The University of Texas Center for Bariatric and Metabolic Surgery

WEIGHT LOSS SURGERY PATIENT GUIDE
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INTRODUCTION

Welcome to the program at The University of Texas Center for Bariatric and Metabolic Surgery. Obesity is a disease that affects millions of people worldwide and is increasing at a disturbing rate. Most people have battled with their weight at some point in their lives. Whether we feel the need to “lose a few pounds” or a lot more, the basic goal is always the same: we are all trying to improve our health, so we can lead happier, longer and more productive lives. Nonetheless, 95 percent of the time that we lose the weight, we gain it right back within one year.

Countless studies have shown that many health issues go along with being morbidly obese, and weight reduction can help resolve these issues. At The University of Texas Center for Bariatric and Metabolic Surgery we continually strive to optimize our comprehensive treatment program to help you to successfully lose weight, keep it off, and become healthier.

With the proper preparation and realistic expectations that we can provide, you can expect favorable outcomes with significant weight loss and, as a result, improvement in your health. Surgical treatment of morbid obesity is a very effective method of long-term weight loss in carefully selected patients. That is why we have devoted ourselves to you and your promise to become a healthier person.

THE WEIGHT LOSS SURGERY TEAM

Surgeon: Erik Wilson, M.D. The Medical Director of Bariatric Surgery at The University of Texas and Memorial Hermann Hospital, Dr. Wilson is board certified in general surgery and specialty trained in minimally invasive laparoscopic surgery at The University of Texas Medical School. Dr. Wilson is an experienced bariatric surgeon having performed hundreds of laparoscopic bariatric surgeries including gastric bypass, adjustable gastric banding, duodenal switch, sleeve gastrectomy, revisional bariatric surgery, and incisionless bariatric surgery.

Surgeon: Brad Snyder, M.D. is an Assistant Professor in The University of Texas Medical School at Houston and a board certified general surgeon with advanced training and expertise in laparoscopic surgery for general and bariatric surgery. He completed a fellowship with MIST (Minimally Invasive Surgeons of Texas) affiliated with The University of Texas Medical School. He offers all standard bariatric surgeries through laparoscopy and incisionless bariatric surgery. He is the director of research for the University of Texas Bariatric Surgery Center.

Surgeon: Kulvinder S. Bajwa, M.D. is an Assistant Professor in The University of Texas Medical School at Houston’s Division of Minimally Invasive and Elective General Surgery. He provides minimally invasive and single incisional techniques for gastrointestinal and weight loss surgery including colon and rectal cancers, inguinal, incisional and ventral hernia repairs, and thyroid and parathyroid surgery.

Surgeon: Sheilendra S. Mehta, M.D. is an Assistant Professor in The University of Texas Medical School at Houston’s Division of Minimally Invasive and Elective General Surgery. He specializes in conditions requiring innovative general surgery expertise with a focus on advanced minimally invasive surgical techniques for the treatment of abdominal pathology to include the full scope of minimally invasive bariatric surgery.

Surgeon: Todd Wilson, M.D. is an Assistant Professor in The University of Texas Medical School at Houston’s Division of Minimally Invasive and Elective General Surgery. He specializes in minimally invasive techniques for all general surgery including bariatric, colorectal, solid organ and hernia surgeries.
Surgical Fellows: Fellows are board eligible or certified general surgeons who have completed their general surgery training and are vital members of the team. They assist in all aspects of the care of patients including preoperative evaluation, hospital care, and postoperative follow up.

Clinical Manager: Connie Klein, N.P.
Connie Klein is the nurse practitioner and clinical manager for The University of Texas Center for Bariatric and Metabolic Surgery. Connie oversees the clinical operations of the Center for Bariatric Surgery and collaborates with surgeons and other staff to plan and coordinate patient care goals and achieve optimal patient outcomes. She recognizes patient care needs and collaborates with other providers and clinical staff (registered dietician, other nursing personnel, and other team members) to establish a comprehensive plan of care. She is responsible for overseeing the bariatric program as it relates to the Centers of Excellence designation.

Nutrition Manager: Carol Wolin-Riklin, M.A., R.D., L.D.
A registered dietitian, Carol Wolin-Riklin, manages the nutritional education for UT Center for Bariatric Surgery and Memorial Hermann Hospital. She leads the preoperative education of all patients and follows all them postoperatively for nutritional instruction and compliance as well as overseeing nutritional lab follow-up.

Bariatric Coordinator: Sharla Stroup, B.S.N.
Sharla Stroup is the Bariatric Program Coordinator for Memorial Hermann Hospital System. Wanda is responsible for the supervision and implementation of the bariatric surgery program for the hospital. She works closely with physician and hospital staff to ensure a successful progression for the patient through the entire surgery process.

Physician’s Medical Assistants: Medical assistants are valuable patient contacts who continually provide information for patients preoperatively and postoperatively. They are instrumental in the precertification process with insurance companies and can answer most common questions for bariatric patients.

OBESITY DEFINED

It is estimated that there are more than 16 million obese people in the United States. Obesity is considered a chronic and complex disease. Genetic, environmental, cultural, and psychological factors can all play part in causing obesity. According to the National Institute of Health a 20 percent or more increase in your ideal body weight is the point at which excess weight can become a health risk.

Research studies have shown that severe obesity or morbid obesity has been linked to early death. In addition, morbid obesity is associated with many health risks including; hypertension, type II (non-insulin dependent) diabetes mellitus, joint disease, cardiovascular disease, sleep apnea, various cancers and depression. A ten percent reduction in body weight corresponds to a twenty percent reduction in the risk of developing heart disease. Furthermore, the significantly increased risk of dying from morbid obesity reverts to normal following successful weight loss surgery.
Clinically Morbid (Severe) Obesity
Morbid obesity is defined as having a Body Mass Index (BMI) greater than 40. The BMI is a way of estimating your body fat by determining excess body weight while taking into account your height. Though your BMI may not be the best method to determine the degree of your obesity, it is an easy tool that will provide a good estimate and will be used to determine a patient’s appropriateness for gastric bypass surgery.
CALCULATE YOUR BMI

BMI = weight (pounds) X 703/height squared (inches)
Weight in pounds times 703 divided by height in inches squared.

FIND YOUR BMI

You can find your BMI from the table below:

You can also go to http://www.healthchecksystems.com/bmi.asp
Enter your height and weight, and your BMI will be calculated for you.

MORBIDITIES OF OBESITY

(From the NIDDK & NIH, http://www.niddk.nih.gov/health/nutrit/pubs/health.htm#risks)

The following is a list of significant medical conditions related to obesity that have serious effects on your health and life span.
Heart Disease and Stroke
Heart disease and stroke are the leading causes of death and disability for both men and women in the United States. Overweight people are more likely to have high blood pressure, a major risk factor for heart disease and stroke, than people who are not overweight. Very high blood levels of cholesterol and triglycerides (blood fats) can also lead to heart disease and often are linked to being overweight. Being overweight also contributes to angina (chest pain caused by decreased oxygen to the heart) and sudden death from heart disease or stroke without any signs or symptoms.

The good news is that losing a small amount of weight can reduce your chances of developing heart disease or a stroke. Reducing your weight by 10 percent can decrease your chance of developing heart disease by improving how your heart works, blood pressure, and levels of blood cholesterol and triglycerides.

Cancer
Several types of cancer are associated with being overweight. In women, these include cancer of the uterus, gallbladder, cervix, ovary, breast, and colon. Overweight men are at greater risk for developing cancer of the colon, rectum, and prostate.

Diabetes
Type II diabetes reduces your body’s ability to control your blood sugar. It is a major cause of early death, heart disease, peripheral vascular disease, kidney disease, stroke and blindness. People who are overweight are twice as likely to develop type 2 diabetes as people who are not overweight. You can reduce your risk of developing this type of diabetes by losing weight and by increasing your physical activity control your blood sugar levels. If you use medicine to control your blood sugar, weight loss and physical activity may make it possible for your doctor to decrease the amount of medication you need.

Sleep Apnea
Sleep Apnea is a serious condition that is closely associated with being overweight. Sleep apnea can cause a person to stop breathing for short periods during sleep and to snore heavily. Sleep apnea may cause daytime sleepiness and even heart failure. The risk for sleep apnea increases with higher body weights. Weight loss usually improves sleep apnea.

Osteoarthritis
Osteoarthritis is a common joint disorder that most often affects the joints in your knees, hips and lowers back. Extra weight appears to increase the risk of osteoarthritis by placing extra pressure on these joints and wearing away the cartilage (tissue that cushions the joints) that normally protects them. Weight loss can decrease stress on the joints to improve the symptoms of osteoarthritis and prevent further damage to the joints.

Gout
Gout is a joint disease caused by high levels of uric acid in the blood. Uric acid sometimes forms into solid stone or crystal masses that become deposited in the joints. Gout is more common in overweight people and the risk of developing the disorder increases with higher body weights. (Note: Over the short term, some diets may lead to an attack of gout in people who have high levels of uric acid or who have had gout before. If you have a history of gout, check with your doctor or other health professional before trying to lose weight.)

Gallbladder Disease
Gallbladder disease and gallstones are more common if you are overweight. Your risk of disease increases as your weight increases, though it is not clear how being overweight causes gallbladder disease.
Chronic Venous Insufficiency
This is a condition where blood pools in the veins of your legs instead of traveling back to the heart. This can lead to varicose veins and leg ulcers.

Degenerative Joint Disease
In addition, obesity is associated with increased arthritis pain, low back pain, chronic joint pain, and joint deterioration. It has been shown that many of these conditions will improve or resolve with weight loss.

SURGICAL WEIGHT LOSS
Operations to treat morbid obesity are designed to help extremely obese people lose weight, so that coexisting health problems can be diminished or eliminated and quality of life can be improved. These are not cosmetic operations. The decision to undergo an operation should be made with great deal of thought and research. This is a life-altering decision with many benefits and risks that need to be individually weighed. Many times bariatric surgery is made to sound simple and easy. The operations often do have relatively short recovery times due to the minimally invasive techniques used these days, but having weight loss surgery is not without risk and complications. It still requires significant dedication and commitment by the patient and the surgical team.

It is important to understand that surgery is not a cure for obesity but rather a tool for you to use to control this disease. When performed carefully and used properly weight-loss surgery is a tool that has been proven to lead to successful, long-term weight reduction and an extended life.

What operations are available?
At The University of Texas Center for Bariatric and Metabolic Surgery, every major accepted weight loss procedure is performed. Despite what many advertisements imply, there is no one single perfect weight loss procedure. Weight loss programs that preach that a single surgical device or procedure as the “best” or “safest” are being deceptive. Each procedure has its own advantages and disadvantages and true weight loss surgery programs offer a comprehensive approach for the treatment of obesity.

Below are the bariatric operations most commonly being practiced in the world today. We offer all of these procedures. Furthermore, we are continuing to push the envelope and are on the forefront of the development of new procedures designed for weight loss, including incisionless gastroplasty.

WHAT IS GASTRIC BYPASS SURGERY?
Gastric bypass surgery has been endorsed by the National Institute of Health as the only effective means of inducing significant long-term weight loss for the vast majority of patients with clinically severe obesity.

How does weight loss occur after Gastric Bypass surgery?
• **Gastric Restriction:** Your stomach is now only 1 to 2 ounces in size, which will significantly limit your portion size.
• **Malabsorption:** A portion of your intestines is bypassed so less absorption of food occurs. This limits the amount of calories absorbed from the food that you consume. We will closely monitor your nutritional needs so that your weight loss occurs safely.
• **Feeling of Satiety:** Feeling of fullness occurs with a much smaller amount of food. It is important to listen to your body so that over time you do not stretch out your pouch.

• **Dumping Syndrome:** This syndrome occurs in approximately 80% of patients who undergo gastric bypass surgery. It happens when food passes too quickly from the stomach into the small intestines. This leads to uncomfortable symptoms such as nausea, sweating, fullness, abdominal cramping, diarrhea, and a fast heart rate. The common cause is foods high in simple sugar (such as: candy, chocolate, cookies, soda, ice cream, syrups etc.) It is important to avoid these foods after surgery to prevent dumping syndrome. In addition, these types of foods are high in calories and low in nutrients, which will hinder your weight loss efforts. Food intolerance may also be caused by high fat content or lactose intolerance. It is important to keep a food record to help determine the cause of your symptoms.

**How much weight can I expect to lose?**
The amount of weight lost after gastric bypass surgery is individualized. It depends on your body and on how well you follow the post surgery diet and exercise program. However, research has shown that patients usually lose 60-80% of their excess body weight within 18 months after surgery. At five years, this weight loss has shown to be well maintained at 50-70% of excess body weight. For example, if you weigh 300 pounds and your ideal body weight is 150 pounds. You can expect to lose approximately 75 to 120 lbs.

**WHAT IS ADJUSTABLE GASTRIC BANDING SURGERY?**
The adjustable band is a procedure during which your surgeon will implant a permanent, prosthetic “band” around the neck of your stomach. This procedure is purely “restrictive”, meaning that it allows you to eat less while feeling full by creating a much smaller virtual stomach pouch above the band. The adjustable band has an inner lining that is inflatable and is connected to a port hidden within your abdominal wall. For the first 1-2 years after the operation, the band will be periodically filled or adjusted in the office to give you optimal restriction.

The adjustable band does not require cutting into the stomach or intestines and is therefore, deemed to be a safer operation. Nonetheless, it is still a major abdominal operation, and the preparatory phase is the same as for the Bypass procedure. Weight loss with the adjustable band is less than after the Bypass, and highly variable. Weight loss can range from 0 to over 90% of excess body weight, with an average of 30% of excess body weight at one year and 40% at two years. Briefly stated, the benefit of the adjustable band is its safety profile; the downsides are the need for postoperative adjustments and variable weight loss.

WHAT IS SLEEVE GASTRECTOMY SURGERY?

The Sleeve gastrectomy is a procedure that involves removal of a majority of the greater curve of the stomach. This a non-adjustable, fixed restrictive procedure that can significantly reduce the amount of food that you can eat, thereby causing weight loss. In addition to the restrictive ability of this procedure, there is scientific evidence that shows that this part of the stomach that is removed is responsible for producing a hormone called ghrelin that acts on the brain to make you hungry. After sleeve gastrectomy, this hormone is significantly reduced, and patients may have a significantly decrease desire to eat.

The risk of the procedure lies between the adjustable band and the bypass, and this makes it an ideal procedure to use in high risk patients who need to lose more than a band can offer but the bypass is too risky. In addition, this procedure has been used as a “bridge” because it can be converted into any other bariatric procedure (i.e., adjustable band, bypass, or biliopancreatic diversion).

The weight loss result over the last 5 years has been encouraging. Patients can expect to lose the same amount of weight as gastric bypass patients (60-70% excessive weight). However, this procedure has only been performed laparoscopically since 2003 and long term data is still pending.

WHAT IS BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH SURGERY?

The biliopancreatic diversion with duodenal switch (BPD) was first performed by Dr. Scopinaro in 1979 in Italy. It is the most malabsorptive procedure approved by the FDA, leaving only 100-150 cm of small intestine left for absorption.

This operation carries the highest risk of complication and is the most technically challenging operation to perform; on the other hand, it offers the most benefit in terms of weight loss. Patients can expect to lose nearly all of their excessive weight in short
order after this procedure (80-100%). Vitamin and mineral deficiencies are more likely after this procedure compared to the other weight loss surgeries, so close monitoring of vitamin levels is necessary.

**BENEFITS OF WEIGHT LOSS SURGERY**

Complications of clinically severe obesity may begin to resolve within the first few months following surgery. These include control of diabetes; lowered blood pressure and total cholesterol; relief from sleep apnea, severe acid reflux, and urinary stress incontinence; and eased lower back and osteoarthritis pain. Patients also report enhanced mobility, improved mood and self-esteem.

**PREOPERATIVE REQUIREMENTS**

At The University of Texas Center for Bariatric and Metabolic Surgery we provide you with a comprehensive program that will guide you through your weight loss journey. This is a long-term program consisting of diet, surgery and exercise.

As we make a commitment of assistance to you, we ask that you also make a commitment to follow our recommendations before and after surgery. You must follow your surgeon’s directions to protect yourself from problems associated with the surgery. In order to be effective, you need to make a life-long commitment to lifestyle changes, which may include, but not be limited to, dietary changes, an exercise program, and counseling. You will need to maintain proper nutrition, eat a balanced diet, and take vitamins for the rest of your life.

We expect you to participate in our postoperative program that includes nutritional classes, computer assisted learning, newsletters, and support groups. We want you to make every effort to continue to learn about your surgery and appropriate use of diet, exercise, and even psychological counsel to help lose weight. Frequent visits and follow up will be required and lab will be drawn periodically to check for anemia and vitamin deficiencies. Following the guidelines will help ensure a successful outcome and minimize the risk of complications.

**PATIENT ELIGIBILITY CRITERIA**

At The University of Texas Center for Bariatric and Metabolic Surgery we follow the criteria set forth by the National Institute of Health. These criteria include:

- A BMI equal to or greater than 40 with or without co-morbid conditions
- A BMI greater than 35 with co-morbid conditions (see below)
- Permanent lifestyle changes including exercise
- No significant, untreated psychiatric illnesses
- Sufficient ability and cognition to understand surgery, potential complications and subsequent associated changes
- Willingness to participate in treatment and long-term follow-up
- Proof of failed attempts at non-surgical weight reduction
- Supportive family/social environment
- Acceptable medical/operative risks
- No Smoking

**LIST OF CO-MORBID CONDITIONS**
Degenerative joint disease
Hypertension
Diabetes Mellitus
Sleep apnea
Asthma
Hypoventilation syndrome of obesity
Deep vein thrombosis/ Pulmonary embolism
Cardiac disease (arrhythmias/cardiomyopathy)

Cor pulmonale
Venous stasis ulcers
Hypercholesterolemia/hyperlipidemia
Depression
Menstrual irregularities
Fungal skin infections
GERD(Gastroesophageal Reflux disease)

(If you have BMI between 35 and 40 plus conditions listed above you may still be eligible for weight loss surgery.)

PATIENT REQUIREMENTS

In order to be considered for weight loss surgery we require the following from you:
• Attendance of the information session (education class)
• Recommended attendance of support groups prior to surgery (Held every first Wednesday of the month from 6:00-7:30 pm in the Hermann Conference Center at Memorial Hermann Hospital Texas Medical Center, every second Tuesday at our clinics starting at 6:00 pm, and every fourth Wednesday of the month at 6:00 at Memorial Herman Hospital-Katy.
• Initial Consultation with Bariatric Nurse and Surgeon

You must bring the following to your initial visit:
• Your insurance card
• You must ensure that your health insurance coverage includes Weight Loss/Bariatric surgical benefits
• Completed registration/questionnaire package http://memorialhermannhospital.remedymd.com)
• Insurance referral if your insurance company requires one
At the end of your consultation, you will be scheduled for some of the following appointments:

- Comprehensive blood testing
- An appointment with a psychiatrist
- A follow up appointment with the dietitian who will assist you in achieving the mandatory preoperative weight loss
- Pulmonary evaluation, if needed
- Cardiology evaluation, if needed.
- Gastroenterology evaluation, if needed.
- Other specialty evaluation, if needed.
- Weight management

**Surgery Scheduling**

It is estimated that you will be having surgery 3-6 months from your initial consultation. This depends on your specific health problems, your ability to meet preoperative goals, and your insurance providers. All goals must be met prior to receiving a surgery date.

**Preparing for Surgery**

**Personal Preparations**

Once you decide to proceed with surgery, there are certain steps to take before your operation to ensure that you are in the best possible readiness for the procedure. Start taking chewable multivitamins once daily to improve your general health. You will need to take these every day for the rest of your life. Further, take 500 mg of Calcium three times daily. Vitamin and mineral intake is especially important after bariatric surgery in order to maintain good nutrition and health and you are at risk for deficiencies after surgery. We have found that if you start taking these supplements before surgery, it will be easier remembering them after surgery.

Another important way to prepare for surgery is exercise. The best time to begin your exercise program is before your surgery. Your weight loss after surgery is highly dependent on both your dietary habits and your level of exercise. The sooner you start exercising the easier it will be after you have surgery. It also helps improve circulation, which helps you through the surgical procedure. Success in gastric bypass is all about choosing the right habits before and after surgery. We want you to start moving more than normally; however, we do not want you to injure yourself. Walking on a daily basis improves your circulation and makes breathing easier during recovery. You will also benefit from having a plan in place, so you don’t have to figure out your walking route during the recovery phase. Should you be unable to walk daily due to joint pain, then you may want to look into an aquatics program. Every town has classes for arthritic or cardiac patients that are held in a safe and clinical environment. Water exercises still condition your breathing, but are not weight bearing and are therefore easier for people who have joint problems. You can also practice the exercises that speed up your recovery and become familiar with the chapter on exercise.

You should begin taking daily showers a few days before you enter the hospital. Careful attention must be given to cleaning the entire abdomen from the neck and armpits to the groin, making sure to clean between any folds of skin. Use antibacterial soap such as Dial. Pat dry any reddened areas or use a blow dryer on low heat to dry difficult to reach places.
Medications
It is important to avoid aspirin and all aspirin-containing medicines for 10 days prior to surgery. All herbal medications such as St. John’s Wort, Gingko Biloba, Garlic, etc, should be discontinued as well, as these also have blood-thinning properties. Other herbal supplements such as Kava Kava and Valerian Root are known to interact with anesthesia and should also be stopped 10 days before surgery. Again, remember to tell your surgeon all the medicines and herbal supplements you are taking. Do not forget to check the label of your multivitamin; many times they can contain herbal supplements as well. Remember to check all labels of over-the-counter medicines, since certain over-the-counter medicines can contain aspirin, too. If in doubt, please check with your pharmacist or your surgeon.

In conclusion, make sure that you keep your surgeon and other specialists informed of the complete list of medicines that you are taking. Include herbal supplement and vitamins in this list.

Alcohol and Tobacco
Since smoking hinders proper lung function; it can increase the possibility of anesthetic complications. Smoking can increase your risk of complications such as deep vein thrombosis (blood clots in the legs), and smoking also reduces circulation to the skin and impedes healing.

Patients are required to quit smoking permanently before surgery. Smokers who undergo anesthesia are at increased risk for developing cardiopulmonary complications (pulmonary embolism, pneumonia and the collapsing of the tiny air sacs in the lungs) and infection as well. Besides the well-known risks to the heart and lungs, smoking stimulates the stomach acid production, leading to possible ulcer formation. In addition, smoking can cause a reduced ability of the body to heal itself. This can lead to wound infections, hernias, and leaks that may be devastating. Patients must agree to permanently refrain from smoking before and after surgery.

Remember, you are doing all of this to improve your health. It is also important to avoid alcohol since it causes gastric irritation and can lead to liver damage. Be aware that during periods of rapid weight loss the liver becomes especially vulnerable to toxins such as alcohol. You may find that only a couple of sips of wine can give you unusually quick and strong effects of alcohol intolerance. In addition, alcoholic beverages are essentially a carbohydrate or sugar-based beverage high in sugar calories and may cause “dumping syndrome” and/or impede your weight loss. For these reasons, we recommend complete abstinence from alcohol for one year after surgery and avoiding frequent consumption thereafter. It is important to understand that alcohol is a liquid calorie and is VERY calorie dense—it has almost as many calories per gram as fat. It really works against long term successful weight loss.

WORK AND DISABILITY
Expected return to work time is anywhere from one to six weeks. There is, of course, great variability. Gastric banding patients can usually expect faster recovery and return to work within one to two weeks. The time you take off from work depends on many things. These include the kind of work you do, your general state of health, how badly your work needs you, how badly you need your work, your general state of motivation, and your energy level. It is important to remember that one is not just recovering from surgery, but one is eating very little and losing weight rapidly. The first few weeks are a precious time to get to know your new digestive system, rest, exercise and meet with other post-operative patients in support group meetings. If financially feasible, take this time to focus on your recovery. Since these procedures are very commonly minimally invasive, the recovery time is more tied to the metabolic changes your body is undergoing instead of significant incisional pain. The incisions
are very small, but your body is learning how to burn fat efficiently in the first 2 weeks after surgery. Once your body has adapted, patients go from having low energy, to having more energy than before surgery.

Some patients do not wish to tell the people with whom they work what kind of surgery they are having. It is perfectly appropriate to tell as much or as little to your employer as you would like. Although you do not need to tell your employer that you are having weight loss surgery, it is recommended to reveal that you are having major abdominal surgery. Explain that you will need four or more weeks to recover, especially if you would like to have some form of financial compensation during your absence. Your employer should have the relevant forms for you to complete. You may want to indicate that you will not be able to do any heavy lifting for several weeks after surgery.

HOSPITAL PRE-ADMITTING PROCEDURES

You will receive a call from a hospital nurse the day before your surgery instructing you on the time to come to the hospital and review the necessary surgical preparation. If your surgery is on Monday you will be called on Friday. If you need to know your arrival time before receiving your nurse call, you are welcome to call (713) 704-4375 after 9:00 am (the day before surgery). Please keep in mind that the Memorial Hermann Hospital-Texas Medical Center (Day Surgery) is not open on Saturdays and Sundays. If you are receiving surgery in another hospital or surgery center, then the day surgery unit of that facility should provide you answers to these questions.

IF YOU ARE ILL BEFORE SURGERY

Should you develop a cold, persistent cough, fever or any changes in your condition during the days before your surgery, please notify the physician who medically cleared you for surgery. You will need to be re-evaluated for surgical readiness. You need to be in the best possible shape for anesthesia. Scheduling will be adjusted to your condition if necessary.

YOUR SURGERY DAY

Personal Preparation
We recommend that you shower in the morning on the day of surgery, but do not use any moisturizers, creams, lotions or make-up. Remove your jewelry and do not wear nail polish. You may wear dentures, but you will need to remove them just prior to surgery. Please bring your eyeglasses and a case if possible.

Anesthesia
When general anesthesia is induced; you will be sound asleep and under the care of your anesthesiologist throughout the operation. The anesthesiologist spends all of his or her time during the procedure ensuring your safety. Any significant changes in blood pressure, heart rate or other vital functions are treated immediately. Your anesthesiologist will discuss the specific risks of general anesthesia with you before your surgery. Be prepared for interviews by many nurses and doctors before surgery when you arrive. They will all ask you many similar or even the same questions. This is all done for your safety, not to annoy you. Rest assured that everyone is a professional and we are all here to help you. Certainly, if there is anything we can do to make your stay at the hospital more comfortable; please don’t hesitate to ask anyone.
THE OPERATION

Once you enter the OR, the staff will do everything they can to make you feel safe and secure. You may be transported on a gurney (a bed or stretcher on wheels). In the OR, you will be anesthetized. Medicines that will make you drowsy will flow through the tubing into a vein in your forearm. Sometimes these medicines give a slight, brief, burning sensation as they’re given. At the same time, to ensure your safety, the anesthesiologist will connect you to monitoring devices.

After you are asleep, the anesthesiologist places a breathing tube, and a urinary catheter might be placed. The surgical procedure will usually last from about 1 hour to 4 hours depending upon the procedure performed. The operations requiring more technical work (such as gastric bypass or biliopancreatic diversion) may take longer than the simpler operations (such as gastric band or gastric sleeve). The final length of the operation is dependent upon the number of extra procedures necessary, if any, and the difficulty of finding working space within a very large abdomen. Seldom is the length of operating time related to the patient’s immediate condition in the operating room, and it may go several hours without undue side-effects or risks. Your surgical team will take excellent care of you! When your surgery has been completed, you will be moved to the Recovery Room.

THE RECOVERY ROOM

You will constantly be connected to monitoring equipment, and during this period, fully trained Recovery Room nurses will remain with you at all times. The nurses are certified for advanced cardiac life support. You can be confident that you will be well cared for in the Recovery Room. When your initial recovery is completed and all your vital signs are stable, you will be transported back to day surgery or to your room on a dedicated bariatric surgery unit. Patients are usually in the Recovery Room for about two hours before they are transported to their room. Your family will be able to see you when you arrive at your room. This may be 5 or 6 hours after they saw you preoperatively. The surgeon will go to the family waiting area to talk with your family as soon as the operation is finished. We prefer that family members wait in the hospital waiting area during the surgery.

HOSPITALIZATION

Adjustable band procedure may be an outpatient or overnight stay depending on your insurance and medical conditions. The hospital stay for the other procedures averages two to three days, and may be longer for those with the open incision or complications. Patients undergoing the laparoscopic method usually have a two-day hospitalization.

When you return to your room after surgery, you will continue to be closely monitored by your nurses. Your family may visit with you then. Along with periodic monitoring of your vital signs (blood pressure, pulse, temperature, respirations), your nurses will encourage and assist you in performing deep breathing, coughing, leg movement exercises, and getting out of bed after surgery. These activities prevent complications. **Be certain to report any symptoms of nausea, anxiety, muscle spasms, increased pain or shortness of breath to your nurse.**

To varying degrees, it is normal to experience fatigue, nausea and vomiting, sleeplessness, surgical pain, weakness and lightheadedness, loss of appetite, gas pain, flatus, loose stools, and emotional ups and downs in the early days and weeks after surgery.

WHAT TO EXPECT AFTER SURGERY

Immediately after surgery there is a moderate amount of discomfort. You will be given pain medicine by your nurse through your IV. We cannot remove all of the pain post-operatively but we will try to keep you as
comfortable as possible. Tell your nurses and physician if you are having pain, particularly if it keeps you from moving, taking deep breaths, or feeling comfortable. Everyone is different, so keeping your nurses informed about how you feel will help them help you.

**ACTIVITY/EXERCISES TO SPEED UP RECOVERY**

With the help of your nurse, you should sit up and dangle your feet the night of surgery and stand at your bedside. If your surgery was in the early part of the day, you will be asked to get out of bed and walk. Starting the first day after surgery, you will be required to walk at least three to four times per day and to do your leg and breathing exercises hourly. Walking is extremely important for the prevention of blood clots.

**EXERCISES THAT SPEED UP YOUR RECOVERY**

To enhance your recovery, your nurse will instruct you in coughing and deep breathing, turning in bed and exercising your feet and legs. You will be shown how to use an “incentive spirometer” to help you expand your lungs. Coughing and deep breathing is important so that you will loosen any secretions that may be in your throat or lungs and to help prevent pneumonia. Deep breathing also increases circulation and promotes elimination of anesthesia.

**The proper way to deep breathe:**
1. Inhale as deeply as you can
2. Hold breath for two seconds
3. Exhale completely
4. Repeat the above steps three times

**and cough:**
1. Inhale deeply
2. Cough. The cough should come from the abdomen, not from your throat. Hold your pillow on your abdomen for support

**Exercising your feet and legs is important for promoting good circulation.**

**The proper way to exercise your feet and legs is to follow these steps:**
1. Push your toes of both feet towards the end of the bed (as in pressing down on a gas pedal)
2. Pull your toes toward the head of your bed, then relax
3. Circle each ankle to the right, then to the left
4. Repeat the above steps three times

These exercises should be repeated at least once every hour after surgery, but it is also a good idea to practice these exercises before surgery to increase lung function and agility.

**DIET**

**Gastric Bypass/Sleeve Gastrectomy/BPD**

At the hospital, you will be served water on the first postoperative day, sugar-free clear liquids on day two, and protein drinks on day three as your new stomach pouch begins to heal.

If you are doing well with no adverse signs, you will go home on day two and move on to protein drinks the next day at home. Most likely, you will not feel hungry the first week or so after surgery. This is normal with no reason
for concern and may last a few weeks. However, it is very important to keep drinking water and to consume protein when at home to prevent dehydration and to promote healing.

**Gastric Band**

After surgery, you will have an esophagram performed in the radiology department. This is a set of x-rays taken after drinking liquid that will show the placement of the Band and how well fluid passes through your new Band. After these pictures are reviewed, you will start on liquids with protein drinks and be prepared for discharge home.

**URINARY/BOWEL MOVEMENTS**

Gastric Bypass patients will have a Foley catheter in your bladder to drain the urine after surgery. This will stay in for approximately 1 day. You may not have a bowel movement for a few days after surgery, but you should begin to pass gas in 2-3 days.

**GENERAL DISCHARGE INSTRUCTIONS**

Your surgeon will determine your date of discharge based on your individual progress. Prior to discharge, specific dietary and activity instructions will be reviewed with you, along with precautions and situations when your surgeon should be notified. Discuss your going home concerns with your nurse or discharge coordinator. It is also extremely important that you stick to the post-operative diet. Do not advance your diet unless instructed by the physician, or dietitian. Your stomach needs time to heal; advancing your diet too quickly may cause serious, even fatal complications.

Please give some thought to your living environment. Are there many steps in your home? Is your bedroom upstairs? How accessible is your bathroom? Please tell the hospital staff about your living environment so they can prepare your going home with your specific needs in mind. Nonetheless, a rubber showerhead with a hose, long sponge stick and toilet lift are all useful items.

Your hospital Case Coordinator, along with other members of your team, will work with you while you are in the hospital recovering from your surgery. She will assess your needs for care that may be required during your hospital stay, as well as assist you with your discharge from the hospital and arranging any home health care needs that may arise.

OTHER IMPORTANT INFORMATION: You can expect to see your surgeon every day. You will also be cared for by a team of resident physicians who will work closely with your surgeon and who will be monitoring your progress daily, not to mention nurses, dietitians and other therapists. The University of Texas Center for Bariatric and Metabolic Surgery is a teaching institution and students of many types may be assisting in your care.

**AFTER SURGERY**

**Medications after Surgery**
- Pain medication (usually Lortab elixir) to use as needed (prescription given at discharge)
- Chewable multivitamin- chew daily as directed
- Chewable calcium
- Sublingual vitamin B12 (placed under your tongue every day if 500mcg, every other day if 1000mcg, once weekly if 25000mcg)
• Medication to prevent ulcer formation (You must continue this medication for 6 months. A small percentage of people need to take these the rest of their life)
• Medication to prevent the formation of gallstones if you still have your gallbladder (you must also continue this medication for 6 months after surgery)
• You are to resume all pre-operative medication unless instructed differently by your surgeon upon discharge.
   Any medication your were taking that is larger than an M&M must be crushed, cut, or changed to liquid form during the first 8 weeks after surgery. Before altering (crushing) any medication you must check with your pharmacist or physician first.

Checking in with the Team
We care about your progress. Keep in touch with the surgical office. We will do our best to make sure that you are well taken care of. All Gastric Bypass/BPD/ and sleeve patients will be scheduled for follow-up with the Bariatric Team at 1 weeks, 6 weeks, 3 months, 6 months, 12 months and annually thereafter. Lap Band patients will be scheduled at 4 weeks, and then every month until you are adequately restricted. Please call your surgeon’s office with any surgical concerns between scheduled visits. Don’t leave your Primary Care Physician out of the loop – don’t hesitate to contact him or her with medical concerns. You may find that some of your medications will need adjustment after surgery. Please contact your primary care physician post-operatively to discuss this.

Specific Recovery Instructions
There are many things you will experience once you are at home recovering. When you get home, plan on taking things easy for a while. Your body is still recovering from the stresses of major surgery and weight loss occurring during the recovery period. Your activity will be restricted to no strenuous activity for 3 to 6 weeks after the operation. You may walk and perform light household duties as tolerated upon your return home. You may climb stairs. It is important to remember that you are still at risk for the development of blood clots after you are discharged from the hospital. You should not go home and sit for prolonged periods of time. Frequent walks of short duration are better tolerated than one or two long walks that go to or past the point of fatigue.

Increase the distance that you walk gradually. By the six-week mark you should be regularly walking two miles a day or more. If you have specific problems with your weight bearing joints, water exercises are recommended instead of long-distance walks. You can start water activities about three weeks after surgery if your surgical incisions are healed. It is important not to swim in a pool or use a hot tub, whirlpool or even take a bath until seen by your surgeon at the three-week post-op visit. You may shower daily. Patients undergoing the laparoscopic surgery are frequently able to return to all activities within a shorter time frame.

Keep up your fluid intake with small, frequent sips as necessary. Once you go home, you will be drinking approximately 48 ounces daily, and will gradually increase to 64 ounces per day. Refer to the diet section for specific dietary instructions.

Resume traveling short distances as soon as you feel strong enough to make the trip. Do not drive a motor vehicle until you are off the prescription pain medicines and feel you can move adequately to respond quickly if necessary. No car trips longer than 30 minutes for the first month.

The first several weeks after your surgery you may feel weak, and tire easily after activity. However, try to be as active as possible. Plan to walk as much as you can tolerate without becoming too tired. Start with short walks, increasing the distance each day. The more physically active you are, the more recovery is enhanced and the more energy you’ll have.
Continue walking at least four times daily, so that by the sixth week you are walking 30 to 45 minutes.
Find out more about starting an exercise program by reading about first steps and continue to do the exercises that speed up your recovery. Avoid sitting and standing without moving for long periods. Change positions frequently while sitting, and walk around while standing. These strategies will help prevent blood clots from forming in your legs. Avoid lifting anything heavier than 20 to 30 pounds during the first three weeks. Do not do any heavy work for the first month unless cleared by your surgeon. Climbing stairs is encouraged. Remember that most patients will feel tired, less energetic and sore for several weeks following either operative method as these are major operative procedures and you will be losing weight as well as healing wounds.

**Personal Hygiene**

Most patients like to have someone home with them the first few days after surgery for morale and physical support. Due to the nature of abdominal surgery, you may need some help with toileting. Flushable baby wipes tend to be gentler for personal hygiene, as is a peri-bottle. You can use a small sports-top water bottle as well. A long sponge stick can also be very helpful.

**Wound Care**

Your wound dissolves, so there is no need to remove any stitches. You will notice some glue on your wounds. This glue is called “Dermabond or Indermil”. The glue will flake off on its own. If surgical staples were used, they will have to be removed, usually at your three-week visit. The removal of surgical staples is a simple procedure in the office and usually feels like a “pinch”. Leave the wound open to air whenever possible to help prevent suture infection.

No matter how your wound was closed, it is important to keep the wound clean and dry to promote faster healing. You may shower, but pat dry the incision area well. After about three weeks, the incision is usually ready for immersion. Ask your surgeon for the official go ahead before you take a bath. As you feel stronger you may enjoy a swim or a soak in the tub. Despite the greatest care, any wound can become infected. Please do not use any Neosporin or other occlusive ointment on your incision.

If your wound becomes reddened, swollen, shows pus or red streaks, has yellow/green, purulent and/or odorous drainage, feels increasingly sore or you have a fever above 101°F, you must report to your surgeon right away The bottom line: (unless otherwise prescribed) Shower, wash with soap, rinse and dry thoroughly. If oozing or catching on clothing you may cover with a very light dressing, otherwise leave open to air.

**Danger Signs**

Even though we do not expect you to have any serious concerns, some symptoms that you may experience need to be addressed immediately. If you experience any of these symptoms, contact your surgeon right away:

- Worsening abdominal pain
- Fever of 101°F or above (You should have a thermometer at home)
- Cloudy fluid coming from a wound
- Bright red blood or foul smelling discharge coming from the wound
- Chest or shoulder pain
- Shortness of breath
- Vomiting for more than 24 hours or vomiting of blood or coffee grounds-like Material
- Inability to keep any liquids down
- Leg pain or swelling
- Redness around the incision that is spreading
- Excessive bruising around the incision
• Increased swelling around the incision
• Steadily worsening, instead of improvement, of your daily condition
• Any unusual symptom

Normal Symptoms
• **Discomfort and pain** – mild to moderate discomfort or pain is normal after any surgery. Pain should gradually improve on a daily basis. Pain should not increase in intensity or become severe. If the pain becomes severe and is not relieved by pain medication, please contact your surgeon.
• **Itching** – itching and occasional small shooting electrical sensations within the skin frequently occur as the nerve endings heal. These symptoms are common during the recovery period. Ice, skin moisturizers, vitamin E oil and massage are often helpful.
• **Redness of scars** – all new scars are red, dark pink or purple. The scars take about a year to fade. There may even be “firmness” to them. This is normal. We recommend that you protect your scars from the sun for a year after your surgery. Even through a bathing suit, a good deal of sun light can reach the skin and cause damage. Wear a sunscreen with a skin-protection factor (SPF) of at least 15 when out in sunny weather.
• **Lack of hunger or thirst** - Keep a close schedule on when you should be eating and what your fluid intake is. You may not feel like eating or drinking, nevertheless, you must or you could become dehydrated.

Nausea and Vomiting
Nausea and vomiting after surgery may be related to fullness, sensitivity to odors, and pain medication. Any prolonged nausea and vomiting needs to be reported to the Surgeon’s office.
• Learn to recognize when you are full. This will not happen immediately, but eating and drinking very slowly is critical and will become easier. Remember you’re relearning all of your eating habits
• Initially, concentrate on eating without distractions (e.g. don’t eat while talking on the phone or watching TV.)
• Avoid drinking your fluids with a straw
• If you believe that your pain medication is the cause of your nausea, please call your surgeon’s office to have the prescription changed
• Stay hydrated – fluids should be continuously sipped all day long to prevent dehydration

Here is a review of eating related things that may cause nausea and vomiting:
• Eating too fast
• Not chewing food well
• Eating food that is too dry
• Eating too much food at once
• Eating solid foods too soon after surgery
• Drinking liquids either with meals or not drinking 30 minutes before or after meals
• Lying down after a meal
• Eating foods that do not agree with you
• Eating/drinking foods at extreme temperatures
• **Not Following the Dietary Recommendations!**

Excessive vomiting may indicate that the stomach pouch is blocked. If vomiting continues for more than 24 hours, contact your surgeon, since vomiting can lead to severe dehydration, this situation needs to be taken seriously.

Vomiting in patients with the Band may actually cause a complication called slippage, which describes stomach tissue sliding above the Band and getting trapped. This can be a surgical emergency. For this reason, Lap Band patients need to take even more precautions against eating behaviors that may lead to vomiting.
Dehydration
Dehydration will occur if you do not drink enough fluids. Symptoms include fatigue, dark colored urine, dizziness, fainting, lethargy, nausea, low back pain (a constant dull ache across the back), and a whitish coating on the tongue. Dehydration may lead to bladder and kidney infections. Contact your Surgeon if you believe that you may be dehydrated. In some cases you will need to be admitted to the hospital so that fluids can be given through your veins.

If your urine is dark and your mouth is dry, you are not drinking enough.
This is what you can do in order to prevent dehydration:
• Buy a sports bottle and take it with you everywhere so you can sip water all day
• Drink at least 48 to 64 ounces of fluids per day. Increase this amount if you are sweating
• Follow the Dietary Guidelines
• Avoid caffeine-containing beverages – they can act as a diuretic and cause dehydration. Unsweetened herbal iced tea or decaffeinated coffee are okay to use if you have difficulties drinking due to nausea, suck on ice chips or make popsicles out of Crystal Light. Regular Gatorade contains sugar and may cause dumping syndrome

Bowel Habits
It is normal for you to have one to three bowel movements of soft stool per day. It may be foul smelling and associated with flatulence. Some patients have loose stools for a few months. Most of these changes resolve within the first year after surgery as the intestines adapt. Please call your Surgeon, should you have persistent diarrhea after that time.

After restrictive surgery, the amount of food consumed is greatly reduced, and the quantity of fiber or roughage consumed may be much smaller. Consequently, the amount of bowel movements will be diminished, causing less frequent bowel activity and sometimes constipation. The most common cause of constipation is not drinking enough liquids. If constipation persists despite adequate fluids, a stool softener may be indicated to avoid those difficulties.

Keeping your bowel movements regular:
• Remember that your stools will be soft until you eat more solid food
• Lactose intolerance and high fat intake are generally the culprits of loose stool and diarrhea. Avoid all high fat foods and discontinue the use of all cow milk products
• If cramping and loose stools (more than 3 per day) persist for more than two days, please call your surgeon’s office
• Constipation is usually due to a lack of adequate fluid intake; push more fluids

Flatulence
It is important to remember that everyone has gas in the digestive tract. Gas comes from two main sources: swallowed air and normal breakdown of certain foods by harmless bacteria that are naturally present in the large intestines. Many carbohydrate foods cause gas; fat and protein produce very little. Foods known to cause gas are beans, certain vegetables such as cabbage, broccoli, onions and cauliflower, some fruits such as apples, raisins and apricots, soft drinks, whole grains/wheat and bran; cow’s milk and milk products, foods containing sorbitol and diet products.

Here are some helpful hints:
• Eat your meals slowly, chewing food thoroughly
• Lactose intolerance can be the culprit of gas. Discontinue the use of dairy products. Yogurt is okay
• Avoid eating chewing gum and hard candy
• Eliminate carbonated beverages
• Remedies include Lactobacillus, acidophilus, natural chlorophyll, Gas X, and Gaviscon

Anemia
We recommend that all menstruating women take an iron supplement in order to prevent anemia. Please contact your Physician in order to find out which iron supplement is best for you. Signs of anemia include pallor, weakness, fatigue, dizziness and shortness of breath.

Transient Hair Loss and Skin Changes
Hair thinning or loss is expected after rapid weight loss. Unfortunately, it does not make it any less disheartening. During the phase of rapid weight loss, calorie intake is much less than the body needs, and protein intake is marginal. The body is in a state of panic, like what would happen during a period of starvation. In some patients, hair thinning or hair loss may occur. This is transient, and usually resolves when nutrition and weight stabilize. The hair loss usually occurs anywhere from 3 to 9 months after surgery. The same reason for the hair loss can also cause changes in your skin texture and appearance. It is not uncommon for patients to develop acne or dry skin after surgery. Protein, vitamins and water intake are also important for healthy skin. You can minimize the loss of hair by taking your multivitamin daily and making sure that you consume at least 60 grams of protein per day. We advise patients to avoid hair treatments. If after about 9 months you start to lose hair, this can be a sign of protein malnutrition. Always make sure you’re getting enough protein in your diet.

Scars
Scars are expected after any surgery. The size of the scars depends on the type of procedure and how your body heals. Once your incision is fully healed, you may start using silicone pads such as Curad Scar therapy to make the scars look softer, smoother, flatter and closer to your skin’s natural color. Keep your scars out of the sunlight to help them heal properly.

Sexuality/Pregnancy
You may resume sexual activity when you feel physically and emotionally stable. Sexually active women of childbearing age will need to use birth control, as fertility may be increased with weight loss. Oral contraceptives may not be fully absorbed. Discuss alternative forms of birth control with your gynecologist.

Many severely obese women are also infertile because the fatty tissue soaks up the normal hormones and makes some of its own as well. This completely confuses the ovaries and uterus, and causes a lack of ovulation. However, as weight loss occurs, this situation may change quickly. This happens often enough and deserves a special warning. You may start planning a pregnancy after 18 months, when it is safe for you to conceive. It is imperative not to become pregnant before this time, since we want both you and the baby to be healthy and safe. It is unwise to conceive during the rapid weight loss phase, as this may harm you and the baby since adequate nutrition may not yet be established. You risk serious birth defects, fetal demise and serious health issues if you become pregnant before your body has had a chance to metabolically stabilize. Should you become pregnant, we ask that you arrange for your OB/GYN to contact your surgeon’s office. They will be able to discuss specific information about your surgery, so the specialists can collaborate their efforts.

Malnutrition
Because of the way your digestive system has been “rearranged” you will be at risk for malabsorption of many important vitamins, minerals and nutritional components. You must take your vitamin and mineral supplements daily. You must also get a yearly physical and lab work done with your primary care physician. Early discovery of
malnutrition problems can be easily corrected, whereas waiting until you have symptoms can lead to more complex and uncomfortable treatments not to mention serious side effects.

**POST SURGERY BARIATRIC DIET**

**The Basics**
Since bariatric surgery will reduce the size of your stomach to 1-ounce (about the size of a ping-pong ball), there will be a reduction in your food consumption. Portion control and food texture is crucial to your success after surgery. The goal of surgery and your diet is to maximize your nutrient intake using meals and snacks in small quantities while preventing “Dumping Syndrome” and/or vomiting. Controlling food texture is very important in the first weeks of your diet to allow for complete healing after surgery.

**The 4 Stages of the Bariatric Diet**
There are 4 stages of the diet. The diet will transition from liquids to purees to solids by the fourth and final stage. Upon reaching the 4th stage, your diet will consist of small, low fat, low sugar meals to be consumed over a 30-minute interval. Fluid continues to be important and a goal of 64 ounces per day is recommended upon reaching the final stage of the diet. It is recommended to avoid using a straw when consuming your liquids since volume is difficult to control with a straw. Drink fluids 30 minutes before or after a meal.

REMEMBER: Do not drink quickly/STOP if you feel full

**Stage 1:** (Days 1-3 after Gastric Bypass surgery, sleeve gastrectomy, or BPD)
- 1 ounce of water or ice chips slowly over each hour
- Sips only – do not drink entire ounce at once
- Sugar Free Clear Liquids
- Consume up to 2 ounces of fluid each waking hour Acceptable Fluids:
  - Water, broth, coffee/decaffeinated coffee or tea with sugar substitute
  - Crystal Light/diet Snapple/Fruit –2 – O/Propel
  - Diet gelatin/“no sugar added”, sugar-free popsicles (Do not use regular Italian ices or fruit bars)

**Stage 2:** (Liquids + Protein Supplements) This stage is to be followed day 3 after surgery for the gastric banding procedure and fourth day after surgery after the Gastric Bypass, BPD, or sleeve gastrectomy.
- To be 1 week after banding and 2 weeks for bypass, BPD, or sleeve
- Goal: 48 ounces of fluid (minimum of 45 grams of protein / goal of 60 grams)
- Sip slowly – NO more than 8 ounce of any fluid/hour
- Avoid fruit juices
- Possible Protein Supplements: (approximate protein content)
  - Atkins Advantage Shake (21 grams protein/can)
  - Pure Protein Shake (21-35 grams/can
  - Resource Optisource (12 grams/4 ounce box)
  - No Sugar/No Carb Carnation Instant Breakfast mixed with 8 ounces of skim milk (12 grams/8 oz)
  - Bariatric advantage (27 gms/2 scoops)- mix with water

**Other Acceptable Fluids:**
- Any clear liquid listed in Stage 2
- Tomato or V-8 juice (vegetable juice only – no fruit juice)
- Skim milk, Lactaid, soy milk
- “No sugar added” /sugar-free, fat free fudgicles
Sample Meal (Hourly)
:00  2 ounces protein shake
:15  2 ounces protein shake
:30  2 ounces fluid
:45  2 ounces fluid

GASTRIC BYPASS STAGE 3: (Puree + 8 ounces Protein Supplement)
(Gastric band weeks 2-3, bypass, sleeve, BPD weeks 3-6)
• DO NOT chew Gum – if swallowed could cause an obstruction
• Daily fluid / protein goals: 56 ounces of fluids and 60 grams protein
• Take 30 minutes at meals and no fluids with meals – 30 minutes before and after
• Soft cooked or poached egg only
• Always eat protein first – start with 1 ounce of protein and increase gradually to 2 ounces
• Avoid very hot or cold foods if they upset your stomach
• High Protein Foods:
  - Lean beef/pork/fish (blenderized or pureed)
  - Skinless chicken or turkey (blenderized or pureed)
  - Low fat cheese (< 5grams fat / serving)
  - Lite yogurt (sweetened with aspartame & fructose)
  - Low fat cottage / ricotta cheese
  - Eggs, egg whites or egg substitute – after 2 weeks on stage 3

Stage 3 - Sample Meal Plan
2 ounces pureed meat
2 ounces pureed vegetable or ½ cup lite yogurt or low fat cottage cheese

GASTRIC BYPASS STAGE 4: (Soft solids progressing to regular foods)
• Goal of 3 meals daily
• Snacks of 100-150 calories if you are hungry between meals
• Continue to limit fats. Try fat free or low fat products.
• Eat protein first at every meal
• Drink 30 minutes before or after meal
• Chew food to applesauce consistency
• Stop eating when full
• No liquid calories

Stage 4 – Sample Meal Plan
3-2 ounces of meat/fish/poultry
¼ cup pasta or potato
¼ cup vegetable

Stage 4 – Snacks (100-150 calories each)
Low fat string cheese
Protein bars with 100-150 calories and 6 or more grams of protein

We recommend that you introduce one new food at a time while beginning Stages 3 and 4 of the diet to ensure that you are able to tolerate that food item. If you develop a food intolerance, discontinue that food for a week.
or two and then reintroduce it again. Keep in mind, that for some patients certain food intolerances may be permanent.

**REMEMBER:** It is still possible to over stretch your pouch, so watch your portion sizes. Also continue to limit fats, sweets, and sugar intake to maximize your weight loss and maintenance. It is important NOT to advance yourself early. One must wait until your surgeon/dietitian visit to be advanced.

**Gastric Band Diet Progression**
At your 3-week post-op visit, you will now begin to progress your diet. Attached is how you should progress through the next three weeks:

3rd week after surgery – Stage 3 (pureed foods)
4th week after surgery – regular low fat, low carbohydrate diet

A smooth transition of the diet is important after the placement of the Gastric Band. To allow the band to scar in, it is crucial you do not overeat. Overeating could cause vomiting, stretching of the pouch, or band slippage. The following information will help you progress through the next stages.

**ADJUSTABLE BAND STAGE 3: Pureed foods** (Begin at week 2)
You will be now be progressing to pureed foods, including meats, fruits and vegetables. The key here is texture. Consuming chunks of food could block the outlet to your stomach or cause vomiting. Start with small (teaspoon sized) portions and stop before you feel full.

<table>
<thead>
<tr>
<th>FOODS ALLOWED</th>
<th>NOT ALLOWED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein-Rich Foods</td>
<td>Chopped meats, fish, and poultry, toddler baby food, tuna/chicken salad, tofu, silken tofu</td>
</tr>
<tr>
<td>Calorie-Free Beverages</td>
<td>Water, decaf coffee/tea, sugar-free flavored water, such as: Crystal Light, Fruit-2-O, diet Snapple</td>
</tr>
<tr>
<td>Cereal, Bread &amp; Crackers</td>
<td>None</td>
</tr>
<tr>
<td>Fats</td>
<td>Cooking spray, fat-free or light mayonnaise, margarine, butter</td>
</tr>
<tr>
<td>Fruits</td>
<td>No sugar added canned fruit, cantaloupe, melon, toddler baby fruit</td>
</tr>
<tr>
<td>Vegetables</td>
<td>Tomato juice, V-8, pureed vegetables, chili, toddler baby vegetable</td>
</tr>
<tr>
<td>Soup</td>
<td>Broth, low fat soup w/o starches</td>
</tr>
<tr>
<td>Milk &amp; Milk Products</td>
<td>Low fat cheese, low fat cottage cheese (1%), part skim ricotta, skim or 1% milk, Lactaid milk, plain soy milk, plain yogurt, light smooth yogurt (sweetened with aspartame and fructose or Splenda)</td>
</tr>
</tbody>
</table>
Remember, protein is important to maintain muscle while you are losing weight, so eat your protein first followed by the fruit or vegetable.

Please Note:
- Increase to minimum 48 ounces of fluids and 60 grams of protein daily
- Avoid drinking fluids with your meal and at least 30 minutes after
- Chewing well is NOT sufficient – you must blenderize all your food

Preparation of Pureed Foods:
All meats, chicken and fish should be baked, broiled, roasted or steamed without fat. Push food through a strainer or process in a blender or food processor until smooth (liquefy speed best). Make sure food is moist. Moisten with broth, skim milk, lemon juice, tomato juice, plain tomato sauce or fat-free soup, fat-free salad dressing, soy sauce or vinegar. If the food is still too thick – add more fluids.

Gastric Band, Bypass, Sleeve Gastrectomy and BPD - Transition Week to Solid Foods
Now you are going to be slowly working toward regular consistency foods. It is important to be cautious of chunky consistencies and hard foods. You want to aim for soft fruits and vegetables along with chopped meats. Make sure foods are moist to help with tolerance.
Common foods which may cause intolerance include:
- Red meat
- Poultry (pounded to ¼ inch thickness may be better tolerated, dark meat will be moister and better tolerated)
- Bread, Bagels (toast and crackers may be better tolerated)
- Raw fruits & vegetables - especially with peels and membranes
- High fat and deli meats such as salami, bologna and olive loaf

Protein Chart
The following is a chart to help you assess your total protein consumption:

<table>
<thead>
<tr>
<th>Food item</th>
<th>Serving size</th>
<th>Approx. protein content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breads &amp; Crackers</td>
<td>1 slice bread</td>
<td>2-3 grams</td>
</tr>
<tr>
<td></td>
<td>6 saltines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>½ roll or ½ small bagel</td>
<td></td>
</tr>
<tr>
<td>Cereals, grains, pasta</td>
<td>½ cup cereal/pasta</td>
<td>2-3 grams</td>
</tr>
<tr>
<td></td>
<td>1/3 cup rice</td>
<td></td>
</tr>
<tr>
<td>Cheese</td>
<td>1 ounce cheese</td>
<td>7 grams</td>
</tr>
<tr>
<td></td>
<td>¼ cup ricotta, cottage cheese</td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td>1 egg or 2 egg whites</td>
<td>7 grams</td>
</tr>
<tr>
<td></td>
<td>¼ cup egg substitute</td>
<td></td>
</tr>
<tr>
<td>Fats</td>
<td>1 tsp margarine/butter</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Pam Spray</td>
<td></td>
</tr>
<tr>
<td>Fruit &amp; Fruit Juices</td>
<td>½ grapefruit</td>
<td>NONE</td>
</tr>
<tr>
<td>Food Group</td>
<td>Serving Size</td>
<td>Calories</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>1 piece fresh fruit</td>
<td>1/2 cup canned fruit/juice</td>
<td></td>
</tr>
<tr>
<td>Meat, Poultry, Fish</td>
<td>1 ounce</td>
<td>7 grams</td>
</tr>
<tr>
<td>Milk or Milk products</td>
<td>1 cup skim</td>
<td>8 grams</td>
</tr>
<tr>
<td>Yogurt</td>
<td>1 cup</td>
<td>8 grams</td>
</tr>
<tr>
<td>Vegetables &amp; Vegetable Juice</td>
<td>1/2 cup cooked</td>
<td></td>
</tr>
</tbody>
</table>

**When do I Need a Fill?**

Gastric Band patients will start with the first fill at 6 weeks after surgery at the weekly Fill Clinic. The goal is for the Band to curb your hunger and help you feel full with a very small amount of food, thereby causing weight loss. By answering yes to any of the following questions, you may be a candidate for a fill.

- Are you hungry between meals?
- Are you able to eat more than 3 ounces of food at a meal?
- Are you losing less than 1-2 pounds each week?

Each person is different; you may need one, two, five or more fills to reach proper restriction. The key is to monitor your hunger and food intake, as well as your weight loss on a weekly basis.

**REMINDERS:**

- It is still possible to weaken and over-stretch your stomach by not being careful about what and how much you eat. Continue to drink slowly and limit portion sizes.
- Maintain a food and fluid record to help you monitor your intake (Remedymd Database.)
- Consume your meals slowly so that a meal lasts at least 30 minutes.
- Consumption of starches will increase calories, fiber and nutrients. You are encouraged to eat 2-3 servings (1/4 cup or ½ slice each) per day.
- Consumption of fruits and vegetables will increase. Re-introduce raw fruits and vegetables gradually. Eat 2-3 servings (1/4 cup or 1/2 whole fruit) of each per day.
- Avoid fats and sweets; these can lead to excessive calorie intake.
- Continue to take your multi-vitamin, B12 and calcium supplements daily.
- Maintain a regular exercise program.

**SHORT TERM COMPLICATIONS**

Early complications with gastric bypass and Band operations have been low. The most frequent early complication is infection of the surgical incision, especially in the larger “open” surgery. However, infections can happen anywhere in your body. Examples of infection are pneumonia, bladder infection, and abdominal abscess. All infections must be treated. Prior to your surgery and after the procedure, antibiotics are administered. The antibiotics will decrease the risk of developing a wound infection. Also, a breath exercise machine (Incentive Spirometer) is used to keep your lungs expanded to help prevent pneumonia.

Morbidly obese people are at a high risk of developing “clots”. Clots are known as “DVTs”, Deep Venous Thrombosis, and can form in the veins of the legs. If clots migrate from the legs and go to the lungs, then they are known as “PE’s”, Pulmonary Embolus. PE’s are the most frequent cause of acute death following a gastric bypass.
surgery. The risk of DVT formation can be decreased by using pneumatic compression boots for the legs, and walking (nurses on 9 East Jones will strongly encourage after surgery.)

A serious complication after gastric bypass is a leak. Leaks can happen anywhere in the stomach or intestines. Your GI Tract (mouth, esophagus, stomach, intestines, and colon) is one continuous tube. During gastric bypass surgery, the tube is cut and sewn to re-arrange the bowel. A leak can develop at any of the cut areas. A leak can cause you to become very sick and will usually require another operation to repair the leak. There is a 5% chance of developing a leak.

In some patients the Band may be too tight around the stomach tissue, causing nausea and vomiting with any oral intake. This will require further time in the hospital to receive intravenous fluid while waiting for the tissue swelling to resolve.

LONG TERM COMPLICATIONS

General - Gastric Bypass and Gastric Band
Wound herniation, or the pulling apart of small sections of the abdominal wound, is a complication caused by the tremendous amount of pressure on that wound closure in a very obese abdomen.

In patients over 300 pounds, this complication may occur in nearly 20% of cases. In patients with lesser intra-abdominal pressure, the incidence is about 5%. A laparoscopic operation greatly reduces the risk of a wound hernia, as the size of the incision is much smaller. Hernias can be effectively repaired with surgery when the weight is lost.

The development of gallstones is related to the rapid and significant amount of weight loss, and therefore, is highest in the first six months after surgery. Gallstones are not a complication of surgery as such, but rather a complication of rapid weight loss. Obese persons have a very high rate of gallstone formation compared to normal weight persons, mainly because of the many weight loss/gain episodes that obese persons undergo. By age 50, nearly 50% of morbidly obese women have developed gallstones. If you have a gallbladder following gastric bypass surgery you will be placed on a medication for six months post-operatively to prevent the formation of gallstones. This reduces your risk of developing gallstones from about 30% to almost 3%.

Gastric Bypass
Late complications with gastric bypass operations have been low. The most frequent long term complication is weight gain due enlargement of the pouch, enlargement of the outlet, patient non-compliance.

Bowel obstruction due to a blockage from adhesions (scar tissue) can occur as it can after any abdominal operation, trauma, or intra-abdominal infection. Usually this presents with nausea and vomiting and frequently requires another operation to correct.

Stomal ulcer is an acid/peptic ulcer that occurs on or near the anastomosis (connection) between the stomach pouch and the bowel. An ulcer may also rarely occur in the usual duodenal ulcer position. The acid-peptic ulcer occurs in approximately 2-4% of patients which is not unlike the incidence in the general population, except that the stomal ulcer is much more likely to occur in smokers or patients who must continue to use non-steroid anti-inflammatory drugs (NSAID) such as ibuprofen, Aleve, etc. You will be placed on a medication to help prevent the formation of ulcers post-operatively for 6 months following surgery. Some patients may need to take this medication longer.
Stomal stenosis or stricture is narrowing of the outlet of the stomach pouch. This problem often requires outpatient endoscopic dilation for correction. Sometimes this procedure may need to be repeated 2-3 times to correct the problem.

Iron deficiency anemia is a complication of significance in the long term. It usually occurs in menstruating women who do not take extra iron supplements. It is almost always preventable. It is not difficult to treat, but must be recognized in order for it to be treated. This is one of the important reasons for long-term follow-up and blood tests. Additional vitamin deficiencies can be a long-term complication following a Roux-en-y gastric bypass. These deficiencies may include protein, calcium, Vitamin B12, magnesium, and folate. It is extremely important to continue with your follow up after surgery and have your blood work monitored at the specified intervals: 3 months, 6 months, 1 year and annually thereafter (more frequently if necessary). After surgery you must take a multivitamin and calcium (1200 mg) for the rest of your life.

Dumping syndrome under normal physiologic conditions, the stomach and pylorus (the opening of the stomach into the small intestine) control the rate at which the gastric contents leave the stomach. That is, the stomach, pancreas and liver work together to prepare nutrients (or sugar) before they reach the small intestine for absorption. The stomach serves as a reservoir that releases food downstream only at a controlled rate, avoiding sudden large influxes of sugar. The released food is also mixed with stomach acid, bile, and pancreatic juice to control the chemical makeup of the stuff that goes downstream and avoid the “dumping syndrome”.

Dumping syndrome is usually divided into early and late phases. The two phases have separate physiologic causes and will be described separately. In fact, a patient usually experiences a combination of these events and there is no clear-cut division between them.

Rapid gastric emptying, or early dumping syndrome, happens when the lower end of the small intestine fills too quickly with undigested food from the stomach. After the RNY gastric bypass, patients can develop abdominal bloating, pain, vomiting, and vasomotor symptoms (flushing, sweating, rapid heart rate, light headedness). Finally, some patients have diarrhea.

Since with the RNY Gastric bypass the stomach is not being used and a new, small pouch that directly connects to the small intestine is created, there may be dumping. Early dumping syndrome is due to the now rapid gastric emptying causing bowel distension plus movement of fluid from the blood to the intestine to dilute the intestinal contents. These symptoms usually occur 30 to 60 minutes after eating and are called the early dumping syndrome.

Late dumping has to do with the blood sugar level. The small bowel is very effective in absorbing sugar, so that the rapid absorption of a relatively small amount of sugar can cause the glucose level in the blood to rise rapidly. The pancreas responds to this glucose challenge by increasing the insulin output. Unfortunately, the sugar that started the whole cycle was such a small amount that it does not sustain the increase in blood glucose, which tends to fall back down at about the time the insulin surge really gets going. These factors combine to produce hypoglycemia (low blood sugar), which causes the individual to feel weak, sleepy and profoundly fatigued.

Dumping syndrome provides a quick and reliable negative feedback for intake of the wrong foods. Most patients do not experience full-blown symptoms of dumping more than once or twice. Patients usually react negatively to the taste for sweets after dumping has occurred.

Late dumping is the mechanism by which sugar intake can create low blood sugar, and it is also a way for patients to get into a vicious cycle of eating. If the patient takes in larger amounts of a food that is closely related to sugar
(simple carbohydrates like rice, pasta, potatoes) they could experience some degree of hypoglycemia in the hour or two after eating.

**Foods to Avoid**
Here is a list of popular foods that are filled with empty calories and that can provoke “dumping syndrome”. The products provide mainly calories with limited nutritional value (protein, fiber, minerals and vitamins). Every bite counts after surgery. Avoid foods that contain sugar. Not only will they slow down your weight loss, but they may make you. Filling up on concentrated sweets and other simple carbohydrates can prevent weight loss and good nutrition.

- Ice cream, sherbet/sorbet, pudding
- Sweetened, fruit or frozen yogurt
- Candied fruit
- Sweet pickles or relish
- Canned or frozen fruit in heavy syrup
- Sugar coated or sweetened cereal
- Cakes, pies and cookies
- Sweet rolls and doughnuts
- Pancakes/waffles with syrup
- Candy and chocolate
- Popsicles
- Regular Jell-O®
- Jellies and jams
- Table sugar/honey
- Flavored soy milk
- Molasses and syrups
- Milkshakes and chocolate milk
- Sweetened fruit juice
- Regular soft drinks/lemonade
- Kool aid
- Sugared ice tea
- Snapple/fruit drinks
- Sports drinks
- Alcohol
- Regular chewing gum

**Gastric Band**
The less invasive nature and safety profile of the gastric band surgery is an attractive feature. However, there is a different set of complications that are specific to the Band.

- **Slippage** – Your stomach tissue can slide above the Band and get trapped. Vomiting or retching can increase your risks. A slipped Band will cause nausea and inability to eat or drink normally.
- **Erosion** – The Band may erode or break through into the stomach tissue. Patients who have ulcer disease are at highest risk for erosion. This may present as pain or inability to eat or drink normally.
- **Port Infection** – Your skin over the buried port will show redness, swelling and/or pain, indicating a possible infection of the port. Treatment includes antibiotic therapy and possibly removal and/or replacement of the port alone or the entire Band and port system.
- **Band/Port Malfunction** – As this is a prosthetic implant, there is a possibility of malfunction, most commonly, leaking of the fluid within the Band and port. Your surgeon will suspect malfunction if you are not experiencing restriction despite multiple fills. This will require replacement of the Band.

Ultimately, any of these major complications may require removal or replacement of the Band through an additional operation.

**LONG TERM SUCCESS**

**Follow-up**
Follow-up is important with bariatric surgery. Read this surgery guide before going to office visits.

**Gastric Bypass**
Follow-up appointments are expected at 3 weeks, 8 weeks, 3 months, 6 months and 12 months. Other visits are encouraged, should you have any problems. After one year, the surgical team expects to see you once a year. It
is important to have your blood work drawn by your primary care doctor at 3 months, 6 months, 12 months and every year thereafter. Routine monitoring of protein, vitamin B12, magnesium, iron, and calcium levels are important for maintaining your health following gastric bypass surgery.

Adjustable Band
Follow-up visits are scheduled at 4 weeks, and then monthly after that. After 5-7 fills, you should start feeling enough good restriction to space out the appointments to every 2-3 months and then as needed.

Adjustable Band Adjustments (also called Fills)
In order to give patients optimal tightness around the stomach, the adjustable band is designed to be adjusted gradually after the operation. Starting at the 4th-6th week, you will be adjusted (if needed) until optimal restriction is reached. An ideally adjusted band will keep you from feeling hungry between meals, give you a sensation of fullness after a very small meal (about 3oz) and allow you to lose at least 1-2 pounds per week.

What to Expect when Receiving an Adjustable Band Fill
A special needle is used to access the port that is buried under your abdominal skin during your office visit. Occasionally if the port cannot be accessed in the office, you will be sent to Radiology for the procedure under X-ray guidance.

As you lose more weight, the procedure becomes easier as the abdominal wall becomes thinner. After each adjustment, you will be asked to drink water in the office to make sure that the Band is not too tight. For the next few days, you should notice that a much smaller volume of food makes you full. This is the desired effect. However, if you notice that you cannot keep any food or fluids down, you need to call the office immediately as the Band may be too tight. Optimal weight loss can only occur if the Band is appropriately filled; this process depends on your active participation and clear information on your eating history.

Expected Weight Loss
Most Gastric Bypass patients experience a fairly rapid weight loss in the first 3-6 months following surgery. The greatest weight loss will occur in the first three months after the gastric bypass procedure. Most studies suggest that patients lose about 2/3 to 3/4 of their excess weight over the first two years. In other words, weight loss slows, but generally continues up to 12 to 18 months after surgery, averaging 50 to 80% of excess weight by some reports. At that time, the stomach pouch has stretched to hold more food and it is critical to adhere to the low fat, low sugar diet and exercise recommendations outlined in this guide to maintain your weight loss.

Band patients have a greater variability in weight loss, but can continue to lose weight for up to 5 years. The range of excess weight lost in the first year is 10 to 90%. The average weight loss reported after 1 year is 30% of excess weight. Weight loss can parallel that of Gastric Bypass by 2 or 3 years, but patients have to adhere to the postoperative diet more strictly and return for fills on a timely basis for optimal results.

Long-term studies have shown that on average, patients keep off at least 1/2 of the excess weight over 5 to 15 years. Thus, there is often some weight regain after the first two years, but patients are much less obese even long after surgery.

Research has shown that the patients who exercised 3 or more times per week for a minimum of 30 minutes lost an additional 15% of their excess weight in 6 months than their cohorts who did not exercise as strenuously.

Lifestyle Changes (Is it healthy?)
You cannot lose weight or maintain good health without having a healthy lifestyle. Here are some simple things you can do now to help create a healthy environment:

- Get rid of all the junk food in your house.
- Establish a family exercise schedule.
- Create daily schedule to help decrease stress in your life (often, we plan to do more than we have time for.)
- Cut TV and Computer time down to 1 hour a day. Plan physical activities (walks around the neighborhood, joining the local gym.)
- Plan your social life with activities that do not include food, such as going out to a movie rather than going out to dinner.

**Maintaining the Weight**

The goal of the surgery is to allow you to have a healthy and happy life. Bariatric surgery is not the magic answer it is a tool that aids you in creating a healthy life style. Your behavior after surgery plays a large part in your outcome. How you use the tool will affect your weight loss. Please follow the recommended guidelines in this patient guide.

**Guidelines to Successful Weight Loss**

Below are rules that need to be followed in order to achieve success with the Bariatric program. All successful patients who have had the gastric bypass have these things in common.

Following the guidelines below will lead to a healthier life.

- Consumption of an adequate amount of liquid, preferably water, is crucial. You should consume a minimum of 48 to 64 ounces of liquid each day. This can only be done slowly, sipping fluids throughout the day. Never drink more than 2 ounces of liquid over a 10 to 15 minute period. This is necessary in order to prevent dehydration.
- Solid foods should only be eaten 3 times per day (this should correspond to meal times). Between meals you should avoid snacking on small amounts of food throughout the day. Snacks are to be small, about 1/3 to 1/2 the size of your meals.
- The primary source of nutrition should be protein. Aim for a minimum of 60 grams daily, such as eggs, fish, meat, etc. Carbohydrates (whole grains, fresh fruits and vegetables, etc.) and fats (butter, oil, etc.) should make up the rest of your diet. Your intake will be approximately 1000 to 1200 calories at your final stage.
- Never drink liquids when eating solid foods. Liquids should be avoided for a period of 30 minutes before and 30 minutes after eating solid food or meals.
- Avoid foods that contain sugar. Not only will they slow down your weight loss, but they can make you sick. Sugar causes dumping syndrome in patients who have had the gastric bypass procedure. Dumping, in short, is when sugars go directly from your stomach pouch into the small intestine causing heart palpitations, nausea, abdominal pain, and diarrhea.
- Stop eating/drinking when you begin to feel full. Do not “stuff” yourself. This may cause vomiting and your stomach pouch may stretch.
- It is essential that, within the first 6 weeks after surgery, you begin with a regular exercise program. Stay motivated; it will make a dramatic difference in your energy level and your weight loss.
- Regularly attend support group meetings. They will help you stay focused and motivated and help you deal with the challenges of weight loss.

**PHYSICAL CHANGES**

As you lose weight, you may notice other changes in your body. You should experience increased energy levels, especially if you have continued a regular walking or other type of exercise program. Your energy level should increase and you should sleep better at night.
Ongoing exercise will be important for calorie burning, muscle tone maintenance, and a sense of well-being.

You may notice excess skin folds and wrinkles where the greatest weight loss has occurred. This is especially noticeable on the face, upper arms and abdomen. Reconstructive surgery to improve your appearance should be delayed until sometime after the weight has stabilized. We will be happy to recommend an experienced plastic surgeon.

You can anticipate resuming a more normal life soon after recovery. As your weight decreases, more physical activity will be possible. Traveling, eating in restaurants and other pastimes should be more enjoyable. There may be new career and social opportunities, and a more positive self-image.

**Reconstructive Surgery**
Excess skin is a common challenge that patients who lose more than 100 pounds face. This is especially noticeable on the face, upper arms and abdomen. In addition to being cosmetically displeasing, massive skin folds in the arms, abdomen and legs can cause chaffing, and cutaneous bacterial and yeast infections. Reconstructive surgery is indicated for these patients.

Reconstructive surgery can help give patients more self-confidence and a better body image. Reconstructive surgery to improve your appearance should be delayed until sometime after the weight has stabilized. We will be happy to recommend an experienced surgeon.

**Emotional Issues**
Bariatric surgery has both physical and psychological effects on you. All patients need to consider these changes before having bariatric surgery, as well as after. Some of the feelings that you may experience are depression, frustration, anxiety, anger, disappointment, helplessness, excitement, and joy. This is a normal reaction to the changes that you need to experience with a changing body image. Remember that this surgery is not a fix for your everyday problems with your spouse, friends, or family members, employment, or social life. This surgery is a tool that allows you to gain control over your health.

Some patients go through different emotional stages that may include denial, anger, depression, and finally, acceptance. Different people go through these stages differently. It is natural for some patients to experience denial before they have surgery, because they focus on the positive. Patients acknowledge risks and complications, but often do not recall hearing about the emotional and physical stress that follows bariatric surgery. Feelings of sadness and crying episodes can be common occurrences. Adapting to the changes taking place in your body and in your relationship to food can take many months.

Food may have been a coping mechanism for many in dealing with stress. This method will no longer be useful, especially while your new stomach pouch is at its smallest. One of the keys to success of this surgery is to learn to replace those comforts with healthy activities. Replacement methods for coping will need to be learned, but this will take time. Rapid bodily change will likely be accompanied by many emotional.

There are many key elements to help you recover and adjust to your new life. Setting expectations is a key element to success. Expect to have emotional ups and downs. Prepare your family and friends for your emotional stress. Do not suppress your emotions. Use the journal in RemedyMD to help you track your food intake. Remember to keep exercise in your weekly routine.

Do not expect weight loss surgery to provide you with a perfect body or a perfect life.
New challenges may develop because of the many new life opportunities. As new challenges arise, recognize them and develop a problem solving approach.

Set realistic goals and stay occupied with work, hobbies and exercise. You will also feel more positive if you look your best. Pay attention to hygiene, hairstyle, clothes and women may want to experiment with make-up. Remember staying active is a key element in a successful bariatric experience.

Counseling
Occasionally, personal adjustment or relationship problems will persist after surgery. These should be addressed with professional counseling. Emotional counseling may be needed during the phase of adjusting to the new appearance and the many changes that follow the surgery for morbid obesity. We can help recommend counselors who are qualified and experienced in working with people who have had weight reduction surgery.

Family and Friends
Expect your family and friends to have unpredictable reactions to your surgical experience and to the new you that follows. Although you hope your loved ones will be supportive and helpful during your experience, this may not always be the case. Your partner or spouse, friends, and family have become accustomed to you and your obesity. Stay in constant communication with family and friends; recognize signs of distress in your partner, adjusting to the changes in your body and behavior. These changes will require your partner to relate in new ways to you. This takes time, effort and patience. If you are experiencing serious ongoing problems in your relationships, some short-term professional counseling may be helpful. Please contact our office and we will be happy to refer someone.

Friends and extended family members also must adjust. Many of them will be positive and genuinely delighted for you. Others have become secure in your obesity and will have difficulty adjusting to the new body you are developing. If they are also obese, they will be constantly reminded of their continuing problem as you lose weight. They may be quick to point out sagging skin, wrinkles and other disadvantages. Be open about your appreciation of them and their concerns for you. Recognize their ambivalence and talk with them about their own feelings. And finally, let people pull away if they need to for a while. Your main responsibility is to care for yourself. In most cases close family members and friends will adjust.

Stress Eliminators
• Take care of yourself. Make taking care of your physical, emotional, social and physical needs a priority.
• Breathe deeply. Inhale through your nose and exhale through your mouth slowly.
• Laugh often. Watch a comedy on video, listen to a tape or read the Sunday funnies. Laughter is the best medicine.
• Speak up for yourself. People who feel they have some control over some aspects are less subject to stress. If you don’t like the way something is going, say so politely. In order for change to occur, you must take action.
• Let go. Learn the difference between what you can control and what you cannot. Stop worrying about things that are beyond your control. Use that energy to make changes you can. Focus on your own happiness.
• Manage your time. To avoid feeling rushed, plan out how much time you will need to accomplish tasks, to get ready to go places, to travel, to eat, etc...
• Get a hug. Humans are social beings and we require some safe, nurturing physical contact.
• Practice meditation. Spend at least 15 minutes a day relaxing your mind. Sit comfortably, breathe calmly, perhaps listen to some soft music, and just clear your mind.
• Treat yourself with compassion. Give yourself permission to make mistakes, to play without feeling guilty, to change your mind, and to set aside time only for you.
The Internet (RemedyMD)

We strongly encourage support, before and especially after surgery. Group support and being connected with other patients is vital for a successful surgical result. The internet is a way to help fill the void between group meetings. For this and many other reasons, we encourage utilization of the internet (Remedymd chat room.)

Group Meetings
We consider support group meetings to be an important factor that creates a successful Bariatric patient. Group meetings provide peer support, allow you to learn about the surgery first hand from others who have had gastric bypass, and lap band surgery, let you share your experiences and provide periodic guest speakers to expand your knowledge on obesity surgery related topics. They are great for problem solving.

These support groups are a wonderful opportunity to make new friends and be with people who share what you are experiencing. It can be reassuring to hear other’s viewpoints on common concerns and to get additional information from the group leader or guest speaker. Research has shown that patients who attend support groups regularly are more successful with their weight loss and mental adjustment than people who do not, especially long term. Family and friends are always welcome to attend. Below is a list of our support group meeting times and locations:

• First Wednesday of every month 6:30 pm – 8:30 pm Memorial Hermann-Texas Medical Center
• Third Wednesday of every month 6:30 pm -8:30 pm Memorial Hermann-Southeast
• Second Thursday of the month, 6-8pm, in our clinic, for adjustable band patients

EXERCISE

First Steps
Your activity will be restricted (no strenuous activity) for 3 to 6 weeks after the operation. You may walk and perform light household duties upon your return home. Usually, frequent walks of short duration are easier to tolerate. Increase the distance that you walk gradually. By the time of your six week office visit you should be walking regularly, at least two miles a day or more. Water exercises are recommended for those who have problems with weight bearing joints. You can start water activities after your incisions are completely healed about three weeks after surgery.

Starting an Exercise Program
Bariatric surgery is simply a tool to weight loss. Of course, this means that in order to receive the maximum benefits from your surgery, you must incorporate exercise into your daily routine. Patients report exercise as a key factor in their ability to maintain their weight. If you want to feel good, and maintain and build muscle mass, you must exercise. Exercise helps you lose the weight, keep it down and give you a sense of control. Exercise also helps to keep your bone tissue dense and strong, increases strength and balance, boosts energy and improves quality of life. Research has shown that the patients who exercised 3 or more times per week for a minimum of 30 minutes lost an additional 15% of their excess weight in 6 months than surgery patients who did not exercise. As the weight falls off, the capacity for exercise improves dramatically, with significant improvements on a week-by-week basis.

Yes, exercise is hard. It is difficult to stay motivated. It is not easy to find an exercise that you may like. Try to look into forms of exercise that you may have never tried before. Such as yoga, dancing, or kickboxing. If it has been some time since you have exercised regularly, then it is best to start slowly. Begin with as little as 5 minutes...
a day and add 5 more minutes a week until you can stay active for 45 minutes per day. We recommend that you make exercise part of your daily routine. 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: cardiovascular, strength-building, and flexibility. Cardiovascular exercise is also known as aerobic exercise. For example, walking, jogging, swimming, and cycling are aerobic activities. These types of exercises drive your body to use oxygen more efficiently and deliver maximum benefits to your heart, lungs, and circulatory system. A simple definition of cardiovascular exercise is any exercise that raises your heart rate to a level where you can still talk, but you start to sweat a little. At least 20 minutes of cardiovascular exercise 3 or 4 days a week should be enough to maintain a good fitness level.

Any movement is good, even house or yard work.

Strength-building exercises are known as anaerobic exercise. Anaerobic exercise does not have cardiovascular benefits, but it makes your muscles and bones stronger. Strength building exercises require short, intense effort. People who lift weight or use any type of equipment that requires weights are doing strength-building exercise. Strength-building exercise makes your muscles and bones stronger and increases your metabolism. Strength building exercises also make your muscles larger. Your muscles use calories for energy even when your body is at rest. So, by increasing your muscle mass, you are burning more calories all of the time. If you strength train regularly, you will find that your body looks leaner and you will lose fat.

Strength building exercises should be performed 2 to 3 times a week for best results. Always warm up your muscles for 5 to 10 minutes before you begin lifting any type of weight or before performing any resistance exercises.

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

Loss of Muscle Mass

When the body is in a state of panic, and trying to combat starvation, it hoards its fat until any other usable fuel has been burned. Practically, the body will prefer to burn muscle mass, before consuming its precious fat. If muscle is not regularly used for exercise, like every day, it will be consumed to meet the energy needs.

Loss of muscle mass is preventable. It is very important during active weight loss to exercise vigorously every day. We recommend at least 20 minutes a day of aerobic exercise, and it is well to devote attention to the upper body strength as well. Adequate protein intake is also encouraged. Many persons find, after a few weeks or months of regular exercise, that they actually begin to enjoy it, and start to work out even more! Fairly vigorous exercise, for more than half an hour every day can greatly enhance fat burning, and hasten weight loss. Our research has shown that patients who exercised at least three times per week for at least half an hour lost 14% more of the total excess weight after surgery. It also builds a healthy and beautiful body.

Severely obese people are very strong and powerful – after all, just getting out of bed, you lift more than some people pick up all day long! It would be upsetting to have this muscle power lost, especially when you need it to enjoy life. Save your muscles, keep your energy; eat your protein and exercise.

Common Workout Mistakes

• Not stretching - Stretch before and after aerobic activity. Prior to stretching, warm up cold muscles that can cause injury. Flexible muscles are far less likely to be pulled than tight ones.
• *Skipping warm-up* - Like stretching, muscles need time to adjust to the demands placed on them. Rather than hitting the treadmill running, take a few minutes to walk, build up stamina and then hit your stride.

• *Skipping cool down* - Due to time constraints, many people head straight to the shower after the last repetition. Instead, take a few minutes to lower your heart rate and stretch your muscles again to improve flexibility and help prepare the body for your next workout.

• *Over doing it* - Yes, we know, you suddenly have this amazing amount of energy and think you can do anything. Great, but take it slowly in the beginning. Lifting too much weight is the best way to injure yourself. Increasing the weight slowly and steadily over time is a far more effective and safer way to increase muscle strength.

• *Being a weekend warrior* - The mistake of the person who tries to fit a week’s worth of exercise into a Saturday afternoon. For weight loss, it is more effective to sustain a moderate workout over several periods of time than to exercise intensely for only a few minutes.

• *Acting like you are a camel* - Only camels can go for extended periods of time without water. To the rest of us it is a necessity. Drink plenty of it before, during and after your workout.

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**Ten Tricks for Sticking with the Program**

1. **Look at exercise like a prescription medication** - You do not have to like exercise, but you need to do it in order to stay healthy. You also have to do it in order to lose weight. No miracles here. 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. **Do research** - Find out what types of classes your local gym is offering. Does your hospital offer water exercises classes for people with arthritis? Is there a gentle yoga class offered at the community center? You are going to have a greater likelihood to stick to an exercise that is tailored to your needs and that you enjoy. Explore new types of exercise.

3. **Change your routine** - So you love to walk, but you are bored with it. Sometimes, just changing the direction of your route can make all the difference. Find new places to go walking, change the time of day, or offer to walk your neighbor’s dog.

4. **Find a buddy** - Let’s face it, without a coach; most athletes would not be where they are now. Why should you be any different? We all need someone to budge us and make us go the extra mile, especially when it comes to exercise. Find a friend, a neighbor and personal trainer to meet you at the gym or in the park.

5. **Find your rhythm** - Listen to music or books on tape or meditation while you exercise. 15 minutes on the bike can seem like an eternity without music, but with the right music to occupy your brain, it will not seem so long.

6. **Participate in group sports** - You don’t need to join the soccer team, but participating in a group activity increases the chances 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.

7. **Know what makes you give up the program** - If going on vacation throws you off you fitness plan, try incorporating exercise into your vacation. If boredom makes you give up, stay interested by changing types of exercise and times.

8. **Make a schedule** - If you don’t put exercise into your daily schedule, most likely you will do everything but exercise. Plan in babysitters. Schedule specific activities on specific days, like walk 20 minutes on Mon, yoga class on Tues, etc...

9. **Use a workout log** - Write down the exercise 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. Use the workout log in the appendix as a guide.

10. **Stay active between workouts** - Walk as much as possible between workouts. Get off the bus a couple of stops early. Always keep a good pair of walking shoes in your car, should you have unexpected time to take a walk.
Overcoming Excuses Not to Exercise

• I don’t have time.
  – Set a time and stick to it.
  – Watch less TV and turn off the computer.
  – Remember that exercise is a stimulant and leads to more productive use of time.

• Exercise is work
  – Work is work, and most people do it 40 hours a week.
  – In order to lose the weight and get the most out of your surgery, you only need 4 hours of exercise per week.

• I’m too tired
  – Exercise improves energy levels throughout the day
  – Exercise improves the quality of your sleep.

• I might fail
  – Exercise is not a contest!
  – If you stick with the program, you will succeed no matter what.
  – Remember to start slowly and gradually increase your intensity and duration.

• I hate exercise
  – Everyone like some exercise, you just have to find the style of exercise that works with you.
  – Try exercising with a friend
  – Listen to music or a book on tape. At least this way, your focus will not be the exercise.

Walking Workout
Recent research indicates that walking is one of the best ways to be in charge of your life. Walking is the first type of exercise that we recommend both before and after surgery. If you are new to exercise and you are also recovering from surgery, you can walk 10 to 20 minutes four or five days a week. As you get stronger, you can increase the distance and the speed to your comfort level.

As with any type of exercise, it is still important to warm up, then stretch. Start by walking for just five minutes and then do a few gentle stretches. Your muscles will stretch better if you walked a little first. Ask a fitness professional which stretches are best for you. Consistency is probably the most important part of your walking routine. The more time you can devote to walking each day, the healthier you’ll be. Remember that short walks are better than none at all.

Water Fitness
You can start water activities about three weeks after surgery. Water programs are great, since they are non-weight bearing and therefore are gentle to painful joints. Water fitness can improve strength, flexibility, cardiovascular health, decrease body fat, facilitate rehabilitation after surgery, improve functional living and even enhance other sports skills. Water classes today offer more versatility than ever, but how do you find the right class for your goal, interests, needs and skills.

Health clubs and the YMCA now offer most specialized classes with different fitness levels. Whichever class you may decide to try, start with the lowest level and use the smallest water weight at first. Many people make the assumption that because the exercise is in the water, they cannot injure themselves. Most importantly, you should feel comfortable in the environment.

Choosing a Personal Trainer
Working with a personal trainer is one of the fastest, easiest, most successful ways to improve your health. Today, personal trainers are used by people of all fitness, social and economic levels to help make lifestyle changes that they could not achieve by themselves.

Consider the following things a personal trainer can do:

- **Improve your overall fitness** - A trainer will monitor and fine tune your program as you go, helping you work your way off plateaus.

- **Reach a healthy weight** - Remember that the surgery is only one of the tools to weight loss. Body fat reduction, weight reduction and management, body shaping and toning can all be achieved with the aid of a qualified personal trainer who can help you set realistic goals and determine strategies, all while providing the encouragement you need.

- **Learn to stick to it** - Sticking with well-intentioned plans is one of the biggest challenges that exercisers face. Qualified personal trainers can provide motivation for developing a plan that places a high priority on health and activity. A trainer can help you brainstorm an agenda to overcome your biggest obstacles to exercise.

- **Focus on your unique health concerns** - Most personal trainers are familiar with the special needs of morbid obesity, arthritis and diabetes. Your trainer can work with your physician, physical therapist and with Bariatric Program Services to plan a safe, efficient program that will enable you to reach your health goals.

- **Find the right way to work out** - You will learn the correct way to use equipment with the appropriate form and technique for cardiovascular work and free-weight training.

- **Stop wasting time** - Get maximum results in minimum time with a program that is specifically designed for you. Workouts that use your strengths and improve on weak points in a matter that is efficient and effective.

- **Learn new skills** - Want to learn to skate, golf like a pro or get ready for an adventure vacation? An individualized program can improve your overall condition and develop the specific skills you need.

- **Enhance you mind, body and spirit** - A personal trainer can act as a door to personal growth experiences. Many personal trainers provide mind-body activities, such as Tai Chi sessions.

- ** Benefit from the buddy system** - What could be better than making a commitment to regularly meet with someone who will provide you with individualized attention? Make sure that your personal trainer has a college degree in the field of fitness. Ask if the trainer belongs to professional fitness and exercise associations and regularly attends workshops or conventions. You can find a personal trainer through your local health club or community center.

AT THE UNIVERSITY OF TEXAS CENTER FOR BARIATRIC AND METABOLIC SURGERY YOUR HEALTH IS OUR NUMBER ONE PRIORITY. WE PRIDE OURSELVES IN MAINTAINING EXCELLENT OUTCOMES AND COMPARE OUR OUTCOMES TO ANY OTHER SURGICAL GROUP. WE ARE FOCUSED ON MINIMIZING SURGICAL COMPLICATIONS BY MAINTAINING VERY CLOSE POSTOPERATIVE FOLLOW UP. IF YOU ARE COMMITTED TO YOURSELF, WE ARE COMMITTED TO YOU!