

Nutritional Guidelines Following Gastric Bypass Surgery



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Nutritional Guidelines for Individuals after Gastric Bypass

Eat slowly and chew well. Take small bites and chew well. Allow at least 20-30 minutes to eat each meal.

Don't drink while eating. Wait 15-30 minutes before or after meals before consuming fluids. Take an hour to drink about 8 oz. of fluid. Your daily goal is to take in a minimum of 48 ounces (6 cups) of fluid per day to prevent dehydration. Very cold liquids may cause intestinal distress.

Stop eating just before you feel full. Indications of fullness may be:

- A feeling of pressure/fullness in your abdomen just below the rib cage
- Pain in your shoulder area, upper chest and through the back
- Nausea
- If you continue to eat past fullness, it may cause pain and/or vomiting

If vomiting occurs you should stop eating for at least 2 hours, then restart with water in small amounts. Slowly return to your stage of nutritional guidelines.

Add "new" food one at a time. If you don't tolerate something, wait about one week before trying it again.

Do not use carbonated beverages. You may let carbonated drinks sit open to go "flat" for about two hours before drinking. Carbonation may cause bloating of the stomach pouch. Do not use straws. Using a straw will also cause you to ingest air into your stomach pouch.

After surgery only use non-fat or 1% milk (use lactose-free milk such as Lactaid® or Dairyease® if you are experiencing bloating, gas, diarrhea or nausea). Fortified soy milk is high in protein and naturally lactose free.

Avoid concentrated sweets like sugar, honey, syrup, candy, desserts, regular soda, milk shakes, or fruit “drinks” or “punches”. These (or other carbohydrate-rich) foods can cause “dumping syndrome” which may cause rapid heartbeat, weakness, sweating, abdominal pain, dizziness and/or diarrhea.

Avoid high fat foods such as chips, nuts or fried foods of any kind. High fat/high calorie items can prevent weight loss and delay stomach emptying which may cause digestive upset, nausea or vomiting.

Protein powder will be needed in order to help you meet your protein requirements, especially for the first 2 months after surgery. Whey protein is the best available protein for your body. If you do not tolerate whey, soy protein is an option. You should try to get at least 60 grams of protein per day. You can add protein powder to beverages, soups or foods such as sugar free, low fat yogurt/pudding or mashed potatoes.

Avoid or strictly limit alcoholic beverages. Alcohol provides extra calories and increases appetite. Alcohol is metabolized less effectively after surgery and the toxic effects of alcohol on the liver are a greater concern. Even small amounts of alcohol can cause physical or mental impairment increasing the risk of injury or accidents.

Exercise at least 30 minutes per day once you have recovered from surgery and have been given permission by your physician. Start with 5-10 minutes per day if necessary.

Follow up with you dietitian after your surgery will help lower your risk of nutritional complications. Your dietitian will assess the adequacy of you nutrient intake and food tolerance. He/She will also help you with behavior modification techniques to ensure optimal weight loss.

We urge you to attend post-op support group meetings. This will give you the opportunity to meet with other post-op patients and learn more about weight loss strategies after surgery.

Day 1-3 after surgery or while in hospital: Clear Liquids

Description: This diet consists of items that are clear and are liquid.

Guidelines: Before you feel full, stop drinking fluids.

Amounts: 1-2 ounces every 30 minutes. Use 1 ounce medicine cup.

Food Group	Items to Include	Items to Avoid
Fruit Juice	100% Juice: Cran-Apple/Cran Grape juice, Apple Juice, Grape Juice (Pulp free juices)	All other juices Fruit punch or fruit drinks
Soup	Fat-free Bouillon or Broth	All other soups
Unsweetened Beverages	Water, Decaffeinated Beverages (coffee, tea or herbal teas), Gatorade, Crystal Light®, Sugar free Kool-aid®	All others including carbonated beverages
Miscellaneous	Sugar-free Jell-O® or gelatin, Sugar-free Popsicle	Sugar

Sample Pattern:

- 8:00 1-2 oz. Fruit Juice
- 8:30 1-2 oz. Water
- 9:00 1-2 oz. Broth
- 9:30 1-2 oz Water
- 10:00 1-2 oz. Fruit Juice
- 10:30 1-2 oz. Water
- 11:00 1-2 oz. Broth
- 11:30 1-2 oz. Water
- 12:00 1-2 oz. Diet Jell-O®
- 12:30 1-2 oz. Water
- 1:00 1-2 oz. Sugar free popsicle



(Continue the pattern throughout the day. This is only an example of how and what you should consume while on clear liquids. If you are not tolerating certain liquids, do not drink them. It's best to focus on water intake to limit unnecessary calories.)

Day 4-14: Full Liquid Diet

Description: This liquid diet is used as a transition from clear liquids to a pureed diet

Guidelines:

- Drink at least **six small liquid feeding each day**
- Feedings include combinations of calories/proteins and other nutrients.
- Water or a non-caloric beverage should be consumed between these feedings
- Start using whey protein powder in liquids. Combine 1 scoop in 8 ounces of liquid; use this as two 4-ounces feedings.

Amounts: Each feeding should consist of **4 oz (1/2 cup) of a high protein, low fat beverage** sipped slowly over 30-40 minutes. *Take 5-10 min to drink each ounce*

“Enriched Milk”

Enrich all the milk or soymilk you use. This helps to provide the protein you need for healing
 Mix 1 cup of 1% or nonfat, lactose free 1% or nonfat, or fortified soymilk with ¼ cup of whey protein isolate or nonfat milk powder. Mix well and refrigerate.

Food Group	Items to Include	Items to Avoid
Milk	Enriched nonfat 1% milk, enriched/fortified soy milk, plain or vanilla sugar-free, low fat yogurt (with NO fruit, skins or seeds), Sugar free pudding made with enriched nonfat milk	Milkshakes Eggnogs
Cereal	Thinned cream of wheat or rice cereal made with enriched milk or soy milk; strained or thinned baby cereals	Sweetened/flavored hot cereals
Juices	100% fruit and vegetable juices	Fruit “punch” or fruit drinks
Soups	Broth; Strained or blended vegetable or low Fat cream soups	Soups containing gaseous/high Fiber vegetables or whole pieces of food
Misc.	Spices as tolerated; calorie-free beverages; Sugar-free Jell-O®; Sugar-free popsicles; Sugar-free cocoa(made with enriched nonfat milk).	Sugar/honey/syrup; Carbonated beverages; Regular Jell-O®; Ice Cream/sherbet; Regular pudding; Liquid nutritional supplements

Day 15-44 After Surgery: Pureed Diet

Description: This diet is used as a transition form liquids to solid foods. A food processor or blender can be used to achieve an “applesauce” consistency that is easy to digest.

Guidelines: Eat only between 8 AM and 9 PM. **Eat six “mini meals” daily.** Journal daily. keep liquids and solids 30 minutes apart.

Amounts: **Eat 3-4 ounces (6-8 Tbsp) at each mini-meal.** Take 30-60 minutes to finish your mini
Take 5-10 minutes to eat/drink each ounce.

Food Groups	Items to Include	Items to Avoid
Milk, Yogurt High Protein	Enriched nonfat milk, Enriched/fortified soy milk, Sugar-free, low fat yogurt (no fruit pieces), cottage cheese (1% or nonfat), Low fat/fat free soft cheese*, sugar-free pudding or cocoa made from enriched milk	Milkshakes Eggnogs
Meat, Poultry, Fish, Eggs High Protein	Pureed: Baby food meats, water-packed tuna, poultry, ham, plain/cheese omelets, fish, scrambled or soft cooked egg or egg substitute	Raw eggs, nuts, all others not listed under foods included.
Strained cereal, Mashed potato	Cooked/hot cereals Mashed potatoes, pureed squash	Whole breads, Dry cereals, Whole rice and pasta
Vegetables * Option: Use ButterBuds® or Molly McButter®	All pureed vegetables**	Whole Vegetables (cooked or raw)
Fruit	All 100% fruit juice, pureed fruit, smooth “natural” applesauce, ripe bananas or baby food fruit	Whole fruit (fresh or canned)
Fats and Oils	Light margarine, low fat mayonnaise, cooking spray or spray “butter”	Bacon, cream, butter or high fat gravy
Soup	Strained cream soup or broth	N/A
Misc.	Sugar free catsup, salt, spices in moderation, decaffeinated tea or coffee	Sugar/honey/syrup/jelly Candy/desserts Nuts, seeds or coconut

*Examples of low fat/fat free soft cheese include Brie, Ricotta, Camembert, Feta, Neufchatel & cream cheese

Pureed Diet Preparation



1. Cut all foods into $\frac{3}{4}$ inch pieces or smaller, if necessary.
2. Place a small amount of liquid in the blender. Liquids that can be used include: broth, enriched milks, water, fat-free gravy, fruit juice, or tomato/V-8 juice. Place liquids in the blender before solids. Begin with about $\frac{1}{2}$ cup of liquid for every cup of solids.
3. Fill the blender to about $\frac{1}{4}$ or $\frac{1}{2}$ of total capacity with $\frac{3}{4}$ inch pieces of food.

4. Place the cover firmly on the blender before starting the motor and rest your hand on the cover while operating the blender

5. Blend the foods for about two seconds, and then check the consistency. By switching the blender on and off at two-second intervals, you can check the food as it is reduced to the consistency desired. If the mixture is too thick, add more liquid gradually and continue to blend. Food may be strained through a wire mesh strainer to eliminate particles. Remember, the longer food are processed, the more evenly textured they become

6. Most ice cube trays hold about 1 ounce per cube and work well for storing pureed food portions. After cubes have frozen, empty into storage container and seal.

Day 45 After Surgery



Gradually Add Soft Foods

Description: This is not a diet. Consider this behavioral and lifestyle changed that need to be Followed for the rest of your life.

- Eat six small meals per day. 4-6 ounces per meal. Balance vegetables, fruit, meats, etc.
- Add new foods one at a time.
- If you don't tolerate an item, wait about a week before trying it again. If you have continued nausea or stomach flu, go back to the clear liquid diet until you improve.
- Avoid foods with a high fiber content like coconut, popcorn, and the pulp or membranes of citrus. In addition, avoid fibrous vegetables like corn and celery, and remove the skin from vegetables such as potato.
- Examples of soft foods:
 - Canned fruits, well cooked vegetables, soft scrambled eggs, baked fish, crackers, toasted bread, and smooth natural peanut butter
 - Poultry and meat should be ground (most individuals do not tolerate meat even if it is ground).
- Remember to chew very well. Use your mouth to do the work of your stomach. Chew your food until it forms a paste or “applesauce” consistency before swallowing.
- Continue to journal your intake.
- You will need 48-64 ounces of fluid per day to prevent dehydration. Drink liquids between solid meals.
- You may stop the whey protein supplement when you are able to consume at least 60 grams of protein from food daily.

Day 90 After Surgery



Gradually Add Regular Foods

- Eat 4-6 small meals per day
 - Each meal should not exceed 8 ounces
 - You may include salads, crunchy fruits/vegetables, and whole grain crackers/cereals.
 - Chew very well
 - Drink your liquids separately
 - Journal Daily
 - Keep track of habits that helped you, and share your ideas with support groups.
 - Schedule your follow-up visits with your physician, outpatient dietitian and psychologist as recommended.



***Contact your dietitian if you are unable to tolerate intake as scheduled above.**

Reminders:

- Even though your staple line is probably healed now, it is possible to weaken it or over-stretch your new stomach not being careful about what and how you eat. Continue to eat and drink slowly and restrict portion sizes
- Maintain a food, protein and fluid record to help you monitor your intake.
- If food tolerances occur, eliminate the food for 1-2 weeks then try again
- Maintain a regular exercise program of 30 minutes per day.
- Take the recommended dietary supplements.

High Protein Foods



You need adequate protein in your diet to prevent malnourishment and hair loss and to aid wound healing.

- ❖ Protein needs initially after surgery: **60 grams per day.**
- ❖ Gradually increase your protein intake to **90 grams per day** as a maintenance level as your diet stages advance

Protein Source	Grams of Protein
4 ounces (1/2 c) skim milk +3 TBSP nonfat dry milk	8.5
1 baby jar meat	13
1 cup skim milk, yogurt or cream soup	8
2 TBSP natural peanut butter	9
1 packet sugar free Carnation Instant Breakfast® + 1 cup skim milk	15
½ cup nonfat cottage cheese	13
1 ounce (¼ cup ground) cooked chicken, fish or beef	7
½ cup nonfat chili	10
1 slice low fat cheese, string cheese	7
1 egg	7
Tofu 1 ounce	7

Vitamin & Mineral Supplements for Gastric Bypass

Why do I need to take supplements?

After gastric bypass surgery, the body is not able to absorb, use, or take in enough nutrients to maintain good health without supplementation.

The gastric bypass procedure will **reduce your stomach size** so that very little food can be eaten at once.



The normal “mixing” that occurs in the stomach is reduced which decreases your Absorption of nutrients. In addition, *the first part of the small intestine* that normally Absorbs certain nutrients *is no longer being used* after the gastric bypass procedure.

Lifelong Supplements to be Taken Daily

Multiple Vitamin with Iron

*First 3 months after surgery

- One chewable or one tablespoon of liquid TWICE each day.
- Different products have different doses to equal 100% of your daily needs.
- Best absorbed with food (at meal times)
- Examples: Centrum® liquid or Centrum® chewable.

*After 3 months, you may switch to a capsule form if desired.

- Example: Twinlab® Daily One Caps with Iron.

Iron (Begin 3 months after surgery)

- Use extra Iron (325 mg/day) if you are a woman who is still menstruating.
- Preferred forms of Iron and Ferrous “gluconate” or “glycinate.”

Vitamin B12

A deficiency can occur because the new smaller stomach may not be able to produce enough stomach acid and “intrinsic factor” which are needed to absorb Vitamin B12.



***First 12 months after surgery:**

- 1000 mcg (micrograms) injection once per month.

***After the first 12 months:**

- Take 500-1000 mcg “sublingual” (under the tongue) Vitamin B12.
- Supplement each day or continue monthly shots.
- Use the most absorbable form of Vitamin B12, “methylcobalamin”
- Use a product that also contains folic acid in the formula.

Calcium

A deficiency of Calcium can occur for two main reasons:

1. The part of the intestines that normally absorbs Calcium has been bypassed.
2. The presence of less stomach acid causes less Calcium to be released from food.

***First 3 months after surgery:**

- Use liquid or chewable Calcium only.
- Take 500 mg THREE TIMES PER DAY (1500 mg per day).
- Use only Calcium citrate products (not Calcium carbonate).
- Use only Calcium citrate products (not Calcium carbonate).

***After 3 months:**

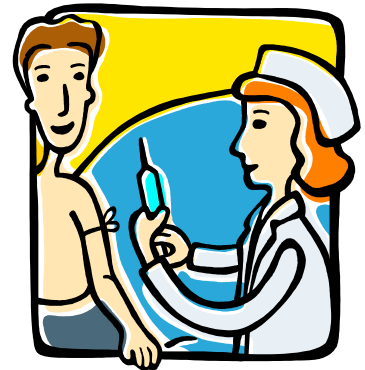
- You can switch to Calcium citrate + Vitamin D + Magnesium in a capsule.

Recommended Post-Operative Lab Tests for Nutritional Status

Lab tests should be performed beginning 3 months after surgery and every 6 months thereafter. These tests tell your dietitian whether you are getting enough B vitamins, Calcium, Iron and protein. If any of your results are abnormal, this should be reported to your dietitian so your dietary supplements can be reviewed and adjusted if needed.

Ask your primary care physician for the following:

- ✓ **CBC** (complete blood count)
- ✓ **CMP** (comprehensive metabolic panel)
- ✓ **Ferritin** (stored Iron)
- ✓ **Folate and B12** (two important B vitamins)



Helpful web sites related to Bariatric Surgery

www.bariatricadvantage.com
www.buildasupportgroup.com
www.obesityhelp.com
www.gastricbypassupport.com
www.weightawareness.com
www.weightlossurgeryinfo.com
www.obesitycare.com
www.bariatricedge.com
www.thinnertimes.com
www.obesity.org
www.obesitysurgery.com
www.livingafterwls.com
www.weightlossurgery.com
www.asbs.com
www.lapband.com

Sugar Alcohols

What are sugar alcohols?

Sugar alcohols are not sure or alcohol. They are, however carbohydrate molecules that have a chemical structure similar to that of alcohol.

Sugar alcohols are not completely “broken down” by the body during digestion, so therefore provide fewer calories than regular sugar. Sugar alcohols come in a variety of sweetness levels and caloric contents.

Sugar alcohols can be helpful to diabetics and blood sugar control as they produce a lower glycemic response during their partial absorption by the body. A “glycemic response” refers to the extent to which a certain carbohydrate source can raise a person’s blood sugar. There is currently a lack of conclusive evidence supporting the relationship between glycemic index and weight control

Sugar alcohols, during digestion, may pass through the small intestine to the large intestine where it can “ferment” and lead to abdominal bloating and gas. So, over consumption of sugar alcohols should be avoided. The amount consumed that may contribute to this GI upset varies from one sugar alcohol to another. (i.e. 50 grams of sobitol or 20 grams of mannitol per day).

Sugar alcohols are not acted upon by bacteria in the mouth, so do not promote tooth decay!

Common Sugar Alcohols:

Sorbitol, Xylitol, Mannitol, Maltitol, Lactitol, Isomalt, Erythritol, Hydrogenated starch hydrolysates.