

AtlantiCare

REGIONAL MEDICAL CENTER

The Center for Surgical Weight Loss & Wellness

Bariatric Support Group

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Long-Term Weight loss after Bariatric Surgery and the Role of Pharmacotherapy

A Galvez, M.D.

It has now been widely proven that bariatric surgery is the most effective and durable weight loss intervention, leading to significant improvement of obesity-associated health conditions, improvement in health-related quality of life and overall reduction in morbidity and mortality. **(1, 2)** However, with the maturity of bariatric surgery as a specialty have come new concerns regarding long term outcomes. The issues of long-term suboptimal weight loss and weight regain after bariatric surgery are now at the forefront of the difficult problems being discussed. Given the widespread practice of the two most common bariatric procedures, the sleeve gastrectomy and the Roux-en-Y gastric bypass, the most available amount of data pertains to these two specific procedures. Thanks to several well-respected publications we have now established the average short-term weight loss after these 2 procedures to be at approximately 70% of excess weight lost at 2 years after a RYGB and 60% after a sleeve gastrectomy. **(3)**

The first issue regarding post-surgery weight loss is the possibility of achieving sub-optimal weight loss (SWL), defined by many authors as $\leq 50\%$ of EWL at 1 year. Several reports quote anywhere between 5-20% of patients meeting this criteria, despite optimal surgical technique and regular follow up. **(5-7)** A large retrospective review showed that weight loss at the 3 and 6th months was an independent predictor of maximal weight loss achieved by both SG and RYGB. This points towards the ability to identify this problem early and target therapy to improve outcomes.

There is also a growing issue of post-bariatric surgery patients who experience satisfactory weight loss, but then regain weight leading to re-appearance or worsening of obesity-associated medical comorbidities and patient dissatisfaction from the procedure. Several studies have shown that a 5-10% of total weight loss regain can be expected within the first decade after bariatric surgery, with the highest weight being gained in the first year after the weight loss nadir in the post-RYGB patients. **(2, 3, 8, 9)**. The most widely accepted definition of problematic weight regain is regaining more than 25% of weight lost from the lowest recorded weight or gaining more than 5 BMI points from the BMI calculated at the lowest recorded weight. **(10, 11)**

Management of post-bariatric surgery patients experiencing SWL or WR warrants a multidisciplinary approach, both to identify the potential causes of poor weight loss response as well as to formulate a multimodal management approach. The workup should include a thorough nutritional evaluation, behavioral assessment, a thorough medical evaluation with special emphasis on the patient's medication list, and an anatomical evaluation via imaging and endoscopy; if warranted. There are well-described anatomical abnormalities that lead to weight gain (gastro-gastric fistula, pouch dilatation, sleeve dilatation), but an increasingly recognized source of iatrogenic weight gain are obesogenic medications. Several classes of medications have been very well associated with weight gain; including antihypertensives, antidiabetics, antidepressants, antipsychotics, antiepileptic and antihistaminic drugs. **(12)** These should be carefully reviewed, and changed to alternatives if available.

Regardless, sometimes after a diligent evaluation the actual causes are not identified. After anatomic, endocrine and pharmacologic causes have been ruled out; the mechanisms responsible for SWL and WR after bariatric surgery remain poorly understood. They are likely a combination of physiologic, behavioral and psychological factors; and lifestyle and behavioral modifications alone can sometimes fail to yield satisfactory results. Traditionally, revisional surgery has been the mainstay of therapy in these cases; where an anatomical abnormality is corrected or the initial bariatric procedure is converted to another one. Although available data after revisional surgery is encouraging in terms of safety and weight loss success, complication rates are inherently higher and the decision for reoperation needs to be carefully studied on a case-by-case basis. Sometimes there is no identifiable anatomic abnormality, the surgical risk is prohibitive, or the patient's preference is through the non-operative route. In these cases, the role of "rescue" medical therapy has gained a great deal of interest.

Table 1 lists currently used anti-obesogenic medications for weight loss, along with their reported weight loss in treatment vs placebo arms. It is worth mentioning that although all have been validated in multiple randomized controlled trials on obese patients without bariatric surgery, none have been officially FDA-approved for use in post-bariatric surgery patients. (13, 14, 15)

Agent	Weight loss (% from baseline) in treatment
Phentermine	7.38% vs 2.28%
Orlistat	8.8% vs 5.8%
Phentermine/Topiramate 7.5/46 mg	9.6% vs 1.2%
Phentermine/Topiramate 15/92 mg	12.4% vs 1.2%
Lorcaserin	7.9% vs 4.0%
Naltrexone/Bupropion	8.1% vs 1.8%
Liraglutide	9.2% vs 3.5%

Nevertheless, the use of these anti-obesogenic medications is now becoming widespread in most high-volume bariatric centers around the country and encouraging reports are now being published. (16) The most commonly used agents include topiramate, phentermine, metformin, bupropion and zonisamide. For ease of administration the medications exist both in individual formulations as well as in combination, but it must be mentioned that this pharmacotherapy must be strictly medically-supervised to ensure patient tolerance and avoid dangerous side-effects. The choice of medication usually takes into account patient preference (injectable vs oral), cost and dual benefit (improving several coexisting conditions at once, such as diabetes, migraines, depression, tobacco use). Dosing is frequently started low, and gradually increased based on patient tolerance. Currently, the indication for weight loss pharmacotherapy includes patients with a BMI ≥ 27 kg/m² with at least one obesity-related comorbidity (hypertension, diabetes, hypercholesterolemia and/or obstructive sleep apnea); or a BMI of ≥ 30 kg/m² without comorbidities. (13, 14)

When reviewing the available data, one must be cautious to understand that most of these reports were created with the patients undergoing multiple interventions at once, including lifestyle modifications and exercise in addition to medications. This is important to underline, given that the best results will be obtained with this multimodal approach rather than medications on their own. The largest study of pharmacotherapy after bariatric surgery enrolled 319 patients in 2 centers who underwent either a SG or RYGB. More than half lost $\geq 5\%$ of their weight, 30.1% lost $\geq 10\%$ and 16% lost $\geq 15\%$. (17) In this study patients prescribed medications at their weight plateau rather than after weight regain had a small weight loss advantage compared to patients starting medication later. This suggests that pharmacotherapy could potentially be considered earlier postoperatively.

In conclusion, with the maturity of bariatric surgery, long-term outcomes and challenges are now arising and generating important conversations. Of these challenges, suboptimal weight loss and weight regain after bariatric surgery are amongst the most widely discussed topics. These patients must be thoroughly studied in an effort to identify and correct any potential causes. Aside from surgical correction of well-described anatomical issues; pharmacotherapy is garnering a very important role in the management of these patients. The use of weight-loss medications in addition to lifestyle modifications is showing great promise in enhancing or correcting weight loss after surgery, and this treatment modality might even show greater benefit if started earlier in the postoperative period. The timely identification of problems and multimodal approach underlines yet another reason why appropriate follow up at an experienced and well-established bariatric center is absolutely necessary for the success of patients after bariatric surgery.

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Dining Out After surgery

Do your research

Chain restaurants are REQUIRED to now post the nutrition information of their menu items. Look at the different options and look at the total fat, saturated fat, carbohydrates, sugar, and protein. Plan ahead and select what you will order before going to avoid impulse buying and triggers like smell and sight of food.

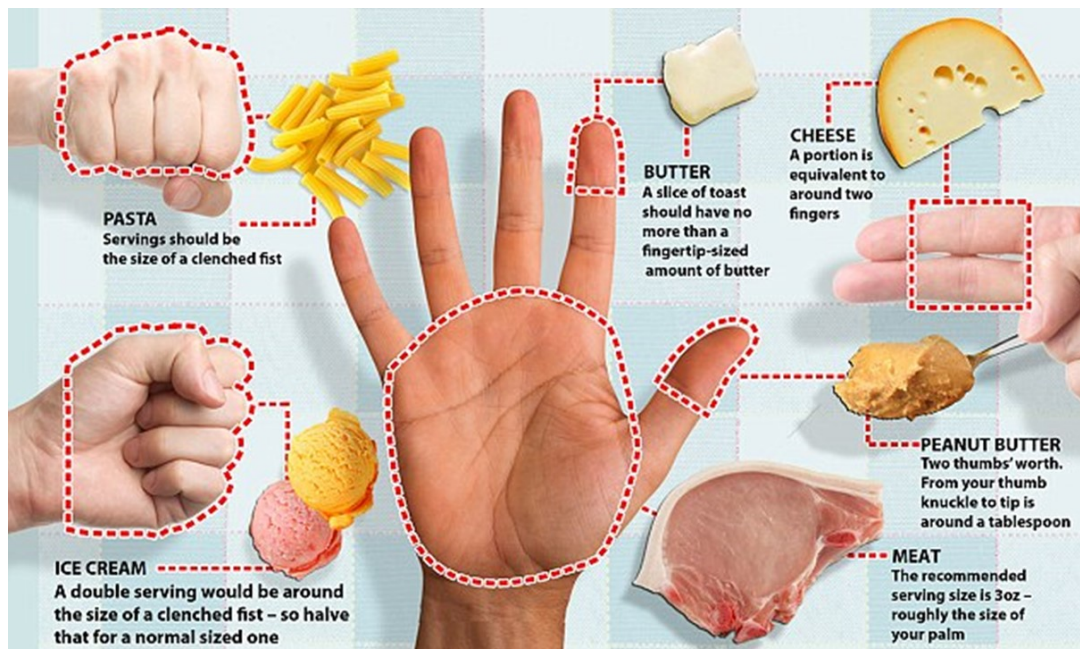
Make substitutions or omit items

Try to incorporate more lean proteins and non-starchy vegetables. Looked for baked or grilled instead of fried, have non-starchy in place of starchy, and low for low fat, low sugar, and low sodium substitutes such as low fat or light dressing.

Ex: get a burrito bowl instead of a burrito → reduces calories and total carbohydrates by approx. 200 calories and 30 g carbohydrates

Remember portion sizes

The restaurant will likely not be following the recommended serving sizes. Even without measuring cups and scales, you can estimate serving sizes to help adhere to recommendations.



Tips for Dining Out After Surgery

- Order an appetizer as your meal
- Share a meal with a friend or family
- Approach salads with caution ~ watch the “add on” ingredients and dressings
- Limit or avoid alcohol



When at parties or social gatherings:

- Eat before going to a social event
- Drink water when you get to the party and wait at least 30 minutes to eat
- Stay away from the buffet or food table
- Give a healthy option



FOOD FACTS

Where You'll Find It

At Restaurants:

Calorie labeling is required for restaurants and similar retail food establishments that are part of a chain of 20 or more locations.

For standard menu items, calories will be listed clearly and prominently on menus and menu boards, next to the name or price of the food or beverage. For self-service foods, such as served from buffets and salad bars, calories will be shown on signs that are near the foods. Calories are not required to be listed for condiments, daily specials, custom orders, or temporary/seasonal menu items.



Cheeseburger
Cal. 450

menus

\$5.99
Cal. 920 - 1220
\$3.69
Cal. 720

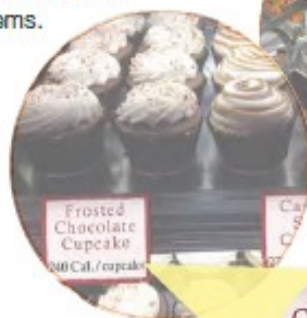
menu boards

Did You Know?

In addition to calorie information, restaurants are also required to provide written nutrition information on their menu items, including total fat, calories from fat, saturated fat, trans fat, cholesterol, sodium, total carbohydrates, dietary fiber, sugars, and protein. You may see this information on posters, tray liners, signs, counter cards, handouts, booklets, computers, or kiosks. So, when eating out, don't hesitate to ask for nutrition information!



self-service foods



display case

Frosted Chocolate Cupcake
240 Cal./cupcake



BRAT WORST
1 Link / 280 Cal.

On Vending Machines:

Calorie labeling is required for vending machine operators who own or operate 20 or more vending machines.

Calories will be shown on a sign (such as on a small placard, sticker, or poster) or on electronic or digital displays near the food item or selection button on vending machines and "bulk" vending machines (for example, gumball machines and mixed nut machines), unless calories are already visible on the actual food packages before purchase.



44 250 CALORIES

Looking Beyond the Scale



Success after surgery and with weight loss is more than just the number you see on the scale. After awhile, the number will plateau so it is important to consider other methods to measure success. Ask yourself some questions:

Clothes Fitting Better

Have you needed to get a new wardrobe after surgery? Or was there a favorite outfit that you wanted to get back in? Do you feel confident in skinny pants or feel like you look good in a new flashy workout clothes?

More Energy and Endurance

Are you able to walk the length of the boardwalk without needing a break or are able to keep up with children and grandchildren? Weight loss can help improve energy levels despite the decrease in caffeine and help improve mental well-being and quality of life.

Better Sleep

Are you getting more restful nights sleep? Do you feel less tired during the day? Is there less tossing and turning or getting up in the middle of the night to get a snack because you can't sleep?

Less Cravings

Are you still craving sugary treats? Do you still have night time hankerings without being actually hungry? Or do you know what to have in place of sugar and carbohydrates?

Feeling Healthier

What health conditions have been better managed since having surgery? Have some medications been decreased or stopped since surgery? What has been resolved since having surgery?



Shamrock Shake

Serves 1 ~ Ready in: 5 minutes

Ingredients

- 1 scoop of favorite vanilla protein powder
- 10 oz. of unsweetened vanilla almond milk, soy milk or skim milk
- ¼ tsp. mint extract
- ¼ cup nonfat vanilla Greek yogurt
- A couple drop of green food coloring (optional)
- 4 – 5 ice cubes (optional)

Directions

1. Combine all ingredients in a blender until smooth.
2. Serve cold.



Nutrition (may vary depending on choice of protein powder, milk and Greek yogurt): Per serving using UNJURY® Vanilla protein powder, unsweetened vanilla almond milk, and Dannon® Oikos Triple Zero vanilla yogurt = 175 calories, 2.5 grams fat, 0 grams saturated fat, <5 mg cholesterol, 205 mg sodium, 8 grams carbohydrate, 2 grams fiber, 4 grams sugar, 28 grams protein.

- As a comparison, a **SMALL** McDonald's Shamrock Shake = 460 calories, 13 grams fat, 8 grams saturated fat, 55 mg cholesterol, 150 mg sodium, 74 grams carbohydrate, 0 grams fiber, 13 grams sugar, 10 grams protein.



Girl Scout™ Samoa Inspired Protein Shake (serves 1)

Ready in 5 minutes

Ingredients

- 8 - 10 oz. milk of choice
- 1 scoop favorite chocolate protein powder
- 1 tsp. [Torani®](#) sugar-free caramel syrup
- 1 tsp. unsweetened shredded coconut
- 4 – 5 ice cubes



Directions

1. Blend ingredients together in a blender until smooth.
2. Serve and Enjoy!

Nutrition (may vary): Per serving using UNJURY® classic Chocolate protein powder and unsweetened almond milk = 140 calories, 3.5 g fat, 1 g saturated fat, 0 mg cholesterol, 267 mg sodium, 6 g carbohydrate, 2 g fiber, 3 g sugar, 22 g protein.

Grilled Mahi-Mahi Fish (serves 4)

Ready in 15 minutes

Ingredients

- 2 Tbsp. olive oil
- 1 lb. mahi-mahi fish, rinsed
- Ground black pepper to taste
- ½ tsp. hot paprika
- 1 Tbsp. Greek seasoning mix (see below for homemade recipe)
- 2 plum tomatoes
- 3 oz. olives, pitted and sliced
- 2 cloves garlic, pressed



Directions

1. Preheat grill to medium.
2. Pat the fish dry with a paper towel and brush it with olive oil on all sides. Season the fish with black pepper and Greek seasoning mix.
3. Grill the fish for about 5 minutes. Top the fish with tomatoes, olives, and garlic. Continue to cook for an additional 5 minutes until golden.
4. Serve warm and enjoy!

Nutrition (may vary): Per serving using homemade Greek seasoning mix= 200 calories, 8 g fat, 1 g saturated fat, 107 mg cholesterol, 180 mg sodium, 2 g carbohydrate, 1 g fiber, 1 g sugar, 28 g protein.

Tips

- You can make your own Greek Seasoning mix:
 - Evenly mix together ¼ tsp. garlic powder, ¼ tsp. dried basil, ¼ tsp. dried oregano, 1/8 tsp. ground cinnamon, 1/8 tsp. ground black pepper, 1/8 tsp. dried parsley, 1/8 tsp. dried minced rosemary, 1/8 tsp. dried dill weed, 1/8 tsp. dried marjoram, 1/8 tsp. ground thyme, 1/8 ground nutmeg (source: Greek Seasoning Blend Recipe. All Recipes Website. Retrieved from <https://www.allrecipes.com/recipe/231228/greek-seasoning-blend/>, on January 18, 2021).

Source: Dorsey, J. (2020). *Mediterranean Diet The Complete Cookbook: 550 Quick & Easy Mediterranean Recipes for Beginners*.

Turkey Spinach Meatballs (serves 5)

Ingredients

- 1 lb. 93% lean ground turkey
- 1 cup of baby spinach, chopped
- 2 Tbsp. cilantro, chopped
- 1 small white onion, chopped
- 1 tsp. kosher salt
- 4 egg whites, whisked
- ¼ cup reduced fat grated Parmesan cheese



Directions

1. Preheat oven to 400 degrees F. Line a cookie sheet with foil.
2. In a large mixing bowl, add all the ingredients. Using either a large spoon or your hands, combine the mixture well.
3. Using a medium sized cookie scoop, scoop even sizes of the mixture into your hands and roll into a ball. Make 5 rows of 3 meatballs.
4. Bake in preheated oven for 30 minutes. Remove from oven and use tongs to remove meatballs to serving plate or to a food container for eating later.

Nutrition (may vary): Per (3 meatballs) serving = 185 calories, 8 g fat, 4 g saturated fat, 68 mg cholesterol, 428 mg sodium, 4 g carbohydrate, 1 g fiber, 2 g sugar, 22 g protein.

Source: Wagner S. Turkey Spinach Meatballs Recipe. Food Coach Me Website.

<https://www.foodcoach.me/recipe/turkey-spinach-meatballs-2/>. Published December 16, 2018.

Accessed November 15, 2019. **Recipe has been altered from the original recipe.**

Quinoa, Bean and Vegetable Soup (serves 4)

Ready in 30 minutes

Ingredients

- 2 Tbsp. olive oil
- 1 medium-sized leek, chopped
- 2 carrots, trimmed and chopped
- 1 yellow squash, diced
- 3 garlic cloves, pressed
- ½ tsp. dried marjoram
- ½ tsp. dried oregano
- ½ tsp. dried rosemary
- ½ tsp. lemon thyme
- 1 tsp. dried basil
- 2 ripe tomatoes, crushed
- 1 cup quinoa, rinsed
- 2 cups low sodium vegetable broth
- 2 cups of water
- Fresh ground black pepper to taste
- 1 bay laurel
- 10 oz. Great Northern Beans (from dry then prepared without salt preferred)



Directions

1. Heat the olive oil in a soup pot over medium-high heat. Once hot, sauté the leeks until tender and fragrant.
2. Add the carrots and yellow squash; continue to sauté for an additional 3 – 4 minutes until they are just tender.
3. Stir in garlic and herbs, and continue to cook for a minute or so, until aromatic. Add in tomatoes, quinoa, soup, water, pepper, and bay laurel.
4. Turn the heat to a simmer and let it cook for 15 – 20 minutes until quinoa softens.
5. Fold in beans and let it simmer for 5 minutes until heated through.
6. Serve and enjoy!

Nutrition (may vary): Per serving = 250 calories, 8 g fat, 1 g saturated, 0 mg cholesterol, 331 mg sodium, 36 g carbohydrates, 9 g fiber, 5 g sugar, 9 g protein.

Source: Dorsey, J. (2020). *Mediterranean Diet The Complete Cookbook: 550 Quick & Easy Mediterranean Recipes for Beginners*. ** Recipe has been altered from the original recipe.**

Helpful Hints:

- Our office is located in the new outpatient surgery center located in Building 1200 on the 2nd floor in EHT.
- Due to our move, we have a new phone number. To reach us, please call (609) 833-9833.
- Remember to keep **Hydrated!!!** 64 ounces of non-carbonated sugar free fluids, **water is Best!**
- Reminder to eat your **PROTEIN FIRST!** (65-80 grams a day)
- **Don't forget to follow-up...** schedule your appointments with the dietitian and your physician. The first year we would like to see you every 3 months and then on a yearly basis.
- Preparing for **SURGERY** ?
 1. Don't Miss your **Monthly** weight check! It may lead to delays in surgery if your insurance requires 4 or 6 consecutive month weight checks.
 2. Do not **GAIN** any weight prior to surgery. Your insurance company may deny your approval for surgery.

Have a Happy Spring!!!!





2021 Bariatric Support Group Schedule

Building 200/AtlantiCare Life Center
(At the corner of Delilah Rd and English Creek Ave.)

Monday 5:30 – 6:15 PM

Date	Topic
January 4	Back on Track– Getting Motivated
February 1	Meal Planning
March 1	Healthy Dinning Out Options
April 5	Guest Speaker: Marcel
May 3	Plateau and Weight Regain
June 7	The Power of Sleep

Monday 10:30– 11:30 AM

January 18	The Importance of Protein
February 15	Understanding Nutrition Labels
March 15	Looking Beyond the Scale
April 19	Emotional Eating
May 17	Falling of the Wagon
June 21	Vitamin D