order to detect and treat any nutritional deficiencies. If prevented or caught early, they can be treated. But left to their own devices, nutrient deficiencies can be life changing or debilitating. Be your own advocate and use the following as a guide.

1 month

Comprehensive Metabolic Panel w/o EGFR
CBC w/auto diff
Vitamin B12 *Medicare limit 1/yr
Vitamin D, 25 Hydroxy *Medicare limit 1/yr
Magnesium (serum)

Iron, Total
Ferritin
PTH, intact (without calcium)
Uric Acid
Vitamin B1 (whole blood) *Medicare limit 1/yr

6 month

Comprehensive Metabolic Panel w/o EGFR
CBC w/auto diff
Vitamin B12 *Medicare limit 1/yr
Vitamin D, 25 Hydroxy *Medicare limit 1/yr
Vitamin B1 (whole blood) *Medicare limit 1/yr
Vitamin C
Magnesium (serum)
Iron, Total
Ferritin

PTH, intact (without calcium)
Uric Acid
MMA (serum)

Other:

- Lipid Panel (Hyperlipidemia)
- Hemoglobin A1c (DM)
- Vitamin K (bruising, bleeding)
- Zinc (fatigue, chronic diarrhea)

Annual

Comprehensive Metabolic Panel w/o EGFR
CBC W/Auto Diff
Vitamin B12 *Medicare limit 1/yr
Vitamin D, 25 Hydroxy *Medicare limit 1/yr
Vitamin B1 (whole blood) *Medicare limit 1/yr
Vitamin C
Magnesium (serum)
Iron, Total
Ferritin
PTH, intact (without calcium)
Folate
MMA (serum)

Bypass or DS:

- Vitamin A
- Zinc
- Copper

Other:

- Hemoglobin A1c (DM)
- Lipid Panel (Hyperlipidemia)
- Vitamin K (bruising/bleeding)
- Selenium (neurologic symptoms)

Carbohydrate Intake after Bariatric Surgery

What are carbohydrates?

Carbohydrates are a form of macronutrient. There is no requirement for carbohydrate intake. They are either simple or complex. Simple carbohydrates are sugars and include fructose (fruit sugar), sucrose (table sugar), and lactose (milk sugar), as well as several other sugars. Complex carbohydrates include fiber and starches. Foods rich in complex carbohydrates include beans/legumes, non-starchy vegetables, fruits, and whole grains. The types of carbohydrates you eat can have a significant effect on your hunger and weight loss.

What types of carbohydrates can I eat?

You should minimize all carbohydrate intake long-term to less than 60 grams per day. **Avoid all processed and refined carbohydrates** such as bread, cereals, rice, pasta, tortillas, crackers. You may consume small amounts of carbohydrate from beans/legumes, low fat dairy products, non-starchy vegetables, and limited amounts of fruits (less than 1/3 cup per day).



What are starchy/refined carbohydrates?

Starchy carbohydrates include bread, cereals, crackers, pastas, rice, tortillas, and potatoes. Following weight loss surgery, many surgeons recommend you avoid (or minimize) these starchy carbohydrates because they:

- 1) Contain very little protein
- 2) May cause your blood sugar levels to go up and down, especially if eaten without a protein source
- 3) Do not keep you full very long
- 4) May not be well-tolerated after surgery



We recommend that you fill your pouch mostly with nutrient-dense foods like lean proteins and non-starchy vegetables for healthy weight-loss and long-term weight maintenance.

Can I ever eat bread, cereals, crackers, pasta, rice, tortillas or potatoes again?

In general, these foods should not be a regular part of your diet. It is recommended to avoid these foods while you are still actively trying to lose weight. We find the addition of these may also trigger weight gain in the long term. Only include small amounts of high fiber, minimally processed grains such as quinoa, barley, Ezekiel bread on occasion.

What is Dumping Syndrome?

Dumping syndrome may occur after gastric bypass surgery and usually occurs due to poor food choices. Dumping syndrome can occur when concentrated sugars enter the new portion of the small intestine attached to your stomach pouch. The presence of these concentrated sugars cause fluid to rapidly enter the small intestine. This can cause abdominal pain and cramping, diarrhea, nausea, vomiting, an increased heart rate, dizziness, sweating, and a general feeling of weakness. These symptoms can range from mild to severe. In addition to concentrated sugars, overeating or eating foods with a high fat content (e.g. fried foods) can also cause some of these unpleasant physical symptoms. Management of dumping syndrome includes talking to your medical team about your symptoms as well as avoiding foods that are high in sugar.

Fiber Intake after Bariatric Surgery

About Dietary Fiber

Dietary fiber is found mostly in fruits, vegetables, whole grains, beans, lentils, and legumes. Fiber is a type of carbohydrate but it is the part of the plant that cannot be digested or absorbed and, thus, passes through. There are two types of fiber – insoluble and soluble. **Insoluble fiber** (e.g. whole grains, edible peels or seeds from fruits, psyllium husk in Metamucil) helps to maintain normal bowel movements by increasing stool bulk and promoting faster transit through the intestines with adequate amounts of fluid. **Soluble fiber** (e.g. oatmeal, legumes, corn, Benefiber) dissolves in water and forms a gel which softens the stool without being reliant on fluid intake. It can help to lower blood cholesterol and blood sugar levels.

Why Do I Need Dietary Fiber?

It is important to eat enough fiber to maintain good health, control weight, avoid digestive and diverticular problems (such as constipation or hemorrhoids), and prevent heart disease and cancer.

Constipation – A Common Concern After Weight Loss Surgery

Constipation after weight loss surgery can be caused by a diet low in fiber, not drinking enough fluids, lack of regular exercise, and/or medications you may be taking. It is normal to experience a decrease in frequency of bowel movements after weight loss surgery due to eating less food. However, you **may** be constipated if you find it difficult to go, if your bowel movements are fewer than three times per week **and** you notice any of the following: stools are hard and dry, you experience straining, bloating, and the sensation of a full bowel. Discuss any symptoms you have with our medical team. We recommend taking a fiber supplement (see “Fiber Supplementation” below) about 3 months following surgery. Remember to drink enough fluids while taking a fiber supplement. Regular exercise may help your body and digestive system function optimally. If constipation continues to be a problem, please consult our medical team.

How Much Fiber Do I Need?

The small stomach pouch that is created by surgery may not allow you to get enough fiber from foods to ensure optimum function over time. During the first year after surgery, fiber recommendations are about 10 to 15 grams per day. Once you are eating a diet to maintain weight (usually more than 1 year after surgery), recommendations increase to about 25 to 35 grams daily, but that still may be difficult to consume on a daily basis so an over-the-counter fiber supplement will be necessary. Refer to the table on the right for examples of increasing dietary fiber with mostly non-starchy vegetables. **Note: if you are less than 1 year post-op, you may not be able to eat the amounts listed on the table.**

Food Item	Amount	Fiber (g)
Lentils, cooked	¼ cup	~4
Beans, pinto/black/kidney	¼ cup	~3.5
Beans, lima/white/chickpeas	¼ cup	~3
Raspberries	¼ cup	~2
Spinach, cooked	¼ cup	~2
Brussels sprouts, cooked	¼ cup	~1.5
Pear, with skin	¼ medium	~1
Broccoli, cooked	¼ cup	~1
Cauliflower, cooked	¼ cup	~1
Apple, with skin	¼ medium	~1
Green beans, cooked	¼ cup	~1

Fiber Supplementation

Start with a soluble fiber supplement such as Benefiber in the early stages after your surgery if you are struggling with constipation. About 2-3 months after surgery, begin taking supplemental fiber as part of your daily routine. Commonly available products include Benefiber (soluble fiber). If you are drinking plenty of fluid you may try an insoluble fiber such as Citrucel, Konsyl, and Metamucil. We recommend 1 tablespoon twice a day (with plenty of fluids), keeping in mind that fiber supplements should be taken in small doses to allow your bowels to adjust and avoid excess gas, bloating. If the first supplement you try continuously causes gas or bloating despite starting with a small dose, you may need to try another supplement.

Common Nutritional Concerns After Bariatric Surgery

The following guide contains short descriptions about topics that individuals typically have questions about following bariatric surgery. Always feel free to ask additional questions.

Alcohol

The use of alcohol after weight loss surgery should be avoided for the first year and kept to a maximum of 1 drink in a 24 hour period after that. Alcoholic beverages can be absorbed more quickly leading to early intoxication, promote damage to liver and other organs, and lead to addiction. Alcohol also contributes empty calories (even one drink per week can alter metabolism and halt weight loss), promote dehydration, and impair healthier food choices.

Caffeine

After weight loss surgery, it can be difficult for individuals to drink enough fluids in general due to the small pouch size, so caffeinated beverages should be avoided until you are consistently drinking 64 ounces of decaffeinated fluids daily. Caffeine can also delay healing and increase the risk of developing ulcers. It is important to note that caffeine can affect the absorption of iron, so it is best to avoid drinking these beverages when taking your vitamin and mineral supplements. It is best to avoid caffeine in any form the first 3 months after your surgery and then limit to 1 caffeinated drink per day.

Constipation

Refer to the section *Fiber Intake after Weight Loss Surgery* (page 9).

If within the first month after surgery:

- Focus on getting in a minimum of 64 fluid ounces of water.
- Try sipping on warm water before your meals. Do NOT drink with meals or for an hour after.
- Walk around more.
- Add in Benefiber as able.

Dehydration

Dehydration can be caused by poor fluid intake, poor fluid choices (including caffeinated beverages and alcohol), vomiting, and diarrhea. For more information on hydration, refer to the Stage 1 guidelines. Keep fluids by you constantly. You may also crunch on soft ice.

Diarrhea

Initially following surgery, your bowel movements may be watery. Once you begin eating solid foods your bowel movements should become more normal. Remember it is important to drink plenty of fluids during this time to prevent dehydration.

- Evaluate tolerance to lactose/dairy foods.
- Eat slowly, stop when satisfied
- Avoid drinking with meals and for an hour after.
- Avoid sugar, fat, alcohol and spicy foods.
- Limit the amount of sugar alcohols or artificial sweeteners.
- Avoid caffeinated beverages and smoking!

Dizziness or Headaches

Make sure you are hydrated. Use an electrolyte replaced drink, drink fat free broth or use a ¼ tsp or less of salt in your meals. Eat your 2-3 small meals per day.

Common Nutritional Concerns After Bariatric Surgery

Dumping Syndrome

Refer to the handout *Carbohydrate Intake after Weight Loss Surgery* (page 8).

Excess Air

Try to avoid drinking carbonated beverages that will create excess air in your pouch, which may cause a feeling of discomfort. Avoid drinking straws and chewing gum. Use a different cup or bottle to drink your fluids.

Excessive Weight Loss

This rarely occurs. Track what you are eating and follow up with our medical team. They will guide you in losing the amount of weight that is right for you.

Fear of Gaining Weight

It is normal to have a certain degree of fear. However if you find yourself constantly focused and worrying about your weight, you should follow up with our medical team to address if you have realistic goals on your weight. You may need focus on your health and wellness rather than the number on the scale. It can also be a challenge for your brain to adapt to the new you. Use a phone journal and work with a therapist on a positive image for yourself.

Feeling of Frustration or Deprivation

Feelings of frustration or deprivation are normal. You are going through an adjustment period and learning new coping methods beside food. Put together your support system of people you can talk to about your feelings. Attend support groups regularly. Make sure you are taking care of your basic needs of nutrition, vitamins, movement, and sleep.

Fluids with Foods

After having weight loss surgery, all individuals are encouraged to avoid drinking a beverage while eating food. Drink fluids constantly throughout the day, but not with meals. Most people know not to bring a beverage to the table, but may not realize that foods containing fluid such as soup and cereal with milk are also included here. Broth-based meat and vegetable soups may be eaten if the liquid is drained or consumed prior to eating the solid foods. You should wait the length of time indicated by your surgeon before and/or after eating to resume drinking. If you drink with your meal, the food does not stay in your pouch long enough to give you a sensation of satiety. As a result, you may eat larger portions during your meal or feel hungry soon after eating which can affect your weight loss. For individuals with the gastric bypass, dumping syndrome may occur when drinking fluids with meals or too soon afterward.

Frothing/Excess Mucous

Frothing refers to the foam or mucus that individuals sometimes notice after having weight loss surgery. It is secreted to help digest foods since your new stomach pouch lacks the acid to break down foods. The mucus mixes with food in your pouch to move it through the digestive tract. Frothing may also occur as a protective mechanism if you overeat or become dehydrated. If the mucus builds up into your esophagus, it may cause nausea and possibly vomiting or spitting up the mucus. It can help to consume warm liquids (such as hot [decaf] tea or hot water with lemon) to help break down the mucus. Frothing generally resolves with time, but if you experience frothing on a consistent basis, and talk to our medical team.

Common Nutritional Concerns After Bariatric Surgery

Food Intolerances

A number of foods may become problematic to consume after weight loss surgery.

- **Meats that are tough, dry, stringy, and/or fibrous** such as well-done steak, roast beef, pork, and chicken/turkey (particularly white meat) may be difficult to tolerate in the early months after surgery. Despite chewing well, the connective tissue may not break down well, which may cause the stomach outlet to get plugged. This may cause nausea and even vomiting. Start with tender cuts (such as filet mignon or dark meat poultry), use moist cooking methods (such as braising, roasting, and baking with broth), always eat very small bites (the size of a pencil eraser), chew very well (to pureed consistency), and pause 2 to 4 minutes between bites.
- **Vegetables that are stringy, fibrous, or have tough stalks** such as celery and asparagus may also cause discomfort.
- **Cruciferous vegetables like cauliflower, broccoli, and cabbage** may cause gas and abdominal cramping.
- **Leafy vegetables like lettuce and spinach** may become problematic if not chewed well – they may become flimsy and obstruct the outlet, causing physical discomfort. Chew, Chew, Chew
- **Fresh bread, pasta, and rice tend to become “gummy”** in your pouch and cause blockage of the outlet. They often feel as though they get “stuck”. They also can take on fluid and “swell” causing an uncomfortably full feeling. These foods should be avoided.
- **Fruits with the skin (such as apples, pears) or membranes (such as oranges, grapefruit)** may be more difficult to tolerate in the early months following weight loss surgery.

Fullness/Satiety

It is important to be mindful when eating meals (that is, pay attention to what you are eating). This will help you pace yourself and tune in to feelings/signs of satiety (or satisfaction). If you notice feelings such as chest discomfort, pressure, or pain, stop eating/drinking immediately to avoid risk of complications and/or vomiting. When you pace your meal by chewing food thoroughly and pausing between bites (and don't just eat one bite after another), you allow your body time to recognize feelings of satiety so that you avoid overeating (thus, getting full).

Gas/Bloating

Try using lactose free products or eliminating dairy. Avoid carbonation and things that may introduce “excess air” into the digestive track. Eat slowly. Try the use of a probiotic.

Hair loss/thinning

Hair loss generally occurs beginning three months after surgery and can last six months (or longer) as a result of rapid weight loss due to a very low caloric intake during the first six months, when hair is not a priority. You may notice visible hair loss or hair in your brush or comb and no new hair growth. As your stomach pouch matures and you are able to eat more food, your body will begin to produce new hair. *The best prevention is to maintain adequate nutrition by consuming high quality protein at each meal and taking your vitamins and minerals (with adequate amounts of iron, zinc, biotin, and copper) as directed.*

Heartburn/Burning Feeling in the Stomach

Discuss with our medical team. Avoid coffee, tea, caffeine, chocolate, spicy food, alcohol, smoking, aspirin. Avoid foods that are too hot or too cold. If this is a consistent problem, you may need medication to help you.

Common Nutritional Concerns After Bariatric Surgery

Inability to Lose Weight

Weight loss plateaus are common as your body is healing and adjusting. However, if they last longer than a few weeks consider the following:

- Track your intakes so that you know exactly what you are taking in. Share these with your medical team to evaluate.
- Avoid foods high in carbohydrates or high in fat
- Avoid fluids that are high in calories (> 10 calories per 8 ounces)
- Watch out for condiments such as salad dressing and mayo... they can add lots of extra calories.
- Be aware of your eating patterns... are you fasting between your 3 meals per day? Are you eating for reasons other than hunger or nutrition?
- Exercise more and mix up your routine.

Lactose Intolerance

Lactose is a natural sugar found in milk and dairy products. Lactose intolerance is the inability to break down lactose in the intestine. Symptoms include abdominal cramping, bloating, gas, and diarrhea after consuming foods or beverages containing lactose beginning anywhere from 30 minutes to two hours later. It is possible for an individual to develop a new or temporary lactose intolerance following weight loss surgery, but this usually subsides after a few months. Cow's milk and ice cream contain larger amounts, while cheeses (cottage, ricotta, hard/aged) and yogurt contain smaller amounts and may not cause symptoms. If you experience any of the symptoms above after consuming milk products, you can try lactose-free products such as fat-free/unsweetened soy, almond, coconut milk or any lactose-free milk (e.g. Mootopia). It helps to read the ingredient list on food labels to identify hidden sources of lactose in foods. *The following words or phrases indicate the presence of lactose in the food or beverage: whey, curds, milk by-products, dry milk solids, buttermilk, malted milk, sweet cream, sour cream, and non-fat dry milk powder.*

Leg Cramps

Take your vitamins every day. Make sure you are getting in enough fluid and use one electrolyte replaced drink per day (see section 1).

Meal Components/Meal Plans

At least half of every meal should consist of protein food(s). Once you are eating solid foods, you may also include non-starchy vegetables and small amounts of complex carbohydrates (refer to carbohydrates section). Always remember that you must have the protein but you do not have to include the others. If you choose to include other food groups, remember to consume your **protein first**, followed by non-starchy vegetables second, and fruits, healthy fats, and starches last. Do not eat any of the other food groups without your protein food.

Visit the patient support tab on our website www.sagebariatric.com (password 'fit4life') for sample meal plans as you are progressing your diet.

Monotony of Diet

Keep a positive attitude and focus on the good things that are happening while de-emphasizing food in your life. Your new way of eating is nourishing your body and allowing you to look and feel better every day. Healthy eating does not have to be boring long term. Check out our website/newsletter for new food ideas or websites such as www.foodcoach.me for weight loss surgery friendly recipes.

Common Nutritional Concerns After Bariatric Surgery

Nausea and Vomiting

Nausea and vomiting after your surgery may be caused by medications, mechanical problems (e.g. stricture), food intolerances (particularly foods that are too dry), or dietary non-compliance (including overeating, eating too fast, eating and drinking at the same time, taking bites of food that are too big, or not chewing thoroughly). If you experience persistent nausea and vomiting, it is important to notify us. Remember to try new foods one at a time and in small amounts to identify food intolerances. If you experience vomiting, be sure to drink plenty of fluids to prevent dehydration.

Overeating

When eating a meal, it takes about 10 minutes from the time your stomach pouch gets comfortably filled to the time that your brain realizes you are satisfied. When you overeat, your pouch will be overfilled and you will experience nausea and usually pain/discomfort in your chest. You are likely to experience this overfilled feeling at least once or twice, and it will not damage your stomach if it does not become a pattern. The goal is to learn from the experience.

Protein Supplements

Protein shakes/supplements may be used if needed during one or more of the stages in your diet progression and/or if special circumstances require it. Normally once you have progressed to solid foods, solid foods tend to provide better long-term satiety. However they can be a good back up plan instead of skipping meals or making less healthy choices. High quality protein bars may serve as a meal replacement, but check with us to make sure they have the right nutritional content.

Significant Increases in Hunger

You will notice that you are able to eat more over time but it is important to remember your WEPNSS.

- Are you getting in enough fluid? The body does not distinguish well between thirst and hunger.
- Do not drink with your meals or for an hour after.
- Advance your diet with the goal of 50-70% from solid, lean proteins, 30-50% from non-starchy vegetables and minimizing carbohydrate intake. High carbohydrate intake can increase your hunger.
- Be mindful of eating. Eat slowly but do not take longer than 30 minutes to complete the meal.
- Keep food records to know how much you are eating and if it is within the recommended nutrition guidelines.

Snacking

It is best to avoid snacking after surgery. Fasting between meals (going 3-4 hours in between meals) will promote the greatest amount of fat burning. Many people snack for reasons other than hunger (such as out of boredom or stress) which can increase your overall caloric level and thus lead to weight gain.

Common Nutritional Concerns After Bariatric Surgery

Sugar-Free Foods

Many people who wish to avoid eating sugars turn to “sugar-free foods” as a way to enjoy “forbidden” foods without the guilt. While it is true that these foods may not cause undesirable side effects, such as dumping syndrome, they may still be full of calories and cause other undesirable side effects, such as lack of weight loss or even weight gain! For example, three sugar-free chocolate sandwich cookies contain 130 calories and 19 grams of carbohydrate as compared to 160 calories and 24 grams of carbohydrate for the regular version. Remember that these foods are often still high in carbohydrates and sometimes fat to make up for the lack of sugar. One serving may not satisfy your craving, not to mention they are usually less nutritious food choices for your small stomach!

Sweeteners

- **Artificial Sweeteners.** These are compounds that offer intense sweetness without the calories of sugar. Artificial sweeteners available in the US are: *acesulfame potassium* (brand name: Sunett); *aspartame* (brand names: Nutrasweet, Equal); *saccharin* (brand name: Sweet ‘N Low); *sucralose* (brand name: Splenda). Research throughout the years regarding their safety has shown no long-term health issues in people.
- **Sugar Alcohols.** Also called polyols, sugar alcohols are carbohydrates that have a chemical structure that partially resembles both sugar and alcohol, but they do not contain ethanol (as alcoholic beverages do). Because they are incompletely broken down and absorbed by the body, they contribute ≤ 3 calories per gram as compared to sugar, which is 4 calories per gram. The commonly used sugar alcohols include *sorbitol*, *mannitol*, *xylitol*, *maltitol*, *maltitol syrup*, *lactitol*, *erythritol*, *isomalt* and *hydrogenated starch hydrolysates*. Sugar alcohols may cause abdominal gas and bloating and/or a laxative effect if eaten large amounts (based on individual tolerance).
- **Sugar Substitutes.** Artificial sweeteners and sugar alcohols may be used as substitutes for sugar. In addition, *stevia*, an herb native to South America, has also been used worldwide as a sugar substitute. It is currently available for use in the US as an herb and as a food additive (brandname: *Truvia*).

Although these foods do not contribute to your caloric intake, studies are showing that they can increase appetite and cravings for sweets. We encourage keeping the use in moderation (<4 per day).