

Madigan Army Medical Center
Joint Base Lewis-McChord, Washington

Metabolic and Bariatric Surgery Clinic



**PATIENT GUIDE TO
METABOLIC AND BARIATRIC
SURGERY**

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INTRODUCTION

The purpose of this guide is to provide the essential information you will need to navigate the process of having bariatric surgery. The members of the Bariatric Surgery Team are proud to provide care for patients who are seeking effective treatment for obesity and its associated health conditions.

Bariatric patients require care from the initial consultation, through the surgery, and beyond. Having bariatric surgery will affect many aspects of your daily life, so we work closely with other members of the healthcare team in our program to ensure that our patients have safe and healthy outcomes. You are an important part of this team philosophy. The more information that you have up front, the better equipped you will be to move through the program and towards your goals.

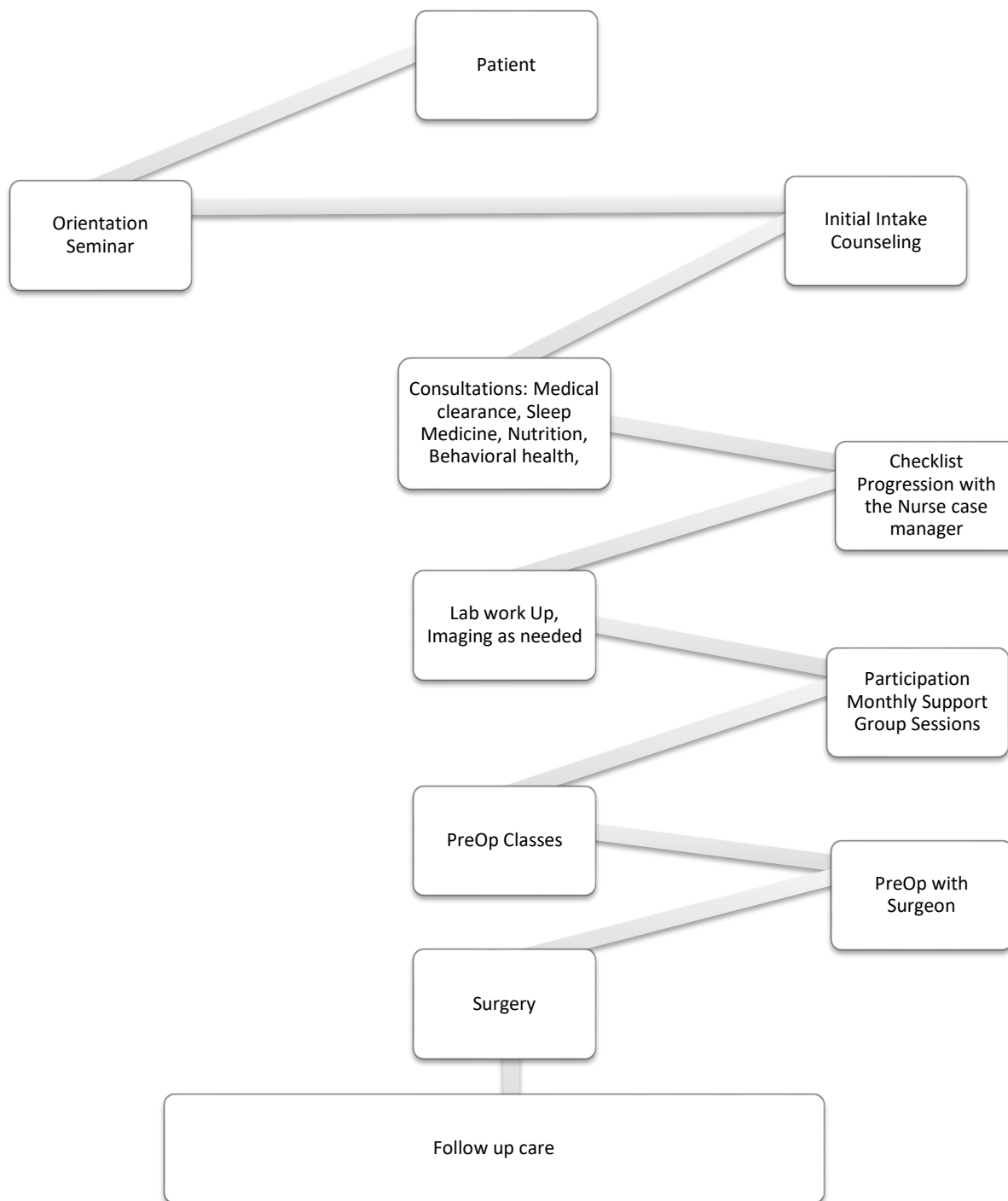
Please take the time to read and be familiar with the information in this guide. This information will be useful to you through all stages of the bariatric surgery process. It may also be helpful when thinking about what questions you may have during your office visits. If you are unclear about the information provided, our staff will be glad to help answer your questions.

To inform and educate our patients, this guide makes references to commercially available products. Such references may not be a comprehensive list of all available bariatric vitamin/supplement/products. Please understand that such references are not endorsements of these products by the Defense Health Agency, Madigan Army Medical Center, or any DoD employee, but just examples of the wide variety of products available for our patients.

The diagram on the next page outlines the basic steps that patients will have to take during the course of the program. Each patient is different and in some cases the course may be altered based on specific circumstances. This map, however, generally applies to most of our patients and will help you understand where you are in the process.

General Surgery Clinic Line: 253-968-3105 (Option 2)
General Surgery Scheduler: 253-968-1378

METABOLIC BARIATRIC PROGRAM FLOW CHART



MULTIDISCIPLINARY TEAM APPROACH

The decision to move forward with Bariatric/Metabolic surgery can be life changing. It impacts many areas of our patients' lives. It is important for us to have a complete assessment of your personal health. It is also important for us to provide you with the education that you will need in order to make changes to your lifestyle. Lifestyle modification is the key to successful bariatric surgery. In order for us to manage all of these aspects of your physical and emotional well-being, we involve other members of your healthcare team for evaluation, education, and support services.

The following consultations and evaluations are **required** for all Bariatric patients:

- **Psychological Evaluation** - Our psychologist team will meet with you to determine any emotional or psychological barriers to success. Patients with a history of mental health issues have a risk of having a temporary worsening of those conditions after Bariatric/Metabolic surgery. We are committed to helping you make safe choices to improve your health by identifying barriers and recommending plans to address them.

Patients previously or currently under the care of a provider for psychiatric issues (including but not limited to psychiatrist, psychologist, or primary physician) will be requested to release those records to the evaluating psychologist as part of the assessment.

- **Nutrition Evaluation** - You will meet with dietitians to improve your knowledge of proper nutrition and to begin making changes to your eating habits. The goal is for you to be following the recommended meal plan **before** you go to surgery, so that you are already accustomed to it during your recovery. This will help ensure long-term successful weight loss.
- **Army Wellness Center (AWC)** - You will meet with the AWC staff to learn to learn about the many resources that will build and sustain good health.
- **Labs** – Lab tests are conducted to evaluate for common medical problems as well as preexisting vitamin and mineral deficiencies.
- **Sleep Study** – There is a high risk of obstructive sleep apnea in our patients, which is often undiagnosed. Diagnosing and treating this condition prior to surgery can decrease your risk of very serious medical complications around and during the time of surgery. To check for this condition, a sleep study may be required. Please see the section on sleep study in this guide.
If you have already had a sleep study this will be discussed during your intake appointment at the clinic.

There may be other consults needed if your surgeon feels they are necessary based on your specific health conditions. These may include:

- Internal Medicine/Family Medicine Physician (preoperative evaluation)
- Gastroenterology
- Pulmonology
- Cardiology

In addition to this, you should have (or plan for) the following routine health maintenance/cancer screenings:

- Pap/Well Woman Exam (women ages 21-65)
- Mammogram (women ages ≥ 40)
- Colonoscopy (all patients ≥ 50)

During the preoperative evaluation by your primary care provider these routine health maintenance screenings are checked for completion or order at that time.

If you have already completed these screenings please bring documentation to the clinic.

IMPACT OF OBESITY

For most people, no amount of diet, exercise, or lifestyle changes can help to treat severe obesity. It's a reality that leads to great frustration, depression, and serious health issues. Fortunately for many, weight loss through Bariatric surgery may be an option.

Determining whether you may be a candidate for Bariatric surgery is a process requiring serious discussion with your doctor and family. It is a decision that must not be taken lightly. In this guide you will learn more about the choices in bariatric surgery, how they impact your body and lifestyle, and what you need to do to help take control of your life and weight.

Obesity is a chronic and progressive disease affecting the entire body. People with severe obesity are at risk of disability or premature death. The estimated number of deaths attributable to obesity among U.S. adults is approximately 280,000 per year (Allison et al).

At the top of the list of causes of death are adult onset of diabetes and high blood pressure. High blood pressure caused by severe obesity contributes to heart attacks, congestive heart failure, and stroke. Additional conditions commonly caused or worsened by obesity include:

- Breathing related conditions: Obstructive sleep apnea, obesity hypoventilation syndrome (decreased ability to breathe well because your lungs aren't able to expand fully), asthma/reactive airway disease
- Vascular conditions: Atherosclerosis (thickening of the arteries)

- Digestive conditions: Gallbladder disease, GERD (recurrent heartburn), recurrent ventral hernia, fatty liver, hypercholesterolemia
- Hormonal and insulin related conditions: Diabetes, hirsutism (excessive hair in women), hyperlipidemia, and hypercholesterolemia
- Urinary and reproductive conditions: Frequent urinary tract infections (UTI's), urinary incontinence, menstrual irregularity or infertility
- Joint and skeletal conditions: Degeneration of knees and hips joints, disc herniation, chronic non-surgical low back pain
- Skin disorders: Yeast infections between skin folds
- Cancers: Breast, uterine, prostate, renal, colon, and pancreatic cancer

TREATING OBESITY WITH SURGERY

Obesity is a disease very difficult to treat. When other medically supervised methods have failed, Bariatric/Metabolic surgery can offer a great option for long-term weight control.

Surgery to promote weight loss by restricting food intake, and also by changing the gastrointestinal hormonal environment can control sensation of hunger and satiety. This is potentially a great option for severely obese patients.

The short-term and long-term success of the surgery depends on your motivation and willingness to make life, nutritional, and behavioral changes.

Are You a Candidate for Bariatric Surgery?

Basic Mass Index (BMI) is a simple and inexpensive way to screen patients for weight category and is calculated by dividing the weight in kilograms by the height in meters squared (kg/m^2).

The BMI classification is as follows:

BMI	CLASSIFICATION
< 18.5	Underweight
18.5-24.9	Normal weight
25-29.9	Overweight
30-34.9	Class 1 Obesity
35-39.9	Class 2 Obesity
40 or Greater	Class 3 Obesity

A BMI above 40 indicates that a person is obese and may be a candidate for bariatric surgery. Bariatric surgery is also an option for people with a BMI between 35 and 40 who suffer from life threatening comorbidities such as heart or breathing diseases, moderate to severe sleep apnea, high cholesterol, diabetes, and severe arthritis of the knee or hip joints.

Another indication to undergo Bariatric/Metabolic surgery is a patient with BMI of 30 or greater who have *uncontrolled diabetes*. In this case, the purpose of the surgery is to improve, and in many patients, eradicate the diabetes. *This occurs by increasing the levels of incretins (intestinal hormones) and is independent/unrelated to any weight loss occurring after the surgery.*

Benefits of Bariatric Surgery

The medical and emotional benefits of weight loss surgeries begin almost immediately after surgery.

Over time, the benefits following surgery may include:

- Significant sustained weight loss in most patients if following recommendations after surgery.
- Rapid weight loss in the first 18 – 24 months after surgery in most patients.
- Although patients can regain some of their weight over time, few patients regain all excess weight.

Improvement or elimination of most obesity-related conditions (Elder and Wolfe):

- High cholesterol
- High blood pressure
- Obstructive sleep apnea
- Type 2 Diabetes

OBSTRUCTIVE SLEEP APNEA (OSA) AND THE SLEEP STUDY

As mentioned earlier, a sleep study is required in our program. There are several reasons this test is necessary. Safety is the primary concern. People who have a BMI of 35 or greater have a high risk of having undiagnosed obstructive sleep apnea, or **OSA**. **OSA** is a potentially lethal condition that increases your risk of stroke, heart attack, or abnormal heart rhythm to 300% over that of the average population.

This is a disease that is no different than diabetes or hypothyroidism (low thyroid) and needs to be treated. Most weight loss surgical programs require evaluation for **OSA** before surgery.

What is OSA?

Obstructive sleep apnea, or **OSA**, is a condition where you stop breathing while you sleep. Your airway or throat collapses while you sleep. Often, a person is unaware that this is occurring. This leads to dangerously low levels of oxygen during sleep, causes fatigue and can increase blood pressure. It also can decrease your body's metabolism and thus

contributes to weight gain. As many as eight out of ten patients that are evaluated for weight loss surgery are unaware that they have this condition.

What if I have OSA?

If you have **OSA**, you will need **CPAP** treatment every night when you go to bed. Some patients will still have **OSA** after weight loss surgery, so before you stop using your machine you must be retested. Usually, you can retest in nine to 12 months after surgery.

Remember: *use the machine until you are retested and cleared of OSA by a physician.*

What can I expect after using a CPAP?

The first few nights using your CPAP machine will be an adjustment and it may take longer to get to sleep. However, after your body adjusts to this, you will sleep much better, feel more rested, and have less fatigue during the day.

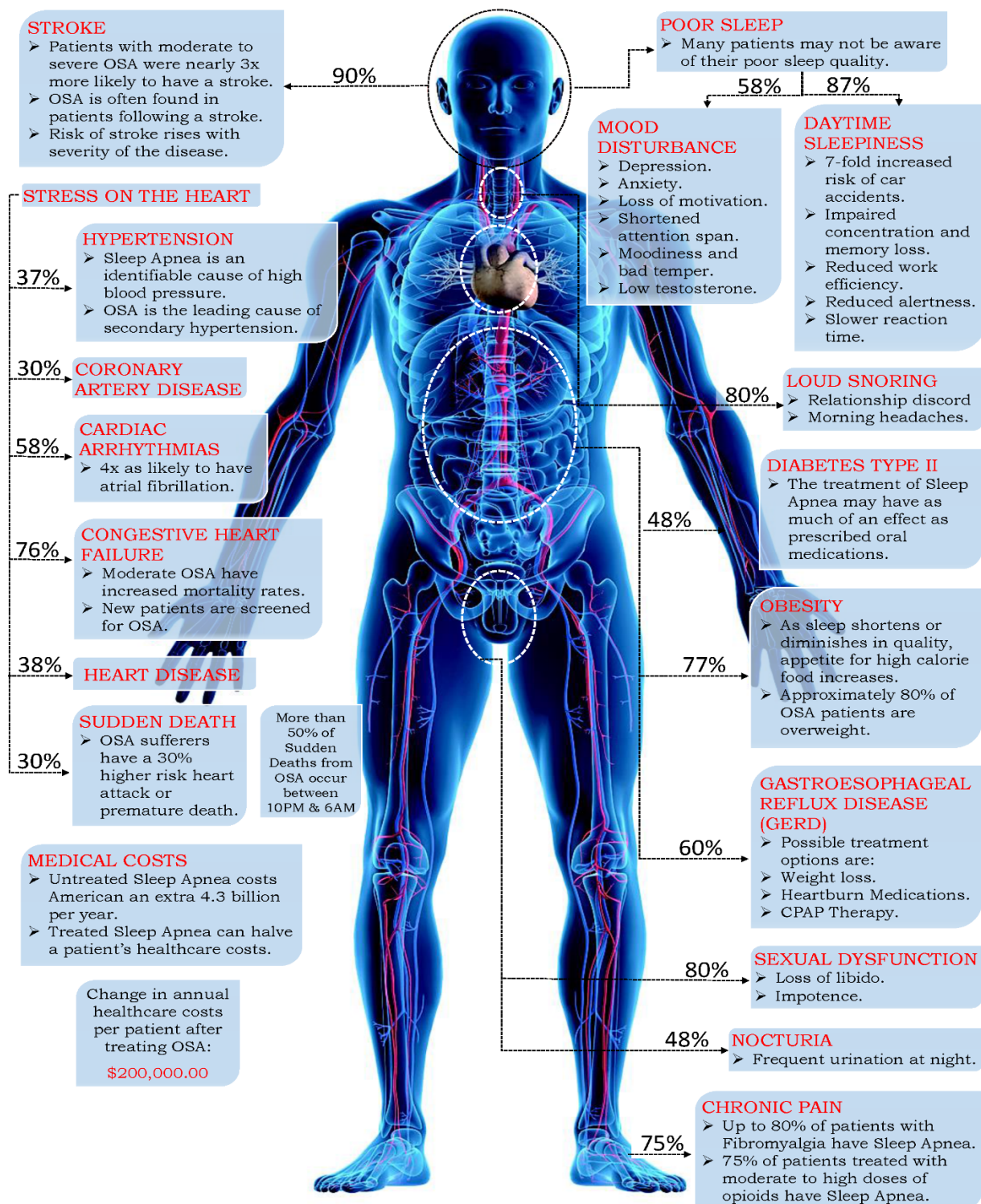


www.medoville.com

The Consequences of Obstructive Sleep Apnea

Obstructive Sleep Apnea afflicts 1 in every 5 Americans.

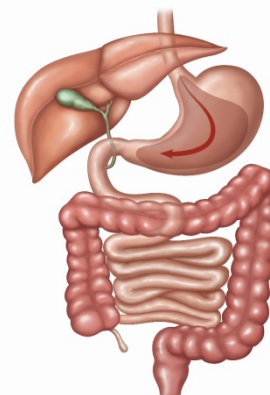
What other problems arise for OSA Patients?



If you suffer from any of the conditions above consult your physician about getting tested for Sleep Apnea

OVERVIEW OF THE NORMAL DIGESTIVE PROCESS

As food moves along the digestive tract, digestive enzymes and juices combine with food at different points resulting in digestion and absorption of calories and nutrients. After chewing and swallowing, food moves through the esophagus into the stomach where stomach acid continues the digestive process. The food then passes through the stomach into the first part of the small intestine, (the duodenum) where bile and pancreatic enzymes continue to breakdown the food and speed up the digestive process.



Most of the calcium and iron in the foods we eat are absorbed in the duodenum.

The remaining nutrients are absorbed in the second and third part of the small intestine, (the jejunum and ileum). The indigestible food particles in the small intestine are stored in the large intestine until they are eliminated in bowel movements.

BARIATRIC PROCEDURES

Restrictive vs. Malabsorptive - Bariatric surgical procedures are often categorized by how they contribute to weight loss. **Restrictive** procedures decrease the amount of food it takes to become and stay full. A restrictive weight loss surgery procedure will make you feel full with smaller food portions, resulting in loss of weight by less caloric intake.

Malabsorptive procedures cause weight loss due to bypassing food around a portion of the small intestine and decrease how much food is absorbed by your body. In some of the malabsorptive surgical options, your food bypasses the area of intestines where most of the calcium and iron are absorbed. This can lead to an increased risk for vitamin deficiencies, however, in most cases this is easily managed with appropriate vitamin supplementation and follow up medical care on an annual basis.

The most common restrictive weight loss procedures are the Gastric Band and Sleeve Gastrectomy. The Roux-en-Y Gastric Bypass, Biliopancreatic Diversion with Duodenal Switch (DS), and the Stomach Intestinal Pylorus Sparing (SIPS) procedures are all viewed as restrictive *and* malabsorptive.

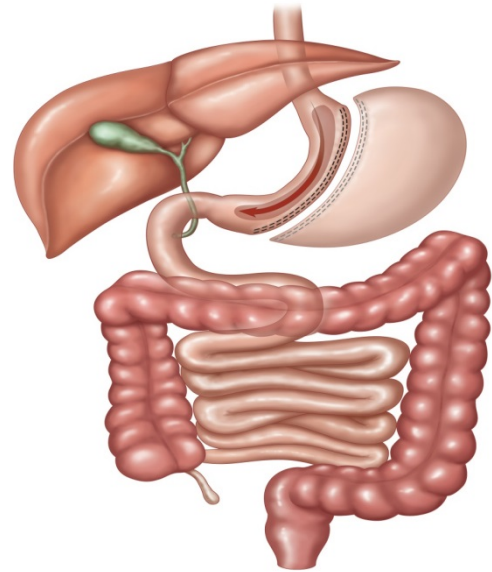
These procedures are reviewed on the following pages, in addition to the pros and cons of each. Currently, the surgical procedures that are offered include Sleeve Gastrectomy, Roux-en-Y Gastric Bypass, Biliopancreatic Diversion with Duodenal Switch (DS), and Stomach Intestinal Pylorus Sparing procedure (SIPS). We do not offer placement of Gastric Bands, however, we do provide the full spectrum of follow up care for patients with these devices, including removal and conversion to other types of Bariatric procedures.

SLEEVE GASTRECTOMY

The Sleeve Gastrectomy (also known as vertical sleeve gastrectomy and gastric sleeve) removes approximately two thirds of the stomach, which provides a quicker sense of fullness and decreased appetite.

The smaller stomach restricts food intake by allowing only a small amount of food to be consumed at one time. It consists of making the stomach, which looks like a pouch, into a long narrow tube; hence the name “sleeve”.

The sleeve is created with a surgical stapler following along the curve of the stomach. After the new smaller stomach is created, the remaining stomach is removed. The outlet of the stomach (pylorus) remains and allows for the normal process of stomach emptying. In addition, the procedure decreases the size of the stomach and removes the portion of the stomach where ghrelin, a hormone that controls hunger sensation, is produced



Pros:

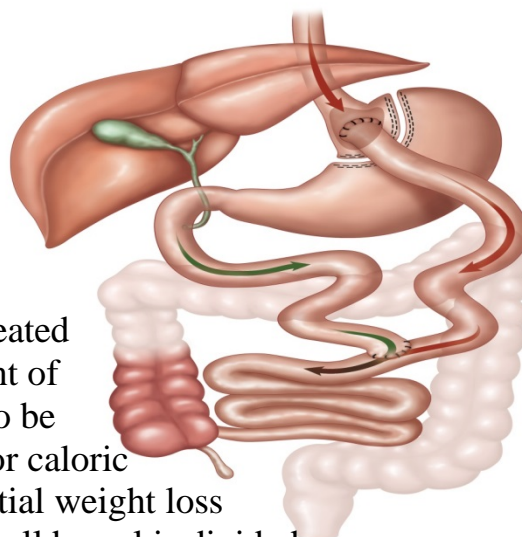
- Does not require the implantation of a foreign object such as the Gastric Band
- Likely no vitamin or mineral deficiencies because there is no malabsorption; however you are still required to take multivitamins, since the decreased food intake may limit the vitamins and nutrients you get from your diet
- No rerouting of the intestines
- Less long-term maintenance than the Gastric Band

Cons:

- Weight loss less than the Roux-en-Y Gastric Bypass at 5 years post-surgery
- The risk of developing GERD (reflux, heartburn) after this procedure is about 42%. (Castagneto et al 2018)
- Not a good Bariatric surgery option for patients with GERD (reflux, heartburn) and/or a hiatal hernia
- Vomiting or discomfort may result if food is eaten too quickly, taking large bites of food, drinking fluids with meals or snacks, or eating dry, tough, or sticky foods
- There is a potential for leaking/bleeding along the staple line created on the stomach.

ROUX-EN-Y GASTRIC BYPASS

The Roux-en-Y Gastric Bypass is currently the gold standard of Bariatric/Metabolic procedures. Food bypasses the initial part of the small intestine where many nutrients/calories and vitamins are absorbed.



A small stomach pouch, about the size of an egg, is created with a surgical stapler. This small pouch restricts the amount of food intake by only allowing a small amount of food to be eaten at one time. This restrictive component allows for caloric intake restriction and plays an important role in the initial weight loss seen after this procedure for the first 6 months. The small bowel is divided, with a surgical stapler, about two feet from the stomach. One end of the small intestine is brought up to the new stomach pouch. The small intestine that is still connected to the separated stomach is reconnected to the intestinal tract. The rearrangement of the intestinal tract causes food to travel faster to the distal small bowel → stimulating the release of intestinal hormones that communicate with your brain to promote satiety, decrease hunger sensation, delays stomach emptying. It also stimulates the pancreas to release insulin in response to carbohydrate (sugars) intake. These intestinal hormonal changes lead to sustained weight loss for a long period of time.

Patients will need to take life-long vitamins that will almost always prevent nutritional deficiencies. Vitamin requirements are typically no different than those recommended for everyone to take for optimal health. Gastric Bypass can cause dumping syndrome because food moves quickly through the small intestine. Symptoms include nausea, weakness, sweating, faintness, and diarrhea after eating, especially carbohydrate rich foods. Dumping syndrome can usually be prevented by following the recommended nutrition plan after surgery. In fact, many post-surgical patients report ‘wishing’ they had dumping syndrome, because it is naturally a *very* negative behavioral feedback mechanism if nutritional needs/plan are not adhered to after surgery.

Pros:

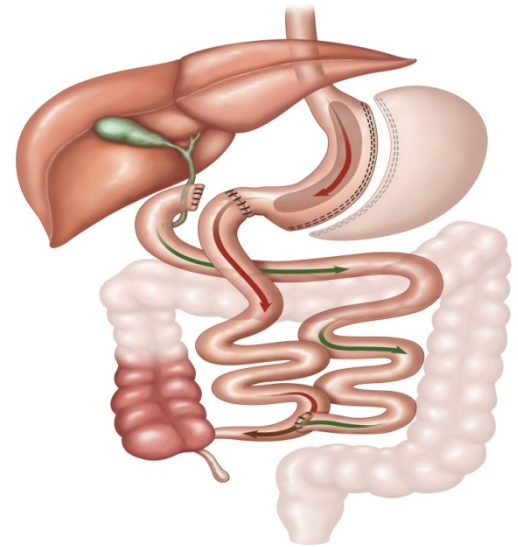
- Gold standard Bariatric procedure based on current scientific evidence
- Best procedure/surgery to treat Acid Reflux/GERD
- Better weight loss and resolution of diabetes vs sleeve at 5 years post-surgery
- Offers benefit of both restrictive and malabsorptive

Cons:

- Risks of nutritional deficiencies without adequate diet and multivitamins intake, dumping syndrome possibility

BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH (DS)

Biliopancreatic diversion with duodenal switch (also called Duodenal switch, or BPD-DS) is a procedure that induces weight loss by a sleeve gastrectomy and intestinal bypass. This procedure is a type of combined malabsorptive and restrictive weight loss surgery. This means that the procedure decreases the number of calories that can be absorbed by the intestines by decreasing the amount of intestine that comes into contact with food and also decreases the quantity of food that can be accommodated by the stomach and used by the body.



This approach results in decreased absorption of food. With this procedure, the surgeon removes approximately 60-70 percent of the stomach so that the stomach takes the shape of a tube (sleeve gastrectomy). The lower intestine is then divided much further downstream than with gastric bypass so that two thirds or more of the intestine is bypassed, leaving only a few feet of intestine where food and digestive enzymes meet. This is the intestinal bypass portion of the operation.

Pros:

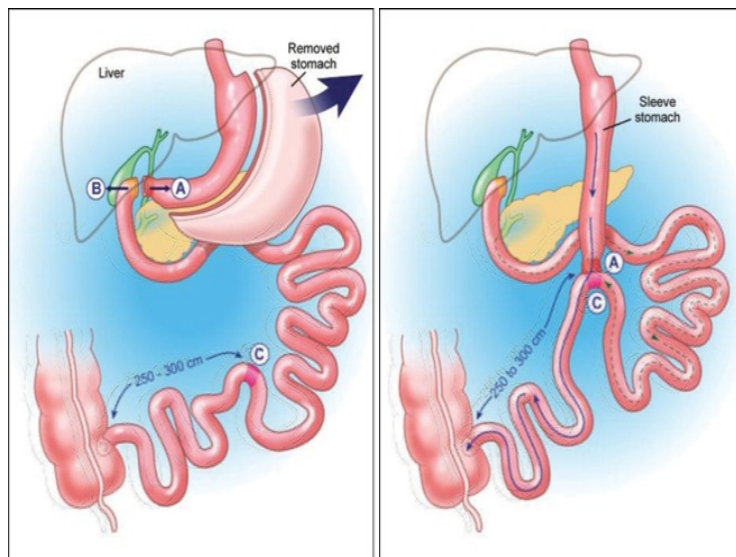
- This procedure can produce the greatest excess weight loss it creates in most patients the most decreased hunger sensation.
- Long-term maintenance of weight loss can be successful if the patient adapts and adheres to a straightforward dietary, supplement, exercise and behavioral regimen
- Best rate of Diabetes resolution/cure
- Patients are able to eat larger meals than with a Sleeve Gastrectomy or a Roux-en-Y Gastric Bypass procedure
- Lowest rate of weight regain long-term

Cons:

- For all malabsorptive procedures there is a period of intestinal adaptation when bowel movements can be very liquid and frequent. This side effect improves over time when following nutritional guidance.
- Abdominal bloating and malodorous stool or gas may occur, but also improve with time and adjustments in nutritional guidance
- Close lifelong monitoring for protein malnutrition, anemia, and bone disease is recommended; lifelong vitamin supplementation is required

STOMACH INTESTINAL PYLORUS SPARING SURGERY (SIPS)

The Single Anastomosis Duodenal Switch, also known as: Stomach Intestinal Pylorus Sparing Surgery (SIPS), or the Single Loop Duodenal Switch, is similar to the duodenal switch procedure, except that the small intestine is transected at one point instead of two. The majority of the stomach is removed, similar to the Sleeve Gastrectomy, but basic stomach function remains the same. Also, roughly half of the upper small intestine is bypassed, which moderately decreases the calorie absorption. Weight loss is achieved both through restriction of food consumption and decreased absorption. There is also increased stimulation of gastrointestinal hormones causing increased satiety, decreased hunger sensation which results in good long-term weight loss maintenance.



The stomach intestinal pylorus-sparing procedure (SIPS) involves the creation of a 300-cm common channel with a single-anastomosis duodenal enterostomy.

Source: Courtesy of David Baker, Bariatric Medical Institute (BMI) of Texas, San Antonio.

Pros:

- Similar weight loss to Duodenal Switch, and greater than the Gastric Bypass and Sleeve Gastrectomy.
- Only one anastomosis is required compared to the Duodenal Switch and the Gastric Bypass where a second anastomosis is required. This decreases the risk of internal hernias.
- Great procedure for patients with BMI > 50, and also for patients with Diabetes.

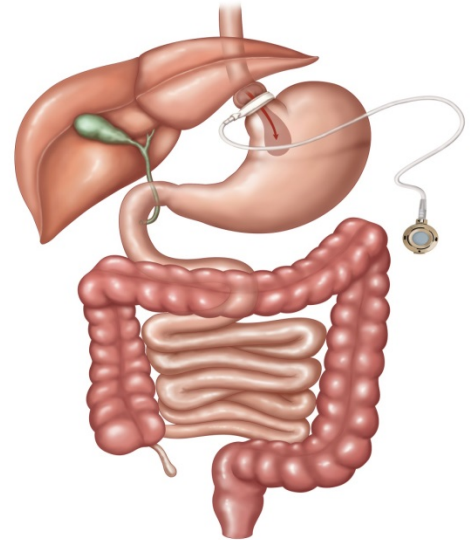
Cons:

- Malodorous stool or gas may occur
- In order to avoid vitamin deficiencies and malnutrition, patients are placed on a daily vitamin regimen. The risk is less than with the Duodenal Switch since there is a longer segment of intestine to absorb nutrients.

GASTRIC BAND PROCEDURE

The gastric band procedure involves placing an adjustable band around the upper part of the stomach (the band is filled with saline fluid through a port that lies just underneath the skin). The change functions to provide a sensation of fullness after a small meal and reduces the feeling or hunger between meals.

A band is placed around the top of the stomach to create a small pouch that limits food intake. A small port is affixed inside the body that allows the band to be adjusted to make the pouch smaller or bigger.



Pros:

- No re-sectioning of the stomach
- There are no reconnections of intestines, no stapling, and no removal of the stomach
- No malabsorption

Cons:

- Less weight loss than Gastric Bypass and Sleeve Gastrectomy
- Significantly higher weight regain/failure compared to all other surgeries
- Gastric Band can slip/erode into the stomach, resulting in additional operations
- Gastric Band need to be adjusted to maintain weight loss and/or prevent deleterious symptoms (vomiting/reflux, nausea, etc.)
- Risk of mechanical failure and/or leaking of port or tube
- Requires many more follow ups than Gastric Bypass and Sleeve Gastrectomy

****We no longer offer placement of gastric bands, but are able to provide the full spectrum of follow up care for patients that have one in place, including surgical management of complications.***

PREPARING FOR SURGERY

Your Bariatric Surgery journey starts today, not the day after surgery. It is our goal to set you up for success. In order to do so, there are certain recommendations you must follow before your operation to ensure you are as prepared as possible for surgery.

DIET: Remember to abide by the pre-op diet, which has been designed to shrink the size of your liver for surgery. (*You will receive a handout outlining the liver shrinking diet at your pre-op appointment with the surgeon*)

EXERCISE: The journey towards a healthier you starts today, therefore it is essential to your success to start an exercise regimen. This routine should include muscle strengthening and cardio. Incorporating some form of exercise into your daily routine before your procedure will dramatically improve the weight loss process. Try to get at least 30 minutes of physical activity a day, *in addition* to your regular daily activities. We do not want you to hurt yourself, so walking is a good way to start. Walking not only improves muscle tone, but it also improves circulation. With any form of exercise, remember to start out slowly and gradually increase the difficulty of the exercise. Also, remember to set goals for yourself.

If you suffer from joint pain, water exercises are a good option since they are low impact and not weight bearing. Often there are aquatic exercise program at your local fitness center.

Resistance bands can be used for muscle strengthening. Do not view the exercise regimen as an impossible obstacle, rather as our prescription to you for increased physical activity to set you up for long term success.

HYGIENE: It is important to keep your skin clean, dry, and intact. Having skin breakdown could possibly delay your surgery. Make sure to maintain good skin hygiene. You will be given a surgical cleansing agent (Chlorhexidine Antimicrobial Wipes) to use in the shower for 2 days before surgery.

SURGICAL SERVICES CENTER APPOINTMENT:

Once your surgeon has determined you are a candidate for surgery, you will be directed to Surgical Services for an initial appointment for evaluation and teaching by the nursing and anesthesia staff. These appointments usually take 60 minutes to complete, but the duration depends on your unique medical history. This is an excellent opportunity to have any questions about surgical preparation answered. Please bring your Surgical Passport along with any requested medical consultation documents/records to your pre-operative appointment.

MEDICATION AND HERBAL SUPPLEMENTS: It is very important to list all medications and herbal supplements you take in your preoperative appointment. There are certain medications your surgeon may ask you to stop taking prior to Bariatric Surgery. You may be asked to provide a letter from prescribing provider stating it is okay to be off a particular medication(s). The following are examples of medications you will need to *stop* two to four weeks before Bariatric Surgery:

- **4 weeks before and after surgery:**
 - Hormone replacement therapy (estrogen, progesterone), oral contraceptive/birth control pills. These medications increase the risk of postoperative blood clot formation i.e., a Deep Vein Thrombosis (DVT) or a Pulmonary Embolism (PE), which can be life-threatening.
 - Immunosuppressant therapy to include steroids and medications to treat autoimmune diseases. You must have clearance from your prescribing provider for these medications. These medications decrease your ability to fight infection.
- **2 weeks before surgery:**
 - Oral steroids (i.e. prednisone).
 - For your safety, stop all herbal remedies as these may interact with anesthesia and may contain blood thinning elements. (A list of these supplements is provided with the surgery passport packet).
- **1 weeks before surgery:** Due to their blood thinning effect NSAIDS (Nonsteroidal anti-inflammatory drugs) must be avoided. Depending on which Bariatric Surgery procedure you have, you may not be able to take medications containing NSAIDS for the rest of your life due to the increase risk of ulcer formation in your gastrointestinal tract. Examples of medications to discontinue prior to your procedure include: Aspirin (acetylsalicylic acid), Motrin (Ibuprofen), Naproxen, Naprosyn, Aleve, Midol, Advil, etc. Remember to READ LABELS on the medication bottle to check if it contains NSAID.

ALCOHOL AND TOBACCO: Discontinuing the use of tobacco and alcohol is essential to your preparation for surgery. Smoking makes it harder for the body to heal. This includes chewing/dipping tobacco and e-cigarettes. Surgical complications related to smoking include:

- Anesthesia-related complications
- Infections
- Heart attack
- Stroke
- Pneumonia

- Death
- Anastomotic/Staple Line Leak

Long term complication of continuing to smoke after Bariatric surgery is the increased incidence of ulcer formation. This is due to the stimulation of stomach acid production.

12 WEEKS (90 days) PRIOR TO ANY BARIATRIC PROCEDURE YOU MUST STOP THE USE OF ALL TOBACCO PRODUCTS. If you continue to use tobacco products, your surgery will be cancelled. Referrals to assist in smoking cessation will be given.

Avoiding the use of alcohol is another way to assist you in becoming healthier and ready for surgery. Alcohol can not only cause liver damage, but it can also irritate the lining of your stomach. It is also very high in empty calories. Continue to avoid alcohol consumption after surgery. Keep in mind that a couple of sips may have a strong and quick effect. Small amounts of alcohol can cause intoxication due to increase alcohol sensitivity after Bariatric surgery. Studies have shown an increased risk of alcoholism after Bariatric surgery.

THE DAYS LEADING UP TO SURGERY:

FEELING ILL: If you develop a cold, persistent cough, skin breakdown, fever, or any changes to your condition prior to your scheduled surgery; please notify the surgeon or his/her staff immediately. We need to ensure you are in the best condition for anesthesia. If necessary, we may have to adjust your surgery date to allow you to get better.

PACKING FOR SURGERY: You only need to bring the bare necessities. Please avoid bringing jewelry or large amounts of cash.

In a small overnight bag you may pack the following:

- This guide & your Surgical Passport
- Toothbrush, toothpaste, lotion, hair brush/comb, deodorant
- Eye glasses/case
- Phone and charger
- Contact/Hearing aid/Denture case
- Bathrobe (make sure it buttons or zips in the front)
- Non-skid slippers/comfortable shoes
- CPAP mask
- Comfortable loose fitting clothing to go home in
- Military or dependent ID

THE DAY BEFORE SURGERY:

Shower the night before your surgery. Reference the Preoperative Instruction sheet and Skin Preparation Instruction sheets for further guidance. In the shower thoroughly cleanse

your body. Use a Q-tip with alcohol or with soap and water to cleanse your belly button. Wash your body to include your genitals as usual. **DO NOT SHAVE ABDOMEN** as this increases the risk for surgical site infections. Use Chlorhexidine Antimicrobial Wipes on your body as instructed. **DO NOT** apply any lotions, powder, creams. **Do not** wear make-up or nail polish.

THE DAY OF SURGERY:

DO NOT SHOWER. Use Chlorhexidine Antimicrobial Wipes on your body as instructed. Brush your teeth and use mouthwash as directed.

AT THE HOSPITAL:

Once you arrive to the hospital, you will report to the **Day of Surgery Check-in desk**, on the second floor where you will be checked-in for surgery. Once escorted to the back, you will be asked to change into a hospital gown. If you wear dentures, corrective lenses, and/or hearing aids you will be asked to remove them. You will be asked to sign an operative consent form, which will state the type of Bariatric/Metabolic surgery you are having and include the risks your surgeon discussed with you at your preoperative appointment. Your signature indicates the type of surgery and surgical risks have been explained to you by your surgeon if you agree.

ANESTHESIA: An anesthesia provider will be monitoring and observing you during the entire procedure.

1. **Day of Surgery Check-In/ Holding Area:** Your vital signs will be taken. An intravenous (IV) line will be started to administer fluids and medications into your bloodstream. You will also receive blood thinner injection in your abdomen to decrease the risks of blood clots. You will also receive several oral medications (Gabapentin, Emend) and a Scopolamine skin patch to help with nausea and pain after surgery.
2. **OPERATING ROOM:** Once in the operating room, you will be asked to settle onto the operation table. The nurse will connect to several monitors. A sedative will be given to you through your IV; once you fall asleep the anesthesia provider will place an endotracheal tube (ET tube) through your mouth into your windpipe to ensure your breathing is not restricted during the procedure. An anesthetic gas and medications will keep you asleep and pain free.

The length of surgery depends on the type of procedure(s) being performed, amount of scar tissue from previous surgeries, as well as how well you followed the liver shrinking diet. Having a small liver and having less fat around the internal organs makes for a smoother and faster operation.

3. **Post Anesthesia Care Unit (PACU):** After surgery, you will be taken to the PACU. You will be closely monitored until your initial recovery is completed and all your vital signs are stable. Once you have recovered from anesthesia in the PACU, you will be taken to your hospital room where you will stay for the remaining of your hospital stay.

RECOVERING IN THE HOSPITAL & RETURNING HOME:

MEDICAL-SURGICAL UNIT: You will be admitted the Medical-Surgical Unit where you will be monitored around the clock (bedside telemetry and vital sign monitoring). While on Med-Surg unit your nurses will encourage the following activities to prevent complications:

- Early ambulation (WALK, WALK, WALK!!!). This is the best prevention against blood clots and pneumonia.
- Use of the incentive spirometer (I/S): Take deep breaths and cough 10 times every hour while awake. The proper way to use the I/S is to: exhale all of your air, place the tube in your mouth, inhale as deeply as possible in a slow controlled manner, hold your breath for a couple of seconds, exhale completely, and cough. Place a pillow over your abdomen for support as deep breathing and coughing may be uncomfortable. Remember the cough should come from your abdomen not your throat (repeat these steps 10 times/hour).
- Getting out of bed to walk and sit in your bedside chair. It may be uncomfortable in the beginning but each time you do it, it will get easier. You must walk at least 4 times a day.
- Use of SCDs (sequential compression devices) to prevent DVTs. This device will be applied around your calves. The device will inflate and deflate to promote circulation. The SCDs must remain on at all times. The only time they are supposed to be off is when you are up walking.
- Your diet will be advanced based on the recommendations by your surgeon.
- One of the inpatient dietitians will visit you during your stay prior to discharge to reinforce the diet progression guidelines.

PAIN MANAGEMENT: You may experience pain from the incisions made during surgery and/or from the position you were in during surgery. Some patients experience more discomfort than actual pain. You may experience neck or shoulder pain. In order to keep you comfortable and allow you to increase your activity, it is imperative for your pain to be well controlled. **Keep in mind that you will not be pain free after surgery; however, the goal is to have your pain at a tolerable level.** It is our goal for your pain to be well managed in order to allow you to walk, take deep breaths and cough, which are essential during your recovery.

- You will be receiving IV non-narcotic pain medication (Tylenol®, Toradol®) around the clock. There will be additional pain IV medications prescribed on as

needed basis. Make sure to tell your nurses and physicians if you are having pain, especially if it keeps you from walking and doing deep breathing exercises. Do not wait for the pain to be at its worst before asking for additional pain medication, stay ahead of it.

- Your medications will be transitioned from IV to oral at the discretion of your surgeon to prepare you for discharge. You will be discharged on oral pain medications. When at home, start weaning yourself off of the narcotics as you start to feel better. The goal is for you to be off of the pain medications prescribed at discharge at 2 weeks after surgery.

Remember that it is normal to experience pain after Bariatric surgery, but it is not normal for you to experience severe pain that is not being controlled with the pain medications prescribed. Keep your nurse and physician informed of your pain. Seek immediate medical attention if you are home and experiencing uncontrolled severe pain.

Your incisions are closed with sutures deep inside your abdomen that will dissolve on their own. It is common to feel a pulling sensation at your incisions the first few weeks after surgery, especially when changing position. It is normally a sharp intermittent pain that resolves within a few minutes.

DISCHARGE: Bariatric/Metabolic surgery patients are typically discharged within a day or two after surgery. Your surgeon will discharge you based on your individual progress. Discharge instructions stating the specific dietary and activity instructions will be reviewed prior to sending you home; as well as precautions and warning signs, which will require you to seek immediate medical attention.

Your surgeon will outline the new medications prescribed, as well as let you know which home medications you may resume or stop taking. We advise you to make an appointment with your primary care physician within a week or two after surgery as a routine visit post Bariatric surgery and to have your home medication dosage adjusted if necessary (i.e. blood pressure, diabetes medications). It is normal to experience fatigue, sleeplessness, surgical pain, weakness, lightheadedness, gas pain, loose stools, and emotional ups and downs in the early days to weeks after surgery. Discuss any concerns you have prior to going home with your surgeon or medical staff.

NAUSEA: It is not uncommon to experience some nausea after surgery which may last up to 3-4 weeks after surgery. During your hospital stay you will receive anti-nausea medications around the clock. There will also be nausea meds prescribed on an as needed basis. Make sure to keep your nurse informed if you are experiencing any nausea. You may also be discharged with oral anti-nausea medications. Inform your nurse or physician if you are experiencing nausea, vomiting or dry heaving.

- If after discharge, nausea is so severe that it prevents you from keeping yourself hydrated, report to the hospital. Persistent vomiting can lead to dehydration, electrolyte imbalance, and vitamin deficiencies.
- Follow the following guidelines to prevent you from becoming nauseous:
 - Drink or eat slowly and recognize when you are full.
 - If nausea makes it difficult to drink, try drinking peppermint tea, fennel tea, decaffeinated green tea or water with lemon.
 - A very common side effect of pain medications is nausea. If the pain medication prescribed makes you too nauseated to stay hydrated, contact the Bariatric clinic to have your medication changed.
 - Stay hydrated. You should be sipping fluids throughout the day. Your goal is to drink 64 oz. of fluid a day.

VOMITING:

This usually occurs from:

- Overeating or drinking too much
- Eating and/or drinking too fast
- Not chewing thoroughly
- Introducing solid foods too soon after surgery
- Drinking fluids and eating at the same time or drinking fluid immediately after a meal
- Drinking through a straw
- Lying down shortly after a meal
- Not following the postoperative diet

Fullness occurs quickly after Bariatric surgery. Initially, you may feel full after a couple of teaspoons. If you begin vomiting after eating, stop consuming solid foods and begin sipping sugar free clear liquids. If you continue to have difficulty keeping fluids down, report to the hospital.

DEHYDRATION: This will occur if you do not drink enough fluids. Signs and symptoms include:

- Fatigue
- Dark colored urine
- Lightheadedness
- Headache
- Dry mouth, whitish coating on tongue
- Nausea

If dehydration persists, it can lead to bladder and kidney infections. In some cases, you may need to be admitted to the hospital for IV fluid administration.

How to avoid dehydration: Sip on fluids throughout the day, such as sports drink. Drink at least 64 oz. of fluid a day, more if you have been sweating. Avoid caffeinated drinks because they can act as diuretics, which will make you urinate more often.

ACTIVITY AFTER SURGERY: You may feel fatigued after surgery, but try to stay as active as possible. Avoid strenuous activity the first week after surgery. Limit your activity to walking 30 minutes a day. No lifting anything greater than 10lbs, and avoid pushing/pulling motions for the first 4 weeks after surgery. No driving while on narcotics.

You may travel short distances after surgery as long as you feel strong enough to make the trip. Avoid sitting or standing for prolonged periods of time. Change positions frequently and take breaks to walk around. It is okay to climb stairs.

WORK AND DISABILITY: Bariatric surgery patients can usually return to work within 2 to 4 weeks after surgery. The amount of time off depends on the nature of your job, and how well you are recovering. We caution you not to return to work too soon. During the first weeks after surgery you are beginning to get to know your new body after major abdominal surgery. This is a time to rest, exercise, attend support group meetings, to monitor and journal everything you drink/eat to ensure you are meeting your goals.

Although you may not wish to disclose to your work that you are having weight-loss surgery, it is recommended that you tell them you are having major abdominal surgery which will preclude you from doing any kind of heavy lifting for four weeks after surgery. Explain that you will need about two to four weeks to recover.

Deliver any disability, leave, or work related paperwork to the Bariatric Clinic during business hours. It will be completed in 24-48 hours and you will receive a phone call saying it is ready to come pick up.

WOUND CARE: You will notice surgical skin glue or steri-strips over your incisions. This glue or strips will fall off on their own. Do not pick at them. If you had a Jackson-Pratt (JP) drain that was removed prior to discharge, you will have a dressing over the site where drain used to be. Keep a dry clean dressing over this site for 48 hours. Apply clean gauze and tape if dressing becomes wet or soiled. After 48 hours, keep the wound open to air. Bruising around the surgical sites is normal; this is due to the manipulation of instruments during surgery. Monitor wounds for signs and symptoms of infection (redness that is spreading, swelling, yellow/green discharge, warmth, increased pain, fever above 101.5 degrees Fahrenheit). Itching is a normal sign of healing, however if your incisions are itching and red this may be a sign of an allergic reaction. If you experience signs and symptoms of allergic reaction or infection, report to the Surgery Clinic during business hours or the

Emergency Department after hours or weekends. You may shower (soap and water over incisions is fine) and pat your incisions dry. Do not soak your incisions in water until 3-4 weeks after surgery. This means no submerging your abdomen in bathtubs, hot tubs/Jacuzzis or pools. Do not apply any antibiotic ointments or creams. Do not use alcohol or peroxide over your incisions.

Normal wound symptoms:

- A small amount of clear yellow drainage from surgical wounds is not unusual. If this occurs, it is fine to cover them with a light dressing to prevent getting your clothes soiled.
- Moderate swelling and bruising is to be expected, however severe swelling and bruising may indicate bleeding or a possible infection.
- Mild to moderate discomfort mostly relieved by pain medication.
- Numbness, occasionally small sensory nerves are cut during surgery when incisions are made. The sensation in those areas will return in approximately 2 to 3 months as the nerve endings heal. When applying heating pads, be careful to not burn yourself as postoperative numbness may not allow you to feel the heat. Shooting electrical sensations may occur as the nerve endings heal.

WHEN TO SEEK IMMEDIATE MEDICAL ATTENTION:

- Fever of 101.5 degrees Fahrenheit or greater
- Nausea and vomiting not controlled by medications
- Severe pain not controlled by medications
- Signs and symptoms of infection
- Chest pain or shortness of breath
- Pain, redness, swelling in your legs
- Urine output less than 4 times in 24 hours

BOWEL MOVEMENTS: You may experience periods of constipation and loose stools after Bariatric surgery. At discharge, you will receive a laxative and/or stool softener because narcotic pain medications can lead to constipation. You may experience one to three soft/loose bowel movements (BMs) a day. These BMs may be associated with flatulence and may be foul smelling. Please contact your surgeon should you experience persistent diarrhea, as this can lead to dehydration. If you are experiencing multiple loose stools a day, do not take laxative or stool softener prescribed.

Since the amount of food is greatly reduced after surgery, you may experience less bowel activity and at times constipation. Constipation is defined as no BMs for 3 to 4 consecutive days, or the frequent passage of hard/dry stools, which cause excessive straining. Make sure you are taking the medications as directed to avoid constipation. If you develop constipation, try the following:

- Increase fluid intake to 80 oz. a day

- Benefiber powder that dissolves in fluid, take as directed. You must increase water intake with fiber supplementation.
- Miralax 1 pack twice a day.

If constipation persists despite the preventive measures, contact the clinic.

FLATULENCE: The presence of gas in the digestive tract is normal. After Bariatric surgery, gas may be more odorous and expelled more forcefully. This is due to the shortened GI tract. Foods high in carbohydrates will increase the incidence of gas. Foods that are known to increase flatulence include: beans, some fruits, veggies, whole grains/wheat, bran, soft drinks, and dairy products. Foods containing sorbitol and dietetics products can also cause more gas.

Things you can do to prevent flatulence:

- Chew food thoroughly and eat slowly. Do not drink through a straw. Swallowed air can increase gas in the GI tract.
- Avoid lactose. Yogurt is ok.
- Eliminate carbonated beverages
- Watch your carbohydrate intake

POST-OPERATIVE APPOINTMENTS AND FOLLOW-UP CARE

The Bariatric Clinic at Madigan Army Medical Center strives to ensure all of our patients experience a healthy weight loss journey. Your success is dependent on your dedication to follow-up care which includes office appointments and support group attendance.

Follow-up Post-Operative Appointments:

- 7 Days Post-op f/u with a Bariatric Provider
- 1 Month Post-op f/u with a Bariatric Provider: with labs and Nutrition visit
- 3 Month Post-op f/u with a Bariatric Provider: With Labs and Nutrition Visit
- 6 Month Post-op f/u with a Bariatric Provider: With Labs and Nutrition Visit
- 9 Month Post-op f/u with a Bariatric Provider: With Labs and Nutrition Visit
- 12 Month Post-op f/u with a Bariatric Provider: With Labs and Nutrition Visit
- 18 Month Post-op f/u with a Bariatric Provider: With Labs and Nutrition Visit
- Yearly on the anniversary date of your surgery : With Labs and Nutrition Visit

LONG TERM IMPACTS OF BARIATRIC SURGERY:

ANEMIA: Anemia in weight loss surgery patients can be caused by deficiencies in folic acid, iron, and/or vitamin B12. Signs of iron deficiency anemia include: paleness, decreased energy, weakness, difficulty maintaining body temperature, fatigue, dizziness, and/or shortness of breath.

Iron deficiency may also be caused by low vitamin A. Vitamin A helps to mobilize iron from its storage sites, so a deficiency of vitamin A limits the body's ability to use stored iron. Please follow the vitamin and mineral recommendations in the nutrition section of this booklet. If you have any questions or concerns, please contact the Madigan Army Medical Center Bariatric Clinic or the nutritionist.

SCARS: Initially your surgical scars are red, dark pink or purple. It will take approximately one year for the color to fade. It is important that you protect your scars from the sun for the first year after surgery. Apply sunscreen to surgical scars with SPF of at least 15 when out in the sun (even if covered by a bathing suit).

SKIN CHANGES/TRANSIENT HAIR LOSS: After Bariatric surgery, the texture or appearance of your skin may change. It is not unusual for patients to develop dry skin or acne. To improve the quality of your skin, it is important to meet your intake of vitamins, protein, and water.

Another temporary side effect of Bariatric surgery is hair loss or hair thinning. This occurs approximately 3 to 9 months after surgery. It is related to the rapid weight loss phase when your body is getting less calories and a borderline amount of protein intake. It will resolve once your nutrition and weight loss stabilize. Make sure you take the daily protein requirement. Consider taking a Biotin supplement or a Hair, Nail, and Skin supplement.

SEXUALITY/PREGNANCY: You may resume sexual activity a week after surgery as long as you feel emotionally and physically stable. Female patients should ensure protection against pregnancy is being used. Your surgeon recommends the use of an intrauterine device (IUD), as oral birth control will not be fully absorbed after bariatric surgery. Due to the weight loss, fertility may increase. *If it is right for you, you can also opt to have your tubes tied/removed at the same time of your Bariatric surgery.* **Your surgeon absolutely recommends avoiding pregnancy within the first 18 to 24 months after surgery.** If you would like to get pregnant now, it is best to put Bariatric surgery on hold until after giving birth.

You may start planning a pregnancy after waiting the recommended time to ensure you and your baby are safe and healthy. Patients who conceive one or more years after surgery have healthy pregnancies and healthy babies. However, if you become pregnant within the first 18 months after the procedure, contact your OB/GYN and Bariatric surgeon. Becoming pregnant before the advised time will minimize your weight loss and can cause nutritional deficiencies.

LOSS OF BONE AND MUSCLE MASS: In order to prevent the loss of bone and muscle mass, it is imperative that you eat your protein, exercise, and take your supplements. The body prefers to burn muscle mass before burning fat. If your muscles are not being used regularly for exercise, it will be consumed to meet your body's energy needs.

Osteoporosis can occur after Bariatric surgery when calcium stores are depleted from your bones; therefore it is also important to do weight bearing exercises as well as consuming calcium, phosphorus, and other nutrients (i.e. Vitamin D).

Remember that loss of bone and muscle mass are preventable. **EXERCISE** and follow the nutritional/vitamin guidelines provided.

COUNSELING: Bariatric surgery does not only affect you physically, but it may also affect you psychologically. You may experience distress shortly after surgery due to the immediate sense of loss of food. You may also experience body image issues in the long term. Do not take these changes lightly and seek counseling.

Personal and relationship issues will not go away after Bariatric surgery and may become worse after the surgery. Counseling may be necessary during the phase when you are adjusting to your new lifestyle, and change in physique and metabolism. These changes can cause new problems to emerge or old ones to intensify.

After the procedure, patients may experience mild to severe depression. This is due to stress, starvation, weight loss, and adjustment to lifestyle changes. It is important for patients and their loved ones to be able to recognize the signs and symptoms of depression in order to seek psychological treatment.

Signs and symptoms of depression include but are not limited to:

- Difficulty remembering or making decisions
- Decreased energy and/or fatigue
- Sleeping too little or too much
- Feeling worthless, guilt, hopeless and/or helpless
- Irritability or excessive crying
- Feeling restless
- Loss of interest/pleasure in activities to include sex
- Persistent sadness
- Feeling anxious

If you are experiencing signs and symptoms of depression contact your primary care provider, psychiatrist, counselor or the psychologist who assisted you during your preoperative evaluation.

SEEK IMMEDIATE MEDICAL ATTENTION IF YOU BEGIN TO HAVE THOUGHTS OF DEATH, SUICIDE, HARMING YOURSELF OR OTHERS.

MEDICATION EFFECTIVENESS CONCERNS:

If you were diagnosed with depression and were prescribed antidepressants before bariatric surgery, it is important that you continue taking your prescribed medications. ***Prior to surgery, advise the prescribing provider that you need medications that are chewable, crushable, or come in liquid form. It is highly recommended that you check in with your prescribing provider 1-2 months following surgery to assess for effectiveness of your medication, as absorption issues may cause previously effective medications not to work for you post-surgery.***

SUBSTANCE ABUSE WARNING:

There is potential to develop alcohol or drug dependence after the surgery. It is a form of addiction transfer for individuals who used food to cope with emotions/stressors/boredom before surgery. It is our recommendation to avoid alcohol completely after surgery. At the very least, it is necessary to use extreme caution when consuming alcohol.

BODY IMAGE AND EMOTIONAL EATING: Your body will undergo changes in weight and size. It is not unusual for you to not see your body as others view it. It will take time for your mind to catch up with the changes your body is going through and its appearance. You may be surprised when you look at your reflection in a store window or mirror. It is normal to feel like you are still the same size as you were before Bariatric surgery.

The following are tips to help you avoid emotional eating:

- Do not use food as a way of dealing with your emotions or stress. Replace the comfort of food with healthy activities (i.e. yoga, deep breathing exercises and etc.)
- Do not sabotage yourself by ignoring the emotional ups and downs that may occur with the rapid bodily change. Don't be afraid to ask for help!
- Do not suppress your emotions as they will eventually surface again. If you feel like crying, cry
- Keep a journal of your feelings and experiences. Share them with your counselor, doctor, and/or surgeon
- Adjust your expectations and set realistic goals
- Connect with others that understand your journey (i.e. attend support group meetings)
- Stay occupied with work, hobbies, and exercise

FAMILY AND FRIENDS: Keep in mind that even though you hope your loved one and friends are supportive and helpful during your ups and downs, this may not always be true. Family and friends may have different reactions to your surgery and the weight loss that follows. They may not have the reaction you expect.

Spouses or partners have become accustomed to you and your obesity. This may result in a resistance to the changes that occur after surgery. You and your spouse may begin to have more disagreements than usual. Your loved one may refuse to support your dietary and/or exercise regimen. During these times, try to keep the lines of communication open and recognize the signs of distress your spouse or partner is exhibiting. Keep in mind that he or she is also adjusting to the changes occurring in your body and behavior. It will take time, effort, and patience for your loved one to relate in new ways to you.

If your relationship is undergoing serious ongoing problems, professional counseling may be helpful.



GETTING ACTIVE AND EXERCISING:

As you lose weight you will notice that you will gain more energy and your body has an easier time moving. Exercising will help your weight loss efforts and improve your overall health. Are you unsure of where to start? You will meet with healthcare educators at the Army Wellness Center both before and after your surgery. They can help to direct you. If you need more assistance, you should consult with a personal trainer or someone who has a background in exercise education to help you prevent injuries, increase weight loss results, and provide much needed encouragement.



THE BEGINNING:

Your level of activity is somewhat restricted for the first three weeks after surgery. You should walk and can perform light household duties as tolerated upon your return home. Frequent walks of short duration are tolerated a lot better than one or two long walks that go to or past the point of fatigue. Increase the distance that you walk gradually. By the time you are four weeks post-op, you should be walking 30 plus minutes five to six days per week, unless you have specific problems with your weight bearing joints. If this is an issue, water exercises are recommended. You can start water activities about three weeks after surgery.

EXERCISING: You are already aware that Bariatric Surgery is merely a tool for weight loss. This means that in order to receive the maximum benefits from your surgery, you must incorporate exercise into your daily routine. It has been reported that exercise is a key factor in the ability to maintain weight. If you want to feel good and maintain your weight loss and build muscle mass, you **MUST** exercise. Exercise helps you lose weight and stimulates the production of “feel good” hormones called endorphins.

Exercise also helps to keep your bone tissue dense and strong, increases strength and balance, boosts energy, and improves quality of life. Research shows that those who exercise three or more times per week for a minimum of 30 minutes lost an additional 12% of their excess weight in six months. Patients who work hard on exercise soon after surgery find it very rewarding. As the weight reduces, the ability to exercise improves dramatically, with significant improvements on a week-by-week basis. Do **NOT** cheat your body of this important aspect of weight loss. Making a long term commitment to exercising is hard and it is difficult to stay motivated. Look into

different forms of exercise until you find the ones you like. If it has been some time since you have exercised regularly, then start slowly. Begin with as little as five minutes a day and add five more minutes a week until you can stay active for 45 minutes per day.



*Just being an active person is **NOT** enough exercise to be able to lose the weight and keep it off.*

There are three forms of exercise that you should incorporate into your new life: cardiovascular, strength-building or training, and flexibility.

CARDIOVASCULAR ACTIVITY:

Cardiovascular exercise is known as aerobic exercise. Aerobic exercise uses your large muscles and can be continued for long periods. Walking, jogging, swimming, and cycling are aerobic activities. These exercises drive your body to use oxygen more efficiently and deliver maximum benefits to your heart, lungs, and circulatory system. A simple definition is these exercises increase your heart rate to a level where you can still talk, but you start to breathe harder. Your goal is to lose weight; you will need to do some form of cardiovascular exercise for five or more days per week for 30 to 45 minutes.

STRENGTH TRAINING:

Strength-building exercises are known as anaerobic exercise. Anaerobic exercise does not have cardiovascular benefits, but it makes the muscles and bones stronger. Strength-building exercises require short, intense effort. People who lift weights or use any type of equipment that requires weights are doing strength building exercise. Please note that body weight exercises such as push-ups are considered strength training exercises as well.



Strength-building exercise makes muscles and bones stronger, but can also increase the metabolism. Muscles use calories for energy even when the body is at rest. By increasing muscle mass, one is burning calories all of the time. If you strength train regularly, you will find that your body looks leaner and you will continue to lose fat. Strength building exercises should be performed two to three times a week for best results. Always warm up for five to ten minutes before beginning lifting of any type of weight or before performing any resistance exercises.



STRETCHING AND FLEXIBILITY:

Flexibility exercises tone the muscles through stretching and can prevent muscle and joint problems later in life. A well balanced exercise program should include some type of exercise from each category.

STICKING WITH AN EXERCISE PROGRAM

- 1. Treat Exercise Like a Prescription:** You do not have to like exercise, but it is still needed in order to stay healthy. You have to do it in order to lose weight. If you have a condition that requires a medication every day, you are going to take this medicine every day. Your body needs exercise every day, so you have to give it what it needs.
- 2. Research:** Find out what type of exercise classes your local gyms are offering. You have a greater likelihood of continuing with an exercise that is tailored to your needs and that you enjoy. Explore new types of exercises.
- 3. Change Your Routine:** Workouts can become monotonous after a while and the same type of exercise daily becomes boring. Making small changes can make a big difference. For example, change the direction or location of your walking route. Find friends or family member to participate, or as you are able to tolerate more intensity, change the type of activity completely.
- 4. Find a Workout Buddy:** We all need someone to nudge us and make us go the extra mile, especially when it comes to exercise. Find a friend, a neighbor, or personal trainer to meet you at the gym or in the park.
- 5. Try Group Activities or Sports:** You don't have to join a sports team, but participating in a group activity increases the chance that you will stick to it. Choose water exercise, yoga, or stretching classes. Choose places and times where there are other people who are actively involved in exercise. *You can also visit the JBLM MWR website for group fitness class schedules.*
- 6. Know Your Weakness:** Figure out what is likely to make you quit your exercise program. If going on vacation throws you off your fitness plan, try incorporating exercise

into your vacation. If boredom makes you give up, stay interested by varying different exercises and times.

7. Make a Schedule: If you don't put exercise into your daily schedule, most likely you will do everything but exercise. You might schedule different activities during the week (walking 30 minutes on Monday, yoga on Tuesday, and so forth.)

8. Keep a Workout Log: Write down the exercises you do and see how you have improved. Just like weight loss, sometimes one does not see the scale drop, but the inches seem to melt away. It is difficult to keep up with exercise when you do not see the results. Write down the number of repetitions, the weight used, the length of walk, the time, etc.

9. Just Keep Moving: Walk as much as possible in between workouts. Park your car further away. Get off the bus a couple of stops away. Always keep a good pair of walking shoes handy, in case you have unexpected time to walk.

CLEAR AND FULL LIQUID DIET (WEEKS ONE AND TWO)

The first two weeks after returning home you will be on a liquid diet. You will start on *clear* liquids for days 1 and 2, then transition to *full* liquids beginning day 3. Use the information below to keep on schedule.

Drink fluids in a $\frac{1}{4}$ cup portion or 2 ounces every 15 minutes and sip on the fluid over 10 – 15 minutes. Try to drink about $\frac{1}{4}$ cup of protein fortified fluid each hour and sip on $\frac{1}{4}$ cup of fluid to stay hydrated every 15 minutes in between, about 1 cup or 8 ounces total each hour.

Use the clock as an outline to get enough fluid and protein in order to maintain adequate hydration and protein throughout the day. The clock represents one hour.

Example:

- When the long hand is on the 12 drink 2 ounces of fluid for hydration.
- When the long hand is on the 3 drink 2 ounces of fluid for hydration.
- When the long hand is on the 6 drink 2 ounces of a protein drink.
- When the long hand is on the 9 drink 2 ounces of fluid for hydration.

Note:

- Sip on $\frac{1}{4}$ cup of fluid over 15 minutes. **Do NOT drink too quickly or gulp fluids.**
- Drink fluids from a smaller cup; 2 or 3 ounce cup.
- Drinking too quickly or drinking too much at one time may cause pain or discomfort.

DEHYDRATION:

Remember, dehydration is the number one complication of weight loss surgery.

Symptoms of dehydration:

- Fatigue
- Nausea
- Dry mouth
- Dark or concentrated urine
- Low urine output

If you are having difficulty drinking fluids each day and are suffering any of the listed symptoms of dehydration, call the clinic to discuss your intake.

CHOOSING A PROTEIN SUPPLEMENT:

There are two types of fluid you will need after surgery:

- Fluids for hydration
- Fluids for protein

Choose a liquid protein supplement with 10 grams or less of sugar and 20 grams or less of carbohydrates. Choose a liquid protein supplement with at least 15 grams of protein in an 8 to 12 ounce serving.

LIQUIDS TO DRINK WHEN YOU RETURN HOME

HYDRATION:

- Decaf Coffee or Tea (Splenda, Equal, Truvia, and Stevia are allowed)
- Clear fruit juice, (Diet or Sugar Free): Apple, Grape, Cranberry
- Sugar free non-carbonated beverages (Ex: Crystal light, sugar free Kool-Aid, or Lemonade)
- Vitamin Water zero
- Mio
- Dasani flavored water
- Dasani Drops may be placed in water
- Metro Mint Water
- Skinny water
- Gatorade G2
- Propel
- Sugar free gelatin
- Sugar free popsicles
- Chicken, Beef, or Vegetable Broth
- Water

PROTEIN:

Clear Liquid Protein (1st 24hrs after surgery)

- Nectar Protein Powder
- Healthwise High Protein Fruit Drink (bottle or packets)
- Cytomax
- Healthwise Bouillon
- Isopure Liquid
- New Whey 42
- Healthwise Sugar Free Protein Jello

Full Liquid Protein (Start Post-Op Day 1)

- Muscle Milk Light
- ChocoRite
- Met Rx Meal Replacement
- Nectar Protein Powder
- Nectar Medical Protein Powder
- Healthwise High Protein Hot Chocolate
- Healthwise High Protein Fruit Drink
- Met Rx RTD 51
- Pure Protein (RTD)
- Fit Freeze
- Chike Protein Powder
- GenoPro Powder

Other Full Liquids (Start Post-op Day 3)

- Low fat skim or 1% milk, Soy Milk, Almond Milk, Lactaid
- Strained Low Fat Cream Soups
- Low Sugar Low Carb Protein Supplements

****NO BUBBLES, NO SUGAR, NO CAFFEINE****

LIQUID DIET WITH SEMI-SOLIDS (WEEK THREE)

The protein goal is 60 to 80 grams of protein each day from fluids and semi-solid foods (80 to 100 grams per day for SIPS and DS).

Key Points:

1. All liquids from week one and two are allowed with the addition of some semi-solid foods.
2. Semi-solid foods are those that are eaten with a spoon with the consistency of applesauce. **AVOID:** skins, seeds, or chunks.
3. Semi-solids allow the diet to progress slowly but continue to limit stress on the stomach and intestines as it heals.
4. Liquids and semi-solids provide a concentrated source of nutrition that will empty from the stomach easily and allow for healing.
5. Try a semi-solid food about every three to four hours for four to six semi-solid meals per day.
6. Try no more than ¼ cup of semi-solid foods at a time.
7. Try only one new food at a time.
8. **DO NOT DRINK FLUIDS WHILE EATING**, stop drinking fluids 30 minutes before meal and wait until 30 minutes after finishing a meal.
9. Continue to use all fluids on the Clear Liquid for Hydration list from Week One to prevent dehydration.
10. **NO CARBONATION, CAFFEINE, OR SUGAR CONTAINING FLUIDS.**
11. Take fluids in 2 ounces or ¼ cup portions and sip over 10 to 15 minutes.

12. Sip slowly, **DO NOT GULP, DO NOT USE STRAWS, DO NOT USE SIPPY CUPS, AND DO NOT USE SPORTS BOTTLE TOPS.**
13. Try to keep a constant trickle of fluid through your body all day between trials of semi-solid foods.
14. The fluid goal is a total of 64 ounces of fluid each day to stay hydrated.

SEMI-SOLIDS AND LIQUIDS

Allowed Semi-Solid Foods:

1. Strained soups, broth, and low-fat cream base soups (try mixing jar baby food meats into your soup to increase your protein).
2. Lite/low fat strained yogurt or plain Greek yogurt.
3. Low fat 1% cottage cheese or ricotta cheese.
4. Protein fortified cooked and mashed or pureed potatoes and non-gas forming vegetables (Carrots, squash, green beans, or peas). **See blending tips.**
5. Mashed black, pinto or navy beans low fat, fat free or vegetarian refried beans or hummus.
6. Protein fortified sugar free and low fat or fat free pudding. **See tips on how to increase protein.**

Semi-Solid Foods to AVOID:

1. Any soup with meat, vegetables, rice or noodles (Cream of potato or tomato)
2. Full fat yogurt with fruit or seeds
3. Oatmeal
4. Full fat dairy and cheese
5. All other mashed fruits and vegetables
6. Regular refried beans or cooked beans and lentils
7. Full fat, sugar containing puddings

ADDITIONAL TIPS:

- **Blending:** Cook all vegetables until they are fork tender (able to cut, mash or pull apart with a fork) cut food into thumbnail size pieces, then place in a blender with enough broth, water, or low-fat milk to cover the blades. Blend until the food has reached an applesauce-like consistency. Strain out lumps, seeds, or stringy pieces that do not blend completely.
- **Blending or pureeing meat is NOT recommended:** It is very difficult to achieve a safe consistency. You may use a jar of baby food like Gerber stage two chicken, ham, turkey, or beef.
- **Fortifying foods with protein:** Try adding unflavored protein powder (Nectar medical protein powder or Genopro protein powder) to foods like mashed potatoes

and pureed vegetables to improve the protein content of the food, or, try adding two tablespoons of non-fat dry milk powder to semi-solid foods. Two tablespoons of dry milk powder adds about five grams of protein.

- **Fullness:** As you begin to add semi-solids you may begin to feel fullness. For most people fullness after surgery feels like pressure, tightness, or heaviness in the center of your abdomen near the breast bone.

SOFT FOODS (WEEK FOUR):

Goal 60 – 80 grams protein per day (80 – 100 grams protein per day for SIPS/DS)

- Speak with a Madigan Army Medical Center Dietitian to learn how to safely and healthfully reintroduce soft foods, plan meals and make healthful food choices to aid in continued weight loss and healing.
- Due to the change in the size and function of your stomach after surgery, there are foods and fluids that should be **limited or avoided for about the first two months** after surgery.

FOODS TO AVOID ON THE SOFT DIET:

- Carbonated Drinks
- Sugar sweetened, caffeinated beverages (**use diet or sugar free**)
- Simple carbohydrates like chips, crackers, rice, pasta, and noodles
- Shredded coconut (**use coconut extract**)
- Tough dry meats (steak, pork chops) (**use moist heat preparation, stew, boil roast**)
- Rubbery meats like ham and hotdogs
- Skins, membranes and seeds of fruits and vegetables (**peel and/or section prior to eating**)
- Fibrous vegetables (**e.g., Corn, celery, sweet potatoes**)
- Fresh doughy bread like yeast rolls and biscuits (**use toast, or crackers**)
- Fried or high fat foods (**bake, broil, grill, use added fats conservatively**)
- Whole milk products (**use skim or 1% milk products**)

Protein and Fluid Are Still a Priority:

- Daily protein goal is 70 – 90 grams (80 – 100 grams for DS/SIPS)
- Daily fluid goal is 64oz (Decaffeinated, non-carbonated, and low calorie)

General Guidelines:

- Meals should be every 3 – 4 hours
- Start with a meal volume of about 2 ounces (approximately ¼ cup)

- A minimum of 2 ounces of this should be a high protein food
- Try only one new food at a time
- Do **NOT** consume liquids with meals (30 minutes before or after is recommended)
- Always eat your protein first
- Avoid extremes in temperature (very hot or very cold foods)
- Stop eating when feeling full
- Chew food thoroughly
- Allow 30 minutes to finish your meals

FULLNESS:

Learn to recognize signs of when you are full. Signs of fullness can be pressure, tightness, or heaviness in the center of your abdomen, just below the breastbone or feelings of nausea, or heartburn. **STOP EATING WHEN YOU FEEL FULL.**

Common Causes of Nausea and Vomiting:

- **Eating too fast**
- **Not chewing well**
- **Eating too much at one time**
- **Drinking liquids with meals**
- **Eating solid foods too soon**

Reintroduce meats in the following order:

1st: Flaky fish and seafood

2nd: Soft cooked eggs

3rd: Ground or tender cooked beef, pork, and poultry

RECOMMENDED:

HIGH PROTEIN:

- Eggs - soft scrambled or poached
- Light/low fat yogurt
- Flaky whitefish
- Tuna
- Small shrimp, scallops, or crabs
- Tender cooked or ground beef, pork, poultry
- Beans and lentils
- Fat free refried beans
- Low fat deli meats thinly sliced
- Low-fat cottage cheese
- Shredded or soft skim or 1% milk fat cheese
- Tofu (soy)

OTHER FOODS:

- Oatmeal
- Cream of wheat
- Soggy cold cereal
- Soft cooked vegetables peeled and seeded (should be able to mash with a fork)
- Soft fruit without the skin, canned soft fruit in natural juice

- Cauliflower soft and mashed
- Low fat strained soups without large chunks of meat or vegetables

- Soft lettuce (green or red leaf or bibb lettuce)

AVOID:

Sticky Foods:

- Fresh bread
- Sticky rice
- Pasta
- Macaroni and cheese
- Melted stringy cheese (pizza)
- Peanut butter

Crunchy/Fibrous Foods:

- Raw vegetables
- Skins and membranes of fruit and vegetables
- Nuts and seeds
- Popcorn
- Chips, crackers
- Coconut
- Iceberg lettuce

Tough or Rubbery Foods:

- Tough meats like steak, pork chops, ham, hot dogs

High Fat Foods:

- Butter, margarine, oils
- Salad dressing
- Sour cream
- Cream cheese
- Mayonnaise
- Gravy
- Fatback/bacon
- Sausage
- Whole milk
- Whole milk cheese
- Fried foods
- Processed meats
- Chips and Desserts

Once again, **ALWAYS eat protein first**, chew well, and eat slowly taking about 30 minutes to finish a meal. It is wise to avoid raw meat and other undercooked food that could potentially cause food poisoning such as raw seafood, sushi, or raw oysters until three months after surgery date.

PROTEIN SOURCES – FULL LIQUIDS

Full Liquids

	<u>Grams of Protein</u>
2 oz. skim milk	2
2 oz. protein fortified milk (8 oz. milk + 2 Tbsp. nonfat dry milk powder)	3
2 oz. soy milk	2
2 oz. low sugar supplement (Bariatric Shakes)	7
2 oz. slim fast lower carb	4

2 oz. no sugar added carnation instant breakfast with skim milk	3
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PROTEIN SOURCES – PUREED FOODS

<u>Pureed Foods</u>	<u>Grams of Protein</u>
2 oz. cottage cheese	7
2 oz. hummus or pureed cooked beans	3
2 oz. plain low fat Greek yogurt	6
2 oz. low fat ricotta cheese	7
2 oz. protein fortified soup (Health Wise)	7.5

PROTEIN SOURCES – SOFT FOODS

<u>Food Item</u>	<u>Grams of Protein</u>
2 oz. fat free refried beans	4
2 oz. beans: black, pinto white, navy, garbanzo, black-eye, kidney	4
2 oz. steamed soy beans edamame	7

<u>Dairy</u>	<u>Grams of Protein</u>
2 oz. low fat cottage cheese	7
2 oz. lite or cream cheese	8
2 oz. low fat Greek yogurt	6
2 oz. sugar free pudding	3
2 Tbsp. non-fat milk powder	5
1 oz. reduced 2% fat cheese	7

<u>Meat and Seafood</u>	<u>Grams of Protein</u>
1 oz. egg	7
1 oz. tuna, fish, seafood	7
1 oz. imitation crab	3.4
1 oz. chicken, turkey	7
1 oz. lean beef or pork (loin or round)	7

<u>Meat Alternatives</u>	<u>Grams of Protein</u>
1 oz. egg whites (about 1 egg white)	6
½ vegetable soy burger patty low fat	8.5
2 oz. tofu (soy)	7

PROTEIN SOURCES

Animal Protein:

Fish, chicken, turkey, beef, pork, lamb, eggs, cheese, milk, yogurt, cottage cheese

Note: If you find animal sources of protein difficult to tolerate try the vegetable sources of protein, they are usually a little easier to digest.

Vegetable Protein:

Cooked dry beans (pintos, black-eye peas, soybeans, kidney, and navy), lentils, and other legumes, tofu, tempeh, seitan (flavored wheat gluten), miso, soy milk, nuts.

Tips for Adding Protein:

- Add eggs to salads, make low fat egg salad, and add eggbeaters or non-fat dry milk powder to smoothies.
- Add diced meats to soups, salads, and sauces.
- Add tuna, salmon, shrimp, or crab meat to casseroles and salads.
- Add low fat cheese to sauces, soups, eggs, potatoes, salads.
- Try cottage cheese with fruit, green salads, or mix into casseroles.
- Use low fat cheese as a snack, 1 oz.
- Use milk, soy milk, or Lactaid to make hot cereals; add to cream soups and fruit smoothies.
- Use low-fat, light, or plain Greek yogurt as a snack or add to fruit smoothies.
- Fortify your milk by adding 1 cup of dry milk powder to 1 quart of skim or 1% milk.
- Use peanut butter on crackers or toasted bread.
- Add beans to soups, salads, and casseroles.
- Add tofu to soups, salads, and casseroles.
- Use silken tofu in fruit smoothies.

HOW TO MAKE YOUR TRANSITION TO SOLID FOODS A SUCCESS:

- **Try one new food at a time.**
This helps you identify those foods you tolerate and those you do not tolerate quite well initially.
- **Eat slowly and be aware of when you feel full.**
Your new stomach is very small and will fill very quickly. Plan on taking 30 minutes to finish your meal.
- **Chew well.**
Your new stomach has decreased ability to mechanically and chemically digest food. Therefore, it is important to chew food more than you did prior to surgery to assist in digestion.
- **Take small bites.**
Small bites are necessary to avoid filling your stomach too quickly which may cause abdominal pain, cramping, or nausea and vomiting.
- **Do not drink fluid with your meals.**

It is important to save the room in your new stomach for nutritious food. Drinking with meals may limit your ability to take adequate amounts of nutrition in the early months after surgery. Drinking with meals may cause food to empty from your stomach more rapidly and cause stomach cramping and other unpleasant side effects.

- **Drink enough fluid between meals to meet your fluid requirements.**

Since you should not drink with your meals it is important to get in the habit of sipping on low or no calorie, decaffeinated liquids throughout the day to stay well hydrated.

- **Avoid sticky foods.**

Soft white bread, rolls, buns, pasta (especially if overcooked and large pieces), rice that clumps together, macaroni and cheese are some foods that may cause nausea, stomach cramping and vomiting.

- **Avoid crunchy, hard to digest foods for the first 2-3 months.**

This includes raw vegetables, nuts, popcorn, chips, coconut, olives, pickles, tough fruit/vegetable skins, dried fruit, corn, iceberg lettuce. Some people may tolerate these foods after graduation to regular consistency foods at about 2-3 months after surgery if eaten slowly and chewed very well.

- **Avoid tough or rubbery meats.**

Avoid steak, pork chops, ham, and other tough meats for the first few months. Meat is great source of protein, but is easier to digest when prepared moist, tender, and chewed well. Try a slow cooking method to make it tender, such as a slow-cooker, boiling or cooking at a low temperature over a long period of time.

- **Avoid extreme temperatures in foods and beverages.**

Very hot and very cold foods may cause cramping and pain. We suggest that all foods and fluids be introduced at a moderate temperature to establish tolerance. Sensitivity to temperature is usually temporary and will usually resolve within several weeks.

- **Limit high fat and high sugar foods.**

After Roux-en-Y Gastric Bypass surgery, sweets, desserts, fried, greasy, and rich foods can cause a side effect called dumping syndrome.

DUMPING SYNDROME

Dumping syndrome is a side effect due to the change in size and function of the bypassed stomach. Roux-en-Y Gastric Bypass patients may experience this problem to a *minor* degree after surgery if nutritional recommendations are not followed. The severity of Dumping Syndrome can depend on the volume of food eaten, consistency, sugar and/or fat content. There are two phases: Early and Late Dumping. Some patients only experience one or the other, while some will experience both. Symptoms of early Dumping may begin as early as 45 minutes after a meal. Symptoms of late dumping may occur up to 2-3 hours after eating.

Signs and Symptoms:

Early Dumping:

- Abdominal cramping and diarrhea
- Fatigue
- Sweating
- Rapid heart rate
- Decreased blood pressure
- Flushing
- Dizziness
- Shortness of breath

Late Dumping:

- Shakiness
- Cold sweats
- Fatigue
- Decreased blood pressure
- Headache

To prevent dumping syndrome:

- Do not use straws
- Avoid carbonation
- Avoid extreme temperatures too hot or too cold
- Sip slowly do not gulp
- Limit sugar and fat content

LACTOSE INTOLERANCE:

Lactose intolerance is your body's inability to digest the naturally occurring sugar, or lactose found in milk and dairy products.

Symptoms of lactose intolerance:

- Cramping
- Gas (Flatulence)
- Bloating
- Loose stools
- Nausea

If you cannot tolerate lactose after surgery, look at soy-based protein products, soy milk, almond milk, or Lactaid.

FREQUENTLY ASKED NUTRITIONAL QUESTIONS

Is it normal to have pain after I drink?

Pain, pressure, or discomfort just below the breastbone after drinking or eating is usually due to eating or drinking too much too fast. Wait about 30 – 60 minutes, or until the sensation has resolved. To prevent this sensation sip fluids more slowly, take very small

sips, and avoid fluids with extremes in temperatures. When consuming solid foods, chew very well, take small bites and eat very slowly. Pain or discomfort that does not resolve is not normal and you should contact the clinic.

What if I am unable to drink protein shakes while on the liquid diet due to nausea caused by the taste of protein shakes?

Remember that staying hydrated is your primary concern. Focus on non-carbonated, non-caffeinated, and low or no calorie fluids frequently to prevent dehydration. If you are not able to drink a protein supplement, try fortifying broth or soup with a protein powder or non-fat dry milk powder, e.g., 2 Tbsp. of powdered milk provides approximately 5 grams of protein.

Remember, soup must be smooth liquid consistency and without chunks. For safety, run the soup through a fine mesh strainer to remove any chunks or particles.

When is it appropriate to start solid foods?

After 3 weeks on a mostly liquid diet, you should be scheduled to follow up with the Dietitian and review how to safely and successfully reintroduce soft foods. We recommend that you not start soft foods until you have received instructions from the Dietitian or your surgeon. To schedule an appointment with the Dietitian for soft diet instructions, please call 253-968-0547 (Option 2).

What should I do if I have nausea that won't go away and is not related to eating?

Nausea is not uncommon after weight loss surgery. Dehydration is a common cause of nausea. To prevent nausea, try to increase your fluid intake to at least 64oz. of fluid each day. If your nausea persists on a daily basis, call the clinic to discuss your symptoms.

What should I do if I am vomiting?

Vomiting is usually related to eating or drinking too much, too quickly, swallowing too big of a bite or not chewing well enough. Vomiting that is not associated with eating or drinking is not common. If you are experiencing nausea and vomiting on a daily basis, call the clinic to discuss your symptoms.

What is lactose intolerance and what are dairy alternatives?

Lactose intolerance is your body's inability to digest lactose, the naturally occurring sugar found in milk and dairy products. If you experience lactose intolerance after surgery, try a soy-based protein or Lactaid™.

I have heard that some people have taste alterations after surgery, should I expect this?

Taste changes and alterations are *not* uncommon after surgery. Don't be surprised if the protein drink or certain foods you chose before surgery do not taste as good after surgery. You will need to find an acceptable alternative.

I have heard that some people experience bad breath or body odor after surgery, is this true?

Bad breath may be a result of rapid weight loss and your body's use of fat as an energy source. To correct or prevent bad breath, increase your intake of fluid to help flush the byproducts out of your system.

Why is carbonation not allowed after surgery?

Carbonated drinks or drinks with fizz contain carbon dioxide gas. This gas expands when it reaches your stomach and causing pain or discomfort.

Why is caffeine limited after surgery?

Caffeine is a diuretic. Diuretics encourage your body to lose water. Too much water loss causes dehydration. Dehydration is the primary complication of any weight loss surgery. You should avoid diuretics to prevent additional challenges to staying well hydrated.

How do I find the Bariatric surgery support group?

Visit our website to find the time and location of our support group meetings.

[*****NEED MADIGAN SUPPORT GROUP PAGE LINK*****](#)

Can I drink alcohol again after surgery?

Alcohol has a much more pronounced effect after surgery. Most people feel the effects of alcohol after only a few sips. In addition, alcohol provides a lot of calories that sabotage your weight loss goal. For this reason, we recommend patients avoid alcohol for at least 1 year after surgery. After one year, alcohol should be consumed rarely and in small amounts.

VITAMIN AND MINERAL SUPPLEMENTS

Must be Chewable or Liquid

Multivitamin

Start when you return home after surgery or as instructed by your Bariatric Surgeon. Must be chewable or liquid (no gummy vitamins)

Some common options include:

- Centrum Complete Chewable
- BariVitamin
- Chewable Mega Teen Multivitamin
- Optisource Chewable



www.centrum.com

www.bariatrix.com

www.gnc.com

www.walgreens.resource.com

- Chewable Wellness Formula www.vistavitamins.com
- Flinstone Chewable www.bayercare.com
- Prenatal Multivitamin (For women only)

Vitamin B-Complex Start when you return home after surgery or as instructed by your Bariatric Surgeon. A chewable or liquid form of B-complex is recommended for the first month after surgery and optional thereafter.

Vitamin B-12 Start when you return home after surgery or as instructed by your Bariatric Surgeon. A sublingual (dissolved under the tongue) form of B-12 is recommended. The daily requirement is 350 – 500mcg *in addition* to your daily multivitamin.

Calcium

Start when you return home after surgery or to be determined by your Bariatric Surgeon. Calcium should be *citrate* form and chewable.

You should take enough additional to achieve a total calcium intake of 1200 – 1800mcg of calcium daily. Remember to separate calcium supplementation from multivitamin and iron supplement by at least 2 hours for best absorption of each.

- Powdered UpCalD www.globalhp.com
- Calcium Plus Liquid www.lifelinefoods.com
- Calcium Citrate Wafers www.twinlab.com
- Calcium Citrate Chewable www.nutraceutical.com
- Caltrate 600 Plus Chewable www.caltrate.com

Vitamin D

Start when you return home after surgery or as determined by your Bariatric Surgeon. Take vitamin D and calcium together to help absorption. Take enough additional vitamin D to achieve a total of 3000iu daily from multivitamin and an additional vitamin D supplement.

Iron

Additional iron more than that found in the multivitamin is recommended for menstruating women and patients with a history of iron deficient anemia. A chewable or liquid form is recommended. Take an additional 18 – 27 mg of elemental iron daily to achieve a total of 45 – 60 mg.

KIDNEY STONE PREVENTION:

The information in the above section pertains only to patients that have a history of Calcium Oxalate kidney stones. If you are unsure about your history of kidney stones, please discuss with your medical provider.

- Kidney stones are caused by a buildup of certain minerals in the urine. Oxalate is a mineral that can cause kidney stones in some people. If you have had calcium oxalate kidney stones in the past, you are more likely to develop these again after Bariatric surgery. If you have had this type of kidney stone before, a low-oxalate diet (or decreasing high-oxalate foods), reducing salt intake, and drinking plenty of water can help prevent new stones from forming.
- Meats and animal products usually have little to no oxalate. Drink at least 8 cups of fluid every day.

Low Oxalate Foods – have less than 2 mg of oxalate per serving

Choose freely from these food options (but consider you other dietary goals)

Moderate Oxalate Foods – have 2-6mg of oxalate per serving

Limit to no more than 3 servings of these foods per day

High Oxalate Foods – have more than 7mg of oxalate per serving

ONLY FOR PATIENTS W/ CALCIUM OXALATE KIDNEY STONES		
Low Oxalate	Moderate Oxalate	High Oxalate
Beverages		
<ul style="list-style-type: none"> - apple juice - cider - grapefruit juice - lemon juice - lemonade/limeade (made without peel) - lime juice - milk (skim, 2%, whole) - pineapple - tea, instant - water 	<ul style="list-style-type: none"> - coffee (limit to 8 oz/day) - cranberry juice - grape juice - orange juice - orangeade 	<ul style="list-style-type: none"> - any juice made from high oxalate fruits (see fruits on next page) - chocolate, plain - chocolate milk - cocoa - coffee powder (instant) - Ovaltine - tea, brewed
Dairy		
<ul style="list-style-type: none"> - milk (skim, 2%, whole) - buttermilk - yogurt with allowed fruit - cheese 	<ul style="list-style-type: none"> - none 	<ul style="list-style-type: none"> - chocolate milk
Meats, Meat Substitutes, Beans, Nuts, Seeds		
<ul style="list-style-type: none"> - beef, lamb, pork - eggs 	<ul style="list-style-type: none"> - beef kidney - liver 	<ul style="list-style-type: none"> - almonds - baked beans canned

<ul style="list-style-type: none"> - fish/shellfish - poultry - lentils - water chestnuts 	<ul style="list-style-type: none"> - garbanzo beans, canned - lima beans - split peas, cooked 	<ul style="list-style-type: none"> - cashews - green beans - peanut butter - peanuts - pecans - sesame seeds - sunflower seeds - tofu (soybean curd) - walnuts
Fruit		
<ul style="list-style-type: none"> - apples, peeled - avocado - bananas - cantaloupe - casaba - cherries, bing - coconut - cranberries, canned - grapes, green - honeydew - mangoes - nectarines - papaya - raisins - watermelon 	<ul style="list-style-type: none"> - apples with skin - apricots - black currants - cranberries, dried - grapefruit - oranges - peaches - pears - pineapple - plums - prunes 	<ul style="list-style-type: none"> - blackberries - black raspberries - blueberries - red currants - dewberries - figs, dried - grapes, purple - gooseberries - kiwi - lemon peel - lime peel - orange peel - red raspberries - rhubarb - strawberries - tangerines
Grains and Starches		
<ul style="list-style-type: none"> - bread - breakfast cereals - noodles, egg or macaroni - rice, white or wild 	<ul style="list-style-type: none"> - barley, cooked - corn bread - corn tortilla - cornmeal - cornstarch - flour, white or wheat - oatmeal - rice, brown - unsalted saltine or soda crackers - spaghetti in tomato sauce 	<ul style="list-style-type: none"> - Fig Newtons - fruit cake - graham crackers - grits, white corn - kamut - marmalade - soybean crackers - wheat germ
Vegetables		
- acorn squash	- asparagus	- beans (green, wax, dried)

<ul style="list-style-type: none"> - alfalfa sprouts - cabbage - cauliflower - peas, frozen and fresh - peppers, red - radishes - turnips, roots - zucchini - squash 	<ul style="list-style-type: none"> - artichokes - brussels sprouts - broccoli - carrots - corn - cucumbers, peeled - kohlrabi - lettuce - lima beans - mushrooms - onions - potatoes, white - peas, canned - snow peas - tomato, fresh - tomato sauce 	<ul style="list-style-type: none"> - beets (tops, roots, greens) - celery - chives - collards - dandelion - eggplant - escarole - kale - leeks - mustard greens - okra - parsley - parsnips - peppers, green - pokeweed - rutabagas - sorrel - spinach - summer squash - sweet potatoes - Swiss chard - tomato soup - vegetable soup - watercress - yams
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SMOOTHIES AND SHAKES

Chocolate Monkey Shake

8 oz. of water or 4 oz. of soy milk + 4 oz. of water

1 scoop chocolate protein

½ a banana

Place water in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Strawberry Banana Smoothie

8 oz. of water or 4 oz. soy milk + 4oz of water

1 scoop vanilla protein

½ banana

3 whole frozen strawberries

Place water in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Banana Split

8 oz. of water or 4 oz. soy milk + 4 oz. of water

1scoop of vanilla protein powder

½ banana

¼ cup chopped pineapple

2 frozen strawberries

Place water in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Blueberry Smoothie

8 oz. of water or 4 oz. soy milk + 4 oz. of water

1 scoop of vanilla protein powder

½ cup frozen or fresh blueberries

Place water in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Silky Latte

4 oz. silk brand Mocha soy milk

4 oz. water

1 scoop vanilla protein powder

2 – 3 ice cubes

Place liquid in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.



Peanut Butter Cup

8 oz. water or 4 oz. soy milk + 4oz water

1 scoop chocolate protein powder

1 tbs. peanut butter

2 – 3 ice cubes

Place liquid in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Peach Cobbler Protein Shake

8 oz. water or 4 oz. soy milk + 4 oz. water

1 scoop vanilla protein powder

¼ cup frozen sliced peaches

Dash of cinnamon

Dash of nutmeg

2 – 3 ice cubes

Place liquid in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Yogurt Smoothie

1 container of light or nonfat yogurt

½ cup fat free milk

¼ cup powdered milk

½ banana or ½ cup canned lite peaches

Place ingredients in a blender and blend until smooth.

Tropical Shake

1 packet of vanilla Carnation instant breakfast

1 cup fat free milk

1 scoop vanilla designer Whey protein powder

½ banana

¼ tsp. coconut extract

3 ice cubes

Place all ingredients in a blender and blend until smooth.

POST-OPERATIVE BARIATRIC MEDICATION RECOMMENDATIONS

AVOID (Unless discussed with Bariatric Surgeon):

Non-Steroidal Anti-inflammatory Medications (NSAIDS)

- Aspirin (Anacin, BC Powder, Goodies Powder, Bayer, Ecotrin)
- Ibuprofen (Motrin, Advil, Excedrin)
- Naproxen (Aleve, Naprosyn)
- Indomethacin (Indocin)
- Salsalate (Trilisate)
- Celecoxib (Celebrex)
- Meloxicam (Mobic)
- Etodolac (Lodine)
- Nabumetone (Relafen)
- Ketorolac (Toradol)
- Piroxicam (Feldene)
- Diflunisal (Dolobid)
- Ketoprofen (Orudis)
- Diclofenac (Voltaren)

NSAIDS increased the risk of gastric ulcers and gastrointestinal bleeding.

Steroid Medications (Oral)

- Prednisone
- Dexamethasone (Decadron)
- Methylprednisolone (Medrol)
- Hydrocortisone (Cortef, Cortisone)
- Budesonide (Entocort EC)
- Betamethasone (Celestone)

Inhaled and topical agents are generally safe (i.e. Advair, Flonase, Nasocort, Flovent, Azmacort, hydrocortisone cream, etc.)

Bisphosphonate medication for osteoporosis

- Alendronate (Fosamax)
- Risedronate (Actonel)
- Ibandronate (Boniva)

Alternative: Miacalcin (calcitonin) nasal spray

Extended/controlled release medications

- Toprol XL
- Glucophage XR
- Coreg CR
- Adalat CC
- Ambien CR
- Augmentin XR
- Adderal XR
- Wellbutrin SR/XL
- Sinemet CR
- Eskalith CR
- Ritalin SR
- MS Contin
- Oxycontin
- Ditropan XL

- Paxil™ CR

- Inderal LA™

Use immediate-release formulation if possible to avoid problems with absorption

Miscellaneous

- Enalapril (Vasotec)
- Ketoconazole (Nizoral)
- Lamotrigine (Lamictal)
- Metoprolol (Lopressor)
- Niacin (Niaspan)
- Olanzapine (Zyprexa)
- Quetiapine (Seroquel)
- Ramipril (Altace)
- Simvastatin (Zocor, Vytorin)
- Zolpidem (Ambien)

Monitor for changes in efficacy/Consider appropriate alternatives

CAUTION:

1. Oral Contraceptives (Birth Control) are not advised post-operatively– Barrier contraception is most effective followed by non-oral route (Nuvaring™ or Ortho-Evra™); avoid low-dose estrogen containing OCPs.
2. Enteric coated products – Can delay absorption

MEDICATIONS GENERALLY RECOGNIZED AS SAFE AND WELL TOLERATED:

1. Upper respiratory tract infection (cold/flu)
 - A. Oxymetazoline nasal spray (Afrin™, etc.) {3 days maximum}
 - B. Pseudoephedrine (Sudafed™ etc.)
 - C. Phenylephrine (Sudafed™ PE, etc.)
 - D. Antihistamines (Benadryl™, Claritin™, Allegra™, Zyrtec™, etc.)
 - E. Cough syrup with or without dextromethorphan (Robitussin DM™, etc.)
2. Antibiotics – generally safe except as listed:
 - A. Erythromycin base – consider alternatives (i.e. E.E.S.)
 - B. Nitrofurantoin – not well absorbed
 - C. Cephalexin – not well absorbed
3. Pain medications
 - A. Acetaminophen (Tylenol™, etc.) – preferred agent (avoid extended release)
 - B. Narcotic pain medication – short course monitored by physician
 - C. NSAIDs + stomach protection medication – ONLY if cleared by Bariatric Surgeon
4. Constipation
 - A. Fiber supplementation (Metamucil™, Benefiber™, etc.)
 - B. Milk of Magnesium (Phillips™, MOM)
 - C. Bisacodyl suppository (Dulcolax)
 - D. Fleets™ phosphosoda enema

E. Polyethylene glycol (MiraLax™)

5. Cardiovascular (blood pressure, cholesterol, diabetes, etc.)

A. Simvastatin (Zocor™ /Vytorin™) – avoid if possible

B. Metoprolol (Lopressor™ /Toprol™ XL) – consider alternatives

Rule of Thumb: If you have questions about any medication, please contact the Bariatric Clinic (clinic numbers are located at the beginning of the book)

BARIATRIC VITAMIN AND SUPPLEMENT INFORMATION AND AVAILABLE DISCOUNT CODES:

This is not a complete list of all available bariatric vitamin/supplement/products, and does not endorse the companies listed. Use your computer search engine for additional bariatric vitamin suppliers.

Celebrate Nutritional Supplements

www.CelebrateVitamins.com Phone: 877-424-1953

Sample packet program offered on website. Patient will pay \$9.95 for samples and will be provided a discount code worth \$9.95 with their samples for a future order.

Bariatric Fusion Complete Nutrition

www.bariatricfusion.com Phone: 866-259-0602

Patients can order a “My Bariatric Fusion Box” to sample the available vitamins and supplements for \$15.00. They will get a coupon worth \$15.00 with the box for a future order. All orders can get a 10% discount by entering coupon code BF10WEST.

Bariatric Advantage Nutritional Products

www.BariatricAdvantage.com Phone: 800-898-6888

Use the validation code **Madigan** to receive a 15% discount on all orders. According to this company there is a 100% money back satisfaction guarantee on the supplements. Patients also can do a monthly auto ship with free shipping and earn bonus points equaling 10 cents on every dollar to use toward future orders.

Fitforme

www.fitforme.com Phone: 877-704-0847

Offers free shipping for all vitamin and supplement orders. Allows patients to call for more information before ordering. Provides supplements specific to all available surgical options. See website for full line of products and ordering instructions.

The Original biPro Protein supplements

www.BiProUSA.com Phone: 877-692-4776

Providing patient a large variety of Protein products to include Protein waters (orange, lemon, and berry with 20 g protein), Whey Protein isolate powders (chocolate, vanilla, and plain) See website for full product line and ordering instructions

UNjury Medical Quality Protein

www.UNJURY.com Phone: 800-517-5111

Medical Quality Protein products including readymade high protein shakes, protein powder drink mixes in a variety of flavors (Chocolate, Vanilla, unflavored) and High protein Beverage mixes (soups). See website for full product line and ordering instructions.



MADIGAN

ARMY MEDICAL CENTER

CONTRACT FOR BARIATRIC/METABOLIC SURGERY

_____ I agree to abide by this contract for Bariatric Surgery. I understand that it is in my best interest to follow these instructions and it is expected by the Bariatric Surgery Service that each will be adhered to explicitly.

_____ I confirm that I attended a Bariatric Orientation and I fully understand the nutritional consequences of bariatric surgery.

_____ Studies show that patients who participate in a support group have a higher success rate in the long term. I will attend 1 support group meeting once a month until my surgery. I will attend support group meetings for at least one year after surgery.

_____ I will adhere strictly to the preoperative diet. I understand this diet allows for shrinking of a fatty liver and therefore facilitates a smoother operation.

_____ I am aware I must not gain weight from the date of my orientation or I will not be cleared for surgery. I understand there is no limit to the weight I am allowed to lose before surgery, and significant weight loss will not necessarily disqualify me from surgery.

_____ Exercise is essential to Preventing weight regain. I will incorporate daily physical activity and exercise prior to my operation and will resume this exercise program post operatively. I agree to attend an educational session with the Army Wellness Center for exercise instruction.

_____ I understand and consent to random drug, alcohol, and nicotine testing.

_____ I understand the Bariatric Surgery service will manage my acute postoperative pain for up to 30 days after surgery. After this, pain management issues must be seen by a specialist. If I have an existing **pain contract**, I will provide a letter from my providers stating that they are aware that I will be receiving pain medications after surgery.

_____ I will notify the bariatric clinic if, during the preoperative process, I find out that I am PCS'ing, ETS'ing, or will lose Tricare coverage.

_____ I am aware that I must stay in the area for 12 months following surgery in order to receive the best postoperative care. I will inform the clinic if I find out that I am PCS'ing or ETS'ing after surgery in order to facilitate continuity of care with the receiving medical providers.

_____ I will keep all follow-up appointments with the Bariatric Clinic as scheduled and obtain fasting laboratory studies as directed. I agree to long-term follow-up care with Bariatric Program, which is recommended for a minimum of five (5) years.

_____ I understand that the Bariatric Clinic will not assume responsibility for my primary care needs. I agree to establish and maintain care through a primary care physician (PCP), and any other essential health care providers, even in the case that I am not eligible for services through MAMC primary care or family medicine services.

_____ I understand that having three **no shows** (not including patient or facility cancellations) to any appointments during the preoperative phase will result in dismissal from the program.

_____ I will adhere strictly to the postoperative diet. I understand the importance of following nutritional guidelines after surgery.

_____ I understand the importance of monitoring fluid intake and staying hydrated. I understand that all carbonated beverages should be avoided permanently after surgery. I will abstain from alcohol for at least one year after surgery.

_____ I agree to take nutritional supplements and medications regularly, as directed. I will not discontinue medications without MD approval.

_____ I will see the nutrition department relative to (within one month of) my bariatric postoperative appointments. I understand that maintaining a food journal postoperatively will help to ensure optimal weight loss.

_____ The effects of nicotine following bariatric surgery could be catastrophic, resulting in life threatening stomach bleeding, ulcers, perforation, gastrointestinal problems requiring emergency surgery, and potential death. I will not use nicotine products including Nicorette Gum, lozenges, E-Cigarettes, patches, chew, or cigarettes.

_____ I am aware that it is my responsibility to call and schedule all postoperative appointments with the bariatric clinic as well as the nutrition clinic. I understand that I need to take responsibility for my weight management. If I am having difficulty with weight loss or nutritional issues, I understand I should contact us, nutrition, or behavioral medicine for guidance and/or assistance.

_____ I will not become pregnant for 18-24 months after surgery. I will adhere to this time frame so I am medically optimized for my health and the health of my child. I understand birth control pills may NOT be effective after surgery and that two alternative methods of birth control are recommended. I will consult with an obstetrician for a pre-pregnancy evaluation if I desire to become pregnant after bariatric surgery.

_____ I agree to avoid plastic surgery for excess skin removal for 18-24 months following surgery to allow stabilization of my weight loss. I understand that a panniculectomy may not be medically necessary and requires consultation with a surgeon who performs this procedure on an individual basis and this procedure is usually associated with some out of pocket expenses.

_____ I understand that I may be approached to participate in research before or after bariatric surgery. I will give these requests consideration prior to accepting or denying participation.

_____ I understand that in order to remain in 'active status,' I have a responsibility to pursue the requirements of the program in a timely manner. Beginning from the date of the Orientation Seminar, I have thirty (30) days to complete my lab work and call the bariatric clinic for scheduling my initial visit. Unless there are special documented circumstances, after forty-five (45) days of inactivity, the clinic reserves the right to close my file.

PATIENT'S PRINTED NAME: _____

PATIENT'S SIGNATURE: _____ **DATE:** _____

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