

OPEN GASTRIC BYPASS DIET

Nicole B. White, MD

Introduction

The following information provides guidelines for you to follow before and after Gastric Bypass Surgery and for the rest of your life. Gastric Bypass Surgery is a weight loss tool. After surgery, you will be required to make lifelong changes in your eating habits and to exercise on a regular basis in order to achieve and maintain your weight loss goals.

Gastric Bypass Surgery creates a small stomach pouch which restricts the volume of food that you can consume at one time. This means that you will feel full after eating a small amount. A dime-sized opening between the new stomach pouch and the intestine slows the transport of food from the small stomach into the intestine. As a result, food stays in the stomach longer, making you feel full. A section of the intestine is bypassed which causes the malabsorption of certain nutrients. Therefore, you will be required to take several vitamin and mineral supplements for the rest of your life.

You should avoid drinking liquids with meals. This is to prevent the liquefying of food in the stomach and the flushing of food from the stomach pouch. If the food leaves the stomach pouch too soon, this can prevent you from feeling full, leading to more frequent eating and excessive calorie intake. Frequent snacking or grazing must also be avoided as this contributes to excess calorie intake and can slow weight loss or cause you to gain weight.

Exercise is an important component of weight loss success. Exercise is recommended before and after surgery in order to maximize the amount of weight that you lose and keep off. If you have not been an active exerciser, always consult with your physician for clearance and recommendations before beginning any exercise program.

It is important to follow the lifetime Gastric Bypass diet rules, supplement guidelines, and exercise recommendations in order to achieve and maintain optimum weight loss success.

In order to begin preparing for surgery, start implementing the pre-surgery diet goals listed on the next page.

Pre-Surgery Diet Practice Tips

1. Choose *low-fat foods*, and avoid fried foods.
2. Stop using sugar. Use *sugar substitutes* such as Sweet & low, Equal, or Splenda.
3. *Decrease* intake of desserts and candy.
4. *Stop* drinking *sugar-sweetened beverages* such as regular soda and sweetened Kool-Aid.
5. Start weaning off of *caffeine* and *carbonated beverages*.
6. Start *cutting back on fast food and eating out*. Begin *making healthy meal choices* when eating out and at home.
7. Eat *3 meals* a day. Do not skip breakfast.
8. Start *decreasing* portion sizes.
9. Eat more *fruits and vegetables*.
10. *Practice drinking* water and other fluids *between meals*, not with meals.
11. Drink *64 ounces water* a day.
12. *Practice sipping* liquids.
13. *Avoid* alcohol.
14. Begin some form of *exercise*.
15. *Review* the following information on the *gastric bypass diet*.
16. *Practice chewing* foods thoroughly, 20 - 40 times or to paste consistency.
17. *Purchase* your *protein drinks* or supplements.
18. *Purchase* your *vitamin and mineral supplements*.
19. Begin *planning a schedule* for mealtime, fluids and vitamin and mineral supplements.

Post Gastric Bypass Surgery Diet

Important Diet Guidelines:

1. **Eat 3 meals per day.** Avoid snacking and grazing.
2. **Eat small amounts.** Initial portion size should be no more than 1 - 2 ounces - approximately 2 - 4 Tablespoons - of food per meal for the first month. At first you may not be able to tolerate this amount. Over time, you will slowly tolerate more volume at each meal. Long term, the mature pouch will eventually hold about 4 - 8 ounces (1/2 - 1 cup) of food per meal.
3. **Eat protein foods first.**
4. **Do not try to eat food and drink liquid together.**
 - Consume liquid 30 to 60 minutes *before* and/or 30 to 60 minutes *after* eating meals but *not during meals*.
5. To avoid dumping syndrome and excess calorie intake, **avoid foods high in sugar and fat.**
6. You are required to **take a multi-vitamin with minerals, calcium citrate, B-Complex with thiamin, Vitamin B-12 and possibly iron** (if menstruating or iron deficient) *for the rest of your life*.
7. **Eat slowly!**
 - Each meal should last 30minutes or longer.
 - Avoid gulping foods and drinks.
 - All foods must be well-chewed to a paste consistency. Swallowing chunks of food may block the stomach opening.
 - Using a small fork or spoon (i.e. baby utensils) can help control portion sizes.
 - Have one place to eat (such as at the table) and avoid reading or watching TV while you eat. This helps you to enjoy your food, concentrate on eating slower and to realize when your stomach is full.
8. **Drink plenty of calorie-free, non-carbonated, caffeine- free fluids between meals.**
 - Drink slowly-sip fluids, never gulp.
 - Calorie-containing beverages should be limited to skim milk and protein drinks.
 - Limit juice to no more than 4oz. per day.
 - Consume zero-calorie beverages throughout the day.

Diet Progression After Surgery

The diet after gastric bypass surgery progresses through several stages. Your surgeon will let you know when it is okay to progress to the next stage.

Day 1 after surgery:

Clear Liquid Diet

The clear liquid diet means fluids or foods that are liquid at body temperature and can almost be seen through. You will be on a clear liquid diet while you're in the hospital.

Examples of Clear Liquid Diet (No Added Sugar/ Sugar Free):

- Clear (diluted) fruit juices without added sugar: apple, grape or white grape or diet cranberry
- Sugar-free Crystal Light drink mix or popsicles, Sugar-free Kool-Aid
- Herbal tea, caffeine-free tea
- **flat** soda
- Sugar-free Popsicles
- Sugar-free gelatin
- Clear broth
- Water

- ❖ It is best to dilute juices by 50% with water.
- ❖ Avoid citrus juices (orange/grapefruit) and tomato juice for the first three weeks.
- ❖ Coffee and de-caffeinated coffee contain acids which are irritating to the stomach lining and should be avoided for the first few weeks for healing.

Day 2 through Week 8 after surgery: Pureed Diet

You may begin a pureed diet. This includes all items listed above for clear liquids, and the items listed on the next page for the pureed (blenderized) diet

- Eat PROTEIN foods first
- Make sure foods are well blended as chunks of food can obstruct the stomach opening.
- Start slowly. If you do not tolerate pureed foods go back to the liquid diet and try again in a few days.
- Remember to drink liquids between meals, not with meals.
- Begin protein drinks or supplements as soon as you get home from the hospital.

Examples for the Pureed Diet (Sugar-Free/No Sugar Added, Low Fat):

Milk	Skim or lactaid milk, soy milk (non-fat), low fat or non-fat, sugar-free yogurt (smooth or custard-style—no seeds or pieces of fruit; sugar-free pudding, Sugar-Free Carnation Instant Breakfast, Low Carbohydrate, Low Fat Protein Drinks.
Eggs Cheese	Pureed or blenderized scrambled eggs or egg substitute or cheese omelet; melted low-fat cheese, low-fat or non-fat cream cheese, ricotta cheese, very smooth/mashed soft cheese such as mozzarella, string cheese, low-fat or non-fat smooth or small curd cottage cheese
Meat, Fish, Poultry,	Baby food meat or pureed meat or poultry moistened with broth or low-fat gravy Blenderized shrimp, scallops or fish Pureed tuna or salmon (canned in water) or pureed egg salad with low-fat or non-fat mayonnaise Potted meats thinned with broth; smooth deviled ham
Starches	Unsweetened instant oatmeal (strained), cream of wheat or rice cereal, mashed potatoes or sweet potatoes or winter squash, smooth polenta, hummus, refried beans; low-fat or baked crackers or chips
Vegetables	Baby food vegetables or pureed cooked vegetables (no corn) Mashed winter squash, tomato juice or sauce, pureed salsa, marinara
Soup	Strained, low-fat cream soup made with skim milk; fat-free broth Blenderized lentil or split pea soup or chili
Fruit	Baby food fruits (bananas, pears, applesauce, peaches, mango, etc) Unsweetened applesauce (smooth) Unsweetened canned fruit – blenderized Unsweetened fruit juice (diluted, no sugar added)

Remember: IF YOU CAN CHEW IT, DON'T DO IT!

Tips to Get Started

Everything that you eat on the pureed diet should be sugar-free or no sugar added, low fat and blended to the consistency of baby food or smooth applesauce.

- You will need a blender or food processor or you can purchase baby food.
- Start with 1 ounce (2 Tablespoon) portions - no more than 4 Tablespoons at the most. Listen to your body and stop eating as soon as you feel full.
- Eat protein foods first. Then if you are not too full, try vegetables or fruits.
- Continue protein supplements (80 g protein per day from supplement).

Helpful Hints for Blenderizing

- Cut foods into small pieces before putting into the blender or food processor.
- Remove seeds, skins and fat.
- Add liquid for ease of blending. Add enough liquid to cover the blades. Options include skim milk, broth, strained low-fat cream soup, low-fat gravy, low-fat or non-fat sour cream or fat-free half & half.
- Blend the item to a smooth, applesauce consistency.
- Make sure there are no particles, seeds or lumps remaining. If so put through a sieve or strainer.
- If you have leftover blenderized foods, try freezing in single serving portions in ice cube trays and put the frozen cubes into plastic freezer bags.

Meats – Very lean and dry meats puree better by adding a small amount of fat (margarine, oil, light mayonnaise, gravy, etc.) Fish also tends to be dry. Improve the texture by adding small amount of lemon juice, light mayonnaise or strained low-fat tartar sauce.

Starches – Try pureed peas, canned beans, sweet potatoes. Starches puree better when hot. Rice and potatoes tend to puree into a gummy paste and are not recommended. Substitute cream of rice cereal prepared with a flavorful broth and seasoned with margarine. Pasta or noodles are not recommended as they are not well-tolerated.

Vegetables – Cook vegetables until soft. If using canned vegetables, drain first. Add melted margarine and puree. Add a small amount of liquid until it reaches the smooth applesauce consistency.

Fruit – If using canned fruit, drain first. Add a few drops of lemon juice to help prevent them from discoloring.

Begin to take advantage of your favorite leftovers before surgery. Process these foods, and freeze them in an ice cube tray. (Each cube is approximately 1/2 to 1 ounce). When frozen, pop out into Zip-lock bag; label and date, and freeze cubes until needed.

Meal Guidelines for the Pureed Diet

(See Sample Pureed Meals listed in the Appendix)

Once you begin to eat pureed foods (which are considered solids) you will want to start differentiating between liquids and solids – meals should include pureed foods, and so liquids (including protein drinks) should be taken *separately* from your meals.

- You should eat 3 meals a day with protein drinks between meals.
- Protein drinks containing at least 20 grams of protein per serving should be consumed as needed to meet 80 g/day goal.
- Start with a portion size of 1 to 2 tablespoons of pureed food for the first month.

At first you may not be able to tolerate this amount. Eat your protein source first, and then if you have room a small amount of fruit, vegetables or other foods may be consumed.

Hints for Measuring Foods: Liquids or soft/pureed foods are best measured in measuring cups or spoons; they can be measured in ounces, Tablespoons or mls.

1 cup	8 fluid ounces	240 ml	16 tablespoons
3/4 cup	6 fluid ounces	180 ml	12 tablespoons
1/2 cup	4 fluid ounces	120 ml	8 tablespoons
1/4 cup	2 fluid ounces	60 ml	4 tablespoons
1/8 cup	1 fluid ounce	30 ml	2 tablespoons

1 Tablespoon = 3 teaspoons

1/2 Tablespoon = 1-1/2 teaspoons

Week 9-12 After Surgery:

Soft Solid Food Diet

If you have been tolerating pureed foods, you may now begin a soft diet. This includes all items listed for clear and full liquids and pureed diets plus items listed for the soft diet.

Try 1 to 2 new foods a day. This will help you to learn what foods you tolerate.

- Remember your stomach pouch empties more slowly with more solid or dense foods than with liquids, so you will be able to tolerate a smaller quantity of food than you could with liquids.
- Go slowly. If you do not tolerate the trial of soft foods, resume pureed foods and try again in a week.
- Eat protein foods first
- Avoid foods high in sugar and fat.
- Space meals 4-5 hours apart
- Continue your protein drinks between meals
- Drink other fluids constantly between meals

Examples of Soft Diet (No Added Sugar/Sugar-Free, Low Fat):

- Baked fish (**no bones**)
- Imitation crab meat, baby shrimp
- Bananas
- Canned peaches or pears in water or juice
- Well-cooked vegetables without seeds or skin (no corn or peas)
- Scrambled, poached or hard boiled eggs
- Tuna or egg salad (no onions, celery, pimientos, etc.)
- Finely shaved deli meat
- Baked, grilled or rotisserie chicken
 - **Moist foods** will be better tolerated. Moisten meats with broth, low fat mayonnaise, or low-fat gravy or sauce.
 - **Fish and seafood proteins** are softer and easier to break down than poultry or red meat proteins.
 - **Reheating foods** tends to make them dry out and hard to tolerate.

Common Problem Foods

(Avoid for 3 months after surgery)

- Red meat such as steak, roast beef, pork. Red meat is high in muscle fiber, which is difficult to separate even with a great deal of chewing. Avoid hamburger for one month after surgery.
- Un-toasted bread, rolls, biscuits (Toasted bread may be better tolerated.)
- Pasta
- Rice
- Membrane of citrus fruits
- Dried fruits, nuts, popcorn, coconut
- Salads, fresh fruits (except banana) and fresh uncooked vegetables

Month 4 After Surgery:

Regular Diet

- Problem foods as listed above can now be tried.
- Rice, pasta and doughy bread may not be tolerated for 6 months or more.
- Try fresh fruits without the skin first. If tolerated, the skin can be tried the next time. Salads are generally well-tolerated if chewed well.
- Go slowly. Try a small amount to see how you feel.
- Avoid high sugar and high fat foods to prevent dumping syndrome and to avoid a high calorie intake.

Foods to Avoid: Hard/crunchy foods may never be tolerated. Nuts and seeds are difficult to break down. Fried foods/greasy foods are hard to digest and are very high in calories.

- Corn chips, potato chips, tortilla chips, hard taco shells
- Nuts and seeds
- Fried foods and greasy foods

Points to Remember:

- Solid foods will fill your stomach pouch more than liquids so you will be eating smaller quantities of foods versus liquids.
- If you don't tolerate a food the first time, wait a week and try again.
- You may find that you tolerate a certain food one day and not the next. It is normal for this to happen.
- If you don't tolerate certain foods or notice nausea, vomiting or diarrhea during or after eating, ask yourself the following questions:
 - Did I chew to a paste consistency?
 - Did I eat too fast?
 - Did I eat too much volume?
 - Did I drink fluid with my meal or too close to my meal?
 - Did I eat something high in sugar or fat?
 - Was the food moist or was it too dry?

Steps for adding solid foods:

- Try only 1 small bite of the new food and chew well. Wait awhile and if there are no problems, take another bite.
- If at any time you feel too full, nauseated or vomit, stop eating and rest. Take only clear liquids at the next meal and add blended foods and liquids at the following meal. Try one solid food again the next day.

PROTEIN

Protein is **the most important** nutrient to concentrate on when resuming your diet. Because the volume of your meals will be limited, you should aim for a minimum of **80 grams of protein per day – this needs to come from your protein supplement.**

Why is protein important?

- Wound healing
- Sparing loss of muscle
- Minimizing hair loss
- Preventing protein malnutrition

Remember to **eat protein foods *first*** at each meal, followed by vegetables and fruit. These are some good sources of protein:

Protein Sources	Serving size	Protein (g)
Skim or 1% milk	1 cup	8
Evaporated skim milk (canned)	1 cup	19
Soy milk beverage	1 cup (8 ounces)	7
Non fat dry milk powder	1/3 cup powder	8
Nonfat, sugar free yogurt	1 cup (8 ounces)	8
Nonfat or low fat cottage cheese	½ cup (4 ounces)	14
Nonfat or low fat cheese slices or String cheese	*1 ounce/ 1 slice	6
LEAN meats – skinless chicken or turkey breast, fish, beef, ham, Deli meats	*1 ounce	7
Egg or Egg substitute	1 egg or ¼ cup subst.	7
Peanut Butter (creamy)	1 Tablespoon	5
Tofu	¼ cup	5
Legumes; dried beans peas or lentils	½ cup cooked	7-9
Chili or bean soup	½ cup	6-7
Soy/vegetable patty (like Gardenburger)	1 patty	8-10
Hummus	½ cup	6

Measuring Hints:

*1 ounce of meat is equal to about 3 – 4 Tablespoons of chopped or ground meat.

1 ounce of grated or cottage cheese, tuna or egg salad is ~ 1/4th cup (4 Tablespoons).

A 3-ounce portion size of chicken or meat is about the size of a deck of cards.

High Protein Ideas

Chicken or Turkey

Pureed – Use baby food or make your own. Try mixing it into strained low-fat cream soup.

Breast – baked or grilled

Thin-sliced/shaved deli slices

Ground – meatballs, meatloaf

Canned – works great for chicken salad

Strained out of canned soup – tends to be very moist

Fish (avoid bones)

Baked, broiled, poached, or grilled fish

Shrimp

Imitation or regular crab meat

Fresh or canned salmon in water

Canned tuna in water

Sushi

Beef or Veal (Extra Lean)

Ground – meatballs, meatloaf

Pork

Shaved deli ham

Eggs or Egg substitute

Scrambled eggs or omelet

Homemade eggnog made with skim milk, sugar-substitute

Diet custard

Egg salad

Quiche or frittata

Deviled eggs

Low-fat Dairy Products

Milk (skim or 1%)

Yogurt (plain or no-sugar added)

Low-fat cheeses including cottage cheese, string cheese, ricotta, or any other cheeses which are reduced-fat or non-fat.

Legumes

Peanut Butter – smooth

Dried beans or lentils – or soups, stews or chili made from these

Hummus

Vegetarian or fat-free refried beans

Tofu

Protein Supplements

- ❖ Because of the limited volume capacity of the stomach, it will be nearly impossible to meet your protein needs from food sources for up to a year after surgery.
- ❖ You will need to consume a protein drinks to get a total of 80 g protein per day – This would be 2 protein drinks with 40 or more grams per serving, or 4 servings of a protein drink with 20 grams of protein per serving.
- ❖ Once off of the liquid diet, it is best to consume your protein drinks between meals, rather than as a meal.

How to choose a protein supplement:

- Review the label to find a product that is high in protein, low in carbohydrate or sugar and low in fat.
- Choose a product with at least 20 grams or more of protein per serving.
- Whey protein is preferable, especially whey protein isolate.
- Choose a product that is low-sugar or sugar-free and sweetened with sugar-substitutes such as Nutrasweet (Aspartame) or Splenda (Sucralose) or Acesulfame K. The sugar content listed on the label should be *no more than 6 grams per serving*.
- Avoid drinks such as Ensure, Boost, or Slim Fast. They tend to have a lot of carbohydrate and fat compared to pure protein powder mixed with skim milk or water.
- Choose a product that is low fat: *no more than 3 grams of fat per 100 calories*. (For example, Atkins shakes tend to be too high in fat and are not recommended).

Where to purchase protein drinks:

- GNC
- Super Supplements
- Trader Joe's
- Fred Meyer
- Wal-Mart
- Rite-Aid
- Walgreen's
- Grocery store pharmacies
- On-line (www.Bariatriceating.com)

Commercial Protein Supplements

Unjury (Flavored or Unflavored powder).

20 grams of protein per scoop. Mix with 6-8oz. skim milk, water, or yogurt

Order at www.UNJURY.com or (800) 517-5111 or (703) 925-9390

Check the websites for **recipes** using Unflavored Unjury protein powder.

Beneprotein (Unflavored)

1 scoop powder = 6 grams of protein

Order at www.novartisnutrition.com or Walgreen's or www.resource.walgreens.com

Optimum 100% Whey Protein

1 scoop powder = 24 grams protein

Zero Carb Isopure

2 scoops powder = 50 grams protein

Available at GNC

Met-Rx Protein Plus Whey

2 scoops powder = 46 grams protein

Designer Whey Protein Supplement

1 scoop powder = 17.5 grams protein

Available at Rite-Aid, Super Supplements

EAS 100% Whey Protein

2 scoops powder = 23 grams protein

Zero Carb Isopure Ready to Drink

40 grams protein per 20 ounces serving

Fruit flavors (clear liquid)

EAS Myoplex Carb Sense Ready to Drink

Liquid product 25 grams protein per serving

MetRxUltra Pure Protein Shake (Ready to Drink)

Liquid product 35 grams protein per 11 oz.

Worldwide Pure Protein (Ready to Drink)

Liquid product 35 g protein per 11 ounces

(Available at Trader Joe's)

These products are available from Bariatriceating.com:

(This website has a large selection of protein powders and ready to drink products.
Check the website frequently for availability*.)

Micellar Milk Ready to Drink

40 g. protein in a 17 ounce serving

***New Whey Liquid Protein “Bullets”**

3 ounce plastic container – 42 g protein, 2 g carbs
Orange, Grape or Fruit Punch flavors

AchievOne – Ready to drink (contains coffee)

20 g protein per 9 ounce serving

Whey Gourmet

23 grams protein per scoop
Comes in 12 flavors

Nectar

23 grams protein per scoop

Any Whey Tasteless Protein

17 grams protein per small scoop
Add to soups, chili, eggs, etc.

IsoFruit Delite Protein Cocktail

Refreshing Cantaloupe or Pineapple flavored
21 grams protein per scoop

Matrix Protein

23 grams protein per scoop

Elite

22 grams protein per scoop

IDS

23 grams protein per scoop

Protein Delite on the Go (plastic bottle with pre-filled powder)

(contains dried fruit or chocolate bits)

25 grams protein in 8 ounces

Additional ideas for adding protein to foods:

- Non-fat dry milk powder can be added to milk, hot cereal, cream soups, mashed potatoes, or casseroles – 1/3 cup powder = 8 g protein.
- Egg white powder – can also be added to foods as listed above. Adds approximately 6 grams protein per 2 Tbsp. (check label protein content may vary by brand.) Sold at the grocery store (in the baking section).

Hints to add variety to your protein drinks:

- Flavor extracts or spices that do not contain sugar can be added to protein drinks for flavor. Examples: vanilla or almond extract, cinnamon or nutmeg.
- Sugar-free cocoa powder can be added to provide a chocolate flavor.
- Instant decaffeinated coffee can be added to drinks or yogurt for a flavor change.
- Sugar-free Tang can be added to vanilla drinks to create an orange creamsicle flavor or try adding to an unflavored protein drink.
- Sugar Free Kool-Aid or Crystal Light powder can be used to flavor protein drinks
- Sugar-free syrups can be added to flavor protein drinks
- If a drink tastes too thick or too sweet try adding more milk or water.
- Mixing with milk provides additional protein and calcium.
- Try freezing your protein drink after preparing. This can be consumed with a spoon as a frozen treat. Also can be made into “popsicles”.
- Try adding ice to the prepared protein drink and blenderize to make a slushy.
- Try mixing your protein powder with plain or sugar-free vanilla yogurt.
- Try mixing protein powder into sugar-free gelatin (before it is set).

Daily Vitamins and Minerals

You are required to take the following vitamin and mineral supplements every day for the rest of your life.

Taking a vitamin and mineral supplement is vital to maintain your nutritional health and prevent vitamin and mineral deficiencies. You are now at greater risk for decreased absorption of vitamins and minerals because:

- ❖ You are eating a significantly smaller amount of food in a day.
- ❖ Absorption of vitamins and minerals occurs in the stomach and small intestine. Following bypass, there is less area for absorption to occur.
 - All pills must be crushed, chewed or liquid for the first month after surgery or as directed by your physician.
 - If the supplements make you nauseous (especially iron), do not take it on an empty stomach or try taking it at night or in divided doses.

Multivitamin with Minerals

(Start the first day that you get home from the hospital).

First month following surgery

- 2 children's complete chewable multivitamins with minerals or 2 adult chewable multivitamin/mineral supplements to provide twice the adult RDA.
- Take with meals, one in the morning and one in the evening.
- **Examples:** One A Day Children's Complete, Flintstones Complete, Centrum Children's Complete, or Centrum Chewable for adults, Kirkland (Costco brand) chewable multivitamin

Month 2 and 3 following surgery

- Continue 2 children's complete or 2 adult chewable multivitamins with minerals or you may change to 2 adult multivitamin/mineral tablets per day.
- Tablets may need to be broken into pieces. See guidelines below.
- Take with meals, one in the morning and one in the evening.

Month 4 after surgery

- **Decrease to 1 multivitamin with minerals tablet daily for the rest of your life.**
- Take with a meal.
- **Remember pills can be taken whole approximately one month after surgery or as directed by your surgeon. If your pill is the size of a thumbnail, you must break it up before consuming. If the pill is the size of a pinky fingernail it is allowable to take whole.**

Calcium Citrate

(Start taking the day that you get home from the hospital)

Women and men age 19-50 years	1000 mg calcium per day
Women and men age 51 years and older	1200 mg calcium per day
Post-menopausal women	1200 – 1500 mg calcium per day

Do not exceed 2500 mg of elemental calcium per day.

Guidelines for taking calcium supplements:

- Calcium is recommended in the *calcium citrate* form because it is better absorbed after gastric bypass surgery. Calcium carbonate products such as Tums, Caltrate, Oscal, Viactiv or Coral Calcium *should not be used* because they are not well absorbed.
- If you fail to take the recommended daily calcium supplements you are at an increased risk for osteoporosis. Calcium supplements need to be taken for the rest of your life.
- Do not take all of your calcium at one time. The body can absorb about 500 -600 mg. of calcium at one time. Split the dose during the day for better absorption.
- Do not take calcium and iron supplements at the same time. Calcium can interfere with iron absorption.
- Calcium citrate can be found in chewable, liquid, tablet or powder form.
 - Month 1 after surgery: Take chewable or liquid calcium citrate.
 - Month 2 after surgery and for life: *Small* calcium tablets can be consumed, or continue to take chewable, liquid or powder forms.

The following page lists a variety of calcium citrate products that are available in retail stores, vitamin stores or online.

Calcium Citrate Products

Twin Labs Chewable Calcium Citrate Wafers.

Calcium Citrate Wafers have 250 mg. per wafer.

Lifetime Liquid Cal/Mag

Liquid calcium citrate with magnesium.

Fruit flavors: Blueberry, Lemon, Orange, Strawberry

Available at Vitamin World or vitaminworld.com (425-673-2930)

Bariatric Advantage

Chewable calcium citrate.

Flavors: Mint, Chocolate and Cinnamon and Wild Cherry

200 mg. calcium citrate per chewable lozenge.

www.bariatricadvantage.com or 1800-898-6888

NOW Calcium/Magnesium Citrate with Vitamin D Powder

Mix with water, juice, sugar-free flavored beverages.

2 tsp. powder provides 400 mg. of calcium citrate.

www.nowfoods.com or at Super Supplements

Citracal (crushed or dissolved in water) 200 mg. per tablet

Available in pharmacies, grocery stores, retail stores.

Citracal Creamy Bites

500 mg. calcium citrate with 200 IU Vitamin D

Lemon cream, chocolate fudge, or caramel flavors

Available at Rite-Aid

Unless your doctor specifies otherwise, after one month small calcium citrate tablets can be used or larger tablets can be broken into smaller pieces.

Vitamin B12

(Begin when you get home from the hospital)

Options:

1. 1000 mcg injection once per month (must be prescribed by MD)
2. Sublingual B12: 500 mcg crystalline B12 per day or 1000 mcg three times per week
3. Liquid B12: 500 mcg per day.

Sublingual and liquid products are available at Trader Joe's, Rite-Aid, Walgreens, Super Supplements, GNC, or on-line at www.bariatriceating.com

Vitamin B50 Complex

(Begin as soon as you get home from the hospital)

Take one tablet everyday.

1. Make sure the product you purchase has *at least 50 mg of thiamine* in it.
2. Available at supplement stores or pharmacies or vitamin stores online.
3. Powder form is available at some Super Supplements (can be special-ordered)
4. Tablets may be crushed.

Iron

(Begin one month after surgery if menstruating female or have a history of iron deficiency anemia)

- Iron in the form of **ferrous fumarate is better absorbed** after gastric bypass. Recommended brand: Vitron C (200 mg. provides 66 mg. elemental iron)
- Take 200 mg. ferrous fumarate (66mg. elemental iron) per day *in addition to* the multivitamin/mineral supplement.
- Bariatric Advantage brand contains only 29 mg. elemental iron; so you would need at least 3 per day to meet iron requirements (take in divided doses).
- Do not take iron supplements at the same time as calcium supplements, dairy products, decaffeinated coffee, tea or cola sodas. These items can interfere with iron absorption.

Supplement Schedule	Month 1	Month 2	Month 3	Lifetime
Multivitamin with Minerals Daily	2 Adult or Childrens' Chewables Take one in am and one in pm.	2 Adult or Children's Chewables OR 2 Adult Tablets -- Break large tablets into small pieces Take one in am and one in pm	Same as Month 2 Take one in am and one in pm	One per day
Calcium Citrate Daily Women & Men 19-50 yrs. old 1000 mg. per day Women & Men 51 yrs or older 1200 mg. per day postmenopausal 1500 mg. per day	Chewable or Liquid Or Powder or Crushed tablets <ul style="list-style-type: none"> • Do not take entire daily dose at one time. Split doses during the day. 	Chewable or Liquid Or powder or Break large tablets into small pieces. <ul style="list-style-type: none"> • Do not take entire daily dose at one time. Split doses during the day. 	Same as Month 2 <ul style="list-style-type: none"> • Do not take entire daily dose at one time. Split doses during the day. 	Same as Month 2 <ul style="list-style-type: none"> • Do not take entire daily doses at one time. Split doses during the day.
B12 Daily	Begin B12 Sublingual or Liquid 500 mcg. Daily Or 1000 mcg. 3 days per week Or Monthly injections	Same as Month 1	Same as Month 2	Same as Month 2
B50- Complex	One tablet crushed (or powder)	One tablet everyday	Same as Month 2	Same as Month 2
Iron Daily for menstruating women or history of iron deficiency anemia.	Not required Month 1	Begin Iron 66 mg elemental iron per day – liquid or chewable (200 mg ferrous fumarate) per day <ul style="list-style-type: none"> • Do not take calcium and iron together 	Same as Month 2 <ul style="list-style-type: none"> • Do not take calcium and iron together 	Same as Month 2 <ul style="list-style-type: none"> • Do not take calcium and iron together
Protein Supplement	80 grams of protein per day from protein supplement	Continue protein supplement (between meals)	Continue protein supplement (between meals)	Count protein grams in food and adjust the protein supplement. Goal is 80 grams/day

Fluids

- **Do not drink liquids with meals.**

Drinking liquids with meals or too close to mealtime may cause bloating, nausea, vomiting, or dumping syndrome. It is best to drink a lot of liquids between your meals. Imagine if you put a scoop of pudding in a funnel and then poured water on top. The water would sit on top of the pudding until the pudding finally goes through the funnel. If this were your stomach pouch, the water would fill it, and back up causing pain, discomfort, and possibly vomiting.

- **Do not drink liquids ½ - 1 hour before or ½ - 1 hour after meals.**

Drinking liquids with meals can wash foods out of the stomach pouch faster causing early hunger – which can lead to increased food and caloric intake.

Therefore, drink before you eat, and after you eat but not while you eat.

- **Fluid intake is very important for prevention of dehydration and constipation; adequate water is essential to help rid the body of waste, maintain proper muscle tone and prevent sagging skin.**

- Sip on water all day between meals. A water bottle with a sport top is a good way to get small sips of water and to avoid gulping. Sucking on ice will also help with fluid intake.
- Your initial fluid goal should be a minimum of **4 cups (32 oz. or one quart)** of caffeine-free, sugar-free fluid per day. At least half of this should be from water. You should be able to consume this amount within a few days after surgery. Gradually, you want to increase your fluid intake to **at least 8 cups (64 oz.) a day**.
- Do not use a straw. This can cause your stomach pouch to fill with air.
- Try varying the temperature of liquids for variety and tolerance.
- Most fluids should be **non-caloric** such as water, Crystal Light, sugar-free Kool-Aid, coffee, unsweetened or artificially sweetened tea, or broth. **Avoid** all sugar-sweetened beverages.
- Fruit juice should be 100% fruit juice with no sugar added. Limit to no more than 4 oz. per day and dilute with 4 ounces of water.
- **Limit** caffeine to no more than 4 ounces per day.
- **Avoid carbonated beverages and sodas.** Flat (diet) soda may be better tolerated.
- Avoid alcoholic beverages. They do not have any nutritional value and may cause weight gain and/or liver damage.

Sugar

Sugar and foods high in sugar should be avoided for two reasons: dumping syndrome and high caloric intake.

Dumping Syndrome

Dumping Syndrome is a condition which can cause unpleasant symptoms such as diarrhea, nausea, lightheadedness, cold sweats, weakness, tiredness, fast heart rate and stomach cramping. This occurs when foods pass too quickly from the stomach into the small intestine, especially if they have a high concentration of sugar or fat. Over time, some people may be able to tolerate sweets without problems. However, sugar-containing foods are discouraged due to their high calorie content.

Label Reading

When reviewing labels for sugar content, it is easiest to avoid foods that have sugar listed as one of the first three ingredients, or more than 6 grams of sugar per serving.

Sugar alcohols are sometimes used as a sweetener – excessive amounts can cause cramping, bloating and/or diarrhea.

Look for terms on the label that mean sugar or sugar alcohol -- such as words with the *ose* or *ol* ending. Foods sweetened with Nutrasweet, Saccharin, Acesulfame K, or Splenda are allowable.

Examples of sugars:

Sucrose (granulated sugar, brown sugar); dextrose, fructose, glucose, maltose, levulose
Molasses, maple syrup, invert sugar, corn syrup or high fructose corn syrup, honey

Examples of sugar alcohols:

Sorbitol, mannitol, xylitol, maltitol, lactitol, isomalt, erythritol,
Hydrogenated Starch Hydrolysate (HSH)
Maltodextrin, polydextrose

Sugar-containing foods to avoid:

Candy, cake, cookies, pies, pastries, sweet rolls, muffins
Ice cream, frozen yogurt, sherbet, popsicles, ice cream bars
Pudding, custard, fillings
Canned fruit in syrup
Cereals or beverages with added sugars
Sweet sauces like barbecue sauce, sweet & sour sauce
Jams, jellies, preserves

You may use sugar-free versions of any of the above.

Candy

Pastries

Fats

High fat foods should be avoided because they can cause **dumping syndrome** and contribute to a high calorie intake.

- Avoid fried foods.
- Avoid fast foods.
- Choose low fat or fat free products.
- Avoid high fat dairy products such as whole milk, full fat cream, cheese or sauce.
- Avoid high fat pastries, donuts and desserts.
- Avoid high fat meats such as bacon and sausage or hot dogs.
- Limit added fats such as butter, margarine, lard, regular mayonnaise or spreads, and regular salad dressing. Try the fat free or low fat alternatives.
- Avoid “snack foods” such as potato chips, tortilla chips, cheese curls.

You need to eat some “healthy fats” daily (for example, vegetable oils such as olive, canola or soybean; nuts or nut butter, or avocado). However, since they are so high in calories, they need to be limited to no more than 2 – 3 teaspoons total per day.

Possible Complications

Nausea/Vomiting

This is often caused by eating too much, eating too fast, not chewing well enough or drinking liquids with solid foods. Be sure to eat in a slow, calm manner. Call your doctor if you are having frequent or persistent vomiting.

Hair Loss

Hair loss is a side effect of weight loss surgery. You may not see hair loss initially due to the time it takes hair to grow from the root. You will see hair loss or breakage as the hair grows through the scalp. Often it takes several months after surgery for hair loss to show; and several more months for you to see the hair start growing back.

Hair loss can occur from a low protein and zinc intake, and a severe decrease in overall nutrition intake. You must take in a minimum of 80 grams of protein per day. Adequate protein intake may help reduce (but not prevent) hair loss.

If protein intake is meeting the minimum recommended guidelines and hair loss continues to be bothersome, you can try supplementing with zinc (no more than 50 mg per day.) On-going hair loss can also be a sign of iron-deficiency anemia.

Lactose Intolerance

Some people may experience intolerance to milk products after gastric bypass surgery. Symptoms are gas, cramps and diarrhea. This occurs if the body is not making enough of the enzyme lactase which is the enzyme needed to digest milk products. If you suspect lactose intolerance, you should remove all milk products from your diet for 24 - 48 hours, then slowly reintroduce one new item at a time in order to determine tolerance.

Options

- Lactaid tablets (chew well) or liquid Lactaid drops which can be added to milk.
- Lactaid Milk (100% Lactose Free Milk)
- Lactaid yogurt, cottage cheese or cheese slices.
- Soy Milk (Fortified)
- Soy Yogurt or Soy Cheese

Constipation

Constipation after surgery is common, but can be prevented. It is usually due to a decreased intake of fiber-containing foods; also, iron supplements can be constipating.

Tips to prevent constipation

- Drink plenty of fluid -- a minimum of 8 cups (64 ounces) per day.
- Exercise regularly.
- Try baby food prunes or unsweetened diluted prune juice or oatmeal.

When you are allowed to resume regular foods, you can start eating high fiber foods such as high fiber cereals (3 or more grams of fiber per serving), fresh fruits, fresh vegetables and legumes.

- Add high-fiber foods *gradually*
- **Chew** all fiber-containing foods very well.
- Drink plenty of fluids when increasing fiber in the diet.

If constipation persists, try a daily fiber supplement such as sugar-free Metamucil or sugar-free Citrucel, Konsyl, Fibercon, or Benefiber.

***If constipation continues, call your doctor; do not take laxatives without consulting your doctor first.**

Key Points to remember

1. You will never be able to eat the portions you consumed prior to surgery.
2. For a safe weight loss, you need to eat a healthy, well balanced diet.
3. Be sure to make healthy food choices to obtain the most nutrition per serving.
4. Choose low-calorie, nutrient-dense foods.
5. Be patient. At first, you will fill up after just a few bites. This is normal. Stop eating when you feel full.
6. Initial meal size should be approximately 1 – 2 oz. (2 - 4 Tbsp) per meal, 3 meals per day. Volume tolerance will increase over time. Continue to eat slowly, chew foods thoroughly and drink in between meals.
7. When you try a new food, take one bite to see if it is comfortable for you.
8. You must take the recommended vitamin/mineral supplements, calcium, B12 and iron (if menstruating or iron deficient) every day for the rest of your life.
9. You must consume protein drinks or supplement with protein powder for the first year, and until your protein intake from foods is adequate.
10. Following the recommended diet rules will help you to lose weight and keep it off.
11. Your dedication to diet, exercise and lifestyle changes will dictate your success after surgery.
12. You can defeat the surgery, resulting in weight gain.
13. Grazing, drinking fluid with meals, or consuming high calorie foods or liquids are examples of ways that the surgery can be defeated.
14. Keep a food and exercise diary. Record the time of meals, food consumed, portion size and preparation method. (You may be asked to bring a food and exercise diary to your surgeon and/or dietitian visits.)
15. Attend Bariatric Support Group meetings on a regular basis before and after surgery.

Continue to follow the guidelines provided throughout this education packet. You have been provided the tools necessary to achieve and maintain a healthy weight loss.

Checklist: The following tasks should be completed before surgery:

- ___ Purchase supplements:
 - ___ Protein Supplements – try to have a variety of ones you like
 - ___ Multivitamin
 - ___ B12
 - ___ B Complex
 - ___ Calcium Citrate
 - ___ Iron (if needed)
 - ___ Any needed equipment (see Equipment Checklist in Appendix)
 - ___ Any other foods and beverages you will need during the liquid and blenderized phases of the diet (Review diet sections)
- ___ Prepare some pureed foods to be used after surgery
- ___ Complete Meal, Supplement, and Exercise Schedule (see example in Appendix)
- ___ Keep working on these behaviors to make them become habits:
 - Practice eating meals without liquids
 - Practice taking small bites and chewing thoroughly
 - Pay attention to what you are doing while you are eating
 - Try to make your meals last at least 30 minutes
 - Sip fluids slowly – do not gulp!
 - Begin to wean yourself from caffeine
 - Find alternatives to coffee and sodas
 - Do not chew gum
 - Do not use straws
 - Find ways to incorporate 30 minutes of activity into your daily routine.

Resources:

The following websites are highly recommended:

www.bariatriceating.com

www.obesityhelp.com

Use these websites to find food composition information and/or to track your intake:

www.calorieking.com

www.fitday.com

www.sparkpeople.com

These books may be helpful:

Exodus from Obesity – The Guide to Long-Term Success After Weight Loss Surgery
by Paula F. Peck, RN

Eating Well after Weight Loss Surgery
by Patt Levine and Michele Bontempo-Saray

Appendix: Equipment Check List

The following is a list of helpful items to consider.

For your Dining Pleasure:

- ___ Baby Spoon, Cocktail Fork
(Helps you to take small bites)
- ___ Small Decorative Plates
(Helps control portions and increases the eye appeal of the meal)
- ___ Insulated dish or warming plate
(Helps keep food warm while you *slowly* enjoy your meal)
- ___ Sippy Cup
(For those that have difficulty with gulping liquids)
- ___ Water bottles with a sports top
(Re-use to carry other sugar free, non-carbonated beverages with you)

Other ideas – candles, new placemats, and fresh flowers to create a pleasurable eating experience at the table...

For Meal Preparation

These are vital pieces of equipment:

- ___ Mini food processor/food chopper
- ___ Hand Blender or the “Magic Bullet” (available at Walgreen’s)
- ___ Measuring spoons and cups
- ___ Small kitchen scale

These are very helpful:

- ___ Extra ice Cube Trays
- ___ Small Freezer bags
- ___ Permanent Marker or freezer labels
- ___ Small plastic containers OR
- ___ The Food Saver (to vacuum pack foods)
(A \$100 investment, available at Wal-Mart)

For Medications:

- ___ Pill Crusher
- ___ Pill Splitter
- ___ Large pill case (1 week’s worth)

Appendix: Pureed Diet Sample Meals:

The following are ideas for pureed meals. Each meal consists of about ¼ cup. Use your own creativity to add variety to your diet. Spices and seasonings are not limited after surgery. Remember to make each of your 3 daily meals protein-based and include the essential fats (i.e., margarine, mayonnaise, oil) in your food preparation.

- Example 1: 2 Tbsp of a pureed cheese omelet made with Eggbeaters
1 Tbsp hot cereal
1 Tbsp sugar-free or plain yogurt
- Example 2: 2 Tbsp blended low fat cottage cheese
2 Tbsp pureed fruit (i.e., applesauce, peaches, pears or baby food fruit)
- Example 3: 1 Tbsp smooth peanut butter
2 saltine crackers
1 Tbsp pureed fruit (banana)
- Example 4: 2 Tbsp grated cheese
1 Tbsp polenta
1 Tbsp pureed roasted vegetables or marinara sauce
- Example 5: 2 Tbsp fat-free refried beans or hummus
2 baked tortilla chips
1 Tbsp grated cheese; garnish with pureed salsa and low-fat sour cream
- Example 6: 2 Tbsp mashed tuna or salmon salad made with 1 tsp light mayo
2 low-fat crackers
1 Tbsp pureed fruit or baby food fruit
- Example 7: 2 Tbsp mashed/smooth egg or chicken salad made with 1 tsp light mayo
2 low-fat crackers
1 TBS pureed fruit or diet pudding
- Example 8: 3 Tbsp ricotta cheese
1 Tbsp marinara sauce
1 Tbsp pureed roasted vegetables
- Example 9: 2 Tbsp pureed turkey or chicken with 1 tsp gravy or broth
1 Tbsp mashed potatoes or sweet potatoes
1 Tbsp pureed vegetable or fruit
- Example 10: 2 Tbsp pureed crab or lobster with 1 tsp light mayonnaise
Sprinkle with Old Bay Seasoning
1 Tbsp pureed acorn squash
1 Tbsp pureed fruit
- Example 11: 2 Tbsp pureed chili
2 Low fat crackers
1 Tbsp diet pudding

Appendix: Meal Schedule Example

Sample:

Your Schedule:

Time	Meal/Supplement Or Vitamin	Time	Meal/Supplement or Vitamin
7:00 – 7:30	Meal 1 Multivitamin B12, B Complex		
8:15	Start Fluids Iron Supplement		
9:00	Walk 15 minutes		
10:00	Protein Supplement		
11:15	Stop Fluids		
12:00 – 12:30	Meal 2		
1:15	Start Fluids Calcium Supplement		
3:00	Protein Supplement		
4:15	Stop Fluids		
5:00 – 5:30	Meal 3 Multivitamin		
6:15	Start Fluids Calcium Supplement		
7:00	Walk 15 minutes		
8:00	Protein Supplement		

Daily Goals:

- Drink a minimum of 64 ounces of fluid.
- Sip fluids between meals
- Walk for 30 minutes
- Eat 3 meals and protein shakes to meet protein need:
- At least 80 g protein from supplements daily

Supplements:

- Calcium -- 1000 -1200 mg daily (calcium citrate)
- B12 – 1,000 mcg 3x/week or 500 mcg every day
- B Complex daily
- Multivitamin – 2 chewables daily with meals
- Iron – 200 mg Ferrous fumarate (1 Vitron C per day) if needed

Reminders:

- Do not combine calcium with iron; take only 600 mg of calcium at one time
- Do not take iron within 2 hours of eating dairy foods
- Meals should be 4 to 5 hours apart
- Do not drink 30 – 45 minutes before, during or 30 – 45 minutes after a meal

BEHAVIOR MODIFICATION TECHNIQUES

1. Don't eat in front of the TV.
2. Don't read while eating.
3. Pre-portion your food and put the box or package away.
4. Keep tempting foods out of the house.
5. Don't go to the grocery store hungry.
6. Make a shopping list.
7. Use smaller plates and bowls.
8. Keep healthy foods available.
9. Focus on activities other than eating.
10. Brush your teeth after meals or if feeling the desire to eat.
11. Don't eat standing up at parties or buffets.
12. Don't stand at the food table at the parties.
13. Offer to bring a healthy food item to a party.
14. Park your car far away from your destination.
15. Get up to change the TV channel instead of using the remote control.
16. Take the stairs instead of the elevator.
17. Keep a food and exercise diary.