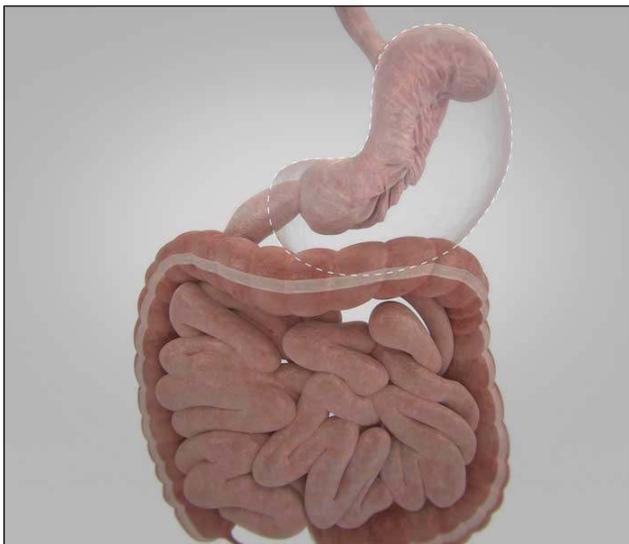


# 2018



## Endoscopic Sleeve Gastroplasty



Dr. Robert Marvin

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## VISION STATEMENT

*Houston Surgical Specialists* is a multi-physician practice, headed by an experienced surgeon with a track record of consistently excellent results. We strive to provide a global approach to the complex problem of morbid Obesity with a wide range of treatment plans, from medically supervised diets, nutrition and vitamin plans, to all the proven effective surgical procedures. Our goals are to identify patients who will benefit from bariatric surgery, provide consistent error free application of surgical technique, and effective postoperative care with subsequent clinical outcomes that far exceed recognized standards. By fulfilling these goals, we anticipate that *Houston Surgical Specialists* will provide consistent, quality care to the obese patient, continue to be recognized by the pre-eminent society of obesity surgeons in the United States and become the premiere practice for the care of Obesity in our region.

Dr. Marvin will free you from the burden of obesity.



### **HSS Endoscopic Gastroplasty Disclaimer**

1. Dr. Marvin does NOT guaranty specific weigh loss for any weight loss procedure to any specific patient. Too many factors are involved to make accurate predictions. Weight loss estimates are based on data reported in the medical literature and/or Dr. Marvin's practice experience.
2. Dr. Marvin can make NO guaranty of the longevity for endoscopic gastroplasty. Long term data is not available for this procedure. It is possible that the weight loss effect may decrease or be lost over time.
3. There may be a failure rate associated with Endoscopic Gastroplasty. Failure is defined as loss of the weight loss effect within the first 90 days after the procedure. Data from a large international center suggest the failure rate for this procedure may be 5-7%.

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## Patient Pre-OP Instructions

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### DAY OF SURGERY

Your Surgery Date is: \_\_\_\_\_

Location: \_\_\_\_\_

Arrival Time: \_\_\_\_\_

**\*\*THE ABOVE TIME IS ALWAYS SUBJECT TO CHANGE\*\***

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**Important Hospital Information:**

*Please call for directions or any additional information*

**Park Plaza Hospital:** 1313 Hermann Drive  
Houston, TX 77004  
713-527-5330

**Herman Drive Surgical Hospital:** 2001 Hermann Drive  
Houston, TX 77004  
713-285-5500

**First Street Hospital:** 4801 Bissonet Street  
Houston, TX 77401  
713-665-1111

**\*\*If you are running late, get caught in traffic or any other unforeseen delay...PLEASE call our office (713-993-7124) and let us know! If it is before or after normal business hours, please call the listed numbers above.**

**\*\*Let the hospital know that you are scheduled for surgery at the time listed above and what time you will be arriving!**

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## What to bring to the hospital:

- Wear comfortable clothes – Elastic waist pants are best so that your abdomen is not pinched or compressed by tighter clothing. Yoga Pants.
- ☐ If you use a CPAP or BIPAP machine when sleeping, please bring this with you to the hospital. You will need to use your home machine while you are waking up from anesthesia and when you are sleeping in recovery.
- ☐ If you use a walker, cane or other walking assistance device please bring this with you to the hospital. We want you up walking within a few hours after surgery!
- Do NOT bring anything valuable to the hospital – leave all your jewelry, cell phone, laptop, iPod, etc. with family or AT HOME!
- ☐ You DO NOT need to bring any of your home medications to the hospital with you. The hospital will dispense all medications from their pharmacy to you.
- ☐ Some patients prefer to bring some of their favorite beverages with them to the hospital (crystal light, Propel, Fruit H2O, etc.). You will have a diet tray supplied to you, however, you are welcome to bring any of the low sugar clear liquid items.
- Comfort items – some patients prefer to bring a blanket and pillow from home to make them more comfortable. Personal pajamas are not needed as you will have IV tubing that will need to be accessed by nurses and PJ's can be difficult to work around. Robes are a bit easier to manipulate if you prefer to wear something of your own.

## After Surgery: What medications do I take at home?

For the first week after surgery you will need to **CRUSH** all pills to swallow them, to make this as easy as possible. Some of your medications may be avoided during the first week. Follow the guidelines below to help with your home medications and if you have any questions make sure to call the office!

### Medications for high blood pressure:

- ☐ Resume these meds at home the morning after you are discharged
- ☐ Make sure to crush medication
- If the medication contains the terms “XR, CR, SR or XL” you will need **to have an alternate dose of medications** as these are time release pills and cannot be crushed

### Medications for diabetes:

- ☐ Resume your home meds at **half the normal dose**
- ☐ Be sure to check your blood sugar often and call if you start to notice either extreme high levels (>250) or extreme low levels (<60)
- If you are on insulin, resume **half the normal dose** – make sure to keep a log of your blood sugar readings, the time of day, and how much insulin you administered

### Medications for high cholesterol:

- ☐ You may wait until week 2 of your diet (soft solids) to resume these meds
- ☐ If you decided to continue these medications at home during the first week after surgery, they will need to be crushed

### Blood thinners and aspirin containing products:

- ☐ If you are taking Coumadin, Plavix or other blood thinning medications or a regular basis you should have received specific instructions regarding resuming these meds. **DO NOT RESUME THESE MEDICATIONS UNLES THE MD/PA HAS INSTRUCTED YOU TO DO SO**
- A daily aspirin for “heart health” may be re-started at home 48 hours after surgery

### Supplements:

- ☐ Supplements are not mandatory during the first week after surgery and may be held until week 2
- ☐ Any specific questions about supplements should be asked before leaving the hospital

### Thyroid medication:

- ☐ Resume your normal dose of thyroid medication the morning after leaving the hospital

### Heartburn/reflux medication:

- ☐ These medications should not be needed after surgery, if you begin to have symptoms, call the office for further direction

## Pre-Op Diet and Prescriptions

### **Pre-op diet:**

To ensure the complete emptying of the stomach of food items, please begin the Stage One Clear Liquid only diet the **morning before the ESG procedure**. This means do not eat breakfast, you may have coffee. Refer to the Stage One Diet on the following page. The surgery center will remind you of NO eating or drinking after midnight the evening before your ESG.

### **Prescriptions:**

You have been given a prescription for pain medication that you can fill at any Pharmacy. These can be filled at any local Houston pharmacy

Note: the B12 spray is the most effective, yet may not be fully covered by your insurance. The sub-lingual (under the tongue) can be substituted.

Antibiotics are given to you through your IV prior to surgery.

You will NOT need to take any further doses of antibiotics after the doses administered to you through your IV.

## Stage One: Low Sugar, Clear Liquids

- ☐ Your **clear liquid** diet will last for one week. If you have surgery on Monday, you will be on **clear liquids** through the following Monday.
- All **clear liquids** should be sugar free. Labeled “*no sugar added*” does NOT mean **sugar free**. There should not be more than 10 calories per serving of liquid.
- ☐ A **clear liquid** is defined as a substance that you should be able to see light through. The color of the liquid is not important. Any liquid that has milk or a cream base to it is **NOT** considered a clear liquid.
- ☐ Avoid straws, sports top bottles or chewing on ice as this causes excessive intake of air and can worsen gas bubbles and gas pains.

### Clear Liquid Shopping List – The Staples

- Crystal Light – all flavors
- ☐ Diet Snapple products
- ☐ Fruit H2 flavored water
- ☐ PowerAid ZERO
- ☐ Sugar Free popsicles
- ☐ Sugar Free Jell-O
- Iced tea – unsweetened
- ☐ Beef, Chicken, Vegetable broth
- ☐ Miso Soup (strain off any solids, Miso & Easy soup base)
- ☐ Sugar Free Tang, Kool-Aide or Hawaiian Punch
- ☐ Hot tea

### Hints:

- Use artificial sweetener such as Splenda, Equal, Truvia, Sweet n Low, NutraSweet

-You can use fresh lemon and limes to flavor plain water

**-AVOID** all carbonation

**-Your goal is 60-80 oz. of liquids DAILY!**

## **STAGE TWO: LOW FAT, LOW SUGAR SOFT DIET**

- A **soft solid** is a food that can be cut through easily with a fork, resembling the consistency of baby food.
- A **soft solid** does **NOT** mean chewed until soft and mushy before swallowing.
- Your **soft solids** should all be low fat and low sugar.
- During this stage of your diet, you need to remember to NOT DRINK liquid while eating your solid meals.
- You still need to concentrate on adequate hydration so remember to drink between your meals to reach your goal of 60-80 oz. of fluid.

### **Soft Solid Shopping List: The Staples**

- Eggs – scrambled, hard boiled, egg salad (**low fat** Mayo or Miracle Whip)
- Cream of Wheat, Malt-o-Meal, oatmeal; **avoid** high **sugar** “flavored” varieties
- Mashed sweet potatoes
- **Low Fat** Cottage cheese, Laughing Cow Soft Cheese
- **Low sugar**, low carb yogurt
- **Sugar free, fat free** pudding
- Beans – black beans, pinto beans, refried beans
- Tuna, Tofu
- Baked fish – all types, but remember, **NOT** breaded or fried
- Bananas
- Cooked Carrots, steamed zucchini and squash, cooked peas
- Soups - **Low fat** cream based soups, in a carton (Butternut Squash, Tomato Basil Bisque) and Campbell’s Healthy Choice (made with skim milk)

### **Hints:**

- You may use spices, cooking spray or I Can’t Believe It’s Not Butter Spray
- Focus on eating high **protein** foods – your goal is **50 grams** of protein daily
- **READ YOUR NUTRITION LABELS** – get to know which foods are low in fat and sugars...Remember your limits per serving. (4g sugar/6g fat)

## VITAMIN SUPPLEMENTATION

The following vitamins/supplements are MANDATORY for all post-op patients starting week 2:

**\*\*Twice a day Bariatric Advantage Multivitamin**

**\*\*1500mg of Calcium Citrate daily with Vitamin D**

*Many great products are sold in the clinic for your initial purchase.*

Replacements can be found on our Bariatric Advantage web site, customized specifically for Dr. Marvin's patients.

<https://www1.bariatricadvantage.com/catalog>

*Validation Code MARVIN*

The products range from vitamin chews, protein shake mix, snack bars and so much more. You can sample or purchase many of these products in our clinic.

Then order online at your convenience.

The staff will provide ordering instructions from



## **PROTEIN SHAKE RECIPES**

1 Package Bariatric Advantage High Protein Meal Replacement  
12 oz. water  
1 serving fresh or frozen fruit

Pour all the above into a blender and mix with 8-12 oz. of water, ice and fruit.  
Serves 1.

### **More Bariatric Advantage High Protein Meal Replacement Shake Recipes:**

- *Orange Sorbet:* Mix vanilla flavor with orange crystal light
- *Almond Joy:* Mix chocolate flavor with dash of almond and coconut extracts
- *Iced Latte:* Mix vanilla flavor with 1 cup Hazelnut coffee, 1 cup water and ice
- *Cinnamon Roll:* Mix vanilla flavor with 1 tbsp. cinnamon, 1 tsp vanilla and a dash of butter buds
- *Pina Colada:* Mix vanilla flavor with pineapple orange crystal light, ¼ tsp rum extract, ¼ tsp coconut extract and 1 packet of Splenda
- *Cheesecake:* Mix chocolate or vanilla flavor with 2 tbsp. FF/sugar free Jell-O pudding mix (dry) and cheesecake flavor
- *Banana or Coconut Cream Pie:* Mix vanilla lean body with banana extract OR coconut extract and 2 tbsp. of vanilla FF/sugar free pudding mix. Crumble 2 graham crackers into blended shake
- *Chocolate Pudding:* Mix any flavor lean body with 2 tbsp. of NutraSweet chocolate pudding mix (other flavors may also substitute) and ¼-1/2 cup water

## Protein Sources

| Food                 | Serving Size       | Gram of Protein |
|----------------------|--------------------|-----------------|
| Lean Hamburger Patty | 3 oz (1 patty)     | 21 grams        |
| Lean cuts of beef    | 4 oz               | 28 grams        |
| Chicken Breast       | 3.5 oz             | 30 grams        |
| Chicken Thigh        | 3 oz               | 10 grams        |
| Chicken Salad        | ½ cup              | 15 grams        |
| Turkey               | 3 oz               | 21 grams        |
| Fish                 | 3.5 oz             | 22 grams        |
| Tuna in water        | 3 oz               | 22 grams        |
| Salmon (canned)      | ¼ cup              | 13 grams        |
| Shrimp               | 3 oz (10 shrimp)   | 18 grams        |
| Pork Chops           | 4 oz               | 22 grams        |
| Pork Tenderloin      | 4 oz               | 29 grams        |
| Ground Pork          | 3 oz               | 22 grams        |
| Ham                  | 3 oz               | 19 grams        |
| Bacon                | 1 slice            | 5 grams         |
| Canadian-style Bacon | 1 slice            | 5 grams         |
| Egg                  | 3 oz (1 large egg) | 6 grams         |
| Skim milk            | 1 cup              | 8 grams         |
| Soy milk             | 1 cup              | 6 grams         |
| Cottage Cheese       | ½ cup              | 15 grams        |
| Cheese               | 1 oz               | 6 grams         |
| Greek Yogurt         | 1 cup              | 11 grams        |
| Tofu                 | ½ cup              | 9 grams         |
| Veggie Burger        | 3 oz (1 patty)     | 13 grams        |
| Lentils              | ½ cup              | 9 grams         |
| Soy beans            | ½ cup              | 14 grams        |
| Kidney beans         | ½ cup              | 8 grams         |
| Black beans          | ½ cup              | 7.5 grams       |
| Pinto beans          | ½ cup              | 7 grams         |
| Peas                 | ½ cup              | 8 grams         |
| Peanut butter        | 2 tbsp             | 8 grams         |
| Raw almonds          | ¼ cup              | 8 grams         |
| Dried peanuts        | ¼ cup              | 9 grams         |
| Cashews              | ¼ cup              | 5 grams         |
| Pumpkin seeds        | ¼ cup              | 8 grams         |
| Walnuts              | ¼ cup              | 5 grams         |
| Flax seeds           | ¼ cup              | 8 grams         |
| Sunflower seeds      | ¼ cup              | 6 grams         |
| Hummus               | 1/3 cup            | 6 grams         |
| Miso                 | 2 tbsp             | 4 grams         |
| Oats/Kasha           | ½ cup              | 3 grams         |

Protein intakes should be 60 to 80 grams daily. Focus on plant based protein (soy, lentils, and beans), lean meats, chicken and seafood

## POST - OPERATIVE ENDOSCOPIC SLEEVE GASTRECTOMY

### Immediate Post-Operative Period

**Recovery Room:** Patients will first go to the recovery room after the operation is over. There he/she will be closely monitored while waking up from anesthesia. Family members are usually not allowed because of Government rules concerning privacy of other patients.

**2 Hours Post-op:** With assistance from a nurse the patients' needs to walk outside the room, in the hallway, at least 20 steps. After walking, the patient will be allowed to take low sugar liquids by mouth. Initially this is usually ice chips and sips of water. However, broth, sugar free popsicles and no calorie-non carbonated drinks are encouraged. Once the patient is ambulatory and able to drink water, the nurse will discharge the patient to a designated care giver. The hospital or surgery center will not release the patient without accompaniment.

### **At Home – Week 1**

**Medications:** All necessary previous medications should be taken at the prescribed intervals after returning from the hospital. *Tablets will need to be crushed and capsules opened for the first week.* Usually these are taken with water. Any medication that can be skipped should wait until 1 week post-op. Examples are: cholesterol medications, previous pain medications, muscle relaxants, special vitamins, etc. Absolutely necessary blood thinners such as aspirin, Plavix or Coumadin should be restarted 48 hours after surgery. If any signs of bleeding occur they should be discontinued and the patient should call the office immediately. Diabetes medications should be reduced to ½ dose, and blood sugar levels should be monitored every 6 hours if the patient is on any insulin. If you are on diabetes medication, make an appointment to see the prescribing physician within 2-3 weeks.

**Activities:** Patients can do their activities of daily living (ADL) such as going up steps, or taking care of themselves in the bathroom or shower.\* The patient does not need special assistance from someone else.\* He/she should not stay in bed; moving about and even light exercise are encouraged. The patient's activity level should increase within 48 hours. All exercise is allowed after 2-3 days, including strenuous activity and lifting. Normal sexual activity can occur as soon as the patient feels comfortable enough.

**Driving:** A typical patient will be able to drive his/her car approximately 1-2 days post-operatively. *Driving should only be attempted if the patient feels that he/she can turn the wheel or apply the brakes in an emergency.* If not, the patient should not attempt to drive.

**Return to Work:** Patients are typically able to return to work by day three post-op.

**Diet:** After the ESG procedure patient will be on a clear liquid, low sugar diet for 7 days. Please see the diet section for a description of the diet. Do not attempt to take soft or solid foods yet as these could breakdown the upper connection sutures. Also, avoid carbonated beverages until 1 month after surgery. Caffeine is allowed (with sugar substitutes and non-dairy, low fat creamer). Concentrated fruit juice and processed sugars should be avoided to avoid cramping, flushing and diarrhea which are the symptoms of the dumping syndrome.

**APPOINTMENT 1 week Post-op**

The clinic staff will schedule your week 1 Post Op prior to your surgery.

**Week 2-4**

**Medications:** All previous medications should be resumed and can be taken normally (i.e. as whole pills or capsules. Diabetes medications should remain at ½ the previous dosage, and the patient should make an appointment to see the prescribing physician to alter the dose.

**Diet:** Warning: it is ABSOLUTELY ESSENTIAL NOT TO OVEREAT after the ESG procedure. The length of the suture line will be vulnerable to stretching and inhibiting the expected success. A revision may be required to tighten the stomach or move to the more invasive laparoscopic sleeve gastrectomy. At this point the patient can follow the regular prescribed diet provided.

**Vitamins:** A multivitamin with folic acid (folate) should be started one week after surgery. Although this can be chewable, it is not necessary. The patient should take some form of a multivitamin indefinitely.

**FOLLOW UP APPOINTMENTS**

Your follow up visits will be scheduled in advance. It will be necessary to have blood tests done at the appointment. This will include blood counts, electrolytes, protein levels, calcium, iron, vitamin B1, vitamin B12 and folic acid levels, which we will take during your visit.

**Activity after 1 month:** Normal with increased exercise

**Diet:** No change until after week 4

**Vitamins:** Continue the multivitamin

**APPOINTMENTS**

3 Months

6 Months

12 Months

**HSS Endoscopic Gastroplasty Disclaimer**

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## **POST-OPERATIVE PROBLEMS AFTER ESG**

**WARNING: Unpleasant symptoms occurring after Obesity Surgery can indicate a progressing and/or life threatening problem that could require immediate hospitalization or surgery to control. Failure to notify the doctor immediately could result in preventable injury or death. Call 713-993-7124 IMMEDIATELY if untoward symptoms occur.**

**In general, the first few weeks after a procedure is an important period to monitor for problems, as the majority of complications will occur during this time. Bleeding and abdominal infection, which are the most serious problems, tend to occur just after surgery and are less likely later in this period.**

### **Bleeding**

This is the most common complication during and after an ESG. Because the stomach has a rich blood supply, and the sutures are placed deep into the gastric wall, significant bleeding can be seen during the procedure. Usually this is well controlled by applying the synching device to tighten the suture. Rarely, an additional endoscopic technique (or even surgery) could be required to control bleeding.

It is possible that a patient could also later develop symptoms and signs of bleeding. Symptoms include, dizziness, appearing pale, shortness of breath, rapid heart-beat, and low or absent urine output, vomiting blood or “coffee grounds”, or passing blood or black stools by rectum. Any of these symptoms should be communicated to the Endoscopist/Surgeon IMMEDIATELY.

Significant bleeding could require blood transfusion or extended hospital monitoring. Persistent or clinically significant bleeding could require repeat endoscopy and/or surgery to treat. The risk of significant bleeding requiring transfusion appears to be less than 1% with ESG<sup>1</sup>.

### **Stomach Leak**

This is potentially a life-threatening complication. Theoretically, a stomach leak after ESG is from bacteria tracking out along a full thickness suture, and causing an infection in the abdominal space. This has been described as a peri-gastric inflammation, as seen on CT scan. Because, the leak after ESG appears to be more limited than after surgery, this process can be termed a “micro-leak.”

Symptoms of stomach leak include: rapid heart rate, dizziness, shortness of breath, fever, worsening abdominal pain, left chest or shoulder pain, abdominal distention, the appearance of illness and a general feeling that something is very wrong. Unfortunately, many of the symptoms may be absent or could be from something else (e.g. bleeding). Diagnosis is dependent upon a variety of information sources, such as: clinical assessment, vital sign measurement, laboratory tests (white blood cell count) and radiologic studies (CT scan).

The risk of an infection outside of the stomach after ESG appears to be less than 1%<sup>1</sup>. Intervention is based on clinical factors, but, in general, the treatment for a micro-leak after ESG is less invasive than the

treatment of a leak after a surgical sleeve operation<sup>1</sup>. However, unusual or extreme cases could require an operation to manage.

### **Blood Clots**

This is a rare problem which occurs in less than 1% of patients. Obese patients are more prone to developing blood clots in the veins of the legs than are normal weight patients. The clot is dangerous because if it were to break off it might travel up the blood stream to the lung where it could suddenly decrease blood flow. This is known as a pulmonary embolism and can be fatal.

The treatment is PREVENTION of the formation of blood clots. Our patients are given a short-acting blood thinner before their procedure and sequential leg squeezing devices are fitted over the legs during the operation. Although, both of these are somewhat effective, neither is anywhere near as effective as the main treatment, which is getting out of bed and walking soon after the procedure is over. EARLY MOBILIZATION is the key to preventing blood clots. It is the most important thing the patient can do for him/herself around the time of the surgery.

### **Esophageal Injury**

Performing an ESG requires placement of instruments and tubes through the esophagus to reach the stomach. These include, in order, a small caliber diagnostic endoscope, a large caliber over-tube, and a dual channel operating endoscope with the mounted suturing device. The esophagus is thinner walled than the stomach and more easily injured by instrumentation. Conversely, these instruments are placed under direct vision, or over a device already in position (over-tube). So, injury should be very uncommon.

A partial thickness injury to the esophagus can probably be managed conservatively. However, a full thickness injury might require surgery to repair and treat. Full thickness injury with ESG has not been reported in the medical literature.

### **Failure to Lose Weight**

As with any weight loss program procedure or surgery the patients choices after are of the greatest impact. We include detailed nutritional information in this packet and exercise recommendations. Although the data provides weight loss statistics, there is no guarantee of how much or for how long it can be maintained. The fact is, there only exist two years a research data on the Endoscopic Sleeve Gastroplasty. We look forward to following our patients' progress.

**IMPORTANT: The problems above are a partial list of all possible complications that can occur after this procedure. Some complications are rare and may be beyond the experience of the surgeon or even the surgical literature. Complications are usually not foreseeable.**

### Reference

- 1) Lopez-Nava G, et al. Endoscopic Sleeve Gastroplasty for Obesity: a Multicenter Study of 248 Patients with 24 Months Follow-up. *Obes Surg.* April 27, 2017 (online).

## *Congratulations! You have reached new beginning!*

### Diet Changes:

Your meal plan will be high in protein, which is essential for optimal healing and weight loss. Your diet will always be low fat and low sugar. Certain solid foods may not be well tolerated. Food intolerances are individual and often temporary. It is a good idea to keep track of the food that causes discomfort and wait two weeks before trying that food again. Patients often report that they do not feel hungry or have a loss of appetite after surgery. In turn, this often causes patients to skip meals, depriving themselves of their nutritional needs. Many also believe that skipping meals will help with speedy weight loss, however, this is not true nor is it healthy. You should eat a minimum of 3 high protein, low fat and low sugar meals per day. Do not force yourself to finish meals, and stop eating as soon as you feel full.

IMPT: Drink Fluids only between meals! It is essential for you to consume the optimal amount of nutrients during your meals, thus drink your fluids at least 45 minutes after you eat.

### HELPFUL TIPS:

Eat at least 3 to 6 small portions per day

Chew, chew, chew!

50-60 grams of protein a day, thus 10-15 grams of protein per meal

Eat protein first

Healthy snacks only between meals

Sit while eating

Bake, broil or steam...don't fry

Read labels

Use non-fat dressings, spreads and condiments

Avoid sweet and sugary foods

Avoid snacks with low nutritional value

Alcohol in moderation

Keep a daily food journal

Drink 64 oz. of low calorie liquids per day

Sip, don't gulp

Drink fluids between meals!!

## **Introduction to Macronutrients**

**MACRONUTRIENTS** are chemical elements and compounds that provide the energy we need to grow and survive. Macronutrients need to be consumed in sufficient amounts to stay healthy, and they include protein, carbohydrates, and fat.

**PROTEIN:** Key nutrient that is needed by the body to build and repair cells and tissue. It also helps the body resist disease and wound healing. If the body does not get enough protein from food, it cannot properly grow and aide in healing. The body would become more susceptible to infection, resulting in the individual becoming very sick.

*For you:* Extra protein is needed BOTH before and after surgery to improve the healing process and prevent infection

**CARBOHYDRATES:** Prime source of energy for all living things. The two main forms of carbohydrates are sugars (such as fructose, glucose, and lactose) and starches, which are found in foods such as starchy vegetables, grains, rice, breads, and cereals. The body breaks down (or converts) most carbohydrates into the sugar glucose, which is absorbed into the bloodstream. As the glucose level rises in the body, the pancreas releases a hormone called insulin. Insulin is needed to move sugar from the blood into the cells, where it can be used as a source of energy.

*For you:* The right type for carbohydrates should be consumed to stay healthy. The Lap-Band diet must be low in sweet and sugary foods.

**FATS:** (lipids) The body uses fat as a fuel source after it uses the available carbohydrates, thus fats are the major storage form of energy in the body. Fat also has many other important functions in the body, and a moderate amount is needed in the diet for good health. Fats in food come in several forms, including saturated, monounsaturated, and polyunsaturated. Consuming the right kind of fats is essential for staying healthy.

Healthy fat: helps decrease the risks of cardiovascular disease

- *Monounsaturated fat-* helps lower LDL cholesterol (bad type of cholesterol) and increase HDL cholesterol (good type of cholesterol)

*Foods:* nuts, avocado, olive oil, whole grain wheat, cereal, oatmeal

- *Polyunsaturated fat-* helps lower LDL cholesterol *Foods:* fish, cereal, whole grain wheat, peanuts

*Unhealthy fat:* promotes onset and continuation of cardiovascular disease

- *Saturated fat-* increase the risk of heart disease and stroke. *Foods:* butter, lard, coconut oil

- *Trans fat:* most trans fats are in the form of partially hydrogenated plant oils, which is neither required nor beneficial for health. *Foods:* butter, lard, any product that has “partially hydrogenated oil” listed on the ingredients.

*For you:* Fat may be difficult to digest after surgery. Too much fat delays emptying of the stomach and may cause reflux, a back up of stomach acid and food into the esophagus that could cause heartburn. Fat may also cause diarrhea, nausea or stomach discomfort, thus reading nutritional labels is essential.

## All About Carbs and Sugar

### *IMPORTANT NOTE: NOT ALL CARBS ARE BAD!*

It is important to understand that carbohydrates are essential in one's everyday diet. Although the body can obtain energy from protein and storage fat, these two macronutrients are primarily used for other homeostatic purposes in the body. The main purpose of carbs is to provide the body with energy, but it is important to know the differences between complex carbs and simple carbs.

### *Complex carbs vs. simple carbs: What's the difference?*

(from [www.thedietchannel.com](http://www.thedietchannel.com))

- *Simple carbohydrates.* These are just what they sound like: simple sugars. Simple sugars are quickly converted to glucose in your body. Simple carbohydrates include naturally occurring sugars and are most usually found in refined and processed foods, including white breads, sugary beverages and candy.
- *Complex carbohydrates.* Complex carbs are more slowly digested and almost always found in foods more healthful than their simple counterparts. You find complex carbohydrates in:

Fruits & Vegetables

Whole grain foods (cereal, bread, pasta)

### *Health benefits of complex carbohydrates*

There are numerous health-related reasons why you should increase your complex carbs, while decreasing the amount of simple sugars in your diet.

- Weight management
  - Foods that are high in complex carbohydrates are often lower in calories. It generally takes more time to eat 100 calories of a banana than it does to consume 100 calories of soda. Calorie for calorie, complex carbohydrates are more satisfying and the calories add up more slowly when compared to simple carbs.
- Fiber
  - Most Americans don't get the recommended amount of fiber per day: 25 grams for women and 38 grams for men. Increasing your complex carbohydrate foods always means an associated rise in fiber intake. And fiber helps you feel fuller for longer, meaning you'll feel the need to eat less often.
- Nutrients
  - There is no limit to the amount of nutritional benefits you get from switching to complex carbohydrates. These foods contain vitamins, minerals, phytochemicals and other nutrients that are rarely present in simple-sugar food items.

### *Be a smart consumer: Choose complex carbs over simple carbs*

With the recent focus on the detriments of low-carb diets has had a positive effect—there's a renewed interest in the benefits of complex carbohydrates and whole grains. But beware; food manufacturers are exploiting this interest with numerous ways to confuse complex-carb seekers. A

good whole grain food choice should be made primarily from whole grains. It sounds intuitive, but it's easy to get misled:

- Be wary of label lingo. Regulation surrounding labeling claims on whole grain foods is weak. Any food with a modicum of whole grain in it can be labeled "whole grain". Check the ingredient list: if "enriched" is in the first ingredient, put it back on the shelf. Look for the word "whole" in the first ingredient to assure it is indeed a good whole grain food.
- If sugar appears as the 1st, 2nd or 3rd item in the ingredient list, AVOID IT! Sugar can be listed as: sugar, maple syrup, honey, molasses, corn syrup, and corn sweeteners. Beverages that contain sugar should be avoided always. Sweeteners like Equal, Splenda, and Sweet n' Low may be used as they have no caloric value.
- Keep an eye out for the fiber content. The truth is in the label, and particularly the "fiber" section of the label. A good serving of whole grains will have 3 grams of fiber or more per serving. Only choose breads, pastas, cereals and grains that meet this requirement.
- You can't go wrong with fresh fruit and vegetables. These are your best low-calorie sources of complex carbohydrates. They are packed with nutrients and fiber and make great snacks throughout the day.

Grains and Starches: Bread, Cereal, Rice, Pasta and Starchy Vegetables

- Select whole grain products to maximize fiber and nutrient intake. Read food labels and ingredient lists to look for products with 100% whole wheat flour, stone ground whole wheat flour and other whole grains.

#### Examples of Serving Sizes

- 1 slice of bread
- ½ English Muffin
- ½ Lender's Original Bagel
- ½ pita pocket
- 5 small crackers
- 1 ounce ready-to-eat cereal
- ½ cup pasta or rice (cooked)
- ½ cup starchy vegetable

Serving sizes will change as your activity and lifestyle changes. Long-term, post-op diet goal is for 4 grain/starch servings per day. Discuss this with your dietician before advancing.

#### • GOOD CHOICES:

100% whole wheat bread or toast, English muffins, tortilla, seedless rye, pumpernickel, pita. Crackers such as low-fat Saltines or whole wheat crackers, and baked chips Cereal with low or no sugar such as oatmeal, bran flakes, high protein Special K, high protein Total or Kashi cereals. Any type of rice or pasta, but 100% whole wheat pasta and brown rice provides more fiber. Starchy vegetables such as corn, peas, potatoes, sweet potatoes, yams, winter squash, and plantains.

#### • BAD CHOICES:

High fat or sugary baked goods such as pastries, croissants, muffins, donuts, cookies, cakes, biscuits and fried dough. Crackers such as butter crackers, Ritz, Triscuits, Goldfish or Wheat Thins. Any sweetened cereal, granola or fruity cereals. Pasta in cream sauce or macaroni and

cheese. High fat foods such as French-fries, tator-tots, hash browns, cheese curls, microwave popcorn, and non-baked chips made of potato, corn or tortilla.

### All About Vegetables

Remember to introduce new vegetables slowly and start with soft consistencies

Examples of Serving Sizes

1 cup raw leafy vegetables

½ cup raw vegetables

½ cup cooked vegetables

Early post-operative goal is to reach 2 servings per day. It may help to separate into 4 smaller servings throughout the day. Long term, post-op goal is 4 vegetables servings a day.

• **GOOD CHOICES:**

Raw or cooked vegetables such as carrots, broccoli, green beans, summer squash, brussel sprouts, asparagus, spinach, green or yellow or red peppers, cucumbers, tomatoes, radishes, mushrooms, cauliflower, cabbage, lettuce and many more. Use olives and avocados sparingly.

• **BAD CHOICES:**

Avoid added fats in vegetables such as butter and margarine, cream, regular mayonnaise, sour cream, butter sauce, au gratin, Hollandaise sauce, Béarnaise sauce or cheese sauce. Avoid all deep fried vegetables.

### All About Fruit

Remember to introduce new fruits slowly and start with soft consistencies

Example of Serving Sizes

½ cup unsweetened fruit

1 melon wedge

1 medium apple, orange or peach

1 small banana

Early post-operative goal is to reach 1 serving a day. Long term, post-op goal is 2-3 servings a day.

• **GOOD CHOICES:**

Fresh fruit such as banana, berries, kiwi, orange, peach, plums, melons, mango and many more. Canned fruit like unsweetened apple sauce or any fruit packed in fruit juice or water (not sugar) is acceptable.

• **BAD CHOICES:**

All fruits canned in light syrup or heavy syrup. Candied apples, coconut and fruit juices (even the ones that say “light”).

### All about Sweets

Limit: 1-3 times per week

Examples of Serving Size

¼ cup sherbet

¼ cup fat free, sugar free pudding

• **GOOD CHOICES:**

Fat free and sugar free: Sherbet, popsicles, fudgsicles, pudding or custard made with skim milk.  
Blue Bunny no sugar added reduced fat products.

•**BAD CHOICES:**

Candy, ice cream, iced milk, pies, pastries, cakes and cookies.

### All About High Protein Foods

Goals are at least 3 servings of protein per day. Protein can come from animal or vegetable sources.

Example of Serving Size

3 oz. cooked lean meat, poultry or fish

1 egg

½ cup cooked beans, legumes

2 tablespoons of peanut butter

•**GOOD CHOICES:**

Fish- low fat: cod, flounder, haddock, catfish, redfish, halibut, perch, red snapper, sea trout, tuna  
canned in water. Fish- moderate fat: Bluefish, herring, mackerel, salmon, trout, swordfish

Shellfish: clams, crab, lobster, oyster, scallops, shrimp

Poultry: Skinless chicken and turkey breasts, ground chicken or turkey

Beef: Lean select or choice cuts trimmed of visible fat such as loin, T-bone, porterhouse, filet  
mignon, sirloin, round steak, tenderloin, rump roast, 90% or more lean ground beef.

Lamb, Pork, Veal: Lean select or choice cuts trimmed of visible fat

Cold cuts: 95% fat free, 3 grams of fat per ounce is acceptable

Eggs: whole eggs limited to 3 per week. Egg whites unlimited. Egg substitutes unlimited.

•**BAD CHOICES:**

Avoid fried fish, fish canned in oil or commercial breaded fish products. Fried shellfish, stuffed  
shrimp or lobster. Avoid fried chicken, turkey or other meats, wings, legs and thighs or any  
poultry. No regular hot dogs, only 70-89% lean hot dogs. Bacon sausage, kielbasa, knockwurst,  
pepperoni, Slim Jims. No salami, bologna, corned beef, pastrami or liverwurst. No fried or  
scrambled eggs with butter (may use small amount of I Can't Believe It's Not Butter Light).

### All About Dairy

Long term, post op goal is 2 servings per day

Examples of Serving Size

1 cup milk or yogurt

1 ounce fat free or low fat cheese

½ cup cottage cheese

•**GOOD CHOICES:**

Skim, fat free or 1% milk. Carnation Instant Breakfast, no sugar added, made with skim milk.

Yogurt that is nonfat, fat free, or 1% low fat plain or with artificial sweetener. Nonfat, fat free, low

fat cheeses such as Alpine Lace, Healthy Choice or part skim Mozzarella. Nonfat cottage cheese or cream cheese.

• **BAD CHOICES:**

Avoid whole or 2% low fat milk, cream, half and half, regular hot chocolate, milkshakes, frappes, chocolate drinks, eggnog, chowders made with cream, regular and 2% yogurt. Avoid cheese sauces, regular cottage cheese and sour cream.

All About Fat

Refer to page 2 of this packet for greater detail

Example of Serving Size

1 tablespoon fat free or low fat products

1 teaspoon oil (preferably olive)

1 tablespoon peanut butter

• **GOOD CHOICES:**

Fat free or low fat salad dressing, fat free and low fat mayonnaise, Butter Buds, Molly McButter, non-stick cooking spray, fat free cream cheese or sour cream. Limited amounts of canola, olive and peanut oils as well as peanut butter.

• **BAD CHOICES:**

Regular salad dressing, mayonnaise, reduced fat mayonnaise, butter, margarine, cream cheese and sour cream. Read the labels!

## Avoiding Common Nutritional Pitfalls

### 1. *Liquid Calories*

Liquid calories often lack the fiber, vitamins, minerals and satisfaction of a meal. They are digested rapidly while whole food calories take longer to digest. Thus, if you have a milk shake, the calories will be absorbed but you will be hungry sooner since the beverage goes straight through your body like water down a drain.

NOTE: Liquid calories also include ice cream

Examples (12 oz.)

|                           |                 |
|---------------------------|-----------------|
| Mocha made with skim milk | 210 Calories    |
| Sports drinks             | 85-115 Calories |
| Coke                      | 145 Calories    |
| Fresh orange juice        | 170 Calories    |
| Snapple                   | 175 Calories    |
| Nestea lemon iced tea     | 135 Calories    |

**Water 0 Calories!**

### 2. *High Fructose Corn Syrup*

High-fructose corn syrup is a sweetener and preservative used in many processed foods. It is made by changing the sugar in cornstarch to fructose — another form of sugar. High-fructose corn syrup extends the shelf life of foods and is sweeter and cheaper than sugar. For these reasons, it has become a popular ingredient in many sodas, fruit-flavored drinks and other processed foods. Check your food labels. You may be surprised by how many foods contain high-fructose corn syrup. These types of foods are often high in calories and low in nutritional value. This fact alone is reason to be cautious about foods containing high-fructose corn syrup.

Suggestions:

- Try to purchase organic foods such as organic yogurt, jelly, cereals, etc
- Choose fresh fruit instead of fruit drink. Even 100 percent fruit juice has a high concentration of sugar
- Choose fruit canned in its own juices instead of heavy syrup

### 3. *Carbonated Drinks*

Since you will have a smaller pouch with the Lap Band, carbonated drinks including champagne and beer can expand the pouch and cause discomfort. It may cause have the same effect as gas and bloating, thus avoiding these beverages is the best option.

### 4. *Protein Shakes*

Manufacturers of protein shakes may claim that their products increase fat loss or weight loss, but there is no evidence that this is true. The truth is that many protein shakes use a dairy or egg base, which does provide the body with protein, but it also includes many unnecessary calories from fat. Some use a soy base which provides calories mostly from protein. Although protein shakes generally are not harmful, it is important for you to choose the brands that are lower in calories.

## 5. Smoking/Alcohol

A common belief is that smoking causes the cessation of an appetite, which will in turn cause weight loss. Although it is true that smoking decreases ones' appetite, it is **not** the healthy way of losing weight. Smoking has shown to have severe adverse effects on the body including respiratory (breathing) disorders and cancer. If you are a smoker, the Lap Band can be thought of as a replacement for suppressing your hunger, as you will get full quicker with smaller amounts of food.

There are no adverse effects to drinking small amounts of alcohol with weight loss surgery. Alcohol is a high calorie liquid, and as such, should be limited, especially during the weight loss period. Thus, occasional drinking is allowable. Keep in mind the added sugars in mixed drinks and avoid.

## **Important Dietary Information**

### How to Read a Nutrition Label (FDA.gov)

#### *The Serving Size*

The first place to start when you look at the Nutrition Facts label is the serving size and the number of servings in the package. Serving sizes are standardized to make it easier to compare similar foods; they are provided in familiar units, such as cups or pieces, followed by the metric amount, e.g., the number of grams. Pay attention to the serving size, especially how many servings there are in the food package. Then ask yourself, "How many servings am I consuming"? (e.g., 1/2 serving, 1 serving, or more)

#### *Calories (and Calories from Fat)*

In the example, there are 250 calories in one serving of this macaroni and cheese. How many calories from fat are there in ONE serving? Answer: 110 calories, which means almost half the calories in a single serving come from fat. What if you ate the whole package content? Then, you would consume two servings, or 500 calories, and 220 would come from fat.

#### *The Nutrients: How Much?*

Limit these nutrients: Eating too much fat, saturated fat, trans fat, cholesterol, or sodium may increase your risk of certain chronic diseases, like heart disease, some cancers, or high blood pressure.

Get enough of these: Eating enough of these nutrients can improve your health and help reduce the risk of some diseases and conditions.

## NEW LABEL / WHAT'S DIFFERENT

Servings:  
larger,  
bolder type

| Nutrition Facts               |                      |
|-------------------------------|----------------------|
| 8 servings per container      |                      |
| <b>Serving size</b>           | <b>2/3 cup (55g)</b> |
| <b>Amount per serving</b>     |                      |
| <b>Calories</b>               | <b>230</b>           |
| <b>% Daily Value*</b>         |                      |
| <b>Total Fat</b> 8g           | <b>10%</b>           |
| Saturated Fat 1g              | 5%                   |
| Trans Fat 0g                  |                      |
| <b>Cholesterol</b> 0mg        | <b>0%</b>            |
| <b>Sodium</b> 160mg           | <b>7%</b>            |
| <b>Total Carbohydrate</b> 37g | <b>13%</b>           |
| Dietary Fiber 4g              | 14%                  |
| Total Sugars 12g              |                      |
| Includes 10g Added Sugars     | 20%                  |
| <b>Protein</b> 3g             |                      |
| Vitamin D 2mcg                | 10%                  |
| Calcium 260mg                 | 20%                  |
| Iron 8mg                      | 45%                  |
| Potassium 235mg               | 6%                   |

Serving sizes  
updated

Calories:  
larger type

Updated  
daily  
values

Actual  
amounts  
declared

New  
footnote

New:  
added sugars

Change  
in nutrients  
required

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

## FOOD SERVING SIZES GET A REALITY CHECK

### Serving Size Changes

What's considered a single serving has changed in the decades since the original nutrition label was created. So now serving sizes will be more realistic to reflect how much people typically eat at one time.

#### CURRENT SERVING SIZE



#### NEW SERVING SIZE



### Packaging Affects Servings

Package size affects how much people eat and drink. So now, for example, both 12 and 20 ounce bottles will equal 1 serving, since people typically drink both sizes in one sitting.



1 SERVING PER BOTTLE  
FOR EITHER BOTTLE SIZE

Understanding the Footnote on the Bottom of the Nutrition Facts Label

Note the \* used after the heading "%Daily Value" on the Nutrition Facts label. It refers to the Footnote in the lower part of the nutrition label, which tells you "%DVs are based on a 2,000 calorie diet". This statement must be on all food labels. But the remaining information in the full footnote may not be on the package if the size of the label is too small. When the full footnote does appear, it will always be the same. It doesn't change from product to product, because it shows recommended dietary advice for all Americans--it is not about a specific food product.

Look at the amounts circled in red in the footnote--these are the Daily Values (DV) for each nutrient listed and are based on public health experts' advice. DVs are recommended levels of intakes. DVs in the footnote are based on a 2,000 or 2,500 calorie diet. Note how the DVs for some nutrients change, while others (for cholesterol and sodium) remain the same for both calorie amounts.

*The Percent Daily Value (%DV):*

The % Daily Values (%DVs) are based on the Daily Value recommendations for key nutrients but only for a 2,000 calorie daily diet--not 2,500 calories. You, like most people, may not know how many calories you consume in a day. But you can still use the %DV as a frame of reference whether you consume more or less than 2,000 calories. The %DV helps you determine if a serving of food is high or low in a nutrient 5%DV or less is low and 20%DV or more is high. This guide tells you that 5%DV or less is low for all nutrients, those you want to limit (e.g., fat, saturated fat, cholesterol, and sodium), or for those that you want to consume in greater amounts (fiber, calcium, etc.). As the Quick Guide shows, 20%DV or more is high for all nutrients.

| Nutrient                                 | Protein (g) | Fat (g) | Calories |
|--|-------------|---------|----------|
| Lean fish (sole, catfish, halibut) 3oz.  | 21-23       | 1-2     | 95-120   |
| Fatty fish (salmon, blue fish) 3oz.      | 21-23       | 6       | 160      |
| Cooked shrimp, scallops 3oz.             | 14-18       | 1-3     | 85-90    |
| Tuna 3 oz.                               | 20-22       | 1-2     | 109      |
| Crabmeat 3 oz.                           | 10          | 1       | 87       |
| Chicken (packed in water) 3 oz.          | 16          | 1.5     | 80       |
| Chicken or turkey (white, no skin) 3 oz. | 25-26       | 2.7-3.4 | 135-148  |
| Fat free cheese 3 oz.                    | 20          | 0       | 120      |
| Fat free cottage cheese ½ cup            | 15          | 0       | 80       |
| Scrambled egg 1 large                    | 6.3         | 5.3     | 78       |
| Egg substitute ½ cup                     | 10-12       | 0-1     | 46-60    |
| Veggie burger 1 patty                    | 7           | 3       | 120      |
| Turkey burger 3 oz.                      | 11          | 2       | 105      |
| Kidney beans ½ cup                       | 7.5         | 0.4     | 103      |
| Fat free refried beans ½ cup             | 7.5         | 0.4     | 100      |
| Lentils ½ cup                            | 9           | 0.4     | 115      |

## Additional Nutrition Facts for Week 4 and Beyond

Nutrient values may vary depending on product and preparation methods. Prepare your food by baking, broiling, roasting, poaching or steaming. Use fat free, low fat and sugar free condiments to keep foods moist.

### **Nutritional References**

#### Vitamin Supplementation

- Gentle Chewable Multivitamin

Begin taking a chewable multivitamin one week after your surgery. We recommend taking a multivitamin that is formulated for bariatric patients to ensure that it will be gentle on the stomach and provide optimal absorption.

You may not get enough vitamins and minerals from your three-six small meals that you are eating every day. At your regular check-up, your surgeon will evaluate whether you are getting enough vitamin B12, folic acid, iron and calcium. If Dr. Marvin deems necessary, he will advise you to take supplements.

#### Vitamins and Minerals Reference Sheet

Vitamins and Minerals: Benefits, Food Sources, Deficiency Symptoms, Amount Needed per day (IU= international units, mg= milligrams, mcg= micrograms)

#### Vitamins

*Name: Vitamin A (Retinol)*

Benefits: healthy skin and hair, sight and growth

Food Sources: fortified cereals, green vegetables and carrots

Deficiency Symptoms: Night blindness

Men: 3000 IU      Women: 2700 IU

*Name: Vitamin B1 (Thiamin)*

Benefits: keeps nervous system healthy and is needed for energy metabolism

Food Sources: fortified cereals, whole grain breads, enriched grain products, rice, beans and nuts

Deficiency Symptoms: Beriberi, anorexia

Men: 0.8-1.3 mg      Women: 0.8 mg

*Name: Vitamin B2 (Riboflavin)*

Benefits: gives energy and helps body tissues grow

Food Sources: almonds, dairy products, avocados, dark green vegetables and fortified grain products

Deficiency Symptoms: Cheilosis, Dermatitis

Men: 1.3-1.6 mg      Women: 1.1 mg

*Name: Vitamin B3 (Niacin)*

Benefits: breaks down food for energy

Food Sources: fortified cereals, meat, fish, peanuts, peanut butter and whole grain products

Deficiency Symptoms: Pellagra, Dermatitis

Men: 16-23 mg                      Women: 14-16 mg

*Name: Vitamin B6 (Pyridoxine)*

Benefits: helps the brain function and body to build proteins for growth and development

Food Sources: poultry, fish, pork, beef, nuts, beans, eggs, vegetables, bananas, avocados & fortified cereals

Deficiency Symptoms: Convulsions

Men: 1.8 mg                      Women: 1.5 mg

*Name: Vitamin B12*

Benefits: promotes growth and development and helps make red blood cells

Food Sources: animal sources, like meat, fish, chicken, milk, cheese eggs and fortified cereals

Deficiency Symptoms: Megaloblastic anemia

Men: 2 mcg                      Women: 2 mcg

*Name: Folate (folic acid)*

Benefits: prevents birth defects when take before and during pregnancy                      Food

Sources: cooked dry beans, peas, peanuts, oranges, dark green vegetables, enriched grain products and fortified cereals

Deficiency Symptoms: Macrocytic anemia

Men: 180-200 mcg              Women: 160-190 mcg

*Name: Pantothenic Acid*

Benefits: energy metabolism

Food Sources: peas, pinto, black, and navy beans, lean meat, poultry and fish

Deficiency Symptoms: no known deficiencies

Men: 2.5 mg                      Women: 2.5 mg

*Name: Biotin*

Benefits: energy metabolism

Food Sources: egg yolk and liver, kidney beans, soy beans

Deficiency Symptoms: Anorexia, vomiting, dermatitis

Men: 60 mcg                      Women: 60 mcg

*Name: Vitamin C*

Benefits: healthy gums and teeth, helps body absorb iron

Food Sources: sweet potatoes, pumpkin, liver, dairy products, mango, cantaloupe, apricots and other fruits and vegetables

Deficiency Symptoms: Scurvy, swollen gums, cracked lips

Men: 40 mg

Women: 30 mg

*Name: Vitamin D*

Benefits: strong bones, regulation of calcium and phosphorus metabolism

Food Sources: fortified cereal, fortified milk and fatty fish

Deficiency Symptoms: Rickets, Osteomalacia

Men: 100 IU

Women: 100 IU

*Name: Vitamin E*

Benefits: protects cells

Food Sources: nuts and vegetable oils

Deficiency Symptoms: No known deficiencies

Men: 9-10 mg

Women: 6-7 mg

*Name: Vitamin K*

Benefits: clots blood, builds protein, regulates calcium levels

Food Sources: dark green vegetables, soybean and canola oils

Deficiency Symptoms: Hemorrhages

Amount needed: none established, estimated 0.03 mcg/kg

*Minerals*

*Name: Calcium*

Benefits: strong bones and teeth, helps to regulate heartbeat, blood clotting, muscle and nerve function

Food Sources: milk, yogurt, cottage cheese, sardines and calcium fortified foods such as cereals, juices and calcium fortified soy milk and tofu

Deficiency Symptoms: Bone deformities

Men: 800-1000 mg

Women: 700-800 mg

*Name: Iron*

Benefits: helps red blood cells carry oxygen to different parts of the body

Food Sources: organ meats like liver, beef, pork, and most legumes like soy and lima beans

Deficiency Symptoms: Anemia, fatigue

Deficiency Symptoms: Night blindness

Men: 5-10 mg Women: 8-13 mg

*Name: Magnesium*

Benefits: normal muscle function, steady heart rhythm, healthy immune system, strong bones

Food Sources: green vegetables, beans, peas, nuts and whole grain wheat bread

Deficiency Symptoms: Convulsions, behavioral problems

Men: 230-250 mg

Women: 200-210 mg

*Name: Potassium*

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Benefits: helps with muscle contraction and balances fluids in body's cells  
Food Sources: fruits and vegetables, milk and yogurt  
Deficiency Symptoms: No known deficiencies  
Men: 1600-2000mg    Women: 1600-2000 mg

*Name: Phosphorus*

Benefits: component with calcium in structural formation of bones and teeth  
Food Sources: meats, milk, cheese, cereals, nuts, dried beans and peas  
Deficiency Symptoms: No known deficiencies  
Men: 1000 mg            Women: 850 mg

*Name: Zinc*

Benefits: helps in normal growth and with eyes, bones, skin, hair and nails  
Food Sources: beef, turkey, fish, pork, oysters, whole grain bread with yeast and soybeans  
Men: 15 mg            Women: 12

*Examples of Supplements*

*Multivitamin:*

The Bariatric Advantage® High-ADEK Multivitamin provides the same high quality, highly bioavailable nutrients that our regular Chewable Multi-Formula does, but with additional levels of the fat-soluble nutrients vitamins A, D, E, and K. It is especially made for bariatric patients thus the formula is gentle on the stomach.

*Calcium: (1000-1500 mg daily)*

The chewable lozenge was developed to conveniently meet multiple needs of the Bariatric patients. It provides the most bio-available form of calcium and other nutrients that have been shown to support bone health. Various flavors are available.

*B12 Supplementation (Sublingual B-12 or Intramuscular shot)*

- Sublingual Vitamin B12 2500 mcg tablets by Nature's Bounty: Take 1 time per week. Available at most drug stores, GNC, vitamin stores
- B-Complex Sublingual, liquid by Nature's Bounty. Available at most drug stores, GNC, vitamin stores
- You may also choose to get B12 shots

## Exercise Regimen

Weeks 1-4 post-op:

Begin walking the day you get back from the hospital. It is essential for you move about to assist in your recovery. Begin walking 10-15 minutes 3-4 times a day for the first week. Gradually increase the walking time to 30-40 minutes, as you recover.

To lose weight and keep it off forever, you must eat healthy and exercise. The diet counts as 80% of the weight loss and the exercise counts as 20%.

The key to exercise is consistency. Whatever type of exercise you choose to incorporate into your life, you must follow it on a regular basis.

At its most basic, exercise is any type of physical exertion we perform to improve our health, shape our bodies and boost performance. To optimize your exertion, you must gradually increase the intensity of your exercise to ensure calorie burning.

This includes a broad range of activities like:

- Running/jogging
- Fast paced walking
- Elliptical machine
- Taking the stairs instead of the elevator
- Jumping rope
- Bicycling
- Dancing
- Aerobics
- Various sports

In addition, your cardio, you should begin resistance training. Use resistance bands and tubing for both your upper body and lower body.

Suggestion: Purchase resistance bands that include an easy to follow video that can be done in the privacy of your own home. We recommend seeking training from a certified specialist for best results.

Aside from bands and weights, you can very easily lift moderately heavy items in your home such as jars or a gallon of milk. For example, if you are watching television at home you can easily stand up and lift two small jars through the duration of the show.

**REMEMBER: CONSISTENCY IS KEY!**

### ***Body Mass Index:***

The BMI is the relationship between the height and weight of an individual, which correlates to the body fat and can be an indicator of health risks the person may face. There is a high correlation between a high BMI and health risks. This will be calculated at each follow up visit.