

The importance of good nutrition following bariatric (weight loss) surgery cannot be overemphasized. This nutrition guide is designed to help you succeed in your quest to lose weight, keep it off and stay healthy. As you read through this guide, jot down any questions you have to discuss with your Registered Dietitian.

Preparing for Surgery

- It's best to eat sensibly and to reduce portion sizes. Avoid eating like it's your "last meal," and also avoid eating a lot of your favorite foods you fear you'll never get to eat again. You will be able to incorporate most of your favorite foods into your new way of eating!
- Wean yourself from caffeine, to avoid dealing with withdrawal symptoms after surgery. Decrease – and then eliminate – coffee, tea, cola and chocolate.
- Wean yourself from all carbonated beverages, including diet soda, seltzer water and tonic water. You will need to avoid carbonated beverages for the rest of your life, as carbonation puts undue pressure on the post-surgery stomach.
- To have a smooth transition when returning home from the hospital, stock your kitchen with the foods you will be able to eat following your surgery.
- Buy or borrow a blender or food processor, if you do not already own one.
- The first-month, post-surgery diet consists of liquids, smooth, puréed foods and soft foods. Experiment with recipes and begin preparing food. Puréed foods can be frozen in ice cube trays and stored in zip-lock bags in the freezer if desired, so when you are ready to eat them, you can re-heat the cubes in a microwave and enjoy.
- Learn your diet, and write down any questions you might have. This will be helpful when at your follow-up appointments.
- Purchase a notebook or download an app to use as a food diary, track protein grams and fluid ounces of water. Keep a three-day food record prior to each nutrition visit.

Tips for Success

- 1. Eat small portions** – Remember, your new pouch size is about 1/8 - 1/2 cup. Small portions will help prevent overstretching and dumping syndrome. Limit portion size to 1/4 - 1 cup per meal, depending on tolerance and diet stage progression.
- 2. Eat small meals three times a day, and one to two protein-rich mini meals** – By the end of the first month, the first half of the meal should be mostly protein, with a goal of 2-3 ounces of protein per meal. Finish with vegetables or starches. Avoid grazing and snacking between meals and mini meals.
- 3. Eat slowly** – Take small bites of food. Take 20 minutes to eat each meal. Taking less time indicates the meal has been eaten too quickly. Taking more time indicates too much food has been eaten at one time.
- 4. Chew foods well** – Chewing thoroughly will prevent nausea, vomiting and blockage of the pouch. Initially, avoid foods that are difficult to chew – such as tough, dry meats, raw fruit and vegetable skins, dried fruit, whole nuts and seeds.
- 5. Stop eating when you are full** – Stop eating as soon as you feel pressure or fullness in the area just beneath your rib cage. Don't overdo it. If ignored, vomiting or pain may follow.
- 6. Drink a minimum of eight cups of fluid daily, with a goal of 64 ounces** – Sip fluids slowly all day, limiting intake to 1/2 - 1 cup servings per 30 minutes. Choose mostly non-calorie beverages. Low-calorie fluids, such as skim milk and diluted, unsweetened fruit juice are okay in limited amounts. Avoid drinking fluids 30 minutes before a meal, with your meals or snacks and for 30 minutes after.
- 7. Do not drink through a straw or chew gum** – Doing so will cause you to swallow excess air, leading to gas and bloating.
- 8. Do not drink carbonated beverages** – The carbonation can cause gas and bloating.
- 9. Limit coffee and caffeine** – It causes dehydration and can stimulate the bowel, causing cramps or diarrhea.
- 10. Avoid alcohol** – It is a source of empty calories that will slow weight loss.
- 11. Eat a balanced diet** – Select nutritious food choices. Eat the protein portion of your meal first, and then do your best to include a variety of vegetables, fruits and whole grains as your diet progresses.
- 12. Avoid high-calorie foods** – High-calorie foods and beverages will slow down or prevent weight loss.
- 13. Avoid excess sugar** – Sugary foods can cause dumping syndrome and slow down or prevent weight loss. Artificial sweeteners are allowed.

- 14. Take a multivitamin and mineral supplement** – Take daily for the rest of your life. Discuss additional supplement needs with your surgeon.
- 15. Select foods as tolerated** – If you find a food that is not tolerated, do not avoid it forever. Wait one to two weeks, and try it again. Here are some tips to help with difficult-to-tolerate foods:
- Tough meat: use a marinade or tenderizer
 - Fresh bread: toast slices
 - Fruits and vegetables with have skin: peel and enjoy (without the skin)
- 16. Make the commitment for lifestyle change** – While surgery will trigger significant weight loss, you must do your part to maintain the weight loss by making **lifelong changes in your eating habits**. Choosing high-calorie and high-fat foods after surgery only hurts your progress. You need to make healthy choices and eat low-fat, nutritious foods most of the time.
- 17. Watch out for emotional eating** – Identify emotional eating and learn substitute behaviors to deal with stress, loneliness, boredom or the need for a “reward.” Take up a new hobby, become more active and change situations which may cause you to overeat.

Do NOT Attempt Foods

As your diet progresses, you may feel very good and want to try some of your favorite foods. However, there are some foods that **you should not even attempt to try**, even in small quantities, for at least a year after your surgery

Fast Food	Candy
Cheesesteaks	Soda
Pasta	Rice
Bread	Pastries/Cookies/Cake
Tough Meats	

Introduction to Diet Progression After Surgery

Important: Do NOT advance your diet before discussing it with your surgeon.

Stage 1: Clear Liquids

- Approximately one day after surgery, you will be started on a clear liquid diet. You will stay on clear liquids for about two to four days.
- Drink non-carbonated, caffeine-free, sugar-free liquids.
- Sip in small amounts, consuming no more than 1-2 ounces per hour while in the hospital.
- When home, gradually increase fluid consumption to a minimum of 48 ounces, with a goal of 64 ounces or more each day.
- You may begin to fortify your clear liquids with protein powder or an approved clear-liquid protein drink.

Stage 2: Full-Liquid, Smooth-Consistency

- You will progress to a full-liquid, smooth-consistency diet and stay on this diet for approximately 10 days.
- You may include foods such as protein drinks, milk, yogurt, unsweetened applesauce, pureed soups and cream of wheat.
- Eat every two hours; you may have up to 1/4 cup of food per meal.
- Sip liquids all day long. Follow the 30/30 or 30/60 rule, which is separating your liquids from your meals.
- Utilize protein powder or shakes.
- Begin recommended vitamin/mineral supplementation.

Stage 3: Minimal Texture/Soft Diet

- You will progress to a soft diet and remain on this soft diet, progressing to minimal-texture, as tolerated, for approximately two weeks.
- Progress to soft, cooked foods:
 - ~ Increase to finely ground meats, soft fruits, well-cooked vegetables, beans as tolerated, and soggy, unsweetened cereals, and continue with foods from Stage 2.
- Continue to sip fluids all day long, along with taking vitamin and mineral supplementation.
- Continue frequent meals not exceeding 1/2 - 3/4 cup of food per meal, every three to four hours.
- Continue following the 30/30 or 30/60 rule.

Stage 4: Solids & Maintenance

- You will progress to a regular diet as tolerated; add one new food at a time.
- Gradually advance to solids, adding whole grains and continuing to limit fat and sugar.
- Pay attention to volume. Follow recommended portion sizes.
- Continue protein supplement, as needed.
- Continue vitamin/mineral supplementation and adequate fluid intake.
- Strive for a high-fiber diet by including non-starchy, high-fiber carbohydrates.

Protein Power

There are two sources of protein in the diet – animal products and plant foods (grains and vegetables). Typically, animal products are higher in protein than plant sources. Since animal products contain fat, choose mostly lean or low-fat choices.

When you eat, make sure every meal contains one serving of protein. Always eat the protein source first to ensure your protein needs are met. Remember to chew meat, fish and poultry well.

Source	Serving Size	Protein (grams)
Poultry: (without skin): chicken, turkey, Cornish hen, domestic duck or goose	1 ounce	7
Fish: catfish, cod, flounder, haddock halibut, herring, orange roughy, salmon, sardines, trout, tuna	1 ounce	7
Shellfish: clams, crab, lobster oysters, scallops, shrimp	1 ounce	7
Beef: cubed, round, sirloin flank, T-bone, porterhouse steak, tenderloin, chuck, ground round, 90-97% lean ground beef	1 ounce	7
Pork: tenderloin, sirloin, chop, roast, ham, Canadian bacon	1 ounce	7
Lamb: roast, chop, leg	1 ounce	7
Veal: lean chop, roast	1 ounce	7
Dairy:		
Skim and 1% milk	1 cup	7
Double-strength milk*	1 cup	20
High-protein eggnog*	1 cup	25
Sugar-free instant breakfast*	1 cup	12
Sugar-free fortified instant breakfast*	1 cup	24
Yogurt shake*	1 cup	18
Non-fat or low-fat cottage cheese	1/4 cup	7
Non-fat or low-fat cheese	1 ounce	7
Artificially sweetened yogurt	1 cup	8

*See "Recipe Ideas" on page 10

Source	Serving Size	Protein (grams)
Other:		
Egg	1 large	7
Egg whites	2	7
Egg substitutes	1/4 cup	7
Low-fat lunch meat	1 ounce	7
Low-fat hot dog	1	7
Plant proteins:		
Tofu	1/2 cup	7
Tempeh	1/4 cup	7
Soy milk	1 cup	7
Dried beans, peas, lentils	1/2 cup	7
Peanut butter	2 tablespoons	7
Nuts	1 ounce	4

Helpful Hints to Boost Protein Intake

Here are a few ways to increase the amount of protein in your diet

Cheese: Low-fat or Fat-free

- Grate and add to vegetables, whole grains and protein foods
- Use as a mini meal with whole grain crackers
- Melt on eggs, fish and lean meats

Cottage or Ricotta Cheese: Low-fat or Fat-free

- Add to spaghetti squash
- Add to casseroles or egg dishes
- Stuff fruits and vegetables

Eggs

- Add finely chopped, hard-cooked eggs to casseroles, sandwiches, sauces, salads and vegetables
- Add egg beaters/egg whites to broth soups (egg drop soup)

Legumes (dried beans, peas and lentils)

- Purée-cooked or canned beans with garlic, lemon and olive oil for a sandwich or cracker spread
- Add cooked or canned beans to salads, casseroles and soup

Meat, Fish & Poultry

- Add chopped or ground pieces to any of the following: baked potatoes, casseroles, omelets, salads, soufflés, soups, stews and vegetables

Milk: Fat-free (skim) or 1%

- Use in recipes for any of the following that call for water: casseroles, hot cereal, mashed potatoes, sauces, soup and sugar-free pudding
- Serve in sauces with vegetables

Yogurt: Low-fat or Fat-free

- Add to fruit and vegetable dishes
- Use for dip
- Use in place of mayo (plain)

High protein powder (non-fat milk powder and others)

- Add 1 tablespoon to virtually anything
- Guidelines
 - ~ Ground meat: Add 1/2 cup of powder to each pound of meat
 - ~ Cooked cereal: Mix an equal measure of powder with dry cereal before cooking
 - ~ Creamed or mashed vegetables: Add 1/3 cup powder to 2 cups of vegetable purée. Add skim milk to reach preferred consistency.
 - ~ Sauces, soups, puddings: Add 4 tablespoons (1/4 cup) powder to each cup of fluid milk in recipes or 1/2 cup powder to each cup of water or broth in recipes.

Protein Powders

There are a variety of commercial protein powders available on the market. Talk to your Bariatric Team about good brands to choose. In general, look for whey or soy protein and be careful to avoid protein powders with added sugars. Read the label carefully.

Vitamin and Mineral Supplementation After Surgery**Multivitamin with minerals**

- Centrum® – chewable or liquid
- Generic equivalent or adult multivitamin, ideally liquid or chewable
- NO gummy vitamins!

Calcium

- Recommended intake = 1,200-1,500 mg, per day
- Choose brands that use Calcium Citrate (example: Citrical®, TwinLab®, or generic equivalent)
- Make sure to take your calcium supplement in individual doses (500-600 mg) throughout the day. Do not take calcium with your iron supplement or within one to two hours of taking any medicine, since calcium can interfere with their absorption.

Iron

- For menstruating women or people with anemia
- Recommended -intake = 45 mg, per day
- Ask your physician which is best for you

Vitamin B-12

- Supplements may be prescribed by your physician if your blood levels are low.
- Recommended intake = 1000 mcg, per day
- Examples: B-12 injection, GNC sublingual B-12® – dissolves under your tongue for better absorption, TwinLab B-12 Dots™
- Make sure to take B-12 supplement before breakfast (does not include injection form)

Possible Nutritional Side Effects

Dumping Syndrome (Gastric Bypass Patients)

Dumping syndrome is a side effect that can be caused by the consumption of sugary foods and fluids. Dumping occurs as a result of the rapid movement of liquids and sweets out of the pouch and into the small intestine. Symptoms of dumping syndrome include: lightheadedness, dizziness, paleness, rapid pulse, palpitations, sweating, abdominal cramps, bloating, nausea, vomiting and/or diarrhea. Lying down immediately after eating reduces these symptoms. Dumping can be avoided by minimizing the consumption of sweets. Avoid the following to prevent dumping syndrome:

- **Beverages:** alcohol, milkshakes, cocoa, sport drinks, sweetened drink mixes, flavored milk, sweetened coffee, sweetened tea, sweetened fruit juice or undiluted fruit juice and carbonated beverages – soda, diet soda, seltzer water and club soda
- **Breads and Cereals:** pastries, doughnuts, muffins, sweet rolls, breads with frostings or glazes and sugar-coated cereals
- **Fruits and Vegetables:** sweetened fruit juice or fruit drinks, fruits canned in heavy or light syrup and any vegetables which sugar has been added (ex: candied sweet potatoes or glazed carrots)
- **Desserts and Sweets:** cakes, cookies, pies, pastries, chocolate, gelatin, ice cream, frozen yogurt, Italian ice, popsicles, some yogurts, candy, marshmallows, sugar, syrup, honey, jelly and jam
- **On the food label:** A good rule of thumb is to avoid products that list any of the following in the first three ingredients: sugar, corn syrup, sucrose, dextrose, glucose, lactose*, maltose, fructose*, corn sweeteners, honey, maple syrup, molasses, sorghum, sorbitol and mannitol

**Lactose is the natural sugar in milk and fructose is the natural sugar in fruit. Both are usually well-tolerated in their natural state after gastric bypass.*

Protein Deficiency

Protein is an essential part of every cell and tissue in the body and is the primary nutrient used to build and repair the body. Following surgery, adequate protein intake will promote healing, prevent hair loss and maintain immune function. Our bodies require a constant supply of protein-building materials to repair and replace body tissues. Because bariatric surgery reduces the capacity of the stomach to a very small volume, protein foods must be carefully eaten with every meal to ensure the body gets enough to maintain it. If protein is eaten at every meal during the first half of the meal, deficiency can be avoided. See "Protein Power" on page 5 for more information.

Nausea and Vomiting

After bariatric surgery, nausea and vomiting can be prevented by sipping liquids slowly, eating foods slowly, chewing foods well and avoiding sweets. Stopping before the feeling of fullness is important, as well. Never try to take "just one more bite." Even months after the surgery, nausea and vomiting can result from eating too much or too fast, and/or drinking liquids with meals.

It is important to introduce foods slowly, chew foods well (to a baby food texture), and avoid foods which may block the opening to the intestine (foods with skins/seeds). If vomiting occurs, try to determine what caused it. If it continues past 24 hours, be sure to contact your surgeon.

Constipation

The amount of food consumed is greatly decreased – as is the quantity of fiber – following bariatric surgery. The number of bowel movements therefore decreases, causing less-frequent bowel activity, which can result in constipation. Constipation can be treated by increasing dietary fiber through food or supplements, drinking adequate fluids and increasing activity. Medications can be used as prescribed by your doctor, if necessary.

Fluids

It is very important to consume about eight to 10 (eight-ounce) glasses of fluids each day to maintain your proper fluid intake. Do not drink liquids with meals or 30 minutes after meals. Since your stomach can only hold a small amount of food/fluid at a time, you should consume about one ounce of water every 10 minutes throughout the day to meet your fluid needs. You must learn to sip water **all day**, so it may be helpful to carry a water bottle. If you would like to add flavor to your water, Crystal Light® or fruit slices may be used.

Vitamin and/or Mineral Deficiencies

You will receive specific guidelines as to how much and which vitamins and minerals to take at your first week post-op visit with the surgeon. It is important to take these vitamin and mineral supplements as recommended to prevent deficiencies. *See “Vitamin and Mineral Supplementation” on page 7 for more information.*

Hair Loss

General anesthesia can result in hair loss for up to three months; however, a poor diet (protein deficiency in particular) can result in hair loss after three months. This is a temporary situation, and should resolve with a healthy diet and adequate protein and vitamin intake.

Loss of Muscle Mass

Exercise can prevent the loss of muscle mass. It is very important during active, rapid weight loss to exercise daily for at least 20-30 minutes. Daily exercise not only preserves muscle mass, but also enhances fat burning and hastens weight loss. Adequate protein intake also helps maintain muscle tissue.

Red Meat Intolerance

Red meats may not be well-tolerated immediately following surgery. You may want to avoid red meats until your stomach is functioning well, usually after one month.

Lactose Intolerance

Lactose intolerance is the inability to digest the milk sugar lactose and can lead to diarrhea and cramping. If you are lactose intolerant prior to surgery, you will continue to be lactose intolerant. However, some patients may develop lactose intolerance after weight loss surgery. After surgery, slowly add a small amount of milk to your diet. If problems occur, you may use low-fat milk or lactose-free milk, such as Lactaid® or Dairy Ease®, as well as other lactose-free products. The severity of intolerance varies. Often yogurt and cheese are better tolerated. As time progresses, you can experiment and try milk again.

Resources and Additional Information

Books:

- *“Appetites: Why Women Want”* by Caroline Knapp
- *“Breaking Free From Emotional Eating”* by Geneen Roth
- *“Dr. Shapiro’s Picture Perfect Weight Loss”* by Howard Shapiro
- *“Eat, Drink and Be Healthy: The Harvard Medical School Guide to Healthy Eating”* by Walter C. Willett, MD and PJ Skerrett
- *“Eating Mindfully: How to End Mindless Eating and Enjoy a Balanced Relationship with Food”* by Susan Albers
- *“Eating Well After Weight Loss Surgery”* by Patt Levine, Michele Bontempo-Saray, William B. Inabnet, and Meredith Urban- Skuros
- *“Extraordinary Taste: A Festive Guide for Life After Weight Loss Surgery”* by Shannon Owens-Malett, MS, RD, LD
- *“Feeding the Hungry Heart: The Experience of Emotional Eating”* by Geneen Roth
- *“Food & Mood: The Complete Guide to Eating Well and Feeling Your Best”* by Elizabeth Somer, MA, RD
- *“In Defense of Food: An Eater’s Manifesto”* by Michael Pollan
- *“Intuitive Eating”* by Evelyn Tribole and Elyse Resch
- *“Mindful Eating: A Guide to Rediscovering a Healthy and Joyful Relationship with Food”* by Jan Chozen Bays
- *“Mindless Eating: Why We Eat More Than We Think”* by Brian Wansink, PhD
- *“Now that You’ve Lost It”* by Joyce Nash
- *“Obesity Surgery: Stories of Altered Lives”* by Marta Meana and Lindsey Ricciardi
- *“Overcoming Binge Eating”* by Christopher Fairburn
- *“The Protein Counter”* by Nayow & Heslin
- *“Recipes for Life After Weight-Loss Surgery: Delicious Dishes for Nourishing the New You (Healthy Living Cookbooks)”* by Margaret Furtado and Lynette Schultz
- *“Shrink Yourself: Break Free from Emotional Eating Forever”* by Roger Gould
- *“The Solution: For Safe, Healthy, and Permanent Weight Loss”* by Laurel Mellin
- *“The Ten Habits of Naturally Slim People”* by Jill Podjasek
- *“Thin for Life: 10 Keys to Success from People Who Have Lost Weight and Kept it Off”* by Anne Fletcher
- *“Weight Loss Surgery with the Adjustable Gastric Band: Everything You Need Know Before and After Surgery to Lose Weight Successfully”* by Robert W. Sewell, MD, FACS and Linda Rohrbough
- *“What to Eat: An Aisle-by-Aisle Guide to Savvy Food Shopping and Good Eating”* by Marion Nestle
- *“When Food Is Love: Exploring the Relationship Between Eating and Intimacy”* by Geneen Roth
- *“Women, Food and God”* by Geneen Roth

Phone Apps:

Loselt!	Restaurant Nutrition	Nutrition Database for iPhone MyFitnessPal Body
Bug	Nutrition Menu	Fitness and Diet Tracking – Gyminee
Live Strong	Tap & Track	Calorie Facts - Nutrition Look-Up
iFitness	MyNetDiary	Good Food Near You
Footsteps	Virtual Trainer	101 Yoga Poses
Gym Buddy	Daily Burn	deftFitness
iBody		

Websites:

- www.lapband.com
 - ~ Online support tool for patients seeking LAP-BAND® surgery and patients who have had LAP-BAND® surgery, featuring recipes, weight tracking, dietary guidelines, etc.
 - ~ Site maintained by Allergan, Inc., creator of the LAP-BAND AP® System
- www.realize.com
 - ~ Information on different types of weight loss surgery, including gastric bypass
 - ~ Web-based patient support tool for the pre- and post-operative weight loss surgery patients
- www.eatright.org
 - ~ American Dietetic Association website
- **Weight loss & fitness Web sites: featuring on-line tracking for diet &/or physical activity**
 - www.fitday.com www.thedailyplate.com www.sparkspeople.com
 - www.obesityhelp.com
 - ~ Information about weight loss surgery, including message boards and chat rooms
 - ~ Magazine subscription also available
- <http://win.niddk.nih.gov/>
 - ~ Weight Control Information Network
- <http://www2.niddk.nih.gov/HealthEducation/HealthNutrition>
 - ~ US Department of Health and Human Services website
 - ~ Nutrition Health Education information
- <http://www.cdc.gov/healthyweight>
 - ~ Centers for Disease Control Healthy Weight website
 - ~ Information on nutrition and physical activity
- www.shapeup.org
 - ~ Exercise tips and nutrition information
- www.cleaneatingmag.com
 - ~ Clean Eating magazine website, featuring healthy recipes and menu ideas
- www.cookinglight.com
 - ~ Cooking Light magazine website, featuring the Kitchen Assistant (search for recipes using an ingredient or recipe title), menu planning suggestions and healthy lifestyle tips
- www.epicurious.com
 - ~ Huge recipe index and on-line food dictionary
- www.health.gov/dietaryguidelines/dga2005/document/
- www.beyondchange-obesity.com
- www.weightlossurgery.com
- <http://www.asbs.org/> American Society for Bariatric Surgery
- <http://www.webmd.com/a-to-z-guides/Gastric-bypass> WebMD
- <http://www.mayoclinic.com/health/gastric-bypass/HQ01465> Mayo Clinic
- <http://www.lapsof.com/weight-loss-surgeries.html>