

PATIENT NUTRITION PATHWAY GUIDELINES FOR METABOLIC & BARIATRIC SURGERY



WILLIAM BEAUMONT ARMY MEDICAL CENTER

The Defense Health Agency, William Beaumont Army Medical Center, nor any of its affiliates or employees recommend or endorse any of the bariatric products discussed in this booklet. Bariatric products shown or discussed here are used as examples only and are not a complete or comprehensive list of all available bariatric products available on the open market.

TABLE OF CONTENTS

Topic	Page
Contact Information	4
What to Expect and Things to Do	5
Mental Aspect of Surgery	6
Pre-Operative Goals	7
Recommended Weight Loss Before Surgery	8
Pre-Surgery Diet	8
Day Prior and Day of Surgery Diet	10
Pre-Surgery Shopping Ideas	11
Post Bariatric Diet Progression –Overview	12
Stage #1 Clear Liquid Diet	15
Stage #2 Diet: Full Liquid Diet and Example Menu	16
Stage #3 High Protein Soft and Blended/Pureed Diet	18
Guidelines for Blending Food	19
Stage #3 Minced/Blended/Pureed Diet Menu Suggestions	22
Stage #4 Bariatric “Regular” Diet Guidelines	23
Stage #4 Food Groups	24
Bariatric Plate	26
Stage #4 Sample Menu	27
Diet Guidelines for Life	28
The Protein Challenge After Bariatric Surgery	29
Protein Supplements: Sources, Hints, Suggestions	31
Examples of Protein Supplements	32
ASMBS recommendations	34
Carbohydrates	34
Essential Fats	35
Reading Nutrition Labels	36
Vitamin/Mineral Supplementation	39
Survival Guide for After Bariatric Surgery	41

Nutrition Complications	42
Staying Healthy	44
Trouble Shooting	45
Post Bariatric Follow-up with Nutrition	47
Resources and Helpful Links	47
Weight Loss Chart	48
Measurements Equivalents and Abbreviations	48

Contact Information

General/Bariatric Surgery Clinic

2nd Floor West Tower

915-742-0753/9459

915-742-0749/9468

Nutrition

915-742-0258

Armed Forces Wellness Center

915-742-9566

Tobacco Cessation Program

915-742-1343

Surgeon on Duty (SOD)

915-742-1652

Pharmacy

Main Hospital

915-742-9490

915-742-9491

Laboratory

915-742-0632

Radiology

915-742-5272

915-742-5273

Appointment Center

915-742-2273

What to Expect and Things to Do

Weight Loss Surgery is intended to help people lose weight when previous attempts at weight loss have been unsuccessful. However, safe, and successful weight loss with this procedure requires you to make a commitment, changing current eating habits and behavior is essential to achieve substantial and permanent weight loss. **Bariatric surgery is a tool for successful weight loss, but it is not a cure for obesity; rather, it is the beginning of lifelong eating and exercise behavior changes.** Also, for the best long-term results, follow-up care is an essential component.

Whether you are considering or have had bariatric surgery, you need to know the nutritional implications ahead. Bariatric surgery limits the amount of food you can eat at any one time, helps control hunger, and is a method used to help obese persons lose weight. Initial weight loss is often rapid but should slow to a rate of 2-4 pounds per week. Bariatric surgery cannot and should not be viewed as a foolproof method of weight loss, but as a tool.

Bariatric surgery is only the first step in treating obesity. For bariatric surgery to be truly successful, eating, and physical activity habits must be permanently changed. It is necessary to eat healthful, nutritious foods in order to maintain good nutrition. Make **“Every Bite Count”** toward your nutritional goals. By making proper choices, you can prevent or minimize potential complications.

Keys to success include:

- Life-long efforts
 - Exercising as directed/tolerated/adequate sleep
 - No grazing
 - No high-calorie snacks or beverages between meals
 - Drinking plenty of non-caloric liquids to promote adequate hydration (64 oz./day and more)
 - Always eat protein foods first to ensure adequate protein intake
 - Mindful eating & meal planning
 - Limiting eating out
 - Regular follow-up appointments
 - Attending bariatric support group
- Behaviors that are red flags for failure
 - Eating fast food often
 - Eating sweets/choosing carbs first
 - Skipping meals
 - Eating even if you are full
 - Eating too fast
 - Grazing mindlessly
 - Eating when bored, angry, depressed
 - Eating and drinking at the same time
 - Not exercising

The Mental Aspect of Bariatric Surgery

SUBSTANCE ABUSE WARNING:

There is potential to develop alcohol or drug dependence after the surgery. It is a form of addiction transfer for individuals who used food to cope with emotions/stressors/boredom before surgery. It is our recommendation to avoid alcohol completely after surgery. At the very least, it is necessary to use extreme caution when consuming alcohol.

BODY IMAGE AND EMOTIONAL EATING: Your body will undergo changes in weight and size. It is not unusual for you to not see your body as others view it. It will take time for your mind to catch up with the changes your body is going through and its appearance. You may be surprised when you look at your reflection in a store window or mirror. It is normal to feel like you are still the same size as you were before Bariatric surgery.

The following are tips to help you avoid emotional eating:

- Do not use food as a way of dealing with your emotions or stress. Replace the comfort of food with healthy activities (i.e., yoga, deep breathing exercises etc.)
- Do not sabotage yourself by ignoring the emotional ups and downs that may occur with the rapid bodily change. Don't be afraid to ask for help!
- Do not suppress your emotions as they will eventually surface again. If you feel like crying, cry
- Keep a journal of your feelings and experiences. Share them with your counselor, doctor, and/or surgeon
- Adjust your expectations and set realistic goals
- Connect with others that understand your journey (i.e., attend support group meetings)
- Stay occupied with work, hobbies, and exercise

Emotions towards food do not go away after surgery, making it possible to revert back to old habits and temptations. Some patients report that the importance of food decreases after surgery. Other patients become more preoccupied with food. Psychological responses such as these are normal as your eating habits change dramatically after surgery. If you find that you are overwhelmed with thoughts of food or have used eating to deal with emotions in the past and now cannot, you may choose to seek help in dealing with them. Counseling services are available to you through the Behavioral Health Clinic, and often prove helpful for bariatric surgery patients. You may call Behavioral Health's Child and Family Assistance Center, 253-968-4848 to schedule an appointment.

Attending BARIATRIC SUPPORT GROUP:

Attending support group after surgery is not required but is encouraged. Please check with the call the general surgery clinic to schedule your next support group.

POST-OPERATIVE APPOINTMENTS AND FOLLOW-UP CARE

The Bariatric Clinic at William Beaumont Army Medical Center strives to ensure all of our patients experience a healthy weight loss journey. Your success is dependent on your dedication to follow-up care.

Follow-up Post-Operative Appointments:

- 3 Week Post-op f/u with a Bariatric Provider
- 6 Week Post-op f/u with a Dietitian
- 3 Month Post-op f/u with a Bariatric Provider
- 6 Month Post-op f/u with a Bariatric Provider with Labs
- 12 Month Post-op f/u with a Bariatric Provider with Labs
- Yearly on the anniversary date of your surgery Bariatric Provider with Labs

Pre-Operative Goals

Weight loss surgery will not cure obesity, your success will depend on your lifestyle choices. These are some of the goals you want to work towards accomplishing prior to surgery.

- Do not skip breakfast – eat three meals a day, focus on meal timing
- Take 20-30 minutes to eat meals
- Decrease portion size –use the “My plate” method
- Listen to signs of fullness
- Increase intake of fruits, vegetables, and whole grains
- Pay attention to protein intake, try to consume 60+ grams of protein/day
- Use little if any sugar, limit sweets, desserts. Do not consume more than 10 grams of sugar per meal
- Choose lower fat foods
- Increase physical activity to at least 5 days per week (as tolerated)
- Wean off caffeine, carbonated beverages, and alcohol
- Consume 64 oz. of calorie free fluids a day
- Practice sipping fluids, no gulping
- Take a multivitamin/mineral supplement daily
- Obtain recommended vitamin/mineral supplements in chewable or liquid form for after the surgery
- Practice chewing foods thoroughly, hydrate 30 minutes before and after meals
- Keep a food/activity diary
- Make a shopping list for appropriate foods for post-surgery
- Recommended tools (small spoon, small bowl/plate, blender or food processor, timer)
- Take your measurements and a picture of yourself
 - Patients find that taking pictures and measurements monthly for the first-year post op can help them see their progress better. The scale does not tell the whole story. Measurements can help you avoid being discouraged when your weight loss slows temporarily

Recommended Weight Loss Before Surgery:

Bariatric surgery is a tool for losing a large amount of weight. However, losing weight before surgery will help you be safer and more ready for your surgery. Surgeons may delay or cancel surgery for patients who do not lose weight or who gain weight before surgery. Patients who lose weight before surgery have fewer problems during and after surgery.

- Weight loss makes the liver smaller, so it is easier for the surgeon to navigate around during surgery
- Patients are less likely to have problems with blood clots after surgery
- Making changes to eating habits and exercise makes continuing these changes after surgery easier

Pre-operative Diet

Your surgeon will place you on a pre surgery diet (known as the Liver Shrinking Diet) for a couple weeks prior to surgery. This diet will assist you in continued weight loss prior to surgery and it has been shown to help shrink the liver making weight loss surgery safer and easier. This diet will be low in calories and low in carbohydrates.

Talk to your health care providers regarding changes to your medicines. This diet is very low in daily carbohydrate content and patients with diabetes will have to monitor their blood sugar levels closely to avoid hypoglycemic responses.

Hydration is important; please consume at least 64 ounces of sugar free, calorie free fluids daily. (Water, Crystal Light, Mio, unsweetened tea, diet Snapple, Vitamin water Zero, Power Aid Zero, decaffeinated Coffee or Tea, diet juices etc.)



The pre-operative diet is low in carbohydrates and high in protein. The purpose of this diet is to use glycogen that is stored in your liver.

Glycogen is the storage form of carbohydrates. Following this diet helps shrink the liver, decreasing the risk of complications during surgery.

Please note that this diet is **NOT** healthy for long-term use.

The main source of nutrition for this diet is Carnation Instant Breakfast (CIB) Essentials Light Start with no added sugar. If you are unable to get Carnation Instant Breakfast (CIB) Essentials Light Start, you can use either Premier Protein or Fair Life Protein. These can be purchased at your local grocery stores or online.



*****If you are unable to get Carnation Instant Breakfast (CIB) Light Start for your Pre-Operative diet, you can use one of the above as a replacement (any flavors). If you do use one of these protein drinks, you will also need to take a multi-vitamin daily.**

Example of Pre-operative Diet (Liver Shrinking)

Meal	Foods	Protein (grams)	Carbs (grams)	Kcal
Breakfast	Carnation Instant Breakfast (CIB) Shake	13	24	150
Mid-morning	CIB Shake	13	24	150
Lunch	-4-6oz Lean Protein -1 Cup Non-starchy Vegetables	32-48	15	600
Mid-afternoon	CIB Shake	13	24	150
Dinner	CIB Shake	13	24	150
	Total	84-100	111	1200

Example of Protein Choices

Food	Portion Size	Grams
Meat, Poultry, Fish	1 oz	7
Milk	1 cup	8
Soy Milk	1 cup	5-8
Low Fat Greek Yogurt, Plain (Chobani or Two Good)	2 Tbsp	3
Cottage Cheese, 1% Fat small curd Low Fat (<u>Hyvee</u> or Dean's)	1 oz	3
Egg	1 large egg	7
Egg Whites	¼ cup	7
Tofu, Firm	1 oz	3
Cheese, slice or cube	1 oz	7

Day Prior to and Day of Surgery Diet

The day before surgery:

- Full liquid diet only, NO solid foods to eat.
- The last milk-based meal no later than 8:00 pm.
- Only sips of water up until midnight if you need it and absolutely NOTHING after midnight.

Day of surgery:

- You will be instructed to drink a glucose loading drink, this is a (12oz) Gatorade or PowerAde (the full sugar ones Regular, **NOT** the zero/diet ones), 2-3 hours before surgery. (**NOT red or purple**)
- Take your medications at this time if anesthesia has instructed you to take your medications.

Pre-Surgery Shopping Ideas

The following is a list of ideas to help you prepare your kitchen and ultimately, prepare yourself for maintaining good nutrition after bariatric surgery.

Drinks:

- Sugar-free drink mixes (powder), low sodium broth
- Decaf tea or coffee, sugar-free popsicles, clear protein drinks
- Non-carbonated, sugar-free flavored water, sugar-free gelatin
- Sugar-free popsicles
- Protein supplements

Protein:

- Stage 1 and 2 baby foods (plain meats)
- Low fat cottage cheese
- Nonfat dry milk powder
- Greek yogurt, no sugar added and light
- Eggs/egg substitute
- High protein supplement beverages or protein powders
- Low fat cream soups
- Sugar-free pudding mix with protein powder
- Peanut butter and/or powdered peanut butter

Fruit:

- Unsweetened applesauce
- Stage 1 and 2 baby food (unsweetened)
- Canned fruits packed in water or juice

Vegetables:

- Stage 1 and 2 baby vegetables
- Canned carrots, peas, beets, green beans

Starch (limited amounts):

- Oatmeal, rolled oats or steel cut
- Potatoes
- Quinoa
- Couscous

Fat and flavorings

- Flavored cooking sprays
- Canned fat free chicken, vegetable, or beef broth for flavoring, fat free gravy
- Olive oil, canola oil, safflower oil, trans fat free tub margarine

Tools:

- | | |
|----------------------------|-----------------------------------|
| *Blender or food processor | *Timer or watch |
| *Baby spoon | * Small plates |
| * Water pitcher | *Shaker (for protein supplements) |
| *1 oz. medicine cups | *Water bottle |

Post Bariatric Surgery Diet Progression - Overview

Post-Operative Diet

Post-Op Day #1 and 2: (your surgeon will advance your diet when medically indicated)

Stage #1: Clear Liquid Diet

- Clear liquids served in 1 ounce medicine cups
- First steps in retraining how you eat
- Drink 1-2 ounces of liquid every 15 min.
- Sip slowly and stop sipping when you are full
- Do not use a straw if it causes increase in burping and or gas
- Avoid carbonation, sugar, caffeine, alcoholic beverages

Post-Op: Weeks 1-2

Stage #2: High Protein Full Liquid Diet (*liquids only*)

Duration: 2 weeks

- High protein powder/liquid supplements and/or Milk or soymilk-based liquids
- **GOAL:** Work towards 60-80 grams of protein per day
- Sip slowly... allow 15 minutes per 2 ounces
- Do not use a straw if it causes increase in burping and or gas
- Sip water or other noncarbonated/decaffeinated beverages between supplements
- **GOAL 64 oz. total fluids per day (hydration fluids and Full Liquids, all fluids count)**

Post-Op Day: Weeks 3-4

Stage #3 Blended or Soft Diet

Duration: 2 weeks

- Continue high protein powder/liquid supplements
- Start replacing full liquids with blended protein foods or stage 1 or 2 baby food meat, or chopped or ground moist meats chewed to pureed consistency
- Add soft, cooked vegetables and soft fruits, either fresh and peeled or canned in juice or light syrup
- Eat 3-6 times per day
- Limit portion size to 1oz to ¼ cup of food per meal
- Use a baby spoon to encourage small bites
- Adequate hydration is essential during rapid weight loss. Sip water or other sugar-free, noncarbonated/decaffeinated beverages between meals (30 min before or after meals, not with meals)
- **GOAL 64 oz. total fluids per day**
- **GOAL 60-80 grams of protein per day**

Post op Day: Starting week 5
Stage #4: Bariatric 'Regular' Diet Guidelines
Duration: for Life!!

- 3-5 small meals daily
- Listen to your body for fullness/satiety signals-stop eating when satisfied
- Emphasize good sources of protein, food choices are preferred, as you are able to meet goal of 60-80 grams of protein daily with real food you can stop using protein supplements.
- Chew foods well (15-20 times per bite)
- Limit portion size to no more than 1 cup total of food per meal for life
- Do not drink fluids with meals
- Adequate hydration is essential during rapid weight loss. Sip sugar-free, noncarbonated, decaffeinated fluids between meals.
- **GOAL 64 oz. total fluids per day**
- Record any food intolerance
- Don't forget your vitamin and mineral supplements
- Limit sugar to <10g per serving and less than <10% of daily caloric intake from sugars.
- Avoid foods high in fat and limit fat intake to 20%-35% of the daily caloric intake
- Mindful eating

VOMITING:

This usually occurs from:

- Overeating or drinking too much
- Eating and/or drinking too fast
- Not chewing food thoroughly
- Introducing solid foods too soon after surgery
- Drinking fluids and eating at the same time or drinking fluid immediately after a meal
- Drinking through a straw
- Lying down shortly after a meal
- Not following the postoperative diet

Fullness occurs quickly after Bariatric surgery. Initially, you may feel full after a couple of teaspoons. If you begin vomiting after eating, stop consuming solid foods and begin sipping sugar free clear liquids. If you continue to have difficulty keeping fluids down, report to the hospital.

DEHYDRATION:

This will occur if you do not drink enough fluids. Signs and symptoms include:

- Fatigue
- Dark colored urine
- Lightheadedness
- Headache
- Dry mouth, whitish coating on tongue
- Nausea

If dehydration persists, it can lead to bladder and kidney infections. In some cases, you may

need to be admitted to the hospital for IV fluid administration.

How to avoid dehydration: Sip on fluids throughout the day, such as sports drink. Drink at least 64 oz. of fluid a day, more if you have been sweating. Avoid caffeinated drinks because they can act as diuretics, which will make you urinate more often.

BOWEL MOVEMENTS: You may experience periods of constipation and loose stools after Bariatric surgery. At discharge, you will receive a laxative and/or stool softener because narcotic pain medications can lead to constipation. You may experience one to three soft/loose bowel movements (BMs) a day. These BMs may be associated with flatulence and may be foul smelling. Please contact your surgeon should you experience persistent diarrhea, as this can lead to dehydration. If you are experiencing multiple loose stools a day, do not take laxative or stool softener prescribed.

Since the amount of food is greatly reduced after surgery, you may experience less bowel activity and at times constipation. Constipation is defined as no BMs for 3 to 4 consecutive days, or the frequent passage of hard/dry stools, which cause excessive straining. Make sure you are taking the medications as directed to avoid constipation. Should constipation occur, you may try the following:

- Increase fluid intake to 80 oz. a day
- Benefiber powder that dissolves in fluid, take as directed. Keep in mind that too much or too little fiber can cause constipation.
- Miralax 1 pack twice a day.

****If constipation persists, contact your surgeon.***

FLATULENCE: The presence of gas in the digestive tract is normal. After Bariatric surgery, gas can be more odorous and expelled more forcefully. This is due to the shortened GI tract. Foods high in carbohydrates will increase the incidence of gas. Foods that are known to increase flatulence include: beans, some fruits, veggies, whole grains/wheat, bran, soft drinks, cow's milk and products. Foods containing sorbitol and dietetics products can also cause more gas.

Things you can do to prevent flatulence:

- Chew food thoroughly and eat slowly. Do not drink through a straw if it causes increase in burping and or gas. Swallowed air can increase gas in the GI tract.
- Avoid lactose. Yogurt is ok.
- Eliminate carbonated beverages
- Watch your carbohydrate intake

STAGE #1: Clear Liquid Diet

When to Begin? Your doctor will order sugar-free liquids usually starting the first day after your surgery.

How long? 1-3 days, your surgeon will advance your diet

Goal: To practice sipping on very small amounts of fluids throughout the day and to provide adequate hydration. (**GOAL 64 oz. /day**)

What foods can be included?

A Clear Liquid diet typically consists of liquids, hot or cold, that one can see through.

- Water
- Clear broth or Bouillon
- Coffee/Tea (decaffeinated)
- Low calorie Cranberry juice (diet)
- Popsicle (sugar free)
- Sugar-Free Jell-O
- Crystal Light
- Clear liquid protein supplement



IMPORTANT TIPS:

- Measure all liquids
- Drink 1-2 ounce of liquid over 15 minutes (one cup, 8 oz. of fluids per hour). (You may receive usual size portions on your tray in the hospital, yet you should not drink all of the items on the tray at once. The tray is to give you a variety. Use the medicine cups for portion control.
- Keep track of the amount of fluids you drink. (You will be given a log to track fluid intake)
- Keep track of the amount of protein containing fluids you drink, **track fluids and protein!**
- Sip slowly!! Stop sipping as soon as you feel full.
- Do not drink through a straw if it causes increase in burping and or gas.
- **NO** gum, as it may cause you to swallow air.
- Avoid caffeine, sugar, alcohol, and carbonated beverages.
- Start taking your multivitamins per your surgeon.

REMEMBER: Not everyone advances at the same rate. How quickly you move from one stage to the next will depend on how well you tolerate your diet. If you have trouble after advancing to the next stage, go back to the previous stage for a few days.

STAGE #2: Full Liquid Diet

When to Begin? When your doctor orders it, usually 1-3 days post-op.

How Long? 2 weeks as tolerated.

Goals:

- Adequate fluid intake (64 oz./day). We recommend about 32 oz. or more of clear liquids during this diet stage, plus 32 oz. of any combination of full liquids.
- Your protein goal is 60-80 grams. Protein promotes proper healing of your incisions and new stomach pouch. You may not be able to get this much protein in at first. Protein is also important for maintaining muscle mass during weight loss. Therefore, it is important to choose liquids high in protein, or ones to which you have added a protein supplement. Add flavored or unflavored protein powder to milk, liquids, and semi-soft foods as appropriate. Even small amounts of protein powder added to many foods can add up over the day and really boost protein intake. Choose items with less than 10 g sugar and less than 5 g fat per serving.

Important Tips:

- Keep yourself hydrated, sipping fluids throughout the day.
- Keep track of the amount of fluids you drink.
- Keep track of the amount of protein you consume.
- Sip slowly!! Stop sipping as soon as you feel full.
- Do not drink through a straw if it causes increase in burping and or gas.
- **Fluids should be thin enough to pass through a straw, BUT do not drink through a straw if it causes increase in burping and or gas.**
- **NO** gum, as it may cause you to swallow air.
- Avoid caffeine, sugar, alcohol, and carbonated beverages.

What Foods Can Be Included?

- This diet consists of pureed liquid meals, including all foods from Stage # 1
- Almond or Coconut Milk(unsweetened), Skim (Non-fat milk) or 1% milk, Lactaid fat-free milk
- Low-fat strained cream soup
- Sugar-free pudding
- Sugar-free cocoa
- No sugar added Carnation Instant Breakfast Powdered or liquid protein supplements
- Greek yogurt, plain, or not sugar added (no fruit chunks or seeds)
- Nonfat yogurt, plain, or no sugar added (*no fruit chunks or seeds*)

*Make with enriched milk, high protein milk or add plain or flavored protein powder, as desired.

Baby food meats thinned with broth, canned, or cooked skinless chicken, turkey or fish (Pureed and thinned). Meats may be difficult to digest immediately after surgery. Pureed potatoes (no skins), with pureed meats or a plain protein powder thinned with broth. Pureed baby food vegetables thinned with broth or hot water. Vegetable juice such as V8. Pureed

and thinned well-cooked vegetables, add Greek yogurt or plain protein powder. Pureed and thinned creamed soups made with skim milk.

Stage #2 Diet: Full Liquid Example Menu

Breakfast

2-4 oz. No Sugar Added Instant Breakfast made with Fairlife low fat/fat free milk
Sipped over 30-60 min.

Mid-Morning

2-4oz. Nonfat, smooth, sugar-free Greek yogurt
Sipped over 30 min.

Lunch

2-4 oz. strained low-fat cream of chicken soup made with Fairlife low fat/fat free milk
Sipped over 30-60 min.

Mid-Afternoon

2-4 oz. protein powder shake

Dinner

2-4 oz. pureed meat thinned with broth
Sipped over 30-60 min.

Evening

2-4 oz. sugar-free pudding made skim milk + protein powder or Fairlife milk
Sipped over 30 min.

Between Meals:

Drink 4-8 oz. (1/4 -1/2 cup) water per hour

*Portions are general guidelines; listen to your stomach and stop drinking when full/satisfied.

**It is normal not to reach your fluid and protein goals right away. Just do your best every day.

******Name brands are provided for clarity only and do not indicate an endorsement.*

STAGE #3: High Protein SEMI-SOLIDS, Soft and Blended/Pureed Diet

When to Begin? Usually 3-4 weeks after surgery.

How Long? 2 weeks or as long as necessary.

This stage consists of blended, ground, chopped or flaked protein sources plus soft vegetables, fruits and starches. **ALL FOOD MUST BE CHEWED TO THE CONSISTENCY OF BABY FOOD!** Moisture is very helpful in improving tolerance of foods. You can add moisture with broth, fat free gravy and fat free mayonnaise or plain yogurt as appropriate. Listen to your body for signs of fullness as you eat. Total amount eaten per meal is usually about 1/4 cup. **Portions are general guidelines; eat slowly, listen to your stomach for signs of fullness and stop eating when satisfied/full.**

Mindful eating: It is better to have a place to eat, such as a kitchen table. Avoid reading or watching TV while you are eating, this will help you enjoy your food, concentrate on eating slower and realize when your stomach is full.

Goals:

- Adequate fluids, 64 oz. daily.
- Consume 60-80 grams of protein per day, to promote healing and maintain muscle mass during weight loss.
- Add other healthy foods such as soft vegetables, fruits, grains.

IMPORTANT TIPS:

- All liquids from weeks one and two are allowed with the addition of some semi-solid foods.
- Semi-solid foods are those that are eaten with a spoon with the consistency of applesauce. **AVOID:** skins, seeds, or chunks.
- Semi-solids allow the diet to progress slowly but continue to limit stress on the stomach and intestines as it heals.
- Liquids and semi-solids provide a concentrated source of nutrition that will empty from the stomach easily and allow for healing.
- Try a semi-solid food about every three to four hours for four to six semi-solid meals per day.
- Try no more than ¼ cup of semi-solid foods at a time.
- Continue to sip and eat slowly. It should take approximately 15 minutes to consume 1-2 ounce of food.
- **DO NOT** drink liquids with meals. **Hold liquids for 30 minutes before and after meals.**
- Listen to your body's signs that you have eaten enough.
- Avoid nibbling and grazing, your stomach holds smaller amounts of food but if you graze throughout the day your calorie intake will go up and weight loss will slow down.
- Make eating mindful. Choose a spot where you will be eating, sit down, avoid doing other activities like being on the computer or watching TV, use all your senses, taste and enjoy your food, pay attention to your body and hunger cues.

- Keep track of how much protein you are eating and drinking
- Measure your portions, use small plates and bowls.
- Plan ahead! Planning ahead allows you to make better food and fluid choices.
- Drink sugar free fluids between meals. Hold liquids 30 minutes before meals and wait for 30 minutes after a meal before you begin sipping on liquids.
- Do not drink through a straw if it causes increase in burping and or gas.
- **NO** gum, as it may cause you to swallow air.

Protein foods:

- Eggs or egg substitutes: scrambled or soft, cooked
- Cottage cheese, Ricotta cheese (low fat)
- Meats: minced or pureed and flavored with fat-free gravy
- Canned chicken, shredded; flaky fish (tuna, tilapia)
- Pureed or ground lean meat (moist), mild, low-fat chili
- Beans, soybeans, fat-free refried beans, bean soups, lentil soup
- Tofu: Soft
- Low fat soup (chunky meat or low-fat cream soups)
- Protein drinks
- Tuna, egg or chicken salad made with low fat mayonnaise

Vegetables:

- Well cooked vegetables: pureed, mashed and/or chewed to pureed consistency.
- *Avoid gas- forming vegetables such as cauliflower, cabbage, Brussels sprouts, and broccoli.*
- *Avoid tough, stringy veggies such as corn, celery, and asparagus.*

Fruits:

- Soft fruits canned in water or 100% juice, or soft, peeled fresh or frozen fruits. Fruits should be unsweetened and pureed or mashed or chewed to baby food consistency. Avoid skins and seeds.

Starches: These should be limited. Protein, vegetables, and fruits are more important for nutrition and weight loss.

- Cooked cereals, cold cereals, low fat crackers (<3 grams fat per serving)
- Potatoes, sweet potatoes: well-cooked and mashed
- Toasted bread (no untoasted bread)
- Noodles: well-cooked and mashed

NOTES:

- If you choose baby foods, select single-item foods such as chicken, meat, or carrots, not combination dinners or desserts. You may add seasonings to improve taste.
- If you do not tolerate whole foods, try a softer form such as ground, finely chopped or blended foods. If these are still a problem, go back to high protein liquids.

GUIDELINES FOR Blending FOOD

- Cut food into pieces.
- Place food into blender or food processor.
- Add enough liquid to cover the blades. Use fat-free gravy or broth with meats and/or vegetables for more flavor and palatability.

- Blend or puree until smooth consistency: no lumps, chunks, or pieces.
- Your food should resemble the consistency of applesauce.
- Use spices freely, with the exception of hot seasonings such as cayenne pepper, white pepper, and Tabasco.
- Add protein powder to increase the nutrient density. You may not wish to add a full scoop, but any amount is recommended.
- Strain foods that do not blend completely.
- When it comes to pureeing food, your creativity is your only limitation.
- Pour pureed food into ice cube trays and freeze for future use. Most ice cube trays hold about 1 oz. per cube and work well for storing pureed portions.
- When ready, re-heat in your microwave and enjoy.

Fortifying foods with protein: Try adding unflavored protein powder (Whey Protein or Isopure protein powder) to foods like mashed potatoes and pureed vegetables to improve the protein content of the food or try adding two tablespoons of non-fat dry milk powder to semi-solid foods. Two tablespoons of dry milk powder add about five grams of protein.

Fullness: As you begin to add semi-solids you may begin to feel fullness. For most people fullness after weight loss surgery feels like pressure, tightness, or heaviness in the center of your abdomen near the breastbone.

FOODS TO AVOID ON THE SOFT DIET:

- Carbonated Drinks
- Sugar sweetened, caffeinated beverages (**use decaffeinated diet or sugar free beverages instead**)
- Simple carbohydrates like chips, crackers, rice, pasta, and noodles
- Shredded coconut (**use coconut extract instead**)
- Tough dry meats (steak, pork chops) (**use cooking methods for meats that have moist heat preparation like stewing, boiling, roasting to prevent dry and tough meats**)
- Rubbery meats like ham and hotdogs
- Skins, membranes and seeds of fruits and vegetables (**peel and/or section prior to eating**)
- Fibrous vegetables like corn, celery, potatoes with the skin
- Fresh doughy bread like yeast rolls and biscuits (**use toast, or crackers instead**)
- Fried or high fat foods (**use cooking methods like baking, broiling, grilling instead and use added fats conservatively**)
- Whole milk products (**use skim or 1% milk products instead**)

FULLNESS:

****For most people fullness will feel very different from before surgery****

Learn to recognize when you are full. Signs of fullness may be a pressure tightness or heaviness in the center of your abdomen, just below the breastbone or feelings of nausea, or heartburn. **STOP EATING WHEN YOU FEEL FULL.**

Reintroduce meats in the following order:

1st: Flaky fish and seafood

2nd: Soft, cooked eggs

3rd: Ground or tender cooked beef, pork, and poultry

Common causes of nausea and vomiting:

- Eating too fast
- Not chewing well
- Eating too much at one time
- Drinking liquids with meals
- Eating solid foods too soon



Stage #3 High Protein SEMI-SOLIDS, Soft and Blended/Pureed Diet

You will likely tolerate about 1/4 cup total volume per meal

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Breakfast						
oatmeal made w/ milk	Scrambled egg & yogurt	Cream of wheat/farina made w/milk	scrambled egg & applesauce	Cream of wheat/farina made w/milk	cottage cheese, peach slice	scrambled egg yogurt
Snack						
protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk
Lunch						
tuna & peas	cream of mushroom soup & yogurt	cottage cheese & peaches	chicken & carrots	cream of celery soup & pears	tuna w/ ff mayo & yogurt	cheese stick & melon
Snack						
protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk
Dinner						
Chicken, cottage cheese, applesauce	lean ground beef & mashed potatoes	ham & green beans	Fish, squash, beets	Meatloaf, cottage cheese, carrots	Chicken, yogurt, creamed corn	Pork, mashed potatoes, applesauce
Snack						
protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk	protein supplement milk

NOTES:

- All milk used in food preparation should be low fat or fat free, enriched or have protein powder added, ex: Fairlife milk
- Choose low fat cream soups
- ff = fat free
- Fat free gravy can be used to moisten foods
- 64 oz. non caffeinated/non-carbonated, sugar free fluid per day
- Chew well! Eat Slowly!
- Listen to your body for signs of fullness. Stop when satisfied.

Stage #4: Bariatric ‘Regular’ Diet Guidelines Duration: FOR LIFE!!

When to Start? 5-6 weeks after surgery. Time frame is *very independent*.

Start experimenting with a variety of nutrient-dense solid foods.

IMPORTANT:

- **DO NOT** drink liquids with meals. Hold liquids for 30 minutes before and after meals to meals.
- Sip water between meals and snacks to reach a daily total fluid goal of 64 ounces.
- Portions: about ½ - 1 cup total volume per meal, the amount tolerated varies from person to person. Listen to your body for signs of fullness.
- Eat 3-5 small meals per day.
- Eat very slowly, taking small bites: It should take at least 30 minutes to eat a meal. Stop eating when you feel you are satisfied.
- Focus on the protein component of your meal first, as protein remains the most important nutrient to consume other than water. Vegetables and fruits should come next.
- Always chew solids to a pureed consistency.
- Avoid high fat and high sugar foods and beverages.
- Continue to add foods one at a time and assess your individual tolerance. If a food does not agree with you at first, try it again at a later time.
- Keep a record of any food intolerances.

Continue to take your vitamin and mineral supplements as recommended by your surgeon for your type of surgery.

***If your weight loss seems slow or is tapering early, add up the calories you are consuming for a few days. You should be having the “InBody” body composition scans in the clinic. Pay attention to “Basal Metabolic Rate (BMR)” number on the right-hand side. This is the amount of energy (calories) your body burns at rest. To lose weight you must consume fewer calories than you burn. If your calories exceed your BMR, you will likely not lose weight unless you are exercising significantly. Talk to your surgeon if you have questions about this.**

STAGE #4: Food Groups

FOOD GROUP	RECOMMENDED FOODS	FOODS TO <u>LIMIT</u>
<p>Meats and High Protein Eat this food first in your meal as it is important to your health at this time!</p> <p>Include about 2 oz. at each meal, listen to your stomach, don't overeat.</p>	<ul style="list-style-type: none"> • Lean and well-trimmed beef, pork & lamb • Chicken & turkey • Fish and shellfish • Cold cuts with <5 grams of fat per oz. • Turkey jerky • Eggs or egg substitute • Cottage cheese • Cheese with <5 grams fat per oz. • Nuts of all kinds (watch portions) 	<ul style="list-style-type: none"> • High fat and fried meats, fish, or poultry • Skin of poultry • Bacon, hot dogs, sausage • Eggs or omelets cooked with any added fat • Regular cheese • Dry meat
<p>Milk and Milk Substitutes Include 2 cups per day as a beverage or in cooking</p>	<ul style="list-style-type: none"> • Nonfat or 1% milk • Fairlife milk • Light yogurt • Sugar-free cocoa • Diet instant breakfast made with low fat milk • Greek yogurt 	<ul style="list-style-type: none"> • Whole milk, cream, and high fat dairy food
<p>Grains 2-3 servings/day</p> <p>1 serving = 1/4 cup or 1 half slice bread</p>	<ul style="list-style-type: none"> • *Toasted bread, low fat crackers, rice cakes, pretzels • Hot or cold cereal, oatmeal • Potatoes, * rice,* noodles, • Couscous, quinoa • Corn, peas, lima beans, winter squash, lentils • Potatoes 	<ul style="list-style-type: none"> • Pastries, croissants, muffins • Donuts, cookies, cake, biscuits, buttery crackers • Popcorn with added fat • Granola (check fat content) • Macaroni and cheese, fettuccini Alfredo, au gratin, or fried potatoes • Any starch with cheese, cream, or butter added
<p>Vegetables 2-3 servings/day 1 serving = 1/2 cup</p>	<ul style="list-style-type: none"> • Any well-cooked, soft plain vegetable • Re-introduce raw vegetables and salad VERY slowly!! • Chew all vegetables well • Lettuce may be tolerated at 5 weeks post-op 	<ul style="list-style-type: none"> • Vegetables with fat, cream, or cheese sauce. Any fried vegetables • Celery strings • Tough, raw veggies, seeds

***Above are just recommendations of servings. Stop eating when you are full.**

STAGE #4: Food Groups, cont.

FOOD GROUP	RECOMMENDED FOODS	FOODS TO <u>LIMIT</u>
Fruits 2-3 servings/day 1 serving = 1/4 cup or 1/4 of a whole piece of fruit	<ul style="list-style-type: none"> • Start with bananas, applesauce, melon, soft fruits canned in juice or water. • Re-introduce raw fruits, berries, & uncooked fruit very slowly 	<ul style="list-style-type: none"> • Fruits canned in heavy syrup • Dried fruits (with added sugar) • Fruit skins • Citrus membranes • Pineapple
Fats 1 tsp. fat or oil= 45 calories Watch portions carefully. Limit to 2-3 tsp. daily	<ul style="list-style-type: none"> • Olive oil, olives, avocados, avocado oil • Reduced fat salad dressings, mayo, cream cheese, sour cream, gravy • Butters • Cooking sprays 	<ul style="list-style-type: none"> • Regular salad dressings or mayo • Regular cream cheese, sour cream

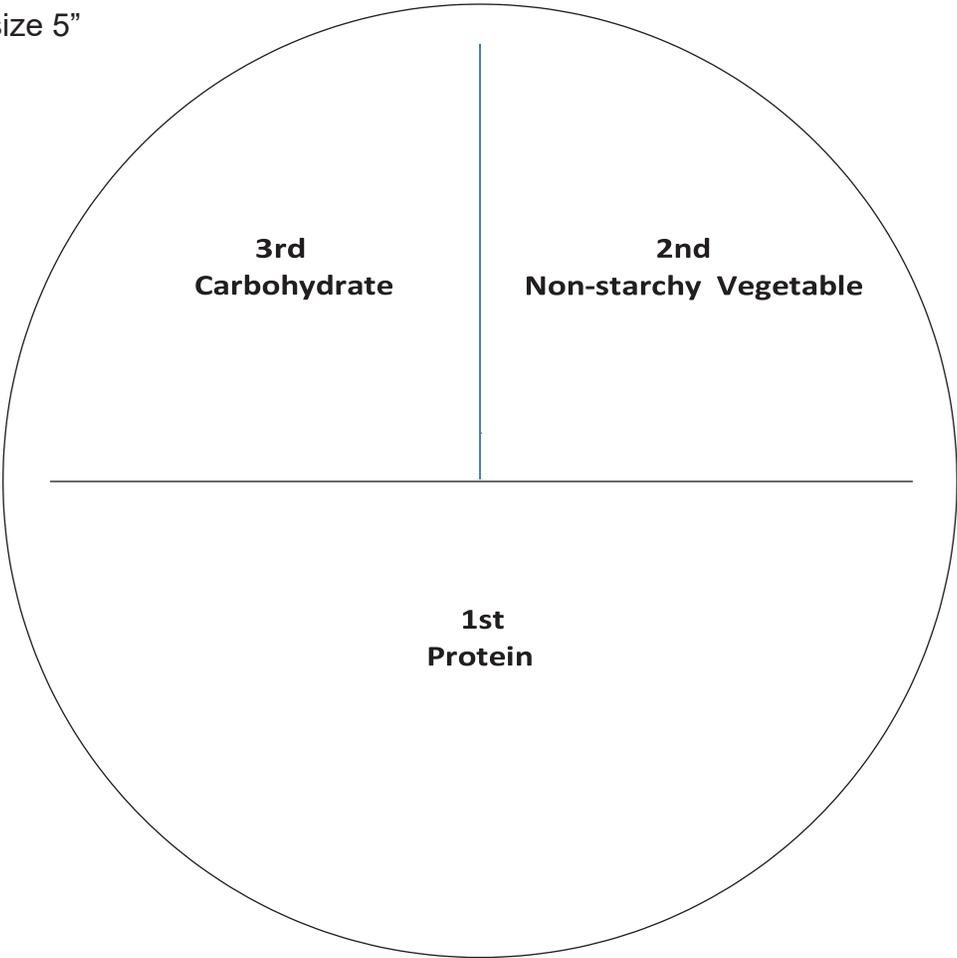
Foods to avoid include high sugar and high fat foods or may be difficult to digest.

OTHER FOODS PORTIONS	RECOMMENDED FOODS	FOODS TO <u>LIMIT</u>
Soups 1 serving = 1/4 cup	<ul style="list-style-type: none"> • Vegetable or broth-based soups. • Low fat soups (i.e. Campbell's Healthy Request) made with nonfat milk 	<ul style="list-style-type: none"> • Cream soups or chowders made with whole milk, butter, or cream
Beverages Drink these 30 minutes before or after meals Do not drink with meals	<ul style="list-style-type: none"> • Water, tea, decaf coffee, unsweetened fruit juice (dilute 50:50 water) • Broth or bouillon • Sugar-free drinks (i.e. Crystal Light) 	<ul style="list-style-type: none"> • Sodas, Kool-Aid, fruit drinks, fruit punch, • sweetened juices, lemonade, alcoholic beverages • Beware of juicing! • You can easily get more calories than desired!
Sweets	<ul style="list-style-type: none"> • Sugar-free Jell-0 • Sugar-free popsicles • Sugar-free, nonfat yogurt, pudding, or custard 	<ul style="list-style-type: none"> • Regular gelatin and popsicles • Ice cream, ice milk, sherbet, sorbet, pie, cake, cookies, pastries, candy

***Above are just recommendations of servings. Stop eating when you are full.**

Bariatric Plate Example:

Actual plate size 5"



STAGE #4: Sample Menu

Breakfast	1-2 soft, cooked eggs (7-14 g protein) OR ¼ cup cottage cheese (7 g protein) ¼ cup oatmeal made with enriched milk (10 g protein)
Snack	4 oz. nonfat vanilla Greek yogurt (7 g protein)
Lunch	¼ cup water packed tuna (9 g protein) ¼ cup light canned peaches ¼ cup well-cooked green beans
Snack	4 oz. nonfat plain Greek yogurt (10 g protein)
Dinner	2 oz. tender chicken breast (14 g protein) ¼ cup steamed carrots
Snack	1 pieces of string cheese (6 g protein) OR 1-2 oz. of shrimp (7-14 g protein)
PLUS	4-8 oz. calorie free fluids each hour between meals and snacks

***Portions are a general guide. Listen to your stomach for signs of fullness, stop eating when satisfied.**

Diet Guidelines for Life

When to Start? Time frame is *very independent*.

How Long? For Life

Focus on nutrient-dense foods.

IMPORTANT:

- **DO NOT** drink liquids with meals. Hold liquids for 30 minutes before and after meals to meals.
- Sip water between meals and snacks to reach a daily total fluid goal of 64 ounces.
- Portions: Cap portion at 1 cup total volume per meal, the amount tolerated varies from person to person. Listen to your body for signs of fullness.
- Eat 3-5 “mini-meals” per day.
- Eat very slowly, taking small bites: Practice Mindful Eating. Stop eating when you feel you are satisfied.
- Focus on the protein component of your meal first, as protein remains the most important nutrient to consume other than water. Vegetables and fruits should come next.
- Always chew solids very well.
- Avoid high fat and high sugar foods and beverages.
- Continue to add foods one at a time and assess your individual tolerance. If a food does not agree with you at first, try it again at a later time.
- Stage 4 Guidelines still apply
- Keep a record of any food intolerances.

Continue to take your vitamin and mineral supplements as recommended for your type of surgery.



The Protein Challenge after Bariatric Surgery

Protein intake is extremely important after bariatric surgery because protein has many functions in the body. We don't store it, so we need to consume it every day. Adequate protein without supplementation is difficult in the early post-op period due to the small size of your new stomach. Your protein intake goal is 60 – 80 grams daily to promote adequate healing and prevent the loss of lean muscle tissue while you are losing weight. Your protein may come from a combination of regular foods and protein supplements. As time goes on post-op, it is preferred to decrease supplement use and get your protein from real foods as much as possible. Choose from the following high protein foods plus supplements as needed to help you reach your protein goal. Keep track of protein you consume, being sure to adjust protein amount to portion you actually consume.

Protein Content of Foods

Food	Portion	Calories	Average Protein grams
Plain cooked Beans	¼ cup	62	4
Beef Eye Round	1 oz.	48	7
Beef Top Loin	1 oz.	59	7
Cheese, American full fat	1 oz.	40	6
Cheese, Cottage low fat	¼ cup	41	7
Cheese, Mozzarella part skim	1 oz.	78	8
Chicken, white breast w/o skin	1 oz.	46	9
Chicken, leg, w/o skin	1 oz.	54	7
Cod, white baked	1 oz.	30	7
Egg	1	78	7
Flounder	1 oz.	21	7
Ham, lean 5%	1 oz.	44	7
Hamburger, lean	1 oz.	56	7
Milk, skim or 1 %	½ cup	43	4
Fairlife Milk 2%	½ cup	60	6.5
Chickpeas	¼ cup	67	3.5
Halibut	1 oz.	40	8

Food	Portion	Calories	Average Protein grams
PB2	2 Tbsp.	45	5
Pork, tenderloin	1 oz.	46	7
Pork, loin chop	1 oz.	57	7
Refried beans, fat free	¼ cup	65	4
Salmon, baked	1 oz.	52	7
Shrimp	1 oz.	28	6
Soy milk, plain	½ cup	40	3
Steak, sirloin	1 oz.	55	9
Tofu	¼ cup	47	5
Tuna, canned in water	1 oz.	35	7
Turkey, white meat	1 oz.	35	7
Yogurt, light	½ cup	60	7
Yogurt, Greek	½ cup	70	10



Protein Supplements: Sources, Hints, Suggestions, and Recipes

Different brands and types of protein supplements have different textures and flavors. We recommend trying several varieties before and after surgery to determine which suits your taste. Some brands are available in single serving packets. Try to buy the smallest amount possible in the beginning while determining acceptability. Also, ask the store about return policies.

Some places to buy them:

Choosing a Protein Supplement

- Buy sample sizes, if available, before surgery so that you can try different types before buying bulk.
 - Supplements may taste different to you after surgery.
 - Ask about the store's return policy
- Appropriate supplements are made from whey, hemp, casein, milk protein or egg.
 - Avoid collagen, gelatin, and rice-based supplements.
 - Check the list for ingredients to see what the supplement is made from.
- Read the nutrition facts on the label. Choose a supplement with:
 - 15-30g protein per serving
 - Low in sugar (<5g)
 - 200 calories or less per 8oz serving
- Consider serving sizes of protein based on number of meals per day. **Include protein every time you eat.**

Some places to buy protein supplements:

- <http://www.amazon.com>
- <http://www.bariatriceating.com/>
- <http://www.nestlenutritionstore.com/>
- <http://www.unjury.com/>
- Commissary/grocery stores
- Costco/Sam's Club
- Drug stores
- GNC
- Health food stores
- Walmart
- Albertsons
- Spourts
- PX/Shoppette
- Super Supplements

Examples of Possible Protein Supplements

Brand	Calories	Protein (grams)	Sugar (grams)
Premier Protein (11.5 fl. oz)	160	30	1
Pure Protein Shake (11 fl. oz)	170	35	1
Gold Standard Protein Shake Optimum Nutrition (11 fl. oz)	130	24	2
EAS 100% Pure Whey Protein Powder (2 scoops)	170	30	5
Muscle Milk <i>Lite</i> (11 fl. oz)	100	20	0
Bariatric Advantage High Protein Meal Replacement (2 scoops)	160	27	0.5
Quest Nutrition Protein Powder (1 scoop)	110	24	0
Unjury Whey Protein (1 scoop)	110	21	3
Beneprotein (1 scoop or packet)	25	6	0
Isopure Zero Carb Protein Powder (1 scoop)	105	25	0
Isopure Zero Carb Ready-to-Drink (20 fl. Oz)	160	40	0
Syntrax Nectar (1 scoop)	100	23	0
Bob's Red Mill Gluten Free Soy Protein Powder (1/4 cup)	70	16	0
Jarrow Formulas ISO-Rich Soy (2 rounded tablespoons)	110	25	0
MRM Egg White Protein Powder(1 scoop)	120	23	0
Nutiva Organic Hemp Protein Powder (4 tablespoons)	110	15	1
Orgain Organic Protein (2 scoops)	150	21	1
Ensure MAX (no caffeine) (11 fl. Oz)	150	30	1
Boost MAX	160	30	1

*If the protein to carb ratio is not 4 to 1, it is not a protein supplement.

Flavors of Protein Powders and Tips

- Most protein powders come in 3 flavors: plain, chocolate, and vanilla. Some brands offer strawberry, peanut butter, and other fruit favors
- Plain Protein Powder: Good to add to soups, broth, hot cereals, flavored yogurt, sugar-free pudding, mashed potatoes, mashed vegetables, and vegetable juice
- Chocolate and Vanilla: Good for shakes and when added to plain or flavored yogurt, pudding, juice, and cocoa
- Strawberry and Fruit: Good added to juice, plain Greek yogurt, or sugar-free Jell-O powder
- Add sugar-free syrups (1/2 to 1 ounce per 8 oz. serving) for more flavor variety
- To minimize lumping, add protein powder to cold or warm liquid before mixing with a hot liquid, or start with small quantity of liquid to dissolve powder then add rest of liquid

Recipe Suggestions

Each recipe makes approximately 2 servings

- Dreamsicle: 8oz 50:50 water/OJ (pulp free) + vanilla powder
- Mocha: 8oz (hot or cold) decaf coffee + chocolate powder
- Very Berry: 8oz diet Berry Snapple + strawberry powder
- Chocolate Banana: 8oz nonfat milk + 1/2 banana + chocolate powder
- Blend other fruits with protein powder and diluted juice, milk or yogurt
- Mix protein powders or liquids with sugar free fruit flavored drinks like Crystal Light or Diet Snapple
- High protein cream soup. Mix 1/3 cup nonfat dry milk powder, 3 TBSP unflavored protein powder, 1TSP chicken or beef bouillon and enough hot water to equal 1 cup. Mix well. Eat soup when it is lukewarm.

High Protein Milk Recipe

Ingredients:

- 1 cup skim milk or light soy milk
- 1 scoop protein powder (equal to about 20 grams of protein) any flavor

Blend protein powder with milk until well mixed, refrigerate

Nutrition facts per serving, 1 cup (8oz): 200 kcal, 15 g carbohydrates, 28 g protein.

High Protein Milks

Fairlife Milk, skim, 1%, 2% and whole milk.

1 cup will provide 13 g of protein and 6 g of carbohydrates.

Darigold FIT

One cup will provide 14 g of protein and 7 g of carbohydrates.

Various protein fortified nut milks are also available, make sure they are low in added sugars.

Examples:

- One cup of Silk Protein Nut Milk (Almond& Cashew) will provide 10 g of protein and 4 g of carbohydrates.

- One cup of Good Karma Flaxmilk will provide 8 g of protein and 1 g of carbohydrates.

Liquid vs. Solid Proteins

With diet progression you will incorporate more solid protein into your diet. The goal is to stop using protein supplementation. Choose protein sources that will keep you fuller for longer periods of time. Liquid or softer forms, for example, cottage cheese, Greek yogurt and protein shakes, may not keep you as satiated the way a piece of chicken or eggs will.

American Society for Metabolic and Bariatric Surgery (ASMBS) Recommendations:

Healthy lifestyle choices give the best results for health and Quality of Life after surgery. Protein-rich foods are important, with patients advised to take in 60-100 grams of protein daily, depending on their medical conditions, type of operation and activity level. The ASMBS warns patients to avoid excessive carbohydrate intake, such as starchy foods (breads, pastas, crackers, refined cereals) and sweetened foods (cookies, cakes, candy, or other sweets). Limiting carbohydrates to 50 grams per day or less helps avoid rebound hunger problems which can lead to weight regain.

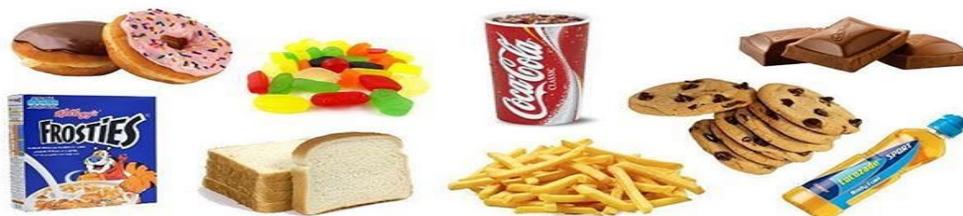
Carbohydrates

Carbohydrates such as rice, breads, crackers, noodles, and cereals need to be avoided. These carbs are not well tolerated after surgery as they can swell up in your stomach and can cause pain and dumping syndrome. Also, the calories from these carbohydrates can add up quickly, reduce intake of protein rich foods, and can make it easy to slip back into unhealthy grazing habits. The bariatric diet is similar to a Paleo diet, focusing mainly on protein with carbohydrates coming from vegetables, fruits and legumes. Eat complex carbohydrates such as vegetables, legumes, and fruits to maximize nutrition and satiety.

✓ COMPLEX CARBS



✗ SIMPLE CARBS



Essential Fats

It is recommended that when choosing fats to choose fats that are considered healthier and contain more essential fatty acids. Essential fatty acids support cardiovascular health, brain function and development, skin health and offer many benefits for your body. Listed below are the most common food sources for Omega-3 and Omega-6 fatty acids.

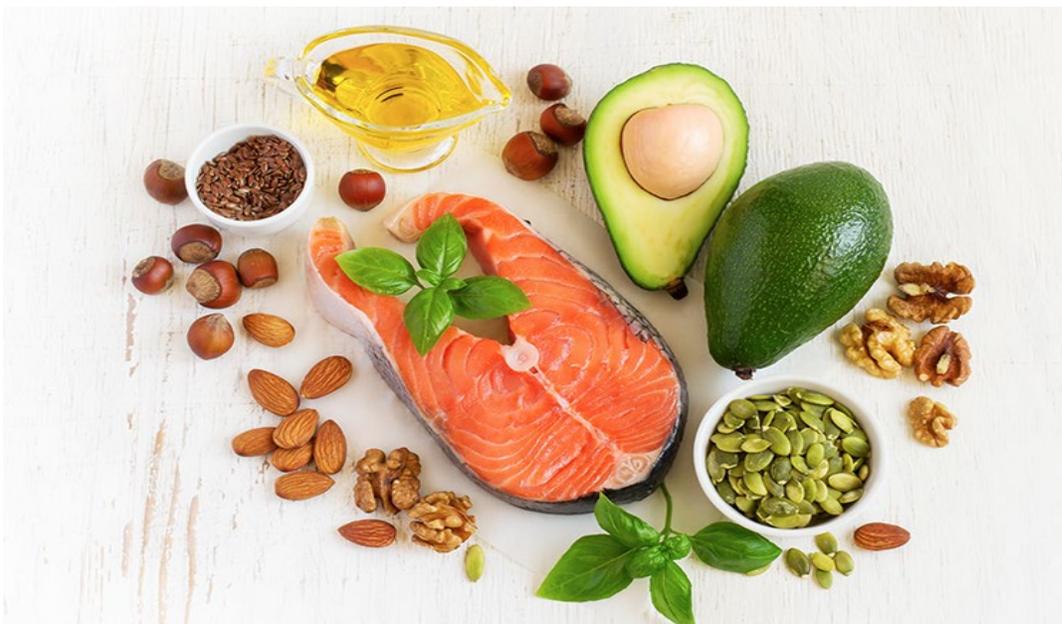
Most fish are excellent sources of essential fatty acids, in particular cold-water fish.

- Salmon
- Herring
- Mackerel

Vegetarian sources of essential fatty acids include:

- Hemp
- Flax
- Walnuts
- Almonds
- Dark green leafy vegetables such as broccoli and spinach
- Olive oil
- Whole grain foods
- Eggs

While consuming dietary supplements may be the easiest way to get essential fatty acids, consuming food sources of Omega-3 and Omega-6 is necessary as well. You can consider adding almonds or walnuts to oatmeal or blending some almonds or walnuts in a protein shake. Try to have fish several times a week. Adding Essential Fatty Acids into your daily routine is an easy way to support overall health and wellness.



Reading Nutrition Labels

BREAKING DOWN THE NUTRITION FACTS LABEL

Reading Nutrition Facts labels can be difficult, especially if you don't know what to look for. The Nutrition Facts Label gives a lot of information, but the key is to know how to use it to help you make healthy food choices.

1. SERVING SIZE

This is the food's recommended serving size. It can include a weight measurement (for example: one cup) or a number of pieces of food (12 pretzels).

Serving per Container

This is the suggested number of servings. For example, if a food has four servings per container and you eat half of the bag, you would be eating two servings. It is always important to look at these numbers because you may be eating more than you think!

2. CALORIES

This is the amount of calories per serving (using the correct serving size). Eating too many calories promotes weight gain. Calorie needs are based on individual needs.

3. TOTAL FAT

This is the total fat per one serving in grams and in % Daily Value. Choose foods with less fat.

- **Saturated Fat**

This is fat from animal and dairy products and tropical oils measured in grams. A diet high in saturated fat is a risk factor for coronary artery disease. Choose foods with 2 grams or less saturated fat.

Labels may also list monounsaturated and polyunsaturated fats.

These are unsaturated fats that may help protect your heart, however all fats should be used in moderation.

4. TRANS FATS

Trans Fats are now listed on every nutrition label. Trans fats are formed by chemically changing the oil called hydrogenation, which increases product shelf life and flavor. A diet high in Trans fats has shown to increase cholesterol levels, which increases risk of heart disease. If a food has the words "partially hydrogenated oil" on the label it contains Trans fats. It is recommended by the American Heart Association to avoid Trans fats.

5. CHOLESTEROL

This is another form of fat measured in milligrams. Too much dietary cholesterol is another risk factor for heart disease. Cholesterol is found in organ meats, dairy products, shrimp, and egg yolks. Limit intake to 300 milligrams daily.

*Use foods with 5% or less saturated fats and cholesterol and avoid those with over 20% of the daily value.

Labels may also list monounsaturated and polyunsaturated fats. These are unsaturated fats that may help protect your heart, however all fats should be used in moderation.

6. SODIUM

This is a nutrient that helps regulate blood pressure and fluid balance measured in milligrams, which most people consider “salt”. Research has suggested that a high sodium intake can be related to high blood pressure. The Recommended Daily Allowance for sodium is 2300 milligrams per day. For example, one teaspoon of table salt has ~2,000 milligrams of sodium.

7. TOTAL CARBOHYDRATE

This is the amount of total carbohydrate per serving measured in grams. Carbohydrates are primarily found in starches, vegetables, fruits, sweets, and milk. Carbohydrate counting is used in diabetes meal planning. All carbohydrates are converted into glucose after digestion.

- **Dietary Fiber**

This is the amount of indigestible bulk from plant foods such as fruits, vegetables, whole grains, oats, nuts and seeds and is measured in grams. Foods high in fiber are shown to be beneficial for weight control, diabetes, high cholesterol, and some forms of cancer. Foods with five grams of fiber or more are considered “high fiber” foods.

- **Sugars**

These are part of the Total Carbohydrate content and are measured in grams. These contain sugars from natural and artificial sources. There are no daily reference values for sugars.

Added Sugars: include sugars that are added to the food as part of processing (honey, table sugar, syrups and sugars from concentrated fruit juice. Choose items with the least amount of added sugar per serving.

Sugar alcohols: some products contain sugar alcohols which provide a sweet taste to food without the calories. These sugars are commonly found in sugar-free foods but are not limited to these items. A product containing sugar alcohol will include one the following: sorbitol, xylitol, mannitol, maltitol). Consuming high amounts of sugar alcohol can cause gastrointestinal disturbances including cramping, abdominal pain, gas and/or diarrhea. Limit sugar alcohol to less than 10 grams per serving

8. PROTEIN

This is the amount of total protein the food contains measured in grams. Protein contains amino acids found in meat, poultry, fish, dairy, eggs, nuts, beans, grains, and some vegetables. Protein needs are individualized based on height, weight, age and physical activity level.

*******(60-80 grams needed daily)*******

9. VITAMINS AND MINERALS

These are micronutrients measured in percentages. The goal is to consume 100% of each of these nutrients daily to prevent nutrition related diseases.

10. PERCENT DAILY VALUES

The Percent Daily Value shows the amount of each of the nutrients listed above needed daily in a 2,000-calorie diet. This is the percentage of each nutrient recommended to meet the needs of the average person each day and is measured in grams and milligrams depending on the nutrient. The Percent Daily Values are listed at the bottom of the food label.

5% of the daily value or less of a nutrient is considered low 20% of the daily value or more is considered high.

11. INGREDIENT LIST

The ingredient list is another part of the Nutrition Label. Items are listed by weight in descending order of predominance. Spices, artificial coloring, and flavors are listed on the ingredient list.

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 240mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Vitamin/Mineral Supplementation

Before surgery you were able to get enough vitamins and minerals from your foods, but now that you are eating much smaller portions, you will not be able to get enough nutrition from the foods you eat. In addition, due to the nature of the surgery, you may not absorb the nutrients from food as before. Vitamin and mineral supplementation are important to avoid serious nutrient deficiencies.

Please remember that after surgery all pills must be crushed, or you need to buy chewable or liquid vitamins/minerals. You are not able to absorb whole pills as well as before surgery, and it can be difficult for the pills to pass through your new anatomy. You will need to do this for 6 weeks after surgery.

Multivitamin - Not all multivitamins have the same amount or types of vitamins and minerals in them. And not all multivitamins are absorbed by your body in the same way. Talk with your Bariatric Surgeon about vitamin and mineral supplementation before you start taking it.

* Again, talk to your Bariatric surgeon about what you need.

Calcium Citrate - You will need to have about 950 mg of calcium every day. Calcium citrate is more easily absorbed by your body than other forms of calcium, but it does not always come in a chewable or liquid form. It can also be harder to find and be more expensive.

Remember to try and take Calcium at least 2 hours before or after you take any of your other vitamins or minerals (except Vitamin D), so that you get the best absorption from all your supplements. You can take calcium and Vitamin D together.

Iron - You may need more iron than what might already be in your multivitamin. This will be checked as part of your routine labs, and you will be informed if additional iron supplementation is needed. Iron supplements can come in a chewable or liquid form, and you may be instructed to take in a total of 45-60 mg every day.

*****Please know that iron supplements can make you constipated, and it can also turn your stool dark with a greenish-black color.



Survival Guide for After Bariatric Surgery

After Bariatric Surgery

Remember:

- At first, your new stomach can only hold 1-2 oz. (1/8-1/4 c) at a time. Therefore, the amount you consume should be limited. As time goes on, you should be able to eat larger amounts. Listen to your body for signs of fullness.
- Always allow at least 15 minutes per 1-2 ounces of food. **GO SLOW!** Chew thoroughly. Use a small plate, baby spoons and timer to help you slow down. This is a period of adjustment for your new stomach. Pay attention to signs of fullness.
- Stop eating/drinking as soon as you feel satisfied.
- Consume 64 oz. of non-carbonated, sugar free, caffeine-free fluids per day. Sip throughout the day.
- For stage 3 and 4, do not drink fluids with meals. Wait for 30 minutes after a meal to start sipping calorie-free/caffeine free/noncarbonated beverages. If drinking before a meal makes eating uncomfortable, hold fluids for 30 minutes prior to the meal as well.
- Focus on high protein foods. Eat them at every meal and snack. Use protein supplements, powder, or liquid as needed to meet protein goals.
- Avoid foods/beverages with excess fat and sugar. Particularly these can cause **'Dumping Syndrome'**. **Weight regain can also occur with these foods, regardless of surgery type.** This is a lifestyle change **YOU** have chosen for improved health.
- Supplemental vitamins and minerals are a must, **"FOR LIFE."**
- Carbonated beverages and using a straw will encourage swallowing air into your smaller stomach. In addition to being painful, this could also cause nausea and vomiting. Do not drink through a straw if it causes increase in burping and or gas.
- Gum chewing may cause an increase in swallowed air. Avoid chewing gum.
- Not everyone advances their diet at the same rate. Listen to your body! Go back to the previous stage if you do not tolerate your diet.
- Record all foods and liquids for 2-3 days prior to your individual appointment with the dietitian. Forms are provided in your book.

Nutrition Complications

Dumping Syndrome

Dumping syndrome occurs when the stomach is not able to regulate the amount of food moving to the intestine for digestion. When you eat a meal the food in the stomach may be “dumped” too fast into the small intestine. Dumping can occur when too many simple carbohydrates (carbohydrates found in table sugar, regular soda, regular juice, candy, sweets in general) or fatty foods enter the intestine too quickly, or your portions were too large, and when drinking beverages with your meals.

There are two types of dumping:

- Early dumping occurs 10-30 minutes after a meal. You may experience nausea, bloating, diarrhea, or cramping.
- Late dumping occurs 1 to 3 hours after a meal. You may feel dizzy or weak, start sweating and you may want to lie down. Lying down for a while may help with these symptoms.

You can prevent dumping by:

- Avoiding sugar and sweets, read the nutrition facts label and choose foods with less than 5 grams of sugar per serving. Limit sugar intake at meals to less than 10 grams.
- Eating small meals
- Choosing low fat foods
- Keeping meals dry, no fluids with meals
- Eating slowly
- Stop eating when you first begin to feel full
- Never force yourself to finish a meal

Signs and Symptoms

Early Dumping:

- Abdominal cramping and diarrhea
- Fatigue
- Sweating
- Rapid heart rate
- Decreased blood pressure
- Flushing
- Dizziness
- Shortness of breath

Late Dumping:

- Shakiness
- Cold sweats
- Fatigue
- Decreased blood pressure
- Headache

Constipation

Constipation can occur because the intake of food and fiber is reduced following surgery. Prevention tips include adequate hydration, drinking plenty of water, exercising daily, taking a fiber supplement, eating sugar free applesauce, oatmeal, or prunes.

Dehydration

Dehydration can be a result of inadequate consumption of fluids or by persistent vomiting. Symptoms include dark urine and strong-smelling urine, dry mouth, headache, fatigue. To avoid this, you need to make sure you hydrate well throughout the day.

Nausea and vomiting

Nausea and vomiting can be caused by overeating, not chewing foods thoroughly, eating too fast as well as progressing to challenging food textures prematurely. Eat your food slowly, chew well and stop eating as soon as you feel full. The presence of nausea could also be caused by dehydration. If you are unable to tolerate foods/liquids and you have persistent nausea and vomiting, you need to see your doctor.

Diarrhea

Diarrhea is caused by nutrients moving through the digestive tract too fast. This might be caused by foods not chewed properly or drinking liquids with meals. Lactose intolerance and use of sugar alcohols (mannitol, sorbitol, xylitol) can also cause diarrhea. Diarrhea can also be a symptom of dumping syndrome.

Temporary hair loss

Temporary hair loss can be caused by rapid weight loss and/or lack of protein or vitamins and minerals in the diet. You need to consume the recommended amount of protein and take your vitamins and minerals as directed.

Chronic malnutrition

Chronic malnutrition can occur because nutrients are absorbed differently after surgery. Symptoms include fatigue, aching muscles, hair loss, tingling feet, calves, or hands. After surgery various nutrients are not absorbed as efficiently as in the past. Calcium, iron, zinc deficiency can occur because the primary absorption sites (duodenum and proximal jejunum) are bypassed. Vitamin B12 deficiency can occur because of inadequate contact with intrinsic factor in the stomach. To prevent malnutrition, you need to consume a healthy diet, meeting recommended protein intake and always take your vitamin/mineral supplements as directed.

Hypoglycemia

Hypoglycemia can be a complication of gastric bypass surgery and should be considered if the patient has symptoms such as confusion, lightheadedness, rapid heart rate, shaking, sweating, excessive hunger, bad headaches in the morning or bad nightmares. Talk to your doctor if you experience these symptoms. Dietary modifications that can help alleviate symptoms include smaller more frequent meals, avoiding simple carbs and avoiding beverages during and immediately following a meal.

Kidney Stones

Dietary interventions that assist in minimizing risk of kidney stones include adequate hydration, and intake of fruits and vegetables, supplementing with calcium citrate versus calcium carbonate, and limiting oxalate-rich foods (soy products, nuts, dark green vegetables, chocolate, coffee) and sodium.

Staying Healthy

The following are tips to help you stay healthy long term:

- Weigh yourself every 2 weeks. This can help you adjust if you start to gain weight back.
- Continue to monitor your protein and carbohydrate intake.
 - Track protein intake starting one month post op.
 - Use food labels and the chart on page 9 to help you determine protein intake.
 - Keeping food and activity records can help keep you on track!
 - Limiting daily carbohydrate intake to <50 g/daily will prevent excessive sugar intake.
- Have labs done as recommended by your surgeon for the first year, then yearly for the rest of your life.
 - Nutrient deficiencies can occur years after bariatric surgery! See below for a list of the recommended labs.
- Continue to exercise regularly.
- Ensure you are getting adequate sleep – 8 hours per night.
- Continue to drink water regularly.
- Continue to choose a nutrient rich diet.
- **Keep taking your vitamin and mineral supplements for life!**
- Attend a support group whenever possible. Support group participants have been shown to be more successful at maintaining their lost weight.
- Follow up with your Surgeon, Registered Dietitian, and Primary Care Manager as directed.
- Remember that bariatric surgery is not the cure for obesity. It is a tool that can assist you with weight loss and management.

Troubleshooting?

Possible Occurrence	May be caused by	Possible Solutions
Nausea, Vomiting, Abdominal Pain, Bloating	<ul style="list-style-type: none"> • Can be caused by eating too quickly or eating too much, not chewing enough, drinking beverages with meals, lying down after eating • Also caused by drinking cold liquids, <u>using a straw</u>, eating high fat or high sugar foods, eating gas-producing foods, or drinking carbonated beverages 	<ul style="list-style-type: none"> • Don't overeat. • Stay well hydrated. Fluid intake should be at least 64oz. /day. • Avoid extreme temperatures of hot and cold. This may trigger nausea. • Do not skip meals, vitamins, and minerals. • Cut food into small pieces and chew at least 25 times before swallowing. Swallow food only after it has been made "mushy" in your mouth. • Slow down. Do not eat fast. • Always check for food intolerance. Stop eating the food which makes you vomit. • Always cook, cool and store your food appropriately to avoid food spoilage and food borne illness. • Avoid all carbonated and caffeinated beverages.
Constipation	<ul style="list-style-type: none"> • Less total food intake, inadequate fluid intake, high protein, low fiber intake. • Some vitamins, minerals, or medications may cause constipation • Inactivity may lead to constipation 	<ul style="list-style-type: none"> • Stay well hydrated. Fluid intake should be at least 64oz. /day. • Try to increase fluid intake with an additional 8-10 cups /day. • Continue eating proteins, and taking vitamins, minerals, and medications as directed. • You may use the over-the-counter laxatives, fibers or stool softeners such as Milk of Magnesia®, Benefiber®, Metamucil®, Senokot®, or Colace®.
Dumping Syndrome (Most common with RGB/LGB)	<ul style="list-style-type: none"> • Caused by rapid emptying of food into small intestine • Symptoms include abdominal cramping, nausea, lightheadedness, flushing, rapid heartbeat, and diarrhea • Typically occurs after eating simple sugars and high fat foods 	<ul style="list-style-type: none"> • Avoid sugars. • Avoid fried foods and high fat foods. • Stay well hydrated. Fluid intake should be at least 64oz./day • Include protein at each meal to reduce chance of dumping

Troubleshooting continued

Possible Occurrence	May be caused by	Possible Solutions
Dehydration	<ul style="list-style-type: none"> Often occurs because you cannot take large sips of fluids 	<ul style="list-style-type: none"> Best course of action is to carry a water bottle at all times and sip frequently Sip slowly between meals, 6-8 cups per day
Nutrient Deficiencies	<ul style="list-style-type: none"> Due to the reduced food intake and/or reduced absorption May occur years after surgery, therefore, vitamin and mineral supplements are for life 	<ul style="list-style-type: none"> Adhere to the recommended vitamin and mineral protocol. Choose nutrient dense healthy foods regularly You may also need other supplements recommended by your health care providers based on laboratory results
Food Intolerances	<ul style="list-style-type: none"> Some foods are less tolerated after surgery. This occurs for several reasons and varies from patient to patient Sometimes your body will reject a food that is normally tolerated well. This is normal. Food intolerances vary from person to person. This will be evaluated on a case-by-case basis 	<ul style="list-style-type: none"> If you have difficulty tolerating certain foods, remove them from your diet and try again 1 to 2 weeks later Microwave cooking can change the texture of foods. Moist cooking methods, like a slow cooker, may work better.
Unsuccessful Weight Loss	<ul style="list-style-type: none"> If your stomach is repeatedly challenged with larger quantities of food than recommended, you will regain the lost weight Eating high fat and high sugar foods can contribute to weight regain. Frequent "grazing" on low-nutrient foods is also likely to cause weight regain. Lack of exercise can lead to regain. 	<ul style="list-style-type: none"> Recommended portions let you know what is typical. Learn to recognize when you are satisfied and stop eating. Signs of fullness include a feeling of pressure, possibly nausea, and on occasion, pain. Stop eating before you feel full Eat healthy foods for a lifetime of good living

***For non-emergencies and general questions please call the Bariatric/General Surgery Clinic @ 915-742-0753 or 915-742-9459**

Surgeon on Duty (SOD): (915) 726-1652

- Some reasons to call the SOD:
 - You develop signs/symptoms (s/s) of a surgical site infection: Red, hot, painful, malodorous (smells bad), green/yellow drainage with or without fever.
 - If you develop signs and symptoms of a urinary tract infection (foul smelling urine, frequent urination, dark urine, painful urination).
 - If you are still having pain or nausea and have run out of medication.

Post-Operative Bariatric Follow-up Nutrition



First appointment: 6 weeks post-surgery
Can assist more often if needed
Call Tricare or clinic to book appointment
Nutrition Clinic phone number 915-742-0258

Resources and Helpful Links

1. American Society for Metabolic and Bariatric Surgery

<https://asmbs.org/>

The official website of the ASBS provides information regarding the various techniques and the history behind Weight Loss Surgery.

2. Association for Morbid Obesity Support (AMOS)

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

This site is a national online support group as well as a resource for information.

3. CalorieKing.com

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

This site is a very helpful website with an extensive food database with the nutritional values of foods. It can be used as a way to monitor daily intake, exercise patterns, and weight loss goals.

4. Nutrient analysis programs/online food journals

www.mypyramidtracker.gov or choosemyplate.gov

www.fitday.com, myfitnesspal.com, sparkpeople.com

Professional references for this handbook:

Mechanick, JI et al. American Association of Clinical Endocrinologists, The Obesity Society, and American Society for Metabolic and Bariatric Surgery Medical Guidelines for Clinical Practice for the Perioperative Nutritional, Metabolic, and Nonsurgical Support of the Bariatric Surgery Patient. *Surgery for Obesity and Related Diseases*. 16(2020) S175-S247

Allis, LS, et al. ASMBS Allied health Nutritional Guidelines for the Surgical Weight Loss Patient. *Surgery for Obesity and Related Diseases* 4 (2008) S73-S108

Woodard, GA, et al. Probiotics improve outcomes after Roux-en-Y gastric bypass surgery: a prospective randomized trial. *J Gastrointest Surg*. (2009) Jul; 13(7):1198-204.

Snyder-Marlow, et al. Nutrition care for patients undergoing laparoscopic sleeve gastrectomy for weight loss. *J of the American Dietetic Association* (2010) April; 110:600-607.

VA/DoD Clinical Practice Guideline, Screening and Management of Overweight and Obesity (2014)

Mechanick, JI et al. Clinical Practice Guidelines for the Perioperative Nutritional, Metabolic, and Nonsurgical Support of the Bariatric Surgery Patient – 2013 Update: Cosponsored by American Association of Clinical Endocrinologists, The Obesity Society, and American Society for Metabolic & Bariatric Surgery. *Surgery for Obesity and Related Diseases* 9 (2013) 159-191.

Weight Loss Chart

	Date	Weight	Weight Loss	BMI
Day of Surgery			N/A	
3 Week Post-op Visit				
3 month Post-op Visit				
6 Months Post-op Visit				
1 Year Post-op Visit				

Measurement Equivalents and Abbreviations

Liquid Measures

1 teaspoon	1/16 fluid ounce		
1 tablespoon	1/2 fluid ounce	3 teaspoons	
1/8 cup	1 fluid ounce	2 tablespoons	1/16 pint
1/4 cup	2 fluid ounces	4 tablespoons	1/8 pint
1/2 cup	4 fluid ounces	8 tablespoons	1/4 pint
1 cup	8 fluid ounces	16 tablespoons	1/2 pint
2 cups	16 fluid ounces	32 tablespoons	1 pint
4 cups	32 fluid ounces	64 tablespoons	1 quart

64 fluid ounces ←YOUR MINIMUM DAILY FLUID GOAL!!

Dry Measures

1 tablespoon	3 teaspoons	1/2 ounce
2 tablespoons	1/8 cup	1 ounce
4 tablespoons	1/4 cup	2 ounces
8 tablespoons	1/2 cup	4 ounces

Additional Measurement Equivalents

30cc = 1 oz = 2 tablespoons= 1/8 cup
60cc = 4 tablespoons= 1/4 cup
90cc = 6 tablespoons=1/3 cup
120cc = 8 tablespoons=1/2 cup

Nutrient Measures on Labels

1 gram is about the weight of a paperclip. Protein, carb and fat are measured in grams.
 1 gram = 1000 mg (milligrams). 1 mg= 1000 mcg (micrograms)

Abbreviation Definitions

oz. = ounce
 cc = unit of measure for liquids
 c = cup
 Tsp = teaspoon
 TBS or TBSP = tablespoon
 Tsp = teaspoon