



› Roux-en-Y  
Gastric  
Bypass and  
Sleeve  
Gastrectomy  
Patient  
Manual



BARIATRIC AND  
METABOLIC INSTITUTE

# Table of Contents

	PAGE NUMBER
Welcome and Mission Statement	3
New Patient Welcome Kit	4
<b>Section 1</b>	<b>5-9</b>
About Our Team	6-7
Psychological Support	8-9
<b>Section 2 – Obesity and Bariatric Surgery</b>	<b>10-16</b>
About Obesity	11-12
How Does Bariatric Surgery Work	12
Roux-En-Y	13-14
Gastric Sleeve	15-16
<b>Section 3 - Beginners Nutrition 101 for Surgical Weight Loss Patients</b>	<b>17-28</b>
Carbohydrates, Proteins and Fats	18-21
Salt and Sodium	21
Alcohol	21
Water	21
Sugar	21
Carbonated Beverages	21
Meal Spacing	22
Multivitamins	22
Calcium	23
Ketone Breath	223
Journaling	23
Physical vs. Emotional Hunger	24
Exercise	25-28
<b>Section 4 – Final Requirements in Preparation for Surgery</b>	<b>29-37</b>
Pre-operative Education	30
Pre-Admission Testing	30
Pre-Operative Surgical Diet	31-32
One Week Before Surgery	33
Supplements	34-36
Medical Preparation for Surgery	37
<b>SECTION 5 - Surgery Information</b>	<b>38-54</b>
Day Before Surgery	39
Surgery Day	39
Recovery Room Expectations	40
Post-op Day 1	40-41
Post-op Day 2	41
Post-op Day 3	41
Follow Up Visits	41
Discharge Instructions	42-44
Patient Questions	45-49
After Surgery Trouble Shooting Guide	50-54
<b>SECTION 6 – Your New Diet</b>	<b>55-82</b>
Your New Diet	56
Important Rules	56-58
Diet Progression	59

Stage 1 – Clear Liquid Diet	60-61
Stage 2 – Full Liquid Diet	61-65
Stage 3 – Puree Diet	66-69
Stage 4 – Soft Diet	70-74
Stage 5 – Regular Diet	75-79
General Guidelines for All Surgical Weight Loss Patients	80
How to Read Nutrition Facts on Label	81
Food Label Claims	82
<b>SECTION 7 – Appendices</b>	<b>83-99</b>
<b>A:</b>	
Carbohydrates/Proteins/Fats	84-86
Milk and Dairy Products	86
Meat and Meat Substitutes	87-90
Fats	91
Free Food List	92-93
<b>B:</b>	
Vitamins and Minerals	94-96
<b>C:</b>	
Exercise Calorie Expenditure	97-99

We know when it comes to your healthcare needs you have many choices available. We want to personally thank you for choosing the Bariatric Center at McLaren Regional Medical Center. We look forward to providing you with the Best possible care through our Center of Excellence.

A Center of Excellence is “*bestowed upon bariatric surgery centers meeting rigorous criteria, including the availability of resources to perform safe bariatric surgical procedures and demonstrated short- and long-term results after bariatric surgery*”.

### **MISSION STATEMENT**

Our goal at McLaren Bariatric Institute is to provide the highest quality of care by focusing on a team approach to the multi-layered issues surrounding morbid obesity as a disease. We are dedicated to treating the seriousness of this disease by providing a comprehensive integrated approach that incorporates surgical intervention with behavioral psychology and nutritional support. We strive to help empower our patients for long term success by providing on going education, medical guidance and community support from peers and healthcare team members.

# NEW PATIENT WELCOME KIT

## Surgical Weight Loss Manual (This Packet)

Please keep this manual and bring it with you each time you come into the office. If you lose the manual a replacement manual will be provided for a fee.

## Surgical Procedure

Can be viewed on McLaren Bariatric Institute's website:

<http://www.mclarenregional.org/body.cfm?id=841>

## Food Journal (This Packet)

Journaling of your food and exercise is **CRITICAL** to the success of a surgical weight loss patient. It is a simple formula: **calories in vs. calories out**. If you do not know what is going in (calories in) or what you are burning off (calories out), it is hard for us to identify ways to help you after surgery.

## My Lap Band Journey

Online support program guides you along your entire journey - before, during, and after weight loss surgery. You can access this tool by going to [www.mylapbandjourney.com](http://www.mylapbandjourney.com)

## Bariatric Eating

On line website that provides pre & post operation education and support. It includes health and nutrition tips, healthy recipes, online support and much more. This site can be accessed by going to [www.bariatriceating.com](http://www.bariatriceating.com)

## My Fitness Pal

It is a free online support providing you with the tools and support you need to achieve your weight loss goals. This site can be access by going to [www.myfitnesspal.com](http://www.myfitnesspal.com)

## Recommended Reading List

2010 CalorieKing Calorie, Fat and Carbohydrate Counter: Can be purchased at <http://www.calorieking.com>.

Eating Well After Weight Loss Surgery by [Patt Levine M.D.](#), [Michele Bontmpo-Saray](#), [Meredith Urban](#) (*Foreword by*), [William B. Inabnet M.D.](#)

The Emotional First Aid Kit: A Practical Guide to Life after Bariatric Surgery by [Alexander Cynthia L.](#)

Weight Loss Surgery for Dummies by [Marina S. Kurian](#), [Barbara Thompson](#), [Brian K. Davidson](#).

# SECTION 1

## OUR TEAM

### Our Surgeons



**Harris Dabideen, M.D.**, is board certified in general surgery. He has special expertise in bariatric surgery, having participated in over 1200 bariatric surgical procedures since 2000. Dr. Dabideen received his medical degree from the Royal College of Surgeons in Dublin, Ireland and completed his internship and surgical residency at Hurley Medical Center.



**Michael Kia, D.O.**, is a board certified general surgeon with fellowship training in minimally invasive and robotic surgery from the University of Texas in Houston. Dr. Kia specializes in advanced laparoscopic and bariatric surgery, making him the only fellowship trained robotic general surgeon in Michigan. Dr. Kia received his medical degree from Touro University in San Francisco, and he completed his training in general surgery through Michigan State University.

## Our Psychologist



**Nicole Franklin, Psy.D.**, provides psychological support to bariatric patients before and after their surgery. She also conducts the psychological evaluations to determine whether someone is a suitable candidate for bariatric surgery.

Dr. Franklin is a graduate of Wright State University School of Professional Psychology. She completed fellowship in psychology with the McLaren Family Practice Residency.

## Our In Hospital Physician



**Koteswararao Vemuri, M.D. Internal Medicine**, received his medical degree from Rangaraya Medical College in India. He completed a residency in internal medicine at McLaren Regional Medical Center.



# Psychological Support and the Weight Loss Surgery Patient

Psychological support is crucial to the success of the weight loss surgery patient. In fact, varying personal outcomes post weight loss surgery suggests that surgery itself is not the only ingredient in the surgical weight loss process. The psychological evaluation along with pre-surgical and post-surgical behavioral modification groups can bridge the gap between the mind and the pouch. At McLaren Bariatric Institute, the psychology team's role in assisting the weight loss surgery patient involves:

1. Educating the patient before and after surgery
2. Assessing the patient's readiness for surgery
3. Assisting the patient with behavior modification
4. Conducting support groups
5. Offering individual counseling when needed

Behavior change and the process of learning new ways to interact with food can be challenging. The psychological connections with food are strong in part because we often eat in response to both positive and negative emotions. Moreover, when changing one's eating habits, the likelihood of relapse is high because often individuals have a tendency to drift back to old habits if they are not provided with the proper guidance. Hence, interventions that focus on reframing thoughts that lead to inappropriate eating behaviors are an absolute necessity in any successful surgical weight loss program.

Recent research data suggests that the more support groups attended, the greater the attendee's weight loss. In fact, support groups usually give the patient a motivational boost each time the patient attends a group. At McLaren Bariatric Institute, our psychology team offers 4 behavioral modification groups and multiple on-going support groups that will assist you as you complete your surgical weight loss journey. It is of note, that the behavioral modification groups are curriculum driven whereas the ongoing support groups are patient driven. The titles of the 4 behavioral modification groups are:

1. **Mindful Eating-** Focuses on identifying one's personal eating style and understanding the necessity of taking personal responsibility to successfully manage one's eating behavior.
2. **Life after Surgery-** Focuses on the immediate post operative adjustments that one must make in order to be successful post weight loss surgery. The goal of this group is to assist patients with finding ways to self soothe without the use of food.
3. **Relapse Prevention-** Focuses on learning how to identify and cope with high risk situations where a lapse is likely to occur. Moreover, patients learn how to implement strategies for recovering from an overeating episode or an extended period of physical inactivity.
4. **Body Image-** Focuses on considering how body image might impact weight loss efforts as the internalized representation of the body may be larger or smaller than the actual body.

The behavioral modification class schedule is usually given to the patient at the time that they are scheduled for weight loss surgery. In regards to the on-going support group, these topics differ

based on the needs of the patients present for group. However, sometimes, guest speakers are scheduled to present during these support group sessions.

In summary, the psychology team offers more than just a preoperative decision regarding appropriateness for surgery. An ongoing relationship with the psychology team can provide valuable preoperative education, identify emotional obstacles to postoperative success, and provide postoperative care to the patient and their family when indicated.

### **Requirements for Psychological Evaluation for Weight Loss Surgery**

All patients are required to complete a psychological evaluation prior to weight loss surgery at McLaren Bariatric Institute. The evaluation should be completed in a supervised setting and it must include the use of objective assessment instruments such as the Minnesota Multiphasic Personality Inventory (Second Edition), the Million Behavioral Medicine Diagnostic Inventory, or a comparable measure. Also, the patient needs to complete a clinical interview, and it is highly recommended that they complete an inventory that assesses their eating pattern such as the Eating Inventory or a comparable measure.

At McLaren, we are staffed with a team of licensed professionals that are able to assist you in completing this evaluation. Please schedule an appointment with one of our providers so that we may begin to immediately assist you in reaching your weight loss goals.

## **SECTION 2**

# ABOUT MORBID OBESITY

## Obesity

Is a serious disease with symptoms that build slowly over an extended period of time. The National Institutes of Health (NIH) define morbid obesity as:<sup>1</sup>

- Being 100 pounds or more above your ideal body weight
- Or, having a Body Mass Index (BMI) of 40 or greater
- Or, having a BMI of 35 or greater and one or more co-morbid conditions

The disease of morbid obesity interferes with basic physical functions such as breathing or walking. Long-term implications of the disease include shorter life expectancy, serious health consequences in the form of weight-related conditions such as type 2 diabetes and heart disease, and a lower quality of life with fewer economic and social opportunities.

Obesity is a serious public health issue in the U.S.

- 24 million U.S. adults are living with morbid obesity and may qualify for bariatric surgery based on NIH guidelines.<sup>32</sup>
- By 2015, it's projected that there may be 31 million U.S. adults living with morbid obesity and may qualify for bariatric surgery based on NIH guidelines.

## Body Mass Index

It is the measure of the body fat based on height and weight that applies to both adult men and women. BMI does not differentiate between body fat and muscle mass. So a body builder can have a higher BMI and not be obese.

BMI	Status
Less than 18.5	Underweight
18.5 to 24.9	Normal
25 to 29.9	Overweight
30 to 39.9	Obese
40 and above	Morbid Obesity

(<http://www.nhlbisupport.com/bmi/>)

## Co-morbid Conditions

The presence of obesity increases the risk of a number of medical conditions, including cancer. A co-morbid condition is a health condition related to a primary disease such as obesity.

There are many health conditions related to morbid obesity, but some of the most common are:

- **Type 2 diabetes**, which can lead to heart disease, kidney failure, blindness, amputation of the feet or legs, and nerve damage
- **Heart disease**, such as hardening of the arteries, heart attack, and angina
- **High blood pressure**, which can lead to heart disease, stroke, kidney failure, and vision loss
- **High cholesterol**, which can lead to heart disease, stroke, and kidney failure
- **Obstructive sleep apnea**, which has been associated with high blood pressure
- **Acid reflux/GERD**, which can lead to esophagitis, Barrett's esophagus, and esophageal cancer (adenocarcinoma)

- **Cancer**
- **Depression**
- **Osteoarthritis and joint pain**, which can lead to loss of mobility
- **Stress and urinary incontinence**
- **Female reproductive health disorder**, which can lead to infertility and sexual dysfunction

### **Other Complications of Obesity**

Your overall quality of life may be affected.

There may be:

- Risks to psychological and social well-being:
  - Negative self-image
  - Social isolation
  - Discrimination
  - Difficulties with day to day living:
    - Normal tasks become harder when you are obese, as movement is more difficult
    - You tend to tire easily and find yourself short of breath.
    - Public transportation seats and car seats may be too small for you.
    - You may find it difficult to maintain personal hygiene.

## **HOW DOES BARIATRIC SURGERY WORK**

There are two basic ways that bariatric surgery works to help patients lose weight and decrease the incidence of co-morbidities: One way is malabsorption and the other is restriction.

### **1. Restrictive procedures limit food intake:**

Procedures that use restriction limit the amount of food patients can eat. This is accomplished surgically by creating a small stomach pouch. When eating, the pouch fills quickly and gives a feeling of fullness much sooner. Because patients feel satisfied sooner, they eat less.

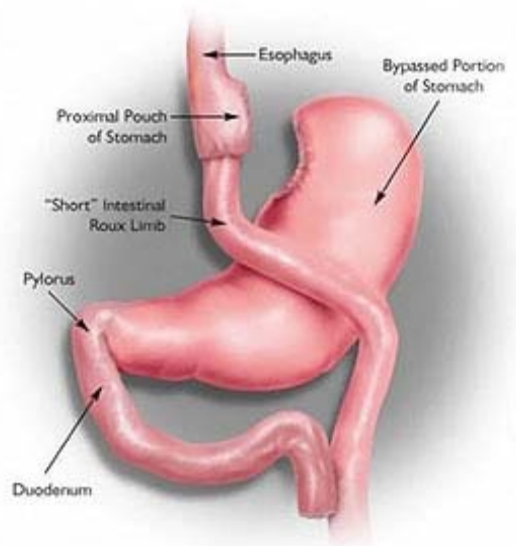
### **2. Malabsorptive procedures alter digestion:**

Procedures that use malabsorption change the body's digestive tract ability to absorb calories and nutrients from food. The surgeon changes the way food travels through the patient's system. By re-routing food past a large part of the stomach and a portion of the small intestine, much of the calories and nutrients pass through without being absorbed.

Both methods work to help patients lose excess weight, lower their BMI, and transform their health by resolving or improving co-morbidities. Bariatric surgery has many benefits that can lead to a healthier, higher quality of life, but also has certain risks.

# Roux-en-Y Gastric Bypass Surgery

## A Restrictive and Malabsorptive Procedure



According to two organizations, the American Society for Bariatric Surgery and the National Institutes of Health, Roux-en-Y (pronounced ROO-en-why) gastric bypass surgery is the most popular bariatric surgery in the United States.

This procedure is both restrictive and malabsorptive. With the addition of malabsorption, food is delayed in mixing with bile and pancreatic juices that aid in the absorption of nutrients. The result is an early sense of fullness, combined with a sense of satisfaction that reduces the desire to eat.

In this procedure, stapling creates a small (15 to 30cc) stomach pouch. The remainder of the stomach is not removed, but is completely stapled shut and divided from the stomach pouch. The outlet from this newly formed pouch empties directly into the lower portion of the jejunum, thus bypassing calorie absorption. This is done by dividing the small intestine just beyond the duodenum for the purpose of bringing it up and constructing a connection with the newly formed stomach pouch. The bypass allows food to skip parts of the small intestine. The other end is connected into the side of the Roux limb of the intestine creating the “Y” shape that gives the technique its name. The length of either segment of the intestine can be increased to produce lower or higher levels of malabsorption.

### Advantages

- The average excess weight loss after the Roux-en-Y procedure can be higher in a compliant patient than with purely restrictive procedure.
- One year after surgery, weight loss can average 77% of excess body weight.
- Studies show that after 10 to 14 years, 50-60% of excess body weight loss has been maintained by some patients.

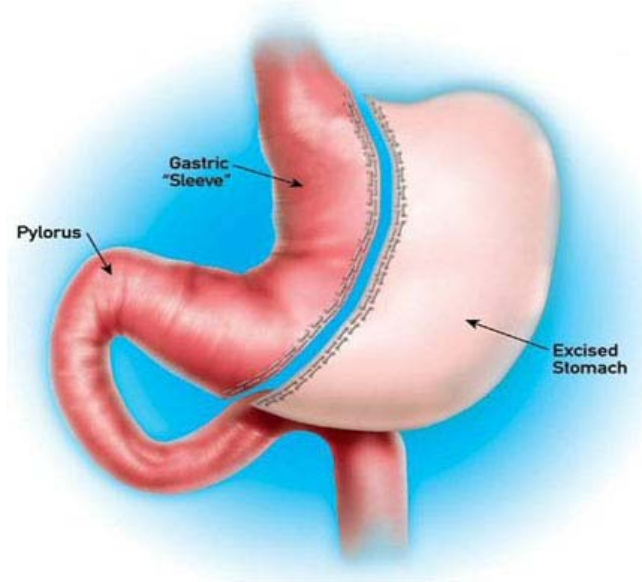
- A 2000 study of 500 patients showed that 96% of certain associated health conditions studied (back pain, sleep apnea, high blood pressure, diabetes, and depression) were improved or resolved.

## Risks

- Because some of the small intestine is bypassed, poor absorption of iron and calcium can result in the lowering of total body iron and a predisposition to iron deficiency anemia. This is a particular concern for patients who experience chronic blood loss during excessive menstrual flow or bleeding hemorrhoids. Women, already at risk for osteoporosis that can occur after menopause, should be aware of the potential for heightened bone calcium loss.
- Bypassing the duodenum has caused metabolic bone disease in some patients, resulting in bone pain, loss of height, humped back and fractures of the ribs and hip bones. All of the deficiencies mentioned above, however, can be managed through proper diet and vitamin supplements.
- A chronic anemia due to Vitamin B12 deficiency may occur. The problem can usually be managed with vitamin B12 pills or injections.
- A condition known as “dumping syndrome” can occur as the result of rapid emptying of stomach contents into the small intestine. This is sometimes triggered when too much sugar or large amounts of food are consumed. While generally not considered to be a serious risk to your health, the results can be extremely unpleasant and can include nausea, weakness, sweating, faintness, and on occasion diarrhea after eating. Some patients are unable to eat any form of sweets after surgery.
- In some cases, the effectiveness of the procedure may be reduced if the stomach pouch is stretched and/or if it is initially left larger than 15-30cc.
- The bypassed portion of the stomach, duodenum and segments of the small intestine cannot be easily visualized using x-ray or endoscopy if problems such as ulcers, bleeding or malignancy should occur.
- These are some of the more common risks associated after surgery. Your consent form outlines additional risks that are not discussed here.

# Sleeve Gastrectomy Surgery

## A Restrictive Procedure



Gastric sleeve is a restrictive form of weight loss surgery in which approximately 85% of the stomach is removed from your body. The remaining stomach is shaped like a long narrow tube or “sleeve” with a small reservoir for food at the end of the tube. This reservoir only holds about 3 ounces of food, thus enabling the patient to feel full after eating a very small amount. In addition to eating a smaller amount the area of the stomach responsible for producing the hunger stimulating hormone is removed.

The sleeve gastrectomy retains the normal valve (pylorus) that allows food to exit your stomach and into the small intestines at a normal rate. Additionally, the acids and digestive enzymes that help absorb vitamins and minerals are not bypassed during this procedure so food is digested normally and places you at a lower risk for vitamin deficiencies.

This surgery is performed laparoscopically which allows for smaller incisions and shorter recovery time. Because the stomach continues to function normally there are fewer food restrictions which patients can consume after surgery. **So it will be important to remember that one must be committed to a healthy lifestyle.**

### The Gastric Sleeve functions in 2 ways

1. It is a restrictive procedure greatly reducing the amount of food that can be eaten.
2. Hormone responsible for appetite is removed. In this procedure, the distal portion or lower portion of the stomach is removed. This portion that is removed is responsible for secreting hormones that make a person feel hungry. The sleeve gastrectomy often helps the person to feel less hungry through a hormonal mechanism.



## Advantages

- Lose 50-60% of their excess weight in 1-2 years.
- Reduced stomach volume increases the feeling of fullness.
- Stomach functions normally allowing most foods to be eaten but just in smaller amounts.
- Stomach portion that produces hunger stimulating hormone (Ghrelin) is removed.
- No dumping syndrome due to pyloric portion of the stomach is left intact.
- No small intestinal bypass and its associated risks
- Many obesity related comorbidities improve or resolve after bariatric surgery. Diabetes, hypertension, obstructive sleep apnea, and high cholesterol levels are often improved or resolved in more than 75% of patients.

## Disadvantages

- Potential is higher for inadequate weight loss or weight regain compared to Gastric Bypass.
- It is irreversible
- Considered investigational by some surgeons and insurance companies
- Potential for gastric sleeve dilation affecting weight loss.
- Long term results have not been evaluated.

## Risks

- Stomach Leakage – result of poor healing and requires revisional surgery
- Gastric sleeve dilation – the stomach occasionally stretches, expanding in volume and allowing more food to be eaten. Patients who experience this may regain some weight.
- Gastrointestinal problems – when more food is eaten than the stomach can hold comfortably they risk significant discomfort, including diarrhea, nausea, vomiting, heartburn and other gastrointestinal symptoms.
- Gastritis (inflamed stomach lining) or stomach ulcers.
- Poor nutrition, although much less than with gastric bypass surgery.
- Vitamin and mineral deficiency, although much less than with gastric bypass surgery.
- Scarring inside your belly that could lead to a blockage in your bowel in the future.
- The development of gallstones due to the rapid and significant amount of weight loss. Highest occurrence in the first 6 month. Gallstones are not a complication of surgery but rather a complication of rapid weight loss.

## SECTION 3

# **Beginners Nutrition 101 for Surgical Weight Loss Patients**

## **WEIGHT MANAGEMENT**

### **Why Worry About Body Weight?**

Gaining excess body fat can lead to serious health problems such as high blood pressure, heart disease, and diabetes just to name a few. On the other hand, losing a modest amount of weight (and keeping it off) by eating fewer calories, reducing intake of dietary fat, and increasing physical activity will decrease your risk of developing some of these health problems. This information is designed to help you learn about what good nutrition is, as well as how to choose the right foods, the right portion size, lifestyle changes, physical exercises, and setting goals that are needed so that your weight management will be easier throughout your program.

### **Understanding Healthy Eating**

#### **Carbohydrates: What are they?**

Carbohydrates are an important part of any diet because the glucose (sugar) they produce is a primary source of fuel for the entire body, especially the brain. But like fats, not all carbohydrates are created equal.

There are two types:

- Simple carbohydrates are found in sugary foods, such as candy, cakes and cookies, as well as white-flour products, such as breads, pasta and processed cereals.
- Complex carbohydrates are the fiber and starch found in fruits, vegetables, beans and whole grains.

#### **Choose complex carbohydrates**

Complex carbohydrates tend to be a better choice than their simpler counter parts. They are richer in nutrients! The soluble fiber found in complex carbohydrates – such as beans, oranges, broccoli and oatmeal – can lower LDL cholesterol and may also help control blood sugar. Insoluble fiber found in complex carbohydrates such as whole grains, vegetables and wheat bran is just as important to overall health because it reduces risk for colon cancer and other conditions, and it promotes a healthy digestive tract. Recommended fiber intake is between 20-30 grams per day. The following are examples of fiber content in foods and can be used as a guideline when calculating fiber intake.

Fresh fruit (1 whole piece) = 2 grams of fiber  
Vegetables (1/2 cup cooked) = 2 grams of fiber  
Grains (2 slices whole wheat bread) = 2 grams of fiber  
Beans (1/2 cup cooked dried beans) – 19 grams of fiber  
Nuts and seeds (2 tablespoons) = 2 grams of fiber

Like all foods, it is wise to avoid eating carbohydrates in excess, especially simple carbohydrates. This is because too many simple carbohydrates can raise triglyceride and glucose levels, which can lead to weight gain. Choose complex carbohydrates over simple carbohydrates as often as possible.

### **Why is carbohydrate counting important?**

Counting carbohydrate servings may help you control your blood sugar level so that you feel better. The balance between the carbohydrates you eat and insulin determines what your blood sugar level will be after eating. Carbohydrate counting will help you plan your meals. One serving is about 15 grams of carbohydrate. Check serving sizes with measuring cups, spoons or a food scale and by reading the Nutrition Facts on the food label. *Remember one gram of carbohydrates provides 4 calories.*

### **Nutrition Tips**

- Choose 100% whole wheat bread instead of white bread, even if it is enriched.
- Use brown rice instead of white rice.
- Limit canned, boxed and other packaged food items, which are more likely to contain refined sugars, instead choose fresh foods.
- Limit ketchup, sweet pickles and other condiments as they can be a hidden source of added sugar.
- Eat a variety of fresh fruit daily, such as berries in the morning, banana in the afternoon, and orange slices after dinner.
- If you have a sweet tooth, its ok to satisfy it, but eat no more than one serving a day of highly processed, sugary foods, such as cookies and ice cream.
- Some foods such as fresh fruit and milk contain sugars. It is better to choose these foods over other items such as cookies, cakes and candies because fresh fruit and milk provide additional vitamins, fiber and important nutrients.

### **Proteins: What are they?**

Protein is the most important thing to focus on for a surgical weight loss patient. After surgery your new stomach is very small. Proteins are a vital nutrient, essential to your health. Proteins are an important component of every cell in the body. Hair and nails are mostly made of protein.

### **Proteins: Why are they important?**

- Your body uses protein to build and repair tissues.
- You also use protein to make enzymes, hormones, and other body chemicals.
- Proteins are an important building block of bones, muscles, cartilage, skin, and blood.
- Proteins help replace and form new tissue, transports oxygen and nutrients in our blood and cells, regulates the balance of water and acids, and is needed to make antibodies.
- The body uses protein for growth, maintenance, and energy.
- Protein has 4 calories per gram. Five to seven ounces per day of meat, poultry, or fish is enough for good health.

### **Choose Your Proteins Wisely**

The type of protein you eat may play a role in successful weight loss and in your overall health. Here are a few recommend dietary proteins from the following sources:

- Fish: Fish offers heart-healthy omega-3 fatty acids and, in general, less fat than meat.
- Poultry: You can eliminate most of the saturated fat by removing the skin.
- Beans: Beans contain more protein than any other vegetable protein. Plus, they are loaded with fiber that helps you feel full for hours.
- Nuts: One ounce of almonds gives you 6 grams of protein, nearly as much protein as one ounce of broiled rib-eye steak.

- Whole grains: A slice of whole wheat bread gives you 3 grams of proteins plus valuable fiber.
- Dairy: One cup of milk gives you 8 grams of protein plus valuable calcium. Many plant-based foods like soy and legumes can give you the same amount of protein as meats.

### **Fats: What are they?**

Not all fats are created equal. Some types, such as the kind found in olive oil, nuts and salmon actually contribute to heart health. While other fats such as those found in red meat, fried foods and processed snacks can work against it. **Fats have 9 calories per gram**, more than two times the calories you get from carbohydrates and protein. Excess calories from fat are very easily stored as body fat. Eating too much fat can contribute to heart and blood vessel disease. Fat is in margarine, butter, oils, salad dressings, nuts, seeds, milk, cheese, meat, fish, poultry, snack foods, ice cream, and desserts.

### **Monounsaturated fat**

When you need to use fat in meal preparation, choose monounsaturated fats over other types. These are found in canola, peanut and olive oils, as well as nuts, avocados and olives. These are the healthiest fats.

### **Polyunsaturated fat**

Polyunsaturated fat is liquid at room temperature and found in sunflower, corn, cottonseed and soybean oils. This type of fat can reduce levels of cholesterol and is also a good choice.

### **Omega-3 fatty acids**

These are essential fatty acids that you can get only through food because your body cannot make them. They may reduce the risk of blood clotting, normalize heart rhythms and improve the immune system. Omega-3 fatty acids can be found in flax seed and flax oil, cold-water fish (such as tuna and salmon), soy and walnuts. This is a type of polyunsaturated fat that protects the heart.

### **Trans-fatty acids**

Trans-fatty acids were developed to give processed foods a longer shelf life. This additive can elevate cholesterol and other blood fats. **Be aware that foods can be stamped “fat free” and still be loaded with trans fat.** That is because food labels are currently not required to list the amount of trans-fatty acids in a food product. If the ingredient list includes “hydrogenated oil” or “partially hydrogenated oil,” you can bet the food contains trans fat. Hydrogenated oils are mostly found in bakery items and snack food. (Hydrogenation is the process of turning liquid oils into solid fats.) Avoid or limit products containing these oils.

### **Saturated fat**

Saturated fat is solid at room temperature. Examples include lard, butter or the fat in meat. Sources of saturated fat include most fat from animal products, but it is also present in coconut oil, palm oil and hydrogenated vegetable oils.

### **Nutrition Tips**

- Use peanut, olive and canola oil when recipes call for cooking with oil or fat.
- If chicken is cooked with skin on, take the skin off before eating it. Choose light meat more than dark meat. When cooking chicken use skinless pieces as often as possible.

- Choose lean cuts of meat such as loin and round.
- Choose liquid, low-fat, whipped or spray margarine or butter in place of the tub or stick version.
- Prepare vegetables without adding fat by steaming or simmering them in a nonfat broth.

### Salt or Sodium

Excess sodium in the diet can raise blood pressure. Most sodium comes from seasonings and ingredients added to foods, such as monosodium glutamate (MSG), soy sauce, mayonnaise and bouillon. It is also common in processed foods, such as luncheon meat, canned soup, canned vegetables and fast foods – all of which account for almost 75% of salt consumption in the typical U.S. diet. Although sodium is essential for maintaining bodily fluids and proper nerve function, most of us consume more than we need. The recommended daily amount is only about 2,400 milligrams, about 1 ¼ teaspoons of salt. Following this recommendation usually works well: however, some people have “sodium sensitivity.” This means they have high blood pressure, even if they are sticking to the recommended daily amount of sodium. Sodium sensitivity is most common in people who are 50 or older, have a family history of high blood pressure or are African American and Caucasians. Those with this condition often need to follow a low sodium diet.

### Alcohol

Alcohol is highly discouraged but if you choose to have an alcoholic beverage, men should limit consumption to two or fewer drinks per day, and women to one or fewer per day. A 5 oz. glass of wine, 12 oz. of beer, or 1 ½ oz. of distilled spirits all contain approximately the same amount of alcohol, approximately 15 grams, and are considered to be one alcoholic drink.

### Water

You must drink at least eight – 8 oz. glasses of water to equal a minimum of 64 oz. of fluid daily. You may also have other beverages as long as they are sugar-free and less than five calories per serving, in addition to your 64 oz. of water not including diet soda. Water is an essential nutrient and makes up more than 50% of our body weight. Not drinking enough water can result in problems including everything from muscle cramps, headaches, and fatigue (especially at the end of the day). It can also lead to constipation, kidney stones, and urinary-tract infections. Changes in exercise, altitude, heat or cold can increase your need for water.

### Sugar

Sugar is derived from carbohydrates that change into glucose in our bodies. Glucose is the main source of energy for our muscles and the brain. Our brain craves sugar because it is the main source of energy for the brain. Sugar acts like a “drug” that the brain needs to supply its energy. We need sugar in our body but we want to get sugar from **complex carbohydrates** (i.e.) whole grains, fruits, starchy vegetables, beans and legumes. These complex carbohydrates help to lower bad cholesterol in the body and are utilized better in our body. **Simple carbohydrates** are comprised of cakes, pies, cookies, white flour products, rice, pasta, etc. These items are not utilized as well in the body and eventually will lead to weight gain. It is best to avoid simple carbohydrates, and keep your sugar intake to no more than (2-4 grams of sugar per serving).

### Carbonated Beverages and Caffeine

Caffeine should be limited. Caffeine is a stimulant and it can increase your heart rate and blood pressure. If you are currently consuming multiple caffeinated beverages a day, try to wean yourself from them to reduce headache pain. Carbonated beverages (i.e. Diet Rite) tend to swell

the stomach which can increase the appetite. Keep in mind, these types of drinks contain sugar substitutes (i.e. NutraSweet, Splenda, etc.) and have been shown in studies to stimulate appetite as well.

### **Meal Spacing**

It is essential to follow guidelines for spacing your meals and snacks every 3-4 hours. Typically, scheduling a meal/snack every 3-3 ½ hours works out quite well. This will assure steady levels of your body's blood sugar.

Good control of your blood sugars by consistently eating meals and snacks on a regular basis will diminish your extreme hunger cravings and helps make compliance easier. It is important to not skip meals! Skipping meals forces your body to go too long without fuel.

1. Skipping meals causes your body's metabolism to slow down as it senses a "fast" coming. If you want to speed up your metabolism instead of slow it down, do not skip meals!
2. If you skip a meal, you set yourself up for a binge later. When you're famished, you're likely to grab anything and everything without regard to fat and calorie content or balance.

Chronic breakfast skippers often report that eating breakfast causes them to be hungry for the rest of the day. Well, this is a good sign! It means the metabolism is starting to rev up. Stick with breakfast and your other scheduled meals and snacks. The hunger pain should subside once you get a routine established.

When planning meals and snacks, it is helpful to understand a bit about digestion times for major nutrients.

<u><b>NUTRIENT</b></u>	<u><b>DIGESTION TIME</b></u>
Carbohydrate	1-2 hours (fiber-rich carbs extend digestion time)
Protein	3-4 hours
Fat	4-6 hours

Since carbohydrates digest quickly, you can expect to feel hungry in 1-2 hours after eating if you have a carbohydrate by itself. For best results, combine foods that have some carbohydrates, protein, and fat to prolong a feeling of fullness.

### **EXAMPLES**

A bagel at 7am.....	hungry at 9am
A bagel with egg and cheese.....	good until 11am
Green salad at 12pm.....	hungry at 2pm
Green salad w/kidney beans, olive oil vinaigrette and a roll.....	good until 4pm

### **Multivitamin**

A multivitamin should be taken daily. Be sure to read labels when choosing an appropriate multivitamin. Check for the USP insignia on the label, which stands for United States Pharmacopeia. The USP Dietary Supplement Verification Program certifies that products contain label-declared ingredients and that they meet high quality and purity standards.

## **Calcium**

Women and men should take calcium daily. Most men and women need 1200-1800 mg per day. Postmenopausal women should supplement in order to meet the recommended intake of 1200mg daily.

- Elemental calcium consumption should not exceed 600 mg at one time.
- Take separately to maximize absorption (1 tab in am and 1 tab in pm)
- Do not take a calcium supplement with your daily multivitamin – this will assure full calcium absorption.
- Full calcium absorption occurs when the calcium supplement is taken at a different time than your daily multivitamins.

## **Ketone Breath**

Sometimes burning body fat produces a strange taste in the mouth and an offensive odor to the breath. If this happens you may use mouthwash, sugar-free gum, sugar-free mints, or flavored breath strips as needed.

## **Journaling**

In order to be successful after surgery, you must get in the habit of keeping a journal of your food intake and exercise. This is essential for us to be able to properly counsel you in the office and make adjustments to your program. If we do not know what you are eating (and more importantly if you do not know what you are eating) then it is difficult for us to help you. Be sure to write down each snack and meal consumed (including type of food, total calories, fat grams, carbohydrates, and protein) in your journal. It is important to be 100% honest with your journal. Keep track as you eat your meals/snacks throughout the day – depending on memory at the end of the day may not be as reliant. Journaling will be a way to insure compliance and accountability for each individual's food choices.

Another great reason for keeping a daily food journal is it will ensure you that you are meeting your protein, carbohydrate, fat, and calorie requirements as well as learning what are good food choices. It is also a good reminder for spacing out your meals/snacks to help regulate your metabolism. Keeping a daily journal will not only allow you to become more aware of what goes into your body on a daily basis, but it will also allow the dietitian to assist you in attaining a maximum level of progress and make recommendations for improvement when needed.



## PHYSICAL VERSUS EMOTIONAL HUNGER

<b>Physical Hunger</b>	<b>Emotional Hunger</b>
<b>Physical hunger</b> is gradual. Your stomach rumbles. One hour later, it growls. Physical hunger gives you steadily progressive clues that it's time to eat.	<b>Emotional hunger</b> is sudden. One minute you're not thinking about food, the next minute you're starving. Your hunger goes from 0-60 within a short period of time.
<b>Physical hunger</b> is open to different foods. With physical hunger, you may have food preferences, but they are flexible. You are open to alternative choices	<b>Emotional hunger</b> is for a specific food. Your cravings are for one specific type of food, such as chocolate, pizza, or a cheeseburger. With emotional eating, you feel you need to eat that particular food. No substitute will do!
<b>Physical hunger</b> is based in the stomach. Physical hunger is recognizable by stomach sensations. You feel gnawing, rumbling, emptiness, and even pain in your stomach with physical hunger.	<b>Emotional hunger</b> is "above the neck." An emotionally based craving begins in the mouth and mind. Your mouth wants to taste that pizza or chocolate doughnut. Your mind whirls with thoughts about your desired food.
<b>Physical hunger</b> is patient. Physical hunger would prefer that you ate soon, but doesn't command you to eat right at that instant.	<b>Emotional hunger</b> is urgent. Emotional hunger urges you to eat NOW! There is a desire to instantly ease emotional pain with food.
<b>Physical hunger</b> occurs out of physical need. Physical hunger occurs because it has been four or five hours since your last meal. You may experience light-headedness or low energy if overly hungry.	<b>Emotional hunger</b> is paired with an upsetting emotion. Your boss yelled at you. Your child is in trouble at school. Your spouse is in a bad mood. Emotional hunger occurs in conjunction with an upsetting situation.
<b>Physical hunger</b> involves deliberate choices and awareness of the eating. With physical hunger, you are aware of the food on your fork, in your mouth, and in your stomach. You consciously choose whether to eat half your sandwich or the whole thing.	<b>Emotional hunger</b> involves automatic or absent-minded eating. Emotional eating can feel as if someone else's hand is scooping up the ice cream and putting it into your mouth ("automatic eating"). You may not notice that you've just eaten a whole bag of cookies (absent-minded eating).
<b>Physical hunger</b> stops when full. Physical hunger stems from a desire to fuel and nourish the body. As soon as that intention is fulfilled, the person stops eating.	<b>Emotional hunger</b> does not notice or stop eating, in response to fullness. Emotional overeating stems from a desire to cover up painful feelings. The person stuffs herself to deaden her troubling emotions and will eat second and third helpings, even though her stomach may hurt from over-fullness.
<b>Physical hunger</b> realizes eating is necessary. When the intent behind eating is based in physical hunger, there's no guilt or shame. The person realizes that eating, like breathing oxygen, is a necessary behavior.	<b>Emotional hunger</b> feels guilty about eating. The paradox of emotional over eating is that the person eats to feel better and ends up berating herself for eating cookies, cakes, or cheeseburgers. She promises atonement's to herself ("I'll exercise, diet, and skip meals, etc., tomorrow.")

## EXERCISE

*Exercise is a natural antidepressant and is good for your heart. It is a stress reducer, decreases anger and hostility, and gives you a sense of control over your life. It may be one of the greatest things you can do for yourself, but it takes work.*

*Cynthia L. Alexander PsyD*

We at the McLaren Bariatric Institute believe that developing a regular exercise routine is a critical part of your comprehensive weight management program. Consult your physician to rule out any underlying risk factors before starting an exercise program. Remember to keep exercise moderate in intensity.

Exercise is always an important part of a healthy lifestyle. A healthy body composition improves quality of life. There are so many benefits that exercise will provide for you – the number is infinite! Here are just a few of the benefits that come from increasing your activity level...

- Increases muscular endurance and strength
- Improves balance and coordination
- Maintains bone density
- Increases energy levels
- Improves sleep patterns
- Decreases risk of and helps to prevent some cancers
- Helps to regulate blood sugar
- Keeps the mind sharp
- Prevents decline in immunity
- Improves self-image and confidence
- Improves lipid profile
- Reduces stress, tension, anxiety, and depression
- Nice alternative to less healthy habits
- It enhances mood
- AND MANY MORE!!!

### **Use your mindset to maintain your exercise habits**

It can be difficult for some people to maintain a regular exercise routine. A primary reason for this is due to an individual's mindset about keeping a healthy lifestyle. There are several "pitfalls" or negative thoughts that people encounter regarding exercise, which often keep them from practicing regular activities. Several of these pitfalls are listed below, with our "rebuttals" to why one CAN do the exercise despite the negative thoughts.

**Pitfall #1:** "I just don't have the time."

#### **Rebuttals:**

- Make it a priority. Things that you deem worthwhile are ones you tend to fit in.
- Schedule time in your daily planner just like everything else.
- Definitely use a logging system.
- Ask yourself: "Do I have time to recover from a heart attack, stroke, etc.?" vs. taking the time to prevent these diseases.

- Analyze your daily routine – are there things, such as TV, napping, smoking, that exercise can be a substitute for?
- Break the exercise into two or three 10 to 15 minute increments.
- Use higher intensity and walk shorter periods of time.

**Pitfall #2:** “I don’t have the motivation to exercise.”

**Rebuttals:**

- Try to find ways to sneak more physical activity into your life, e.g., start an active hobby such as gardening, take the farthest parking spot; wash your own car, offer an elderly person to walk their dog, occasionally go bowling instead of to the movies.
- Find a partner to meet for walks and hold each other responsible for showing up.
- Read about exercise (e.g., Runner’s World) or seek out other resources (e.g., walking exercise videos).
- Read about others who overcame obstacles and what they did to reach their goals.
- Use a regular affirmation: “Exercise is great for my health and prevention of disease!” or “Exercise makes me feel good about myself and I’m worth it!”

**Pitfall #3:** “I can’t exercise regularly, so why should I bother?”

**Rebuttal:**

- Remember – “A single bout of moderate intensity walking for 30 or 40 minutes will lower elevated blood sugar, triglycerides, and blood pressure.” Every workout counts!

**Pitfall#4:** “It’s too hard and it will hurt.”

**Rebuttals:**

- Moderate efforts for moderate durations are just as effective at reducing the risk of diseases as more vigorous intensity workouts.
- Proper warm up/cool down will help you to ease into the exercise activity.
- It gets easier if you are regular with your workouts.
- It doesn’t have to be fancy or high tech to be effective at producing results. Clean your basement, walk the dog...

Take a look at what the Surgeon General says in a recent statement:

**Surgeon General’s Report:** “Significant health benefits can be obtained by including a moderate amount of physical activity (e.g., 30 minutes of brisk walking or raking leaves, 15 minutes of running or 45 minutes of playing volleyball) on most, if not all, days of the week. Through a modest increase in daily activity, most Americans can improve their health and quality of life.”

**Get started now and exercise by how you feel**

You should...

- Be able to talk while exercising.
- Feel like you could have done more.
- Find that exercise gets easier as the days go by.
- See that you are slowly increasing your exercise time.
- Give yourself a pat on the back for exercising.

### Exercise Objective:

- Gradually build your cardiovascular endurance until you can walk four or more days per week and accumulate initially 30 minutes per day.
- Begin a progressive resistance program shooting for 20 minutes 3 times per week. Join a gym and seek the guidance of an exercise professional or get started at home.
- Keep an activity log so that when you meet with the Nurse Practitioner and dietitian, they can make any necessary recommendations for your individualized program.


### Warm-up Exercises

Start by checking your pre-exercise heart rate. These basic range of motion movements are intended to promote blood flow so the healing process is at its best and to smoothly get your body ready for your in-hospital walk. It is recommended that you ease into each walk with these exercises so that your heart rate gradually increases. You should only move a body part to the point that you first feel a gentle pulling on your incision areas. Begin by doing each exercise 3 times a day and gradually progress to 10 times a day.

1. **Neck Turns:** Turn your head gently in both directions and hold for 3 seconds.
2. **Shoulder Shrugs:** Bring shoulders up toward your ears and down.
3. **Arms to Sides:** Bring arms up to shoulder height to the sides, hold and lower back down.
4. **Arms to Front:** From a standing position raise arms up and forward to shoulder height then back down.
5. **Arm Circles:** With arms at shoulder height slowly rotate arms in small circles.
6. **Cat Stretches:** While seated or standing, round out your spine like an angry cat, chin towards your chest, hold for 3 seconds, breathing in and out.
7. **Posture Stretch:** Move your spine into the opposite direction so your posture is erect and tall, arch your back, and lift your chin off your chest towards the ceiling. Hold for three seconds, breathing in and out.
8. (optional) **Knee Touches:** Slowly bend forward at the waist and touch tops of your thighs.
9. (optional) **Slight Knee Bends:** Place hands on hips, bend knees and slowly lower body to the floor keeping heels on the floor.
10. **Leg Exercises:** Slowly march in place with hand on chair to steady yourself.

We recommend exercise videos such as the Leslie Sansone “Walk Away the Pounds”. Physical activity does not have to be formal to benefit you.

Begin as soon as possible. Stay on each level for 4-7 days until you reach level 10. Walk daily until you can walk for 30 minutes without stopping to rest. Don’t skip any levels and repeat a level if necessary. Remember to walk on flat terrain, even inside the house if necessary.

Level 10			30 min DAILY
9			26 minutes once a day **
8			22 min 1-2 times a day *
7			18 minutes 1-2 times a day ***
6			15 minutes 2 times a day *****
5			12 minutes 2 times a day *****
4			10 minutes 3 times per day *****
3			8 minutes 4 times per day *****
2			6 minutes 5 times per day *****
1			4 minutes 8 times per day *****

## SECTION 4

## **Pre-Operative Education**

About 1-2 months prior to your surgery you will attend a two hour educational class to help you prepare for surgery and your recovery. It will consist of two parts: one component is the nutrition section taught by our Registered Dietitian. She will review your pre-operative and post-operative nutritional and supplemental requirements.

The second component is taught by our Nurse Practitioner who will review pre-operative instructions, where to go on surgery day and what to expect during surgery, recovery, and post-operatively. The class will also go over, common post operative experiences and complications that direct you to call your Bariatric Team.

## **Pre-Admission Testing**

Three to four weeks prior to your surgery you will have to go through the pre-admission testing process. This consists of meeting with a Nurse Practitioner from the McLaren Bariatric & Metabolic Institute or a Registered Nurse from McLaren-Flint. They will review your medical history, medications and surgical clearances, testing and lab work done prior to surgery. If these tests were not done by your Primary Care Provider then the Nurse Practitioner or Registered Nurse will order them so you can have them done.

You will also need to have a list of your medications or your bottles of medications available to review with the nurse. The nurse will let you know which medications you can take prior to surgery. In addition, they will go over your pre-operative instructions for the days leading up to your surgery.

# PRE-OPERATIVE SURGICAL DIET

We require all of our patients to follow a strict pre-op surgical diet for at least 10 days prior to surgery to improve your health, reduce the risk of surgery and make the laparoscopic procedure technically easier for your surgical team. The length of the pre-op diet will be determined upon the initial consultation.

## To be started 10 days prior to surgery.

Surgery Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Diet Start Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

For eight (8) days you are restricted to the following items:

Three (3) Meal Replacement Drinks daily.

Examples include:

- High Protein Slim-Fast
- Low-Carbohydrate Slim-Fast
- No-Added Sugar Carnation Instant Breakfast (mixed with low-fat or fat-free milk)
- Atkins Advantage Drink
- Or other comparable meal replacement.

One (1) frozen entrée daily.

Examples include:

- Lean Cuisine
- Healthy Choice
- South Beach
- Smart One (Weight Watchers)

In addition, you may have the following items daily:

- 1 cup of low-fat or fat-free milk (1%, ½% or skim) or 6 ounces of “light” yogurt.
- 1 small piece of fresh fruit or ½ cup canned unsweetened or lite fruit
- 1 cup of non-starchy vegetables (excludes corn, peas and potatoes)

Menu Plan Example:

8:00 AM	1 meal replacement drink
10:00 AM	1 cup lite yogurt
12:00 PM	1 meal replacement drink
2:00 PM	½ cup canned peaches
4:00 PM	1 meal replacement drink
7:00 PM	1 frozen entrée
	1 cup salad with 1 Tablespoon lite dressing

- **You may consume all the water and other non-calorie beverages you want.**
- **Consume at least 64oz each day.**



**48 hours (2 days) prior to surgery you are restricted to CLEAR LIQUIDS only.**

**CLEAR LIQUIDS:**

Juices: Sugar –free apple, grape, white grape or lite cranberry

Broth: chicken or beef

Water

Tea

Crystal Light or comparable product

Unflavored Unjury

Gelatin

Kool-aid

Sugar-free popsicles

Isopure

# ONE WEEK BEFORE SURGERY

## What to Buy Before Surgery

After surgery you are not going to feel like going to the store right away, so it helps to be ready ahead of time. These are some of the things you should think about stocking your pantry with.

- Sugar-free popsicles, sugar-free JELLO
- Tea (Nutra-sweet, Splenda, Sweet-n-Low allowed)
- Crystal Light, sugar-free Kool-Aid, Wylers Light
- 100% no added sugar fruit juice. Grape, apple and cranberry are okay. No juice drinks or juice cocktail
- Clear broth or bouillon (powder, cube or canned)
- Propel water by Gatorade, G2 or Vitamin Water Zero
- Protein drink: Low Carb/High Protein, milk or water based
- Skim milk, fat free soy milk, or lactose free skim milk
- Fat-free/ sugar-free pudding (in box)
- Sugar free applesauce
- Low-fat yogurt (no fruit chunks) – recommend Carb Master from Krogers
- Low-fat cream soups
- Baby food- only meats, fruits and vegetables. **NO DINNERS OR DESSERTS!!!**
- Bananas, cottage cheese, tomato and V8 juice
- Mashed potato flakes
- Eggs
- Low-fat cheese
- Canned peaches or pears (no sugar added)
- Tuna

# REQUIRED VITAMIN SUPPLEMENTATION:

## MULTIPLE VITAMIN/MINERAL SUPPLEMENT

We highly recommend a nutritional supplement, which have been specifically formulated to meet the unique demands of both the pre-operative bariatric surgical candidate, as well as the post-operative bariatric surgical patient. We recommend you get your vitamins now and have them ready to go.

### Recommended sources for post-bariatric surgery patients:

- Optisource: 1 tablet 4 times a day.
  - Available at Walgreens, [www.nestlenutritionstore.com](http://www.nestlenutritionstore.com) or at McLaren Regional Medical Center-Home Medical Supply Store
- Bariatric Advantage: 1 tablet twice a day
  - Available at [www.bariatricadvantage.com](http://www.bariatricadvantage.com)
- OPURITY: 1 tablet daily
  - available at [www.unjury.com](http://www.unjury.com)
- Celebrate Vitamins: as prescribed
  - Available at [www.celebratevitamins.com](http://www.celebratevitamins.com)

## CALCIUM

Calcium supplementation is essential in preventing the possible loss of calcium, causing accelerated bone loss, leading to osteoporosis. You should consume about 2000 mgs of calcium citrate with Vitamin D daily.

- You should start your calcium intake no later than 6 weeks after surgery.
- **Consume only 600 mg of calcium at a time.**
- Do not take Iron and Calcium together.
- Calcium Citrate can be taken with or without food.
- Calcium Carbonate must be taken with food because this vitamin needs stomach acid for absorption.

## VITAMIN B-12

Following the gastric bypass procedure the body's main location of B-12 absorption is detoured, possibly causing deficiency leading to pernicious anemia and fatigue. You will need to consume 500-1000 mcg daily or see your physician monthly for a 1000 mcg injection.

### We recommend that you take a sublingual (under the tongue) form of vitamin B-12.

Vitamin B-12 is available at most vitamin/mineral stores, including GNC (General Nutrition Centers) and at [www.bariatricadvantage.com](http://www.bariatricadvantage.com)

## FOLIC ACID

Also known as folate or folacin. You will need 200-400 mcg/day. Folic acid works with vitamin B12 to form hemoglobin in red blood cells. Consuming too much can mask a vitamin B12 deficiency and may interfere with other medications.

- Available at most vitamin/mineral stores, including GNC (General Nutrition Centers) and at [www.bariatricadvantage.com](http://www.bariatricadvantage.com)

**If indicated...**

**IRON**

Since the surgery bypasses up to 50% of your small intestine, you may not absorb enough iron. Continue monitoring with your primary care physician. We recommend Ferrous Fumerate when an iron supplement is indicated.

- Chewable forms of iron may be found at [www.bariatricadvantage.com](http://www.bariatricadvantage.com)
- Ferrous Fumerate can be found at most local pharmacies.

## ADDITIONAL SUPPLEMENTS

We highly recommend a nutritional supplement, which has been specifically formulated to meet the unique demands of both the pre-operative bariatric surgical candidate, as well as the post-operative bariatric surgical patient. We recommend you get your vitamins now and have them ready to go.

The following can be purchased online:

- UNJURY – [www.UNJURY.com](http://www.UNJURY.com)
- Bariatric Advantage – [www.bariatricadvantage.com](http://www.bariatricadvantage.com)

### Protein Supplements

Research your options by talking to your dietician, other patients and researching online. Here are a few suggestions

- UNJURY
- Bariatric Advantage
- Nectar (juice type protein drink)
- Matrix (milk based protein drink)

Other alternatives that you can buy at your local stores like Target, Kroger GNC, Wal-Mart and Meijer include:

- Atkins
- Isopure – GNC only
- EAS Myoplex Lite
- Dymatiz no sugar- GNC only

### Protein Bar Supplements

**Choose a high protein supplement that has no more than 2-4 grams of sugar per serving**

- Pure Protein
- Atkins Advantage
- Detour
- Premier (can be purchased at Costco or Sam's Club)

### Over the Counter Medications

- Liquid Tylenol (Adult, not Children's)
- Gas-X
- Mylicon- liquid or chewable
- Imodium
- Tylenol PM (crush or cut in two pieces)

# MEDICAL PREPARATION FOR SURGERY

## Pre-Operative Preparation

There are a few things you can do as a patient to prepare yourself for surgery and minimize the risk of operation.

- The most important thing is to start working to reduce your weight immediately. You should make it your goal to lose at least 1-2 pounds/week while you are preparing for surgery. Consult our dietitian; she can help you with this.
- Recommend taking a multivitamin now – it will provide essential nutrients that your body needs. After surgery you will have to take a certain amount of vitamins/minerals so start taking a multivitamin now, this will establish it as part of your daily routine and prepare the body for surgery.
- You should start a regular exercise program. For some patients this may mean just a strenuous walking regimen. Others may be able to do more, but it is important to do what you can. You should begin as soon as you read this.
- If you smoke, you need to stop **AT LEAST 2 MONTHS PRIOR TO SURGERY!** The risk of pneumonia is simply too high if you do not quit smoking. Consult your primary care physician for assistance with this. **If you do not quit, your surgery will be cancelled and you will be sent home.**
  - Many patients have had success with the new prescription medication called Chantix – consult your primary care physician if you are interested in this.
- You are going to need to eliminate all liquid calories from your diet (especially carbonated ones –**THIS MEANS NO SODA, EVEN DECAFFINATED**). **Go ahead and wean yourself from them NOW!**
- Do not take Aspirin, Ibuprofen (Motrin), Naprosyn, Aleve, or other arthritis medications for at least 1 week before surgery, because they can increase the risk of bleeding after surgery. If you take Coumadin (or Warfarin) you need special instructions on when to stop, so consult your surgeon.
- Get involved in our support group. We have many sessions available in our Flint and Clarkston offices. Please refer to our support group card for dates and times.
- If you are taking birth control pills or hormone replacement, you must **STOP the medication for at least 60 days prior to surgery.**
  - It is recommended to find other forms of birth control after surgery due to the possibility of poor absorption.

## **SECTION 5**

# SURGERY INFORMATION

## The Day before Surgery

- **DO NOT EAT OR DRINK ANYTHING AFTER MIDNIGHT** the night prior to surgery, including gum, mints or hard candy. You may brush your teeth and rinse your mouth, but do not swallow the water.
- Take a bath or shower the night before and the morning of surgery. Use only anti-bacterial soap (ex. Dial).
- Remove ALL make-up, nail polish and jewelry. Avoid deodorant, fragrances, lotions, aftershave and powders.
- Continue to fast the morning of surgery. You will have been instructed by an anesthesia provider on which medications you may take the morning of the surgery with sips of water.

## Surgery Day

Your surgery will be performed at McLaren-Flint. You will need to arrive two hours prior to your surgery, unless otherwise instructed. Please park in the patient parking lot to the left of the hospital or in the parking lot across the street from the hospital. You will need to report to the 3<sup>rd</sup> floor surgical area and register with the Nurse Liaison. Take the Central Elevators (just past the gift shop) to the 3<sup>rd</sup> floor surgical area. The Nurse Liaison office is located near the central elevators and the surgical waiting areas. Remember **DO NOT** wear make-up or jewelry to the hospital on the day of surgery.

After meeting with the Nurse Liaison you will be taken to the pre-op holding area. Here you will meet with the Anesthesiologist and your Nurse Anesthetist, they will review previous surgeries or any anesthesia problems you may have had in the past. If you have had **ANY ANESTHESIA PROBLEMS** this is the time you will need to make the staff aware of the problem. You will have an IV inserted and be given IV antibiotics to prevent infection. You also will be given a blood thinner called Lovenox or Heparin to prevent blood clots. Your family and friends will be able to visit with you once you are ready for surgery.

When you go to the Operating Room, your family will be taken to the waiting room. The Nurse Liaison will inform your family when the surgery has been completed and when they can speak to the surgeon. Your time in the operating room will vary but your surgeon will let you know the approximate time.

Once you are in the operating room there will be a lot of people in the room working - they are members of the team that will help with your operation. You will be transferred to the operating room via stretcher then you will be moved from your stretcher over to the surgery table and that is probably the last thing you will remember.

The Anesthetist will give you some medication and you will drift off to sleep. The next thing you know surgery is over and you are in the recovery room.



# RECOVERY ROOM EXPECTATIONS FOR BYPASS /SLEEVE PATIENTS

After surgery you will be moved to the recovery room and remain there for 2-4 hours. Time can vary depending on your progress. One of your family members may be able to visit you depending on how awake you are.

## **Surgery Day**

You will be admitted to your room on 4-Central once you are stable. Your family representative will need to register at the surgical office on 3-Central so they can be kept up to date on your status. Your family will be able to see you after your surgery when you have been moved to your room.

You will not be allowed anything by mouth until you had a barium swallow study done. A barium swallow study makes sure there are no leaks in the stomach and intestines. Once results are confirmed - you will be started on bariatric clear liquids.

Expect some post surgical pain in your abdominal area and you may also experience pain or pressure in your shoulder or upper back for the first couple of days if you had a laparoscopic procedure. This is caused by the air that is inserted into your abdominal cavity during the surgery. You will have a pain pump (P.C.A.) attached to your IV and you will be able to medicate yourself as needed. **PLEASE USE YOUR PAIN PUMP.** The pump is programmed to give you a small amount of pain medication each hour even if you do not use it. You will not “overdose” if you push the button too frequently. It is programmed to restrict the amount of medication you can receive each hour.

You must continue to cough and deep breathe using a pillow to splint your abdomen. Although it will be uncomfortable when you cough, you cannot hurt your surgical sites by deep breathing and coughing. You will continue using the incentive spirometer 10 times per hour. This will help clear your lungs after getting anesthesia and prevent a lung infection or pneumonia.

In the evening of your surgery you will sit up and walk a short distance with the help of the nursing staff. It is important to do as much walking as you can to improve the circulation in your legs and prevent blood clots. Blood clots can be very dangerous if they get into your lungs. You may receive injections of Lovenox or Heparin to prevent blood clots. The injections are given with a very small needle, usually in the abdominal area. The nurses will work with you very early to get you walking. You will still have a foley catheter in your bladder to measure your urine output.

## **Post-Op Day 1**

Your nurse will help bathe you and your surgical dressing might be changed. You may also see a drain on the left side of your abdomen – it is called a Jackson-Pratt drain, which will have some red drainage in it. The nurse will empty it each shift. You may have a pain pump inserted into your skin. This will help with abdominal swelling and pain.

You may have a barium swallow study done to determine that there are no leaks. Once the results are confirmed you will be started on a clear liquid diet of ice chips, water, broth, jell-o, tea etc... if you can tolerate these without nausea or vomiting the Foley catheter will be

removed. This is when you will begin to take sips of fluid from a small medicine cup. You will not be allowed to drink from a straw because it draws air into the stomach.

### **Post-Op Day 2**

On the second day after surgery, if you are tolerating clear liquids and have no nausea or vomiting you will then advance to a bariatric full liquid diet. To help prevent blood clots it is important that you walk often. You should be up walking in the hallway 3-4 times a day or more if you tolerate activity fairly well. You will still be using your incentive spirometer, and getting close to 1000 on the meter. Your pain should decrease so you should not be using your pain pump as often, but it will still be attached to the IV for your use if needed. You will be changed over to the liquid pain medication that you will be taking after you are discharged.

### **Post-Op Day 3**

By this time you should be thinking of going home – please make sure you have someone to help care for you for the first few days after discharge. The drain in your abdomen and your pain pump will be removed by the nurse before you are discharged if one was placed. Your IV most likely will come out if you are tolerating fluids without nausea. It is important to drink 8 oz of fluid per hour in small increments to maintain hydration.

You **will need** to drink a minimum of 64oz of fluid/day after you are discharged. Remember the leading cause of post-op readmission is dehydration and nausea.

Before discharge you should be able to care for yourself, walk by yourself, and get in and out of bed with minimal assistance.

If you have any questions regarding post-operative diet please refer to your Patient Manual or call the dietitian in Flint 1-888-342-5470 or Clarkston 248-922-6861.

**You will follow up with your Surgeon and the Bariatric Team in about 7-10 days after surgery.**

## **FOLLOW –UP VISITS**

Your first post-operation visit will occur 7-10 days after surgery. At this visit a member of the bariatric team will assess your incisions and give you instructions on diet advancement.

Follow up schedule

- 7- 10 days after surgery
- 3 weeks after surgery (sleeve)
- 6 weeks after surgery
- 3 months after surgery
- 6 months after surgery
- 1 year after surgery
- Then every 6 months – 1 year annually for 5 years.

Prior to these visits you will need to get your lab work done so we will be able to review at your visit. Some of the labs will look at you protein level and vitamin/mineral levels.

# PATIENT DISCHARGE INSTRUCTIONS

You will be given another copy of these instructions when you are discharged from the hospital.

## Follow-up Instructions

- **Call for your appointment (when you get home) to see your Surgeon or Nurse Practitioner at the Bariatric Institute. If you are a Flint patient call (810) 342-5470 or Clarkston patient (248) 922-6830. You will need to be seen 5-10 days after discharge from the hospital.**
- Follow-up with your Primary Care Physician within three weeks of discharge from the hospital for a check up and to have lab work (CBC and CMP) drawn. They can fax the results to the Bariatric Institute – if Flint patient (810) 342-5788 or Clarkston patient (248) 922-6831.
- Call (810) 342-5470 (Flint patient) or (248) 922-6830 (Clarkston patient) if you have any questions. After hours, weekends and holidays you may call (810) 230-3842.

## Dietary Instructions

- Increase your fluid intake up to 64ounces each day.
- Follow the Bariatric **full liquid** diet for 2 weeks with protein supplement (60-80 grams/day). Do not try to eat any solid food until you have your follow-up appointment with the Surgeon and Dietitian.
- Take your chewable vitamins with iron supplement as directed
- Three weeks post-op you may progress to pureed foods if cleared by Surgeon and Dietitian. You will be on pureed foods for about 7-10 days – depending on how they are tolerated

## Activity Instructions

- No heavy lifting, pushing or pulling (over 20 pounds) for 4 weeks
- Resume light activity. You may increase your activity slowly but remember not to over do it and expect that in the first few weeks you may get tired easier.
- You may drive 1-2 weeks after surgery once cleared by your surgeon and as long as you are not taking pain medications and the seat belt does not cause discomfort when wearing.
- Do not sleep on your stomach; you may sleep on your side or on your back.
- Begin your walking program as soon as you feel able. You may begin to work yourself up to 10 minute increments three times a day. Between 2-3 weeks increase walking sessions to 20 minutes 1-2 times a day. After 4 weeks you may increase exercise to include biking, light weight lifting and elliptical as tolerated.
- No swimming, baths or hot tubs for six weeks.

## Medication Instructions

- Your medication list will be provided to you with the doses on your discharge form. Follow this exactly.
- Crush **ALL** medications that you are to take, or you may take liquid medications for 2 weeks after surgery. (**Do not crush long acting or slow release medications**).
- Do not try to swallow tablets or pills until you have gone for your post-op visit with the Surgeon or Nurse Practitioner.

- If the medications that you are to take are bigger than a plain m&m, you will need to break them in half or crush them.
- Do not take your pills at the same time- take each pill ½ hour apart. Drink plenty of water with each pill.
- When you are taking your pain medication, you may have some dizziness or drowsiness. Do not drive or operate machinery and **do not drink any alcohol**.
- Antacid pill – Prilosec or Omeprazole: open pill contents and mix with sugar-free applesauce **every** 12 hours. **Must take** even if not having heartburn symptoms. This is to protect the smaller pouch. If taking over the counter antacid like Pepcid you will need to crush it and mix with sugar-free applesauce.
- Pain medication – Lortab Elixir: take 5- 10 ml every 4 to 6 hours as needed for pain.
- Nausea medication – **Gastric Bypass patients** will take Reglan Elixer take 10 ml every 6 hours until first bowel movement then may take as needed for nausea. **Sleeve patients** will take Zofran as directed

### Special Instructions

- If possible, do not stay home alone the first couple of nights you are home from the hospital.
- Do not return to work until you are cleared by your Surgeon.
- Pain medication may cause constipation. If this becomes a problem, you may use Milk of Magnesia or Dulcolax Suppository for relief of constipation. If it does not resolve within 48 hours, please call the Bariatric Institute (810) 342-5470 (Flint patient) or (248) 922-6830 (Clarkston patient) or call your Primary Care Physician office for instructions.
- Nausea may occur after surgery, you may take Reglan as prescribed or you may contact The Bariatric Institute for further instructions regarding your nausea. Do not hesitate to call the Bariatric Institute if you have concerns.

### Care of your Surgical Site

- You may shower when you get home, but **do not scrub the wound site**, pat the area dry. Please do not put Band-aids or gauze over incisions.
- Do not remove sutures or staples; they will be removed at your first follow-up appointment 5-10 days after discharge.
- Keep the surgical incisions dry. Do not take a bath, soak in water, swim or get in hot tub for 6 weeks.
- If your surgical site begins to drain after you get home, call the Bariatric Institute and speak to the nurse.

### Call the Bariatric Institute if any of the following occur or develop

- Fever 101 degrees or above
- Pain that is not relieved by Lortab Elixer.
- Nausea or vomiting that is not relieved by medications and/or that prevents fluid intake for a day.
- Tenderness, redness or swelling in your calf or leg.
- Severe shortness of breath or chest pain.
- Any signs of infections in or around your surgical incisions like redness, swelling, heat or hardness.
- Blood soaked or yellow/green purulent and/or odorous wound drainage.

- Unable to urinate

### **Sexual Activity**

- Do not engage in any sexual activity until cleared by your surgeon.
- Sexual activity should not place any pressure on your incisions.
- Woman must not consider pregnancy until 18 months after your bariatric surgery and your weight has stabilized. Rapid weight loss also rapidly increases fertility. Birth control must be used correctly and at all times to avoid pregnancy, even if you were not able to get pregnant in the past. A barrier contraceptive (such as a condom or diaphragm) is recommended or getting the depo provera injections. Two separate forms of birth control are required.
- Remember, absorption of prescription medications, over the counter medications and vitamins will vary after weight loss surgery.
- The use of birth control pills to prevent pregnancy is **NOT** recommended. In addition, for 6 weeks after surgery, medication containing hormones are rarely used as they increase the risk of blood clots. Please check with your doctor for reliable birth control methods.

### **IVC Filter**

- If you received or had an IVC Filter placed prior to your Bariatric Surgery, please contact the Vascular Surgeons office who placed the IVC Filter for your follow-up evaluation about 1-2 weeks after discharge.

### **Back to Work Questions**

- You will not return to work for at least 2 weeks. Length of time off is dependent on what type of job you have.
- You should be cleared by your surgeon prior to returning to work.
- Please make sure to get us your “sick leave” papers or disability papers so we can get them completed in a timely manner.
- Do not hesitate to call the Bariatric Institute if you have any questions.

# PATIENT QUESTIONS

Now that you are ready to go home here is some information to help you take care of yourself.

## **What do I do if I have questions or concerns?**

A member of the team is always available to take your calls. Our office hours are 8am-430pm Monday – Friday. You can reach the Clarkston Bariatric Team at (248) 922-6830 and the Flint Bariatric Team at (810) 342-5470. If you have an emergency you can call our after hours number for assistance (810) 230-3842.

## **When should I call the Bariatric Institute?**

1. Signs of infection
  - Fever 101 degrees or above
  - Yellow/green purulent and/or odorous wound drainage.
  - Redness, swelling, heat or pain at incision
2. Bleeding
  - From incision
  - Vomiting blood
  - Blood in stool
3. Separating or opening of healed incision.
4. Nausea or vomiting that is not relieved by medications and/or that prevents fluid intake for a day.
5. Pain that is not relieved by medication prescribed by your physician.
6. Calf or leg pain or swelling.
7. Chest pain
8. Shortness of breath

## **IF YOU DEVELOP ANY OF THE ABOVE PROBLEMS, CALL YOUR BARIATRIC TEAM!**

- Clarkston Bariatric Team at (248) 922-6830
- Flint Bariatric Team at (810) 342-5470
- After hours (810) 230-3842

If you go to the Emergency Room make sure to go to the hospital that did your surgery and tell them to have your Bariatric Surgeon paged. If you go to an Emergency Room near your house, they may not know anything about the procedure you had, and our team will not be able to care for you as we only have privileges at McLaren-Flint. Have them call your surgeon to discuss your care.

McLaren-Flint  
401 S. Ballenger Hwy  
Flint, MI 48532  
(810) 342-2000

### **What are normal symptoms I may feel?**

These symptoms may occur any time within the first 6-8 weeks after surgery and do not require immediate follow up. These are normal symptoms after surgery:

- Swelling and bruising
- Itching and/or mild redness
- Nausea –often related to pain medication, sensitivity to odors, not eating or dehydration.
- Bowel movements – if cramping, loose stools, or constipation persists (you may use Milk of Magnesia). If symptoms persist for more than 3 days call your bariatric team.
- Intermittent flank pain that increases with movement (use hot compresses or a heating pad – it may take 6 weeks to resolve).

### **What medicine must I take and how do I take them?**

You will be given instructions from the nurse when you are discharged home on the medications you are to continue.

**ALL MEDICATIONS will need to be crushed for 2 weeks.** You will need to chew any chewable tablets completely then wash them down with liquid or unsweetened applesauce. You may also take liquid forms of your medicines, if available. Shake the bottle well before you pour the medicine dose.

**Do not take aspirin or aspirin containing products. Do not take non-steroidal anti-inflammatory such as Ibuprofen (Motrin, Advil, etc.) and Naproxen (Naprosyn, Aleve, etc.).** They may cause ulcers in your pouch. Check with us if you are not sure which medicines you can take.

**\*\*\*You can take Tylenol as needed for pain.**

It is recommended to find alternate forms of birth control other than the oral pill due to the possibility of poor absorption.

### **What kind of pain will I have?**

You may experience some left shoulder/neck/left flank pain. This is from the gas that was used to inflate your stomach so that the surgeon could see during the procedure. It irritates the lining of the diaphragm, which causes pain. Some patients never experience it; others have it off and on for a week or so. There is no magic cure for this other than time.

You may also experience some epigastric pain (right at your sternum/breast bone area). It is not uncommon to feel some mild pain when you take a deep breath. You can take over the counter Tylenol as needed or use your prescription pain medication if pain is becoming intolerable.

### **How do I care for my incisions?**

Do not cover sutures (if you have them) with band-aids. You will need to leave them open to air. The incisions may itch during healing; this is normal. Do not scratch the area. Some redness is normal if the redness is spreading or larger than a quarter you will need to give us a call.

You may have a little drainage from the incisions, which is okay. The drainage should be clear to pinkish colored. If your incision develops any thick drainage, greenish-brown color, or a foul

odor, redness and/or tenderness, it may be a sign that your incision is infected. If this is the case call your Bariatric Team.

### **Can I shower/bathe or swim?**

It is okay to shower with soap the day after surgery. Pat the incisions dry after showering. Do not take a bath, soak in water, swim or get in a hot tub until incisions are healed.

### **What kind of activity is allowed?**

You can drive 1-2 weeks after discharge once cleared by your surgeon and **IF** you are no longer taking pain medication and **IF** you no longer have any pain when wearing a seat belt. Pain can make it hard to move quickly thus affecting your ability to react quickly.

Remember no heavy lifting, pushing or pulling (over 20 pounds) for 4 weeks. You may resume light activity and increase your activity level slowly but remember not to over do it and expect that in the first few weeks you may get tired easier.

You will want to begin your walking program as soon as you feel able. You may begin to work yourself up to 10 minute increments three times a day. Between 2-3 weeks increase walking sessions to 20 minutes 1-2 times a day. After 4 weeks you may increase exercise to include biking, light weight lifting and elliptical as tolerated.

No swimming, baths or hot tubs for six weeks.

### **When can I return to work?**

Returning to work will depend on the type of work you do. The movement/heavy lifting involved with the job the more time off may be needed. This is usually between 3-6 weeks. IF you are at a desk job time off is usually 10-14 days post-operatively. Time off is determined by you and your surgeon.

When you return to work it is important to make sure you have enough time to eat your meals slowly to ensure proper nutrition. If you need a return to work slip, please let us know or bring the form to your initial follow up visit.

### **How do I manage constipation pains?**

Constipation may occur due to inadequate fluid intake, lack of exercise, medication or other reasons. If you are prone to constipation you may begin to take Benefiber post-op day one. Please use the sugar free powder or chewable tablets. You will also want to drink at least 64 ounces of fluid every day, increase walking time and include a prune/applesauce mixture or apple/bran mixture two times a day.

#### **Prune/applesauce mixture**

½ cup unsweetened applesauce

2 Tbsp prune juice

1 Tbsp wheat bran (usually found in health food stores or hot cereal section of grocery store)

#### **Apple/bran mixture**

½ cup unsweetened applesauce

1 Tbsp wheat bran

Brown sugar twin to taste

Mix ingredients together and heat in the microwave.



If you do not have a bowel movement within 2 days of surgery, try Milk of Magnesia (2 tablespoons, twice a day) or Miralax 17 grams a day. If this does not work after one day, try Dulcolax suppository or a Fleets enema. If none of these measures help, contact the Bariatric Institute.

### **What do I do if I have diarrhea?**

This may be a problem for some patients after surgery. You will want to use your food log to help pinpoint the cause. If diarrhea is severe and lasts for 2 or more days or you have more than 4-5 bowel movements per day then you will need to call your bariatric team.

To help prevent diarrhea you will want to avoid foods and liquids that are high in fat and sugar, avoid spicy foods and foods or beverages that contain alcohol or caffeine. Do not eat and drink at the same time. Make sure that you allow at least ½ hour before and after a meal to drink beverages. If you suffer from lactose intolerance, which is caused by dairy products then you can use products that are treated with the enzyme lactase (Lactaid or Dairy Ease). You will also want to slowly increase the amount of fiber in your diet. A dietary fiber supplement may be needed, please discuss this with your physician.

### **How do I manage my bloating/gas issues?**

Anesthesia and narcotics are known to slow your bowel motility down. Walking will help stimulate the bowel and increase the motility. Some foods may make you develop unusual bloating or heavy gas as well (beans, peas, broccoli, brussel sprouts, cauliflower & onions). If you experience these symptoms avoid those foods and/or cut your food intake until you have relief of these symptoms. You may also take over the counter medication for gas or bloating that can be chewed or crushed for temporary relief such as Mylicon, Beano, and Gas-X. You will also want to sip fluids slowly, eat slowly and do not consume carbonated beverages. If you are lactose intolerant use Lactaid or Dairy Ease with dairy products.

### **What do I do if I have nausea?**

Nausea can occur from eating the wrong type of food, eating too much or eating and drinking fluids at the same time. To prevent nausea do not drink fluids ½ hour before and after meals. If nausea continues then increase the time for avoiding fluids to 1 hour before and after meals. Remember to eat slowly- take a full three minutes between bites. You may want to use an egg timer to help you slow your eating down. Avoid foods that have caused nausea in the past, foods that have a strong odor or flavor and foods or drinks that are high in sugar and fat. You will also want to take all vitamins after meals, never take on an empty stomach.

### **What do I do if I vomit?**

If you vomit, you have probably eaten or drank too quickly and/or ate too much or the food may have been too solid. **Wait 4 hours** and then try one ounce of liquid that does not have sugar. If this liquid does not make you nauseous or vomit then take only liquids until the next day. Then you can try pureed foods again. However, if you have constant vomiting, or vomiting that looks black, bloody or like coffee grounds, this could indicate the development of an ulcer and you should call the office. If you have vomited for more than 24 hours or feel dehydrated call the office.

### **What about pregnancy?**

**We recommend that you avoid getting pregnant for 18 months after surgery.** Rapid weight loss also rapidly increases fertility. Birth control must be used correctly and at all times to avoid pregnancy, even if you were not able to get pregnant in the past. A barrier contraceptive (such as condom or diaphragm) is suggested in addition to the birth control pill (if prescribed) as hormone changes may alter the effectiveness of the birth control pill.

# **AFTER SURGERY: TROUBLESHOOTING FOR ALL BARIATRIC PATIENTS**

You will find the answer to the majority of your questions that may arise after surgery are answered right here, so we ask that you consult this section before you contact the office. Please feel free to call us though if you feel like the question you have is not answered in this section of the manual.

## **What To Do If Food Gets “Stuck”**

When food is not passing through the pouch you may experience any or all of the following symptoms:

- Excessive salivation (frothing)
- Heartburn
- Nausea
- Cramping
- Vomiting/dry heaves
- Pain
- Thirst

In this case, the following steps can be taken to alleviate the discomfort as quickly as possible:

- Relax! Stress will only increase the discomfort. Lie down if you can.
- Do not eat anything. Drink sips of water. Warm beverages seem to help relax the stomach best.
- Stay on liquids for several hours.
- Remember if you cannot take liquids for 24 hours you should contact us for further advice.

## **Did I Chew My Food Well? Did I Take Too Big Of A Bite?**

If you do not chew your food well enough, the bites you swallow will be too large to pass easily from the gastric pouch. The un-chewed bites will remain in the pouch and are more likely to cause discomfort. Your food should be cut the same size as your “pinky” nail to be small enough.

## **Dumping Syndrome**

A possible side effect after RNY surgery is Dumping Syndrome and can range from mild to severe symptoms. It usually occurs after eating poor food choices such as high sugar foods, simple carbohydrates, certain dairy products, some fats and fried foods. These undigested foods rapidly empty from the gastric pouch into the small intestine which triggers a cascade of symptoms. When this occurs you can develop abdominal bloating, pain, vomiting, diarrhea and vasomotor symptoms (flushing, sweating, rapid heart rate, and light headedness).

The effect of dumping syndrome is both good and bad. The good part is that if dumping occurs after eating these foods you will less likely eat the food again because of how it made you feel. These are foods that typically interfere with long-term weight loss and should not be eaten anyway. The bad part is that dumping makes you feel awful; it can be confused with other problems; it is scary and sometimes difficult to manage.

There are two types of dumping the first type is early dumping which occurs 30-60 minutes after eating and can last up to 60 minutes. Symptoms include sweating, flushing, lightheadedness, rapid heart rate, palpitations, desire to lie down, upper abdominal fullness, nausea, diarrhea, cramping and active audible bowel sounds.

The second type is called late dumping which occurs 1-3 hours after eating. The small bowel is very effective in absorbing sugar, so that the rapid absorption of a relatively small amount of sugar can cause the glucose level in the body to rise rapidly. The pancreas responds to this glucose challenge by increasing the insulin output.

Unfortunately, the sugar that started this process was such a small amount that it does not sustain the increase in blood glucose, which tends to fall back down at about the time of the insulin surge, really gets going. This results in hypoglycemia or low blood sugar and the symptoms include sweating, shakiness, loss concentration, hunger, and fainting or passing out.

Here is a list of popular foods that are filled with empty calories and can provoke dumping syndrome.

- Ice Cream
- Dried fruits
- Fruit juice
- Popsicles
- Pies
- Cookies
- Table sugar
- Candy
- Molasses
- Jams
- Sherbert
- Milk shakes
- Regular Pudding
- Candied fruit
- Sports Drinks
- Cakes
- Jellies
- Kool-Aid
- Honey
- Chocolate
- Syrups
- Pancakes w/syrup
- Sorbet
- Sweet Pickles
- Sweetened fruit or frozen yogurt
- Canned or frozen fruit in heavy syrup
- Sugar coated or sweetened cereal
- Sweet rolls and doughnuts
- Regular soda/lemonade
- Sugared iced tea
- Snapple/fruit drinks
- Regular Jello
- Regular chewing gum
- waffles with syrup
- Chocolate milk
- Relish

### **Nausea and Vomiting**

It is not unusual to feel nauseated occasionally during the first few months. If this nausea causes frequent vomiting, this necessitates a phone call or visit to the office for a follow-up

Early on the new pouch can be irritable. Your stomach has been cut and stapled so it is unlikely to expand or accept solids or fluids comfortably at first. At approximately 8-12 weeks this pouch becomes less irritable. It is able to move better but still cannot expand very well. This is why the first few months 2-3 bites at one time is all the new pouch can tolerate. This is okay.

Early on the gastric bypass patients are virtually living off of stored fat for energy, and replacing muscle with oral intake of protein food. You have a lot of fat to live off for a period of time. This is why the “**protein first**” rule is so important.

By approximately 3-6 months, the pouch is flexible and you should tolerate foods better and in a little larger volume. When you feel full STOP eating and put the food away. Do not pick at it if you are still at the table. A meal should take no longer than 20-30 minutes to finish. If it is taking longer, you are probably waiting too long between bites, or getting full and waiting for it to pass through to give you more room. **The goal is not to finish your meal it is to learn what full means and feels like.**

One of the causes of nausea and vomiting is noncompliance with nutritional guidelines therefore, following the provided guidelines are very important.

Any problems with nausea and vomiting should prompt the following questions and necessary changes to avoid further pain and discomfort:

- How long am I taking to eat and/or drink?
- Did I drink fluids with my meal or too soon before/after the meal? You should wait 30 minutes before and after to drink fluids.
- Am I eating more than I should?
- Am I chewing solid foods until they resemble a pureed consistency?
- Did I lie down too soon after my meal?
- Did I eat hard to digest foods such as tough meat or fresh bread?
- Did I eat foods from the next stage of the menu plan before being cleared to do so?

Repeated vomiting may cause undue stress on the new stomach and result in irritation or even worse, rupture of the staple lines. If vomiting persists throughout the day, do not eat solid foods. Sip on clear liquids (stage1). If vomiting occurs for more than 24 hours, contact your bariatric team immediately.

### **Frothing**

As the new pouch heals, mucous sometimes is excreted to help breakdown food. With some patients, this mucous can back up into the esophagus and cause frothy clear vomiting. This is short lived and resolves by 2nd -3rd month. Frothing is not a complication but a side effect of surgery, so try drinking hot water 30-60 minutes prior to your meal to dissolve the mucous. Your meals should be better tolerated.

### **Gas Pains**

Gas pains are common in the first few weeks after surgery. Sometimes these pains can be severe and more uncomfortable than surgery pain. It often occurs in left shoulder or back. To help relieve these pains try to increase your activity level to include some walking. You can also try over the counter anti-gas preparations – Mylanta, Maalox, Gas-X, & Gaviscon. Gas pains or spasms may occur after the operation. The cause for random episodes of gas or spasms is often unknown, and the discomfort will usually relieve itself in a short time. If the discomfort from gas or spasms persists, contact your bariatric team for evaluation and possible treatment with medication to relax the intestine.

### **Hair Loss**

If you notice hair loss/thinning, especially around the 3<sup>rd</sup> month after surgery, you should consult with our dietitian to help increase your protein intake. Hair loss is often attributable to protein deficiencies, and by increasing your protein intake, you may reduce hair loss. There are no “guarantees” however. Hair re-growth usually occurs after several months.

Your dietitian will provide you with your personalized protein needs. Biotin is also an option. This is a mineral that helps promote healthy hair, nails and skin. The usual dosage is about 5mg per day. You can buy this at local nutrition stores.

## **Bowel habits**

It is common to have some temporary bowel changes following surgery. These changes can range from constipation to diarrhea. If you do not have a bowel movement by the first or second day home try Benefiber or Dulcolax – follow bottle instructions.

Maroon or blood tinged stools should be reported to the bariatric team - as they may indicate the need for additional medication to reduce the chance of ulcers.

## **Constipation**

After surgery constipation may occur. Remember that food intake is now very small compared to that before surgery therefore bowel movements will be decreased. Many people report having a bowel movement every 2-3 days. If stools are hard be sure to drink adequate fluid (64 oz per day) between meals. Also, when appropriate, include more fiber containing foods in your meal plan. If these are not helping use Dulcolax or Colace and take as the package directs. You do not need to call us for permission to use these medications but if they do not take effect then let us know.

## **Diarrhea**

Immediately following surgery, there may be some diarrhea. This should be temporary. If diarrhea occurs more than 3 times in a day you may take Imodium or an over the counter equivalent. If diarrhea persists and adequate hydration is not possible, contact your bariatric team. You may have bloody stools (black, tarry) the first 1-2 bowel movements. If this persists, please call your bariatric team.

## **Reflux**

This is when the food you consume comes right back up. There is no force behind it like vomiting. Remember that vomiting indicates an illness. The likely cause of reflux is eating too quickly or eating too much food. There is only a small percentage of your stomach available to hold food after surgery and you should feel very full after eating only a small amount of food. To help prevent reflux you need to take smaller bites of food. Make sure to chew your food at least 30 times before swallowing. You will want to allow at least 3 minutes between each bite and avoid drinking with meals, especially caffeinated products and products that contain alcohol. Here are some signs that the pouch is almost full; you may feel pressure or fullness in the center of your abdomen, just below the rib cage or a feeling of nausea, regurgitation or heartburn. It is important to recognize signs of fullness to help prevent stretching of the pouch and avoid feeling miserable from over-eating. Remember you will experience a feeling of satiety/fullness several minutes after you are actually full so knowing how much you can consume portion wise is important.

## **Sleeping**

You may sleep in whatever position that is comfortable when you get home. Many people find that sleeping on their stomach will not be comfortable for many weeks due to abdominal discomfort. If you are having difficulty sleeping, this is normal and most likely due to the busy 24-hour schedule of the hospital environment. Some people find that taking their pain medication before sleep will help them feel more comfortable and get some sleep. You may also try a mild crushed sleeping aid such as “Tylenol P.M.” or “Simply Sleep” to help you rest if the problem persists.

### **Activity/Sexual Relations**

It is important to be up out of bed or chair and active when you return home. You might notice you tire easily and need to take frequent rest periods. You can resume sexual relations once cleared by your surgeon and when desirable, keeping restrictions on other physical activity in mind. **We recommend you avoid getting pregnant for 18 months after surgery.** Rapid weight loss also rapidly increases fertility. Birth control must be used correctly and at all times to avoid pregnancy, even if you were not able to get pregnant in the past.

### **Pregnancy After Surgery**

Women of childbearing age should be on a reliable method of birth control until their weight has stabilized (12-18 months). Oral contraceptives are not recommended, other forms of birth control should be used. If you decided to get the Depo-Provera shots, you must wait 3 months to resume them to prevent clot formation.

Again, even if you have been told by your physician in the past that you are unable to conceive, please keep in mind this could be due to obesity and you **COULD** become pregnant as the weight comes off. So you will need to use some form of birth control to be safe!

### **Exercise**

Exercise is one of the most important things you can do for yourself after surgery to keep healthy. It increases your energy level and helps you to lose the maximum amount of weight. When you get home, you should get up and walk every 1-2 hours as tolerated. Work yourself up to 10 minute increments three times a day. If you begin to feel short of breath, tired, or exceed your target heart rate during the walking, slow your pace or stop.

After the first couple of weeks, you can substitute another type of exercise you enjoy for the walking program if you are feeling strong enough. The exercise should have an aerobic component that raises the heart rate to a health target rate.

By 4-6 weeks you would be walking 20 minutes 1-2 times a day. After 6 weeks you may increase exercise to include biking, light weight lifting and elliptical as tolerated.

### **Diversional Activities**

Following surgery you may find yourself spending a lot of time thinking about your operation. Constant focus on the changes happening to your body can get tiring or even distressing. It is important to take some time to exercise another part of your body...your mind. The first 6 weeks after surgery, while your body is healing, is a good time to participate in activities that are fun and good for you. Get involved in non-food related activities such as reading, art, music or other hobbies. Contact an old friend, go to a concert, movie, museum, or surf the internet. By making activities and people the center of your life, food will decrease in importance.

## **SECTION 6**



# YOUR NEW DIET

## The Rules of the Tool

The following guide will help you to use your new “tool” more effectively. It will help you to avoid problems that may occur as well as maximizing your weight loss. During the first few months after surgery, you may find you have a decreased appetite. However, the time will return when you will experience hunger; and your pouch will stretch. If you have not used the post-operative period to develop these habits, you may find it difficult to continue losing or maintaining weight. Remember, long-term success is dependent upon how you use your “tool”.

You will need to pay close attention to your diet for the rest of your life! Since you cannot eat as much, it is very important to put healthy things in your new stomach first. Eat only three small meals a day and two snacks, and make sure that these meals contain enough nutrients (especially protein). A healthy meal has meat, vegetables, fruit, bread and/or dairy products. If you do not, your weight loss will be poor and you will be weak and tired from protein or vitamin deficiencies. You should avoid high-calorie drinks from this point on. All liquid in take within reason should be **ZERO CALORIE**. You can use artificial sweeteners (Splenda, equal, and sweet-n-low).

## The Rules

Here are the rules for eating, drinking and exercise that will help you get the best results you can after surgical weight loss. How willing you are to follow a new way of eating is key to making the operation a success.

- Eat only 5-6 mini meals a day.
- Do not drink while you are eating. Wait 30 minutes before and after eating to consume fluids.
- Do not eat between your planned meals.
- Eat slowly, chew thoroughly (use an egg timer between bites if you need to).
- Stop eating as soon as you feel full.
- Keep carbohydrates less than 100 grams/day initially.
- Eat only good quality foods.
- Eat solids
- Drink enough fluids during the day (at least 48-64 ounces per day).
- Drink only low (or preferably zero) calorie liquids between planned meals.
- Take the recommended nutritional supplements
- Exercise at least 30 minutes a day 5 times a week.

### Why the rules are important and how to make them work:

#### 1. Eat only 5-6 planned mini meals a day.

One of the major ways that the surgery works is by decreasing the amount of food you are able to eat at one time. Your pouch will not let you overeat without either vomiting, or stretching out your pouch permanently. **THIS WILL CAUSE THE OPERATION TO FAIL**. You need to learn how much your stomach pouch can hold comfortably and then not exceed this amount.

## **2. Do not drink while you are eating**

Drinking too soon before a meal will prevent your from being able to eat the nutritious food that you need. Drinking with your meal can turn the meal into a “soupy” consistency that will allow the pouch to empty too quickly, allow you to eat more food and you will be hungry sooner if you are drinking while eating. This operation can work only if you eat solid food.

## **3. Eat slowly and chew thoroughly**

This will help prevent overeating and vomiting. Take 20-30 minutes to eat each meal, even when the meal is only ¼ cup - ½ cup. The nerve fibers in the stomach that signal the brain that you are full are slow acting fibers. Eating quickly can cause you to eat too much. If you become full, stop eating for that meal. Remember to chew foods to a mushy consistency and this will help moisten it and start the digestive process.

## **4. Stop eating as soon as you feel full**

Unlike in the past when you had plenty of warning when you were getting full - after surgery you have very little advance warning. It takes a little time to become accustomed to this, so be on the lookout. Stop eating as soon as you feel mild pressure or fullness in the area just beneath the rib cage. It is a good idea to measure out your portions ahead of time and do not even put more than you should be able to eat on your plate at once.

## **5. Do not eat between the planned mini meals**

Snacking, “grazing”, or eating between meals should be avoided. It can lead to unwanted calories, which may impede or prevent weight loss. If you must snack, attempt to choose healthy foods such as protein or fruit. Try to avoid high calorie snacks like potato chips. After a meal, do not eat anything else until the next meal unless you are having trouble meeting your daily protein needs.

## **6. Eat only good quality foods**

After surgery, your portions are a lot smaller. Since you cannot eat as much, you have to make sure you eat a nutritionally balanced and healthy diet. Due to the limitations in the amount of food you can eat after surgery, it is even more vital to choose healthy foods. Initially, you may find that your diet consists mainly of protein sources. Use low-fat cooking methods and avoid high calories sauces and condiments. Remember to eat the protein portion of your meal first to be sure your protein needs are being met.

## **7. Eat solids**

Once your diet has been advanced to regular foods it is important to eat foods that will fill the pouch and not empty quickly. Avoid very soft or liquid foods as regular foods such as soup, applesauce, mashed potatoes and yogurt. Also avoid high calorie drinks.

## **8. Avoid fibrous food early in the game**

Fiber is very important for your bowel health and it also helps reduce chances of constipation. Fiber is a very important part of your diet after surgery, but it is not always tolerated very well. Therefore, you will be on a low fiber diet right after surgery. You can gradually add fiber back into your diet as each stage of the diet progresses. Some examples of foods high in fiber are: bran, popcorn, raw vegetables, fruits, and dried beans.

### **9. Drink enough fluids during the day**

You need to be sure to drink 48-64 ounces of liquid every day. During weight loss after surgery your body will tend to lose water while burning and processing fat. Therefore it is very important to drink enough fluid to prevent dehydration. Signs of dehydration include: dizziness, weakness, dry mouth, rapid heartbeat, and concentrated urine. It is also the main cause of constipation after surgery.

### **10. Drink only low-calorie liquids**

We recommend avoiding carbonated beverages. The carbonation can stretch the pouch when it warms and expands in the pouch. Caffeine containing beverages should be avoided or used sparingly (limit 1-2 cups per day). Caffeine is a diuretic and can cause dehydration. Caffeine may also be an appetite stimulant and may cause you to become hungry. **LIQUID CALORIES ARE ONE OF THE MOST COMMON REASONS FOR FAILURE OF ANY WEIGHT LOSS SURGERY!**

### **11. Take the recommended nutritional supplements.**

It is important to take the recommended vitamins and nutritional supplements after surgery. The nature of the surgery and calorie restriction makes it difficult to obtain the needed amounts through food alone. These vitamins and minerals are vital to proper body function. Deficiencies can cause major medical problems, which may not surface until years after surgery. Most problems are caused by patients failing to take the recommended supplements. Please refer to Required Supplement section of your manual.

### **12. Exercise at least 30 minutes a day**

If you do not exercise, you will not do well. You need to work up a sweat for at least 30 minutes a day 5 times a week. Things such as walking a lot at work, taking out the garbage, or cleaning the house **DO NOT COUNT!** You can also burn a lot of calories through increasing your activity level in the course of daily living. If you never take an elevator again and always pick the parking spot farthest away from where you are going, you will burn thousands of extra calories!

### **GUIDELINES TO FOLLOW:**

- Eat until comfortable NOT FULL
- Choose protein first
- Eat slowly, chew well
- Do not drink 30 minutes before or 30 minutes after meals
- Avoid high calorie liquids
- Exercise daily
- Protein: Men: 80-100 grams/day Women: 60-80 grams/day
- 64 ounces of fluid per day
- Carbohydrates: 100 grams or less/day
- Fats 4-5 grams per meal - no more than 25 grams total/day
- Fiber 25 grams or more a day

# DIET PROGRESSION FOLLOWING GASTRIC SLEEVE/BYPASS SURGERY

The following stages describe the progression of your diet following Gastric Sleeve/Bypass surgery. Your newly formed pouch and connections require time to heal and adjust to the changes created by the surgery. The following stages allow this process to occur without putting undo stress on these areas. Following these guidelines will help improve your tolerance to foods, promote healthy eating habits and support weight loss.

Immediately following your surgery, you will not be allowed to eat or drink anything. You will receive fluids intravenously on your first day after surgery.

## Progression Starting In Hospital

### Stage 1 (Clear Liquids):

Approximately 1 day after surgery you will undergo a barium swallow study to check that there is no leak. If this test is satisfactory, you will be started on a clear liquid diet. The main purpose of the clear liquid diet is to provide adequate fluids to prevent dehydration while the digestive system recovers from surgery.

**Duration:** Clear liquids for 1-2 days.

### Stage 2 (Full Liquids):

At the second stage, the digestive system is recovered from the effects of surgery and can tolerate more foods. There is still significant swelling which needs to subside before attempting more solid foods. This stage still prevents dehydration but also provides nutrition to promote recovery and healing.

**Duration:** Full liquids for 2 weeks (days 3-15).

### Stage 3 (Puree Diet):

You will start the puree diet on day 16 after surgery, which consists of sugar-free soft and pureed foods that are easily digested.

**Duration:** Puree diet for 2 weeks (days 16-22).

### Stage 4 (Soft Diet):

It takes approximately 4-6 weeks for the suture lines to heal after surgery. The soft diet stage consists of mechanically soft foods that will not place stress on the new sleeve. It is also a time to learn what full is. The amount of high-calorie liquids that may be consumed changes slightly at this stage.

**Duration:** Soft diet for 3 weeks or longer if needed (days 23-43)

### Stage 5 (Regular Diet):

Your sleeve has now healed to the point where it can be used in the capacity of a weight loss tool. You will progress to a regular diet as tolerated. We recommend that you eat three small meals a day and consume a high protein drink or snack. Nearly all of the beverages you drink should be non-caloric beverages.

**Duration:** Start day 44

## Stage 1 (Clear Liquids)

Immediately following surgery, your stomach will need to heal. Your body needs a lot of liquid for healthy recovery. The day after surgery you will be started on a clear liquid diet that has no carbonation, no caffeine and is sugar-free or low in sugar.

### Start:

- Day one postoperatively. The first day you are allowed fluids while in the hospital.

### Estimated Duration

- 1-2 days

### Diet Instructions:

- 28-32 ounces of sugar-free, low-calorie, non-carbonated, non-caffeinated liquids.
- Low-calorie includes beverages with less than 15 calories per 8 ounce serving.

### Goals:

- Slowly drink 4-6 ounces of fluid per hour. Aim for a total of a minimum of 28-32 ounces of fluid daily. Goal is to get 64 oz of fluids a day

### Recommended Clear Liquids to Add to Diet:

- Clear broth or bouillon
- 100% no sugar added apple, cranberry, or grape juice. Dilute with 1 part juice and 1 part water. No citrus juice (i.e. orange juice, grape fruit juice etc). Limit to 8oz or less per day of diluted fruit juice.
- Tea (do not add milk)
- Coffee (do not add milk or creamer)
- Sugar free gelatin
- Sugar free popsicles
- Sugar free flavored beverages (Isopure Clear, Crystal lite, sugar free kool-aid, Propel, Powerade Zero, Vitamin Water 10, Sobe lean, etc).
- Water
- Artificial sweetener of your choice (Equal, Sweet & Low, Splenda, Truvia, PureVia, Stevia).

### Tips:

- Clear liquids are fluids that can almost be seen through.
- Try to sip 1 ounce (30cc) during a 5-15 minute time period. Use a 1 ounce medicine cup to help prevent you from drinking too fast or gulping which may introduce air into your system and cause gas pains.
- If you feel fullness, pain or nausea, stop sipping until the feeling passes.
- Avoid using a straw. They may introduce air into your system and cause abdominal distention or discomfort.
- Carbonation can cause abdominal distention or discomfort – **AVOID CARBONATED BEVERAGES.**
- **Avoid Very Hot or Very Cold Foods** – they may not be well tolerated.
- Write down the amount of fluids you drink on a food journal and include the time of day.

## Stage 2 (Full Liquids & Thin Purees)

It is necessary for you to continue to consume liquids as your stomach is still swollen and tender. About 2-3 days after surgery your diet will be advanced to the **high protein full liquid diet** which consists of sugar-free, low fat milk products, protein supplements and strained soups. These liquids contain the protein and vitamins your body needs now for healing. You may still drink liquids from the clear list too.

### Start:

- Day 2-3 after surgery

### Estimated Duration:

- 2 weeks depending on your tolerance (days 3-15).
- Please note that the total duration will be determined by your dietitian.

### Food Consistency:

- A full liquid diet consists of food that pours off a spoon like soup and thin cream of wheat.

### Diet Instructions:

- Protein goal 60-80 grams per day by drinking 3-5 high protein, low sugar shakes.
- Protein powders can be mixed with water, skim milk or 1% milk, light soy, lactose free milk.
- Each 8 oz serving should have: 100-200 calories, at least 15 grams of protein, less than 4 grams of sugar per serving.

### Goals:

- **Fluids:** Aim for a total of 64 ounces of fluid daily. This does not include your protein shakes.
  - It is normal to not reach this goal right away. Just do your best each day.
- Slowly drink 6-8 ounces of fluid per hour.
- **Protein:** Women: 60-80 grams a day. Men: 80-100 grams a day.
- **Carbohydrates:** 45-60 grams
- **Calories:** 900-1200 (as tolerated)

### Vitamins:

- Start taking your multivitamin, B12, and calcium supplements (recommend calcium crystals or calcium lozenges)

### Tips:

- Plan ahead and have the protein shakes ready to drink
- In the beginning thin, water based shakes may be easier to digest while milk based supplements may feel “heavy” and uncomfortable at first.
- Use a thermos or chill your glass in the freezer to keep your protein shakes cool while you are drinking them.
- It is pertinent that you keep track of your protein intake daily to ensure you are meeting your protein requirements.

- Try adding non-fat dry milk powder to foods to increase the protein content without adding volume (3 TBSP =9-10 grams of protein). You can also add unflavored protein powder to food items.

### **Important Information:**

- Avoid vomiting. This may lead to staple line disruption.
- Diarrhea, constipation and nausea may occur at this stage but can be avoided. Refer to common problems and solutions in pre-op education folder.
- **Why Protein?**
  - Protein is vital in your road to recovery from surgery and your success in weight loss. Protein is the building block of our bodies, helping us make and repair small items like cells to large items like muscle and skin. After weight loss surgery, protein becomes the most important nutrient you can eat/drink. If the body does not get enough protein through your diet, it cannot properly build new cells and tissues. The effect of surgery on your body increases the need for protein intake, which can only be accomplished through liquids, due to the new small-restricted pouch. **Remember you will need to supplement with protein drinks or shakes.**

### **Recommended Full Liquids to Add to Diet:**

- Skim Milk, ½ % or 1%
- High- protein skim milk
- Sugar-free pudding or custard
- High protein sugar-free pudding
- Lite yogurt (100 cal or less): choose smooth yogurts, not yogurt with fruit on the bottom that needs to be mixed.
- Sugar-free fudgesicles or creamsicles
- Strained soups (avoid tomato soup due to high sugar content). Strain soups in a fine mesh strainer or blended until completely smooth. Choose low-fat or fat-free soups. Cream of potato, cream of mushroom, etc are acceptable to eat once blended and strained.
- Carnation Instant Breakfast – no added sugar
- Sugar-free hot cocoa
- Sugar-free high protein hot cocoa
- High protein cream of vegetable soup\*
- Pineapple smoothie\*
- Peach smoothie\*
- Cream of Wheat or Cream of Rice (thin and soupy warm cereals)
- High protein supplements
- Recipe Included

<b>Recommended Protein Shakes (Contain Lactose):</b>	<b>Lactose Free Protein Shakes:</b>
<ul style="list-style-type: none"> <li>• Carnations Instant Breakfast – No sugar added</li> <li>• Worldwide Pure Protein Shake</li> <li>• EAS and EAS AdvantEdge Carb Control</li> <li>• Atkins Advantage Shake</li> <li>• Ensure High Protein</li> <li>• Designer Whey</li> <li>• EAS Myoplex Lite</li> <li>• Syntrax Matrix</li> <li>• Body Fortress</li> <li>• Premiere (Costco &amp; Sams)</li> </ul>	<ul style="list-style-type: none"> <li>• Unjury</li> <li>• Glucerna</li> <li>• GNC Total Lean</li> <li>• Syntrax Nectar</li> <li>• Isopure</li> </ul>

\*\*Most protein shakes contain artificial sweeteners. If you are allergic, ask your dietitian for an alternative plan.

### Sample Full Liquid Meal Plan

Breakfast	½ cup cream of wheat (with 3 tbsp of dry milk powder) ½ cup skim milk	7 grams of protein 4 grams of protein
Snack	Protein supplement	15+
Lunch	½ cup strained fat-free cream soup (with 3 tbsp of dry milk powder) ½ cup sugar-free pudding	8 grams of protein 1 grams of protein
Snack	Protein supplement	15+
Dinner	½ cup lite yogurt ½ cup strained fat-free cream soup (with 3 tbsp of dry milk powder)	3.5 grams of protein 8 grams of protein
Snack	Protein supplement	15+

### Important Measurement Conversions:

1oz = 1/8 <sup>th</sup> of a cup or 2 tbsp	4oz = ½ cup or 8 tbsp
2oz = ¼ cup or 4 tbsp	8 fluid oz = 1 cup or 16 tbsp
8 cups = 64oz	

- Be sure to have a standard measuring cup and measuring spoons.
- Meats should be weighed on a kitchen scale.
- Use a liquid measuring cup for all fluids.
- Use standard measuring cup and a standard teaspoon and tablespoon for measuring all foods.



For the first two months after surgery you should avoid the following beverages as they can cause stomach irritation and discomfort:

- Alcohol
- Caffeinated beverages
- Carbonated beverages
- Citrus juices

### **Sugar-Free vs. No Added Sugar**

There is a big difference between “sugar-free” and “no sugar added”. You may be very sensitive to any sweetness following surgery. “No sugar added” may sound harmless, but a “no sugar added” food or drink may have high natural sugar content, and it can make you very nauseated. Proceed with caution.

### **A word about Sugar Alcohols...**

Sugar alcohols are also known as sorbitol, xylitol, and mannitol. These substances are made by adding hydrogen atoms to sugars. Your body absorbs them slowly and incompletely. A side effect for some people, especially if large amounts of sugar alcohols are consumed, is diarrhea.

## High Protein Full Liquid Recipes

### High Protein Sugar-Free Carnation Instant Breakfast

- ½ cup skim milk
- 3 tbsp. Nonfat dry milk
- ½ envelope sugar-free Carnation Instant Breakfast
- Mix in blender or shaker cup. Each ½ cup serving provides 132 calories with 10.5 grams of protein.

### High Protein Carnation Instant Breakfast Smoothie

- ¼ cup 100% orange juice
- ½ cup skim milk
- 3 tbsp. Nonfat dry milk
- ½ envelope of sugar-free Carnation Instant Breakfast (vanilla flavor)
- Mix in blender. Each serving provides 160 calories with 10.5 grams of protein.

### Pineapple or Peach Smoothie

- 6 oz 100% pineapple juice or peach nectar or peach juice
- ½ cup low-fat cottage cheese
- Blend well. Strain if necessary to remove any unblended pieces. Each recipe provides 180 calories with 14 grams of protein.

### High Protein Cream of Vegetable Soup

- 1-1/4 cup water
- 1 cup chopped vegetables (fresh, frozen, or canned)
- 1 cup skim milk
- 1-1/2 tbsp. Cornstarch
- ¼ tsp. Dried onion
- dash pepper
- 1/8 tsp. Dried Basil
- 1/8 tsp. Dried thyme
- ½ tbsp. Instant bouillon
- ¾ cup Nonfat dry milk
- Combine vegetables and water in a saucepan. Cover and cook until vegetables are tender. Set aside. Combine other ingredients. Mix well.
- Cook over low heat, stirring constantly to avoid scorching, until thickened. Add vegetables and the water they were cooked in. Blenderize until completely smooth. Heat thoroughly. Strain before eating.
- Yield: Six servings (about 3 cups), **One serving:** ½ cup
- Each serving provides 102 calories with 9.5 grams of protein.

## Stage 3 (Purees)

Your new gastric sleeve will need about 6 weeks to heal. In order to allow these areas to heal properly, without stress, and allow your smaller stomach to get used to its new role, the food you eat must already be broken down and liquefied (blended or pureed). If you try solid food now you could create a blockage and be forced to vomit, which can disrupt the staple line causing serious complications. Remember this area is still tender and somewhat swollen. If you challenge it you will be sorry!

Once you have passed through the full liquid stage of your post-surgery eating plan, you can begin stage 3, which involves the consumption of pureed foods. Pureed foods (sometimes called squishy foods) are thicker than full liquids.

While you are the pureed food stage, you can still consume all the foods that were included in both the clear liquids and full liquids stages. While you may find that your stomach is more satisfied during this stage, you must make sure to take in enough fluids each day. Again the sole focus will be on foods high in protein, low in sugar and fat. Always eat protein-rich foods first then, vegetables and fruits.

### Start:

- 3 weeks after surgery (day16)

### Estimated Duration:

- 2 weeks (days 16-22) depending on your tolerance.
- Please note that the total duration will be determined by your dietitian.

### Food Consistency:

- Smooth-blended foods with a consistency of stage 2 baby foods.

### Goals:

- **Fluids:** 64 ounces of fluid daily. This does not include your protein shakes.
  - It is normal to not reach this goal right away. Just do your best each day.
- Slowly drink 6-8 ounces of fluid per hour.
- **Protein:** Women: 60-80 grams a day. Men: 80-100 grams a day.
- **Carbohydrates:** 45-60 grams
- **Calories:** 900-1200 (as tolerated)

### Vitamins:

- Continue taking your multivitamin, B12, and calcium supplements

### **Diet Instructions:**

- 8-9 protein servings/day, 1 vegetable serving/day, 1 fruit serving/day, 1 starch/day, 1 fat serving/day.
- In this stage pureed foods are considered solids so you will want to differentiate between liquids and solids. Meals should include pureed foods and so liquids (including protein drinks) should be taken separately from your meals.
- Eat **PROTEIN** foods **FIRST**.
- Make sure to eat foods that are well blended:
  - Use foods with naturally smooth consistency, such as applesauce, mashed potatoes or blended yogurt.
  - Purchase baby food. If you choose to do this, remember to read the labels to avoid added sugars. There are many “dessert” baby food items that you may want to avoid due to added sugars. Use only 1<sup>st</sup> or 2<sup>nd</sup> stage foods and choose mostly meat products, as these are the best source of protein.
  - To puree foods, place chopped food into a blender or food processor. Add enough liquid to cover blade(s). Blend until food is smooth and free of chunks. Use broth, sugar free fruit juice or low fat/skim milk instead of water to puree; water will dilute the flavor of the food. You may use herbs and spices for flavor. Freeze in an ice-cube tray, pop out and store in a zip-loc bag for convenience. One cube is equal to 2 ounces.

### **Tips:**

- It is pertinent that you keep track of your protein intake daily to ensure you are meeting your protein requirements.
- Start slowly. If you do not tolerate pureed foods go back to the liquid diet and try again in a few days.
- Be careful of overeating which can cause nausea or discomfort. It can also cause your stomach pouch to stretch, which may lead to some damage.
- To increase protein, add non-fat dry milk powder to foods/beverages whenever possible (1/4 cup = 11 grams of protein).
- Do not eat and drink fluids at the same time. Wait at least 30 minutes after eating to drink fluids. Stop drinking fluids at least 30 minutes before eating.
- Continue protein drinks every day.
- **Remember: IF YOU CAN CHEW IT, DON'T DO IT!**

### Recommended Pureed Foods to Add to Diet:

Food Groups	Recommended	Avoid
<b>Milk</b>	Skim milk, ½% milk, low-fat buttermilk, decaf coffee, decaf tea, sugar-free hot cocoa, No Added Sugar Carnation Instant Breakfast	Any containing carbonation or added sugar
<b>Cereals</b>	Cream of Wheat, Oatmeal	Any with seeds, dried fruits or nuts
<b>Meats</b>	Scrambled eggs, egg substitute, cottage cheese, pureed lean meats	All others
<b>Potato or Substitute</b>	Mashed potatoes with fat-free gravy	All others
<b>Soups</b>	Broth, bouillon, consommé, blended soups	Any with large pieces of meat or vegetable
<b>Vegetables</b>	Pureed cooked vegetables without seeds (green beans, carrots, beets, squash, asparagus), vegetable juice, very fibrous vegetables may be difficult to blenderize	All others
<b>Fruits</b>	Peeled pureed fruits (applesauce, pears, peaches, fruit cocktail, ripe banana, apricots, cherries), 100% fruit juices diluted	All others
<b>Desserts</b>	Plain sugar-free pudding, sugar-free ice cream, sugar-free frozen popsicle, fruit-flavored no-added sugar yogurt (usually labeled lite or light)	All others

### Sample Pureed Meal Plan

TIME	FOOD	EXAMPLE
Breakfast	1 ounce protein 1 ounce carbohydrate	¼ cup egg substitute 2 Tbsp Cream of Wheat
Snack	protein supplement (20gram protein/serving)	
Lunch	1 ounce protein 1 ounce fruit	¼ cup cottage cheese 2 Tbsp fruit cocktail
Snack	Protein supplement (20gram protein/serving)	
Dinner	1 ounce protein 1 fat 1 ounce vegetable	¼ cup chicken breast-blended 3 tsp fat free gravy 2 Tbsp beets
Snack	Protein supplement (20gram protein/serving)	

### Important Measurement Conversions:

1oz = 1/8 <sup>th</sup> of a cup or 2 tbsp	4oz = 1/2 cup or 8 tbsp
2oz = 1/4 cup or 4 tbsp	8 fluid oz = 1 cup or 16 tbsp
8 cups = 64oz	1 tsp = 1/3 fat serving

- Be sure to have a standard measuring cup and measuring spoons.
- Meats should be weighed on a kitchen scale.
- Use a liquid measuring cup for all fluids.
- Use standard measuring cup and a standard teaspoon and tablespoon for measuring all foods.

### High Protein Pureed Food Recipes:

#### High Protein Cooked Cereal

- 1/2 cup skim milk
- 1/4 cup quick oats
- 1 tbsp. nonfat dry milk
- Mix nonfat dry milk with skim milk. Add cereal. Microwave at 50% for 3-4 minutes.
- Each serving provides 130 calories with 8 grams of protein.

#### High Protein Breakfast Shake

- 1/2 cup fat-free plain yogurt
- 1/4 cup skim milk
- 1/2 small banana
- 1/4 cup nonfat dry milk
- Mix all ingredients together in blender.
- Each shake provides 162 calories and 12 grams of protein.

#### High Protein Mashed Potatoes

- 2 tbsp. mashed potato mix
- 1/2 cup hot skim milk
- 2 tbsp. nonfat dry milk
- Mix nonfat dry milk with milk and heat to a boil. Add mashed potato mix. Mix well with a wire whisk. Mix thickens as it stands.
- Each serving provides 148 calories and 10 grams of protein.
- Use Butter Buds or fat-free gravy to add flavor.

#### Chicken Stew

- 1 cup cubed, cooked chicken
- 1/4 cup rice, cooked
- 1/4 cup cooked mixed vegetables
- 1/4 cup chicken broth
- 1/4 cup skim milk
- 1/4 cup nonfat dry milk
- Blend together.
- Makes 3 servings. Each serving provides 120 calories and 15 grams of protein.

## Stage 4 (Soft)

The final modified food stage you will have to go through after surgery is the soft foods stage. This is the last stage before you can reintroduce regular food into your diet. The time spent in this stage will vary depending on how you tolerate the soft foods. If you have been tolerating pureed foods, you may now begin a soft diet. This includes all items listed for clear, full liquids and pureed diet plus items listed for soft food diet.

Soft food diet means easy to tolerate foods. These foods must be cooked enough to be tender but does not need to be mashed or pureed. These foods need to be cut in very small pieces, but they must also be chewed very thoroughly. It is important to listen to your body to tell you if you are full, do not force yourself to eat. The purpose of this phase is to slowly incorporate more texture into your diet before advancing to a full textured diet, thus assessing your tolerance to various foods.

### Start:

- 5 weeks after surgery

### Estimated Duration:

- 21 days (Days 23-43 after surgery) depending on your tolerance.
- You may need to be on soft foods for 2-4 months. Your dietitian will help determine the total duration.

### Food Consistency:

- Soft solids
- No large pieces of meat
- No raw vegetables
- No skins or seeds of fruit

### Goals:

- **Fluids:** 64 ounces daily. This does not include your protein shakes.
- Slowly drink 6-8 ounces of fluid per hour.
- **Protein:** Women: 60-80 grams a day. Men: 80-100 grams a day.
- **Carbohydrates:** 45-60 grams a day
- **Calories:** 900-1200 calories a day

### Vitamins:

- Continue taking your multivitamins, B12, and calcium supplements

### Diet Instructions

- 9 protein servings/day, 1 vegetable serving/day, 1 fruit serving/day, 1 starch/day, 1 fat serving/day.
- Limit the total amount of food to no more than  $\frac{3}{4}$  cup to 1 cup per meal.

**Protein – CHOOSE 8 SERVINGS (1 serving = 7 grams of protein)**

1 oz chicken/turkey (dark meat OK)	1 oz 93% lean ground chicken/turkey
1 oz fish (tuna, cod, haddock, salmon, tilapia)	3 oz fat-free plain Greek yogurt (avoid flavored yogurt)
1 egg or 2 egg whites or ¼ cup egg beaters	1 oz deli meat (low sodium chicken, turkey, or ham)
¼ cup low-fat cottage cheese or part-skim ricotta cheese	½ cup tofu
½ Morningstar Farms® Grillers Original	½ cup beans or ½ cup refried beans (counts as 1 protein serving and 1 starch serving)

**Fruits/Vegetables/Starch – CHOOSE 3 SERVINGS (1 Fruit 1, Vegetable, , 1 Starch)**

½ cup applesauce (unsweetened)	½ cup mashed potatoes or sweet potatoes	1 cup low-fat creamed soup made with skim or 1% milk
½ banana, mashed	½ cup pureed butternut squash	½ cup cooked oatmeal, cream of wheat, or farina
½ cup mashed pears (no juice)	½ cup smooth tomato sauce (no sugar added)	½ cup beans or ½ cup refried beans (counts as 1 starch serving and 1 protein serving)
	½ cup steamed zucchini (peeled)	½ cup sugar-free/fat-free pudding
	½ cup steamed carrots	
	½ cup mashed cauliflower	

**Fat – CHOOSE 1 SERVING**

1 teaspoon butter, margarine, oil, or mayonnaise	1 tablespoon (3 teaspoons) light margarine, light salad dressing, fat-free gravy, or light mayonnaise
2 tablespoons hummus	1 tablespoon avocado or guacamole

**Dairy – CHOOSE 1 SERVING**

8 oz fat-free plain or fat-free light yogurt	8 oz skim or 1% milk, or soy milk
1 oz 50% reduced-fat cheese or soy cheese	1 light string cheese



## Tips

- You must take your time while eating your meals. Each meal should take 20-30 minutes and you should chew very slowly and thoroughly.
- **Remember your stomach pouch empties more slowly with more solid or dense foods than with liquids, so you will be able to tolerate a smaller quantity of food than you could with liquids.**
- **Eat your protein first.** Your body does not store extra protein like it does with fats and carbohydrates. If you don't start with protein, you might get full before you get enough of it. This can result in healing problems, hair loss, and other problems associated with protein deficiency.
- Try 1-2 new foods a day. This will help you learn what foods you tolerate. There will be some foods, which even at 2-3 months after surgery may still generate some difficulty. It is best to avoid these foods which have a tendency to make you feel uncomfortable and may lead to vomiting.
- **Advancing to foods with more texture before this 3 week period may result in complications such as vomiting or blockage in the pouch.** This could result in readmission to the hospital.
- Be sure to continue drinking your liquids (64 ounces each day) and not during meals. Wait 30 minutes before and after meals to drink fluids.
- Though the foods are soft, you have to remember to chew any solid foods to the consistency of paste before swallowing.
- Moist foods are better tolerated than dry foods.
- Fish and seafood proteins are softer and easier to break down than poultry or red meat proteins.
- Reheating foods tends to make them dry out and hard to tolerate.

## Common Food Problems

- Red meats such as steak, roast beef, pork. Red meat is high in muscle fiber, which is difficult to separate even with a great deal of chewing. **Avoid hamburger and steak for 6 weeks after surgery.**
- Un-toasted bread, rolls, biscuits. (Toasted bread may be better tolerated.)
- Pasta and rice
- Membrane of citrus fruits
- Dried fruits (high in sugar), nuts, popcorn, coconut
- Salads, fresh fruits (except bananas) and fresh uncooked vegetables, potato skins.

### Sample Soft Meal Plan

Time	Food	Liquid	Protein
8 AM	2 scrambled eggs (2 protein), ½ cup applesauce (1 fruit)		14 grams
9 AM		8 oz Crystal Light	
10 AM	Protein supplement ½ cup skim milk		15 grams
11 AM		8 oz water	
12 PM	¼ cup tuna fish (2 protein), ½ cup steamed carrots (1 vegetable), 1 tsp lite mayo (1/3 fat)		14 grams
1 PM		8 oz Crystal Light	
2 PM		8 oz water	
3 PM	¼ cup cottage cheese (1 protein) 7 grams		7 grams
4 PM		8 oz decaf coffee	
5 PM		8 oz G2	
6 PM	2 oz or ¼ cup diced chicken (2 protein), ½ cup mashed potato (1 starch), 1 tsp light margarine (1/3 fat), 1 tsp fat-free gravy (1/3 fat)		14 grams
7 PM		8 oz decaf coffee	
8 PM	Protein supplement ½ cup skim milk		15 grams
9 PM		8 oz water	
	<b>Total</b>	64 oz	79 grams

**It is important not to advance your diet to Regular Foods too soon. Your stomach has not healed completely and it is very important that you remain on Stage 3 foods for at least 2 weeks. If you have questions about certain foods please contact your dietitian.**

#### Important Measurement Conversions:

1oz = 1/8 <sup>th</sup> of a cup or 2 tbsp	4oz = ½ cup or 8 tbsp
2oz = ¼ cup or 4 tbsp	8 fluid oz = 1 cup or 16 tbsp
8 cups = 64oz	1 tsp = 1/3 fat serving

- Be sure to have a standard measuring cup and measuring spoons.
- Meats should be weighed on a kitchen scale.
- Use a liquid measuring cup for all fluids.
- Use standard measuring cup and a standard teaspoon and tablespoon for measuring all foods.

## SOFT FOOD CHART

Food Groups	Recommended	Avoid
Beverages	Skim milk, ½ % milk, buttermilk, decaf coffee, decaf tea, sugar-free hot cocoa, sugar-free Carnation Instant Breakfast	Any containing carbonation or added sugar
Breads	Toasted breads, plain crackers (saltine type)	All others
Cereals	Cooked cereals without added fruits or nuts, plain dry cereals softened in milk	Any with seeds, dried fruits, nuts or High in fat
Desserts	Plain sugar-free puddings, sugar-free ice cream, sugar-free frozen popsicles, fruit-flavored no added sugar yogurt	Any with coconut, seeds, nuts, whole or dried fruits, added sugars or high in fat
Fats	Limited amounts of butter or fortified margarine, cream and cream substitutes, cooking fats and oils, low-fat gravies, lite whipped toppings, low-sugar fat-free salad dressings, “I Can’t Believe It’s Not Butter” spray, fat-free salad dressings or mayonnaise	All others
Meats and Meat Substitutes	Ground meat and poultry (low-fat gravy or sauces may be added to moisten), soft flaked fish without bones, low-fat casseroles made of ground meat, deli meats (turkey, chicken or ham), flaked fish or cheese, low-fat cottage cheese, soft scrambled eggs and egg substitute	Raw eggs or eggs cooked less than 7 minutes, whole cuts of meat
Potato or substitute	Mashed potatoes, low-fat creamed potatoes, baked potatoes without the skin	All others
Soups	Broth, bouillon, consommé, soups	Any with large pieces of meat or vegetables
Vegetables	Well-cooked soft vegetables without skin or seeds, vegetable juices	All others
Sweets	100% fruit spreads, sugar substitutes, sugar-free syrup	All others
Fruits	Cooked fruits without seeds, juice or water-packed canned fruits, 100% fruit juice	All others
Miscellaneous	Seasonings (salt, pepper, Mrs. Dash, etc.), Ground spices, smooth condiments (ketchup, mustard)	Nuts, coconuts, seeds, olives, pickles

## Stage 5 (Regular Diet)

Finally, you can reenter the world of solid foods. All the same foods you enjoyed pre-surgery are yours to consume again, right? Well ...not exactly. While you may be able to eat solid foods now after this break from them, your diet can no longer be the same as it once was. It's not just about eating the same foods in a smaller quantity, either. You will need to completely change your eating habits and learn to enjoy nutritious, planned meals.

It is important to remember to proceed slowly. You cannot simply start eating solid foods. Instead, you must introduce each food slowly and in very small quantities to test your stomach and make sure it can tolerate the food.

### Start:

- 6 weeks after surgery

### Estimated Duration:

- Ongoing lifetime maintenance.

### Goals:

- **Fluids:** 64 ounces daily. Sugar free, low –calorie, non-carbonated, non-caffeinated. This does not include your protein shakes.
- Slowly drink 6-8 ounces of fluid per hour.
- **Protein:** Women: 60-80 grams a day. Men: 80-100 grams a day.
- **Carbohydrates:** 45-60 grams a day
- **Calories:** 900-1200 calories a day

### Vitamins:

- Continue taking your multivitamins, B12, and calcium supplements

### Diet Instructions

- 10-12 protein servings/day, 3-4 vegetable serving/day, 3-4 fruit serving/day, 3 starches/day, 1 fat serving/day.
- Limit the total amount of food to no more than  $\frac{3}{4}$  cup to 1 cup per meal.
- The soft food stage of diet will have started to prepare your body for solid foods, but it's a good idea to keep a large portion of your diet in the soft foods category until you're certain that your stomach can handle the new food you are adding to it.
- Try 1-2 new foods a day. This will help you learn what foods you tolerate. There will be some foods, which even at 2-3 months after surgery may still generate some difficulty. It is best to avoid these foods which have a tendency to make you feel uncomfortable and may lead to vomiting.
- **Limit the total amount of food to no more than  $\frac{3}{4}$  cup to 1 cup per meal.** You may not be able to eat this much, so eat until you are satisfied without exceeding a cup

### Tips

- **You must take your time while eating your meals.** Each meal should take 20-30 minutes and you should chew very slowly and thoroughly and cut it into very small bite-sized pieces.

- Remember your stomach pouch empties more slowly with more solid or dense foods than with liquids, so you will be able to tolerate a smaller quantity of food than you could with liquids.
- It is best to start with the softer raw fruits and vegetables such as bananas, melons and tomatoes and work up to the harder more fibrous raw fruits and vegetables (oranges, apples and carrots). At first, you may want to peel off any tough skins. As you proceed with different food textures, you will likely be able to consume unpeeled foods.
- **Eat your protein first.** Your body does not store extra protein like it does with fats and carbohydrates. If you don't start with protein, you might get full before you get enough of it. This can result in healing problems, hair loss, and other problems associated with protein deficiency.
- **It is important to get on a schedule of eating.** If you are not hungry, make protein your priority and take a few bites just to stay on schedule. As you are able to eat more at each meal time, your frequency of eating will decrease.
- **Avoid picking or grazing.** This will lead to weight gain.
- **Keep a food journal.** Include foods you eat and fluids you drink.
- Be sure to continue drinking your liquids (64 ounces each day) and not during meals. Wait 30 minutes before and after meals to drink fluids.
- You will begin to feel full more and more satisfied by the foods you're eating. You need to watch that you do not neglect your liquid requirements.
- Moist foods are better tolerated than dry foods.
- Reheating foods tends to make them dry out and hard to tolerate.

#### **Foods to Avoid**

- Corn chips, potato chips
- Nuts and seeds
- Fried foods and greasy foods
- Foods high in sugar – cakes, ice cream, pies, cookies, donuts, shakes, candy, brownies etc....

#### **Protein bars vs. protein shakes**

Some people prefer to eat protein bars instead of protein shakes farther out from surgery. This is okay as long as a high protein low sugar bar is chosen.

#### **Recommended protein bars**

All protein bars are not equal, choose those that have 200 calories and under, 15 + grams of protein, sugar 2-4 grams/serving, under 15 grams carbohydrate. Remember complex carbohydrates and protein (not refined sugars) are needed to help refuel the body after strenuous exercise. Listed below are some protein bars that are recommended for bariatric patients.

- Pure Protein, Atkins Advantage Bars, Detour, Premiere Bars

#### **Important Measurement Conversions:**

1oz = 1/8 <sup>th</sup> of a cup or 2 tbsp	4oz = 1/2 cup or 8 tbsp
2oz = 1/4 cup or 4 tbsp	8 fluid oz = 1 cup or 16 tbsp
8 cups = 64oz	1 tsp = 1/3 fat serving

## Menu Plan for Regular Diet

### 6 weeks – 7 months after surgery

Time	Item	Example
Breakfast	1 oz protein 2 oz starch 1/3 fat	1 hard boiled egg ½ piece wheat toast 1 tsp margarine
AM Snack	High Protein Snack	15+ grams
Lunch	2 oz protein 1/3 fat 1 oz fruit 1 oz vegetable	¼ cup chicken 1 tsp fat free gravy 2 Tbsp fruit cocktail 2 Tbsp spinach
PM Snack	High Protein Snack	15+ grams
Dinner	2 oz protein 1/3 fat 1 oz fruit 1 oz vegetable	1/4 cup chicken 1 tsp fat free gravy 2 Tbsp watermelon 2 Tbsp Beets
Bedtime Snack	High Protein Snack	15+ grams

### 7 months – 1 year after surgery

Time	Item	Example
Breakfast	2 oz protein 2 oz starch 1/3 fat 2 oz fruit	1 hard boiled egg ½ wheat toast 1 tsp margarine ¼ cup apple
AM Snack	High Protein Snack	15+ grams
Lunch	2 oz protein 1oz fruit 2 oz vegetables 1 oz starch 1/3 fat	¼ cup chicken 2 Tbsp fruit cocktail ¼ cup green beans 2 Tbsp baked potato 1 tsp margarine
PM Snack	High Protein Snack	15+ grams
Dinner	4 oz protein 1/3 fat 1 oz fruit 1 oz vegetable	½ cup tuna fish 1 tsp light mayo 2 Tbsp peaches 2 Tbsp carrots
Bedtime Snack	High Protein Snack	15+ grams

### 1 year beyond

Breakfast	Lunch	Dinner	Snack fit in where appropriate
Protein: 4 ounce	Protein: 4 ounces	Protein: 4 ounces	100-200 calories
Fruit: 2 ounces	Vegetable: 2 ounces	Vegetable: 2 ounces	15+ grams of protein
Starch: 2 ounces	Fruit: 1 ounce	Starch: 2 ounces	Ideal 2-4 grams of
1 Tsp margarine	Starch: 1 ounce	2 Tsp margarine	Sugar

## An Eating Guide for Regular Foods

This guide will help you select healthy items once you advance to regular foods. Some of the foods listed in the avoid column may be tolerated by some people, but are not recommended because of their high sugar or fat content.

### MILK GROUP

CHOOSE:	SERVING SIZE:	AVOID:
4-6 servings/day of any of the following:		
Skim, ½%, 1% milk	½ cup	2% milk
Low-fat buttermilk	½ cup	Whole milk
Sugar-free nonfat yogurt	½ cup	Cream
Low-fat frozen yogurt (sugar free)	½ cup	Non-dairy creamer
High protein sugar-free Carnation Instant Breakfast	¼ cup	Sour Cream
High protein sugar-free pudding	¼ cup	
OPTIFAST Supplement	½ cup	

### MEAT & MEAT SUBSTITUTE GROUP

CHOOSE:	SERVING SIZE:	AVOID:
12 ounces/day:		
Lean cuts of meat* (all visible fat removed)	1 oz.	High fat cuts:
Fish and shellfish	1 oz.	Beef brisket
Poultry (skin removed)	1 oz.	Ground beef
Eggs	1 each	Short ribs
Tuna fish (packed in water)	2 tbsp.	Organ meats
Dried beans and peas	½ cup	Sausage
Low-fat cottage cheese	¼ cup	Bacon
Low-fat cheese	1 oz.	Hot dogs
		Luncheon meat
		Peanut butter
Each serving provides approximately 7 grams of protein		
*Many patients are not able to tolerate red meat for several months after surgery.		Also avoid meat that are deep fat fried, prepared with breading, sauces or gravies

## FRUIT GROUP

CHOOSE:	SERVING SIZE:	AVOID:
2-4 Servings/day of any of the following:		
Fresh or frozen fruits	¼ cup	Fruits packed in heavy or light syrup
Canned fruits, packed in water or juice	¼ cup	Fruit pie filling
100% fruit juices	¼ cup	Juices with added sugar

## GRAIN GROUP

CHOOSE:	SERVING SIZE:	AVOID:
4-6 Servings/day of any of the following:		
Bagel	¼ bagel	Croissants
Whole grain breads	½ slice (toasted)	Butter rolls
English muffin	¼ muffin	Biscuits
Saltine crackers	2 each	Danish
Rice cakes	1	Donuts
Brown rice	¼ cup	Muffins
Rice	¼ cup	Pancakes
Dried beans	¼ cup	Granola cereal
Pasta	¼ cup	Pasta or rice prepared with butter
Cereal, cooked or ready to eat	¼ cup	Cheese or cream Sauces
Hamburger bun	½ bun	Regular microwave Popcorn
Flour or corn tortilla	½ tortilla	
Air-popped or light microwave popcorn	1 ½ cups	

## VEGETABLE GROUP

CHOOSE:	SERVING SIZE:	AVOID:
3-6 Servings/day of any of the following:		
Fresh or frozen vegetables	¼ cup	Vegetables prepared with:
Raw leafy greens	½ cup	Butter
Have a dark green leafy and yellow or orange vegetable 3 times each week for Vitamin A.		Margarine
		Cream Sauces



# GENERAL DIETARY GUIDELINES FOR ALL SURGICAL WEIGHT LOSS PATIENTS

- Choose foods high in PROTEIN, moderate to low in carbohydrates, and moderate to low in fat, “HEALTHY CHOICES”.
- Proteins should always be eaten first at every meal.
- Eat slowly and chew foods well to avoid pouch distress.
- Eat 3 small meals and 2 small snacks per day. 1 year after surgery you should eat only 3 small meals a day and no snacking in between meals. Do not force a meal if you are full.
- Do not graze, schedule snack times.
- Drink water between meals. Remember 64 ounces or 2 liters per day (at a minimum). Remember to avoid drinking 30 minutes before and after your meal.
- Avoid or limit whole or 2% milk, choose skim/fat-free.
- Avoid greasy or spicy foods.
- Avoid carbonated beverages and alcohol.
- Take nutritional supplements as directed.

## LEAN PROTEIN SOURCES: (your new favorite food)

- Baked, broiled, barbecued chicken (without skin), turkey, fish, shellfish. REMINDER: Chew, chew, chew so that the food can pass through small stomach opening.
- Ground chicken, turkey – use for hamburger patties, casseroles, etc.
- Chopped cooked chicken or turkey for salads (make with diet Mayo or dressing) or use for stir fry.
- Canned water packed tuna (1/4 cup = 1 oz meat)
- Egg/ egg whites/ egg substitute (1 egg = 1 oz meat)
- Tofu – use in stir fry, soups, add to scrambled eggs (2 ½ x 2 inch square = 1 oz meat). Tofu takes on the flavor of whatever it is cooked with.
- Lean red meats and pork – ground will be best tolerated.
- Liver

## Food labels:

Read all your food labels to determine the nutrient content and be on the lookout for hidden sugars. Be careful when reading labels at the market. Quoted protein amounts are based on certain serving sizes and you may not be able to have a whole serving – so, a product that appears high in protein may not be all that high.

# How to Read Nutrition Facts on a Label

**Serving Size:** When reading nutritional labels, always refer to the serving size amount. Then evaluate how much you are actually eating compared to the amount listed. You may find that you are eating much more than the listed serving size!

**Servings Per container:** Servings per container tells us the number of helpings in the food package. In the example, if you ate everything in the food container you would have consumed 2 helpings of the recommended serving size (1 cup). Therefore, there are 2 servings in the above food package.

**Calories:** This is simply the total calories in **ONE** serving. Most packages contain MORE THAN ONE SERVING!!

**Calories from Fat:** The total number of fat calories in one serving (1 cup).

**% Daily Value:** The numbers shown under % Daily Value are based on a 2000 Calorie diet. Each number represents the percentage that one serving contributes to the dietary requirements of a certain nutrient. For example, 20g of carbohydrates (refer to label above) contributes to 7% of the daily carbohydrates needs for a 2000 Calorie diet. However, unless you are following a 2000 Calorie diet the % Daily Value should only be used as a reference.

**Total Fat:** The total number of fat grams in one serving (1 cup).

**Saturated Fat:** The total number of saturated fat grams in one serving (1 cup).

**Cholesterol:** The total number of cholesterol grams in one serving (1 cup). Intake should be limited to 300 mg a day for people without any history of heart disease and limited to 200 mg daily for individuals with elevated cholesterol levels.

**Sodium:** The total amount of sodium in one serving (1 cup). Elevated levels have been found to increase blood pressure. Therefore, intake should be limited to 2400 milligrams a day.

**Total Carbohydrate:** The total amount of carbohydrates in one serving (1 cup).

**Dietary Fiber:** The total amount of fiber in one serving (1 cup). Currently, no standard reference exists for sugar consumption. In addition, sugar amounts listed on nutritional labels include added sugars and natural happening sugars (ex. Fruit, milk). A good guideline to follow, try to limit added sugars to no more than 10% of your total calories.

**Protein:** The total amount of protein in one serving (1/3 cup).

Nutrition Facts	
Serving Size 1 cup (228g)	
Servings Per Container 2	
Amount Per Serving	
Calories 250	Calories from Fat 110
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 1.5g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

\*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

## FOOD LABEL CLAIMS

### Regarding Fat:

- **Fat-Free:** Less than 0.5 gm of fat
- **Low-Fat:** 3 grams of fat or less
- **Reduced Fat:** At least 25% less fat than the standard product.
- **Cholesterol Free:** Less than 2 mg of cholesterol and 2 gm or less saturated fat.
- **Reduced Cholesterol:** At least 25% less cholesterol than the standard product and 2 gm of less saturated fat.

### Regarding Sodium:

- **Sodium Free:** Less than 5 mg sodium
- **Very-Low Sodium:** 35 mg of sodium or less
- **Reduced Sodium:** At least 25% less sodium than the standard product
- **Light in Sodium:** 50% less sodium than the standard product

### Regarding Calories:

- **Calorie Free:** Less than 5 calories
- **Low Calorie:** 40 calories or less
- **Light or Lite:** 1/3 fewer calories or 50% less fat than the standard product, if more than half the calories are from fat, the fat content must be reduced by 50% or more.

### Regarding Sugar:

- **Sugar-Free:** Less than 0.5 gm of sugar
- **Reduced Sugar:** At least 25% less sugar than the standard product portion reference

## SECTION 7

## APPENDIX A

### CARBOHYDRATES

One starch serving equals: 15 grams of carbohydrate, 3 grams of protein, 0-1 grams of fat, and 80 calories.

Each of these examples is equal to 1 serving of carbohydrate.

#### BREADS

Bagel (4 oz)	¼ (1 oz)
Bread, regular	1 slice
Hot dog bun	½
Pita (6")	1
Flour Tortilla (6")	1
English Muffin	½
Pancake (4")	1
Roll, Small plain	1
Corn Tortilla (5")	1
Bread, reduced calorie	2 slices

#### CEREALS AND GRAINS

Bran Cereals	½ cup
Cereal, unsweetened	¾ cup
Puffed cereal	1 ½ cup
Sugar-frosted cereal	½ cup
Cereals, cooked	½ cup
Pasta	1/3 cup
Rice (white and brown)	1/3 cup

#### STARCHY VEGETABLES

Baked Beans	1/3 cup
Peas	½ cup
Sweet Potato	½ cup
Corn	½ cup
Potato	½ cup
Potato, baked	¼ large

#### NONSTARCHY VEGETABLES

Counts as 5 grams of carbohydrate, 2 grams of protein,  
0 grams of fat and 25 calories

One vegetable exchange: ½ cup cooked or 1 cup raw

Artichoke	Artichoke hearts	Asparagus
Bean Sprouts	Beans(green, wax)	Beets
Broccoli	Brussel Sprouts	Cabbage
Carrots	Cauliflower	Celery
Cucumber	Eggplant	Green onions
Greens	Leeks	Mushrooms

Okra	Onions	Pea Pods
Peppers	Radishes	Salad greens
Sauerkraut	Spinaches	Summer Squash
Tomato	Tomatoes, canned	Tomato sauce

### **CRACKERS and SNACKS**

Animal crackers	1/3 cup
Pretzels	3/4 oz
Saltine crackers	6
Pop Corn	3 cups
Rice cakes (4")	2
Baked chips	15-20

### **BEANS, PEAS, and LENTLS**

Beans and Peas	1/2 cup
Lentils	1/2 cup
Lima Beans	2/3 cup

### **CARBOHYDRATES PREPARED WITH FAT**

Count as 1 carbohydrate plus 1 fat

Biscuit	1
Crackers, butter type	6
Hash browns	1 cup
Stuffing, bread	1/3 cup
Waffle (4")	1
Corn Bread (2" cube)	1 (2oz)
Croutons	1 cup
Potato chips	9-13
Taco shell (5")	2

### **FRUIT JUICE, UNSWEETENED**

Apple juice/cider	1/2 cup
Cranberry juice cocktail	1/3 cup
Grape juice	1/3 cup
Grapefruit juice	1/2 cup
Orange juice	1/2 cup
Pineapple juice	1/2 cup
Prune juice	1/3 cup

### **FRUITS**

Count as 15 grams of carbohydrates and 60 calories

Apple, small	1 (4oz)
Applesauce, unsweetened	1/2 cup
Apples, dried	4 rings
Apricots, dried	8 halves
Apricots, fresh	4 whole
Apricots, canned	1/2 cup

Banana, small	1 (4oz)
Blueberries	$\frac{3}{4}$ cup
Cantaloupe	1 cup
Cherries, fresh	12
Grapefruit	$\frac{3}{4}$ cup
Grapes, small	17
Honeydew melon	1 cup
Kiwi	1
Mandarin oranges	$\frac{3}{4}$ cup
Mango	$\frac{1}{2}$ cup
Nectarine	1 (5oz)
Orange, small	1
Peach, medium	1 (4oz)
Peaches, canned	$\frac{1}{2}$ cup
Pear, large fresh	$\frac{1}{2}$
Pears, canned	$\frac{1}{2}$ cup
Pineapple, fresh	$\frac{3}{4}$ cup
Pineapple, canned	$\frac{1}{2}$ cup
Plum, small	2
Raisins	2 Tbsp
Raspberries	1 cup
Strawberries	1 $\frac{1}{4}$ cup whole
Tangerine, small	2
Watermelon	1 $\frac{1}{4}$ cup cubes

### **MILK AND DAIRY PRODUCTS**

Counts as 12 grams of carbohydrates and 8 grams of protein  
**FAT-FREE AND LOW FAT MILK**  
 (0-3 grams of fat per serving)

Fat-Free milk	1 cup
1% milk	1 cup
$\frac{1}{2}$ % milk	1 cup
Yogurt, fat free	6 oz

### **REDUCED FAT**

(5 GRAMS OF FAT PER SERVING)

2% milk	1 cup
Yogurt, low fat	6oz
Soy milk	1 cup

### **HIGH FAT**

(8 GRAMS OF FAT PER SERVING)

Whole milk	1 cup
Yogurt, regular	8oz

## MEAT AND MEAT SUBSTITUTES

Meat and meat substitutes that contain both protein and fat are on this list. In general, one meat exchange is:

- 1oz of meat, fish, poultry, or cheese
- ½ cup of beans, peas, or lentils

Based on the amount of fat they contain meats are divided into four categories:

- Very lean
- Lean
- Medium-fat
- High-fat

One ounce of each of the follow includes:

	Carbohydrates (grams)	Protein (grams)	Fat (grams)	Calories
Very lean	0	7	0-1	35
Lean	0	7	3	55
Medium-fat	0	7	5	75
High-fat	0	7	8	100

### VERY LEAN MEAT AND MEAT SUBSTITUTES

One very lean meat exchange counts as 0 grams of carbohydrates, 7 grams of protein, 0-1 grams of fat, and 35 calories

One very lean meat exchange is equal to any one of the following items:

<b>Poultry</b>	
Chicken-white meat, no skin	1 oz
Turkey-white meat, no skin	1 oz
Cornish hen, no skin	1 oz
<b>Fish</b>	
Cod	1 oz
Flounder	1 oz
Haddock	1 oz
Halibut	1 oz
Trout	1 oz
Lox (salmon)	1 oz
Tuna-fresh or canned in water	1 oz
<b>Shellfish</b>	
Clams	1 oz
Crabs	1 oz
Lobster	1 oz
Scallops	1 oz
Shrimp	1 oz
Imitation shellfish	1 oz
<b>Game</b>	
Duck, no skin	1 oz
Venison	1 oz
Buffalo	1 oz



Ostrich	1 oz
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### Cheese with 1 gram of fat or less per oz

Fat-free cottage cheese	¼ cup
Low-fat cottage cheese	¼ cup
Fat-free cheese	1 oz

### Other

Processed sandwich meats with 1 gram of fat or less per oz

<b>Shaved meats, deli thin (Processed sandwich meats with 1 gram of fat or less per oz)</b>	
Chipped beef	1 oz
Turkey ham	1 oz
Baked ham	1 oz
Egg whites	2
Egg substitutes	¼ cup
Hot dogs with 1 gram fat or less per ounce	1 oz
Kidney-high in cholesterol	1 oz
Sausage with 1 gram of fat or less per ounce	1 oz

Count the following items as one very lean meat and one carbohydrate exchange:

Beans	½ cup
Peas	½ cup
Lentils	½ cup

### LEAN MEAT AND MEAT SUBSTITUTES LIST

Counts as 0 grams of carbohydrate, 7 grams of protein, 3 grams of fat, and 55 calories

One lean meat exchange is equal to any one of the following items:

<b>Beef</b> (Lean beef-trimmed of fat)	
Round	1 oz
Sirloin	1 oz
Flank steak	1 oz
Tenderloin	1 oz
Roast-rib, chuck, rump	1 oz
Steak-T-bone, porterhouse	1 oz
Ground round	1 oz
<b>Pork</b>	
Ham-boiled	1oz
Canadian Bacon	1 oz
Tenderloin	1 oz

Center loin chop	1 oz
<b>Lamb</b>	
Roast	1oz
Chop	1 oz
Leg	1 oz
<b>Veal</b>	
Lean chop	1 oz
Roast	1 oz
<b>Game</b>	
Goose-no skin	1 oz
Rabbit	1 oz
<b>Poultry</b>	
Chicken-dark meat no skin	1 oz
Turkey-dark meat no skin	1 oz
Chicken-white meat with skin	1 oz
<b>Fish</b>	
Herring	1 oz
Oysters	6 medium
Salmon	1 oz
Catfish	1 oz
Tuna – canned in oil, drained	1 oz
Sardines – canned	Medium
<b>Cheese</b>	
4.5% cottage cheese	¼ cup
Grated Parmesan	2 Tbsp
Cheese with 3 grams of fat or less per ounce	1 ½ oz

### **MEDIUM FAT MEAT AND MEAT SUBSTITUTES**

Counts as 0 grams of carbohydrate, 7 grams of protein, 5 grams of fat, and 75 calories

One medium-fat meat exchange is equal to any one of the following items:

<b>Beef</b>	
Ground beef	1 oz
Meatloaf	1 oz
Corned beef	1 oz
Short ribs	1 oz
Prime rib	1 oz
<b>Pork</b>	
Top loin	1 oz
Chop	1 oz
Boston butt	1 oz
Cutlet	1 oz
<b>Lamb</b>	
Rib roast	1 oz
Ground	1 oz

<b>Veal</b>	
Cutlet	1 oz
Ground/cubed	1 oz
<b>Poultry</b>	
Chicken-dark meat with skin	1 oz
Ground Turkey	1 oz
Ground Chicken	1 oz
Fried chicken with skin	1 oz
<b>Fish</b>	
Any fried fish product	1 oz
<b>Cheese</b>	
Feta	1 oz
Mozzarella	1 oz
Ricotta	½ cup (2oz)
<b>Other</b>	
Egg-limit 3 per week	1
Sausage with 5 grams of fat	1 oz
Tofu	4 oz or ½ cup

### **HIGH FAT MEAT AND MEAT SUBSTITUTES**

Counts as 0 grams carbohydrate, 7 grams of protein, 8 grams of fat, and 100 calories.

REMEMBER THESE ITEMS ARE HIGH IN SATURATED FAT, CHOLESTEROL, AND CALORIES AND MAY RAISE BLOOD CHOLESTEROL LEVELS IF EATEN ON A REGULAR BASIS.

One high-fat meat choice is equal to any one of the following items:

<b>Pork</b>	
Spare ribs	1 oz
Ground pork	1 oz
Pork Sausage	1 oz

<b>Cheese</b>	
American	1 oz
Cheddar	1 oz
Monterey Jack	1 oz
Swiss	1 oz

**Other:** Processed sandwich meats with 8 grams of fat or less per ounce, such as:

Bologna	Pimento loaf	Salami
Polish sausage	Bratwurst	Italian sausage
Knockwurst	Smoked sausage	Kielbasa
Hot dog	Turkey	Bacon (3 slices)

## FATS

Counts as 5 grams of fat and 45 calories

### MONOUNSATURATED FATS LIST

Avocado	2 Tbsp
<b>Oil</b>	
Canola	1 tsp
Olive	1 tsp
Peanut	1 tsp
<b>Nuts</b>	
Almonds	6 nuts
Cashews	6 nuts
Peanuts	10 nuts
Pecans	4 halves
Mixed nuts	6 nuts
Sesame seeds	1 Tbsp
Peanut butter	½ Tbsp
Tahini or sesame paste	2 tsp
<b>Olives</b>	
Black	8 large
Green, stuffed	10 large

### POLYUNSATURATED FATS LIST

Margarine	1 tsp
Lower fat spread-30-50%	1 Tbsp
Mayonnaise Regular	1 tsp
Reduced fat	1 Tbsp
Nuts: Walnuts, English	4 halves
Oil-corn, safflower, soybean	1 tsp
Salad dressing regular	1 Tbsp
Reduced fat	2 Tbsp
Miracle whip salad dressing	2 tsp
Seeds sunflower, pumpkin	1 Tbsp

### SATURATED FATS LIST

Bacon, cooked	1 slice
Butter, stick	1 tsp
Butter, reduced fat	1 Tbsp
Cream cheese, regular	1 Tbsp
Sour cream, regular	2 Tbsp
Bacon grease	1 tsp
Butter, whipped	2 tsp
Cream, half and half	2 Tbsp
Cream cheese, reduced fat	1 ½ Tbsp
Sour cream, reduced fat	3 Tbsp

## FREE FOOD LIST

Foods with a serving size should be limited to 3 servings per day

### FAT-FREE OR REDUCED FAT FOODS

Cream cheese, fat-free	1 Tbsp
Creamers, nondairy, powder	2 tsp
Creamers, nondairy, liquid	1 Tbsp
Mayonnaise, reduced-fat	1 Tbsp
Mayonnaise, fat-free	1 Tbsp
Margarine spread, reduced fat	1 tsp
Margarine spread, fat-free	4 Tbsp
Miracle Whip, reduced fat	1 tsp
Miracle Whip, fat-free	1 Tbsp
Salad dressing, fat-free or low fat	1 Tbsp
Whipped topping, regular	1 Tbsp
Whipped topping, light or fat-free	2 Tbsp

### SUGAR-FREE FOODS

Candy, hard, sugar free	1 candy
Gum, sugar free	
Jam or Jelly, light	2 tsp
Syrup, sugar free	2 Tbsp
Gelatin dessert, sugar free	

### DRINKS

Bouillon, broth, consommé	Club soda
Carbonated or mineral water	Coffee
Bouillon or broth, low sodium	Tea
Diet soft drinks, sugar free	Drink mixes, sugar free
Tonic water, sugar free	

### CONDIMENTS

Ketchup	1 Tbsp
Lemon juice	Horseradish
Mustard	Vinegar
Pickles, sweet gherkin	$\frac{3}{4}$ oz
Soy sauce, regular or light	1 Tbsp
Pickle relish	1 Tbsp
Pickles, sweet	2 slices
Salsa	$\frac{1}{4}$ cup
Taco sauce	1 Tbsp
Yogurt	2 Tbsp

### SEASONINGS

Flavoring extracts	Pimento	Wine, used in cooking
Herbs, fresh/dried	Tabasco sauce	Worcestershire sauce
Spices	Garlic	Hot Pepper sauce

## **APPROPRIATE SUGAR SUBSTITUTES**

- Splenda
- Sweet N' Low
- Equal
- Stevia

The following are also approved sugar substitutes. These are classified as sugar alcohols and are usually found in sugar free foods.

The most common sugar alcohols include:

- Sorbital
- Mannitol
- Lactitol
- Xylitol
- Maltitol

Please use sugar alcohols with caution the side effects of sugar alcohols include:

- Abdominal cramping
- Gas
- Bloating
- Diarrhea

## APPENDIX B

# Vitamin and Mineral Overview

### Vitamin A

- Function: Maintains skin integrity, promotes bone and tooth development, needed for night vision, normal functioning nervous system and reproductive systems.
- Deficiency: The symptoms of Vitamin A deficiency include: poor growth, infection, night blindness, poor bone and tooth function.
- Toxicity: The symptoms of Vitamin A toxicity include: violent headache, nausea, peeling of skin, pain of long bones, coarse hair. This can be caused by over supplementation with vitamin pills.

#### **Recommended Daily intake of Vitamin A is:**

**MEN AGE 14+ YEARS = 3,000 IU**

**FEMALES 14+ YEARS = 2,333 IU**

### Vitamin D

- Function: Calcification of bones and teeth and needed to maintain normal levels of calcium and phosphorus in the blood.
- Deficiency: Rickets in children (bone deformities); osteomalacia in adults (softening of bones, fractures).
- Toxicity: Nausea, diarrhea, weight loss, kidney damage.

#### **Recommended Daily intake of Vitamin D for men and women is:**

**AGE 19-50 = 200 IU**

**AGE 50-69 = 600 IU**

**AGE 70+ = 600 IU**

### Vitamin E

- Function: Helps to form normal blood cells and muscle cells.
- Deficiency: Vitamin E deficiency is associated with disease where fat absorption is impaired, symptoms include severe neurological defects (pain, tingling and loss of sensation in extremities).
- Toxicity: Vitamin E is relatively non-toxic when taken by mouth.

#### **Recommended Daily intake of Vitamin E is:**

**MEN AND WOMEN AGE 14+ YEARS = 15 MG**

### Vitamin K

- Function: Aids in blood clotting.
- Deficiency: Vitamin K deficiency is unlikely except in newborn infants who cannot synthesize it.
- Toxicity: The symptoms of Vitamin K toxicity include: vomiting, and anemia. Women and children are more prone to Vitamin K deficiency.

#### **Recommended Daily intake if Vitamin K is:**

**MEN AGE 19+ YEARS = 120 MCG**

**FEMALES 19+ YEARS = 90 MCG**

### **Niacin (Vitamin B-3)**

- Function: Needed to produce energy in the body, for healthy skin, nerves, and digestive tract.
- Deficiency: Niacin deficiency is called Pellagra, common symptoms include: loss of appetite, swollen tongue, irritability, insomnia, rash, headache, mental changes (anxiety, confusion, and dementia).
- Toxicity: May cause heartburn, peptic ulcer, flushing (exp in face and neck), and a tingling sensation.

#### **Recommended Daily intake of Niacin is:**

**MALES AGE 14+ YEARS = 16 MG/D**

**FEMALES 14+ YEARS = 14 MG/D**

### **Vitamin B-6 (Pyridoxine)**

- Function: Needed for protein metabolism, supports energy-producing systems in the body, and affects hormones.
- Deficiency: The symptoms of Vitamin B-6 deficiency include: seizures, dermatitis, and anemia.
- Toxicity: Not toxic if given orally unless tremendous levels are given; toxic if injected.

#### **Recommended Daily intake of Vitamin B-6 is:**

**MALES AGE 14-50 YEARS = 1.3 MG/D**

**MALES AGE 51+ YEARS = 1.7 MG/D**

**FEMALES 14-50 YEARS = 1.2 MG/D**

**FEMALES 51+ YEARS = 1.5 MG/D**

### **Folic Acid (Vitamin B-9)**

- Function: Part of blood cells, necessary for cell division, and important in increasing the number of blood cells.
- Deficiency: The symptoms of Folic Acid deficiency include: oral lesions, swollen tongue and anemia.
- Toxicity: Large doses of Folic Acid may damage the kidneys and may mask a B-9 deficiency.

#### **Recommended Daily intake of Folic Acid is:**

**MEN AND WOMEN AGE 14+ YEARS = 400 MCG/D**

### **Vitamin B-12**

- Function: Necessary for cell division, growth, red blood cell formation. B-12 is also important for the development and function of the brain and nerve cells.
- Deficiency: Anemia, sore tongue, loss of appetite, generalized weakness, and coldness of extremities.
- Toxicity: None as of yet.

**Recommended Daily intake of Vitamin B-12 = 2.4 mcg/d**



## **Vitamin C**

Function: Needed for development of bones, teeth, and blood vessels.  
Deficiency: Vitamin C deficiency is called Scurvy the symptoms include swollen/bleeding gums, bruising, and poor wound healing.  
Toxicity: None as of yet. Though large amounts can cause diarrhea, rashes, and frequent urination.

### **Recommended Daily intake of Vitamin C is:**

**MEN = 90 MG/D**

**WOMEN = 75 MG/D**

**SMOKERS SHOULD ADD 35 MG/D**

## **Iron**

Function: Carrier of oxygen and helps prevent anemia.  
Deficiency: Anemia, fatigue, sore mouth/tongue, and weight loss.  
Toxicity: Hemochromatosis.

### **Recommended Daily intake of Iron is:**

**MEN AGE 19-70 = 8 MG/D**

**WOMEN AGE 19-50 = 18 MG/D**

**WOMEN AGE 50+ = 8 MG/D**

## **Calcium**

Function: Builds bone and teeth, needed for muscle contraction/relaxation, blood clotting and normal heart rhythm.  
Deficiency: Decreased growth, osteoporosis, and rickets.  
Toxicity: Kidney stones and calcium deposits in soft tissues.

### **Recommended Daily intake of Calcium is:**

**MEN AND WOMEN: AGE 19-50 = 1000 MG/D**

**AGE 51+ = 1200 MG/D**

## **Potassium**

Function: Promotes growth, maintains water balance, and helps regulate muscular activity.  
Deficiency: Rare  
Toxicity: Rarely occurs, except in kidney failure.

### **Recommended Daily intake of Potassium is:**

**MEN AND WOMEN AGE 19+ YEARS = 4.7 GM/D**

**APPENDIX C**

**EXERCISE CALORIE EXPENDITURE**

<b>ACTIVITY</b>	<b>TYPE</b>	<b>Cal/ hr @ 170#</b>	<b>Cal/hr @ 210#</b>	<b>Cal/hr @ 250#</b>
Aerobics Class	Water	325	401	477
Aerobics class	Low impact	406	501	596
Aerobics class	High impact	568	702	835
Aerobics class	Step with 6-8 inch step	690	852	1014
Aerobics class	Step with 10-12 inch step	812	1003	1193
Backpack	General	568	702	835
Badminton	Singles and doubles	365	451	537
Baseball	Throw/Catch	203	251	298
Baseball	Fast or slow pitch	406	501	596
Basketball	Shooting baskets	365	451	537
Basketball	Wheelchair	528	652	775
Basketball	Game	649	802	954
Bike	10-11.9 mph, slow	487	602	716
Bike	12-13.9 mph, moderate	649	802	954
Bike	14-15.9 mph, fast	812	1003	1193
Bike	16-19.9 mph, very fast	974	1203	1431
Bike	>20 mph, racing	1299	1604	1908
Bike	50 watts, stationary, very light	243	301	358
Bike	100 watts, stationary, light	446	552	656
Bike	150 watts, stationary, moderate	568	702	835
Bike	200 watts, stationary, vigorous	852	1053	1252
Bike	250 watts, stationary, very vigorous	1015	1253	1491
Bike	BMX or Mountain	690	852	1014
Boxing	Punching Bag	487	602	716
Boxing	Sparring	730	902	1074
Calisthenics	Back exercises	284	351	417
Calisthenics	Pull-ups, jumping jacks	649	802	954
Calisthenics	Push-ups, sit-ups	649	802	954
Circuit training	General	649	802	954
Elliptical trainer	Light intensity	473	585	696
Elliptical trainer	Moderate intensity	631	779	928
Elliptical trainer	High intensity	789	974	1160
Football	Flag or touch	649	802	954
Football	Competitive	730	902	1074
Frisbee	General	243	301	358
Frisbee	Ultimate	649	802	954
Golf	Power cart	284	351	417
Golf	Pull clubs	349	431	513
Golf	Carry clubs	365	451	537
Handball	General	974	1203	1431

Hike	General	487	602	716
Hockey	Ice, field hockey	649	802	954
Jogging	General	568	702	835
Jogging	Jog/walk combination	487	602	706
Jump rope	Slow	649	802	954
Jump rope	Moderate	812	1003	1193
Jump rope	Fast	974	1203	1431
Kayak	General	406	501	596
Martial arts	General	812	1003	1193
Pilates	Intermediate	392	487	580
Pilates	Advanced	473	585	696
Racquetball	Casual	568	702	835
Racquetball	Competition	812	1003	1193
Rafting	Whitewater	406	501	596
Rock climb	General	649	802	954
Rowing	Canoeing 2-3.9 mph (light effort)	237	292	348
Rowing	Canoeing 4-5.9 mph (moderate effort)	552	682	812
Rowing	Canoeing >6 mph (vigorous effort)	946	1169	1392
Rowing	Canoeing, sculling for competition	986	1218	1450
Rowing	Stationary, 50 watts (very light effort)	276	341	406
Rowing	Stationary, 100 watts (light effort)	552	682	812
Rowing	Stationary, 150 watts (moderate effort)	670	828	986
Rowing	Stationary, 200 watts (vigorous effort)	946	1169	1392
Rowing	Stationary, general	552	682	812
Rugby	General	812	1003	1193
Run	5 mph, 12 min/mi	649	802	954
Run	5.2, 11.5 min/mi	730	902	1074
Run	6 mph, 10 min/mi	812	1003	1193
Run	6.7 mph, 9 min/mi	893	110	1312
Run	7 mph, 8.5 min/mi	933	1153	1372
Run	8 mph, 7.5 min/mi	1096	1354	1610
Run	9 mph, 6.5 min/mi	1217	1504	1789
Run	10 mph, 6 min/mi	1461	1805	2147
Run	Cross country	730	902	1074
Skate, ice	General	568	702	835
Skate, in-line	General	1015	1253	1491
Skateboard	General	406	501	596
Ski, downhill	Light	406	501	596
Ski, downhill	Moderate	487	602	716
Ski, downhill	Vigorous/race	649	802	954
Ski, x-country	5-7.9 mph, brisk	730	902	1074
Snowboard	General	609	752	895
Snowshoe	General	649	802	954
Soccer	Casual	568	702	835
Softball	General	406	501	596
Spinning	Light intensity-seated	394	487	580
Spinning	Moderate intensity-mixed	591	731	870

Spinning	High intensity-climbing	789	974	1160
Stair stepper	General	730	902	1074
Stationary rower	50 watts, light	284	351	417
Stationary rower	100 watts, moderate	568	702	835
Stationary rower	150 watts, vigorous	690	852	835
Stationary rower	200 watts, very vigorous	974	1203	1431
Stretch/yoga	General, hatha	203	251	298
Swim	Lake, ocean, or river	487	602	716
Swim	Laps freestyle, slow/moderate	568	702	835
Swim	Laps freestyle, fast	812	1003	1193
Swim	Backstroke	568	702	835
Swim	Sidestroke	649	802	954
Swim	Breaststroke	812	1003	1193
Tennis	Doubles	487	602	716
Tennis	Singles	649	802	954
Treadmill, run	5 mph, 12 min/mi, 0% incline	678	838	997
Treadmill, run	5 mph, 12 min/mi, 2% incline	733	906	1079
Treadmill, run	5 mph, 12 min/mi, 4% incline	789	974	1160
Treadmill, run	5 mph, 12 min/mi, 6% incline	844	1042	1241
Treadmill, run	6 mph, 10 min/mi, 0% incline	812	1003	1193
Treadmill, run	6 mph, 10 min/mi, 2% incline	893	1103	1312
Treadmill, run	6 mph, 10 min/mi, 4% incline	958	1183	1408
Treadmill, run	6 mph, 10 min/mi, 6% incline	1031	1273	1515
Treadmill, run	7 mph, 8.5 min/mi, 0% incline	933	1153	1372
Treadmill, run	7 mph, 8.5 min/mi, 2% incline	1031	1273	1515
Treadmill, run	7 mph, 8.5 min/mi, 6% incline	1185	1464	1741
Treadmill, walk	3 mph, 20 min/mi, 0% incline	268	331	394
Treadmill, walk	3 mph, 20 min/mi, 2% incline	300	371	441
Treadmill, walk	3 mph, 20 min/mi, 4% incline	333	411	489
Treadmill, walk	3 mph, 20 min/mi, 6% incline	365	451	537
Tread water	Moderate	325	401	477
Tread water	Vigorous	812	1003	1193
Volleyball	Non-competitive	243	301	358
Volleyball	Competitive	649	802	954
Walk	<2 mph	162	201	239
Walk	2 mph, 30 min/mi	203	251	298
Walk	2.5 mph, 24 min/mi	243	301	358
Walk	3 mph, 20 min/mi	268	331	394
Walk	3.5 mph, 17 min/mi	308	381	453
Walk	4 mph, 15 min/mi	406	501	596
Walk	4.5 mph, 13 min/mi	511	632	751
Walk	Race walking	528	652	775
Weight training	Free, nautilus, light/moderate	243	301	358
Weight training	Free, nautilus, vigorous	487	602	716
Wind surf	Casual	243	301	358
Yoga	Ashtanga	450	555	661
Yoga	Virasana	197	244	290





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