

JOHNSON CITY MEDICAL CENTER AND THE SURGICAL GROUP OF JOHNSON CITY SURGICAL WEIGHT LOSS SURGERY PROGRAM

Welcome to our weight loss surgery program. The physicians and staff of the Surgical Group of Johnson City and your health care professionals at Johnson City Medical Center are committed to working closely with you to ensure you have the support you need as you work toward your goal of weight loss and improved health. Bariatric surgery will change your life—physically, emotionally and socially. Our team understands the difficult challenges that are experienced when attempting to maintain weight loss. Maintaining a healthy weight is an everyday struggle for many. Our goal is to help you overcome obstacles standing in the way of your good health.

We are a multi-specialty team that will work with you every step of the way. Our program is committed to providing patient-centered care and our focus is to improve your life through education, surgery and outstanding care. Our providers will be available when you have questions.

As you proceed with your pre-surgery health assignments, we encourage you to ask questions and attend support groups often. While your insurance may only require one support group visit, it has been proven over and over again that attending regular support groups increases your chances of success. Your journey to health and wellness does not end with surgery. It is important to adopt healthy lifestyle habits in order to achieve your weight loss goals. We encourage you to join us as we are here to help you stay on track through our support groups, dieticians and medical team.

Call our program coordinator any time with any questions; we are here for you!

Danna Flowers RN
Bariatric Program Coordinator
423- 431-1992

Other Contacts:

- Surgical Group of Johnson City: 423-975-0764
- The Wellness Center: 423-431-6668
- Visit our webpage at www.mountainstateshealth.com Medical Services→Surgical Services→Bariatrics for more information and videos of the two surgeries we offer at Johnson City Medical Center.

For information regarding scheduling you pre-op education class, nutrition class and support groups, you may call the **844-488-STAR [7827]**. We require you to register for all classes so that we can prepare the handouts and have a contact number should we need to cancel or reschedule a class for any reason.

Beginning February 2016, All of our classes will be held at The Wellness Center in Johnson City. The Wellness Center is located at :

200 Med Tech Parkway in Johnson City, TN. When you enter the front door, go past the reception desk and take the elevator to the lower level. Exit elevator and turn right and then right again. Do not go in the pool area, turn right before the pool. Signs will be posted. Do not call the Wellness Center to schedule classes, call 844-488-STAR [7827]

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OBESITY EDUCATION

Obesity is a chronic and progressive disease that can affect multiple organs in the body. People with morbid obesity are at medical risk of disability or premature death. The estimated number of deaths attributable to obesity among US adults is approximately 280,000 each year. At the top of the list of obesity related comorbidities are adult onset diabetes and high blood pressure. High blood pressure caused by clinically severe obesity can contribute to heart attacks, congestive heart failure and stroke.

Obesity is defined as having an excessive amount of body fat. Obesity is more than being overweight. Obesity can be self-perpetuating, and the implications of obesity are compounding. Obesity itself is a dangerous disease that creates a domino effect of serious health issues. Issues that are potentially life threatening and debilitating, like various forms of cancer, diabetes, and heart disease.

Additional conditions that are commonly caused or exacerbated by obesity include:

- Obstructive sleep apnea, obesity hypoventilation syndrome, asthma/reactive airway disease
- Atherosclerosis
- Gallbladder disease, GERD (recurrent heartburn), recurrent ventral hernias, fatty liver disease
- Diabetes, hirsutism, hyperlipidemia, hyper-cholesterolemia
- Frequent urinary tract infections (UTIs), stress, urinary incontinence, menstrual irregularity or infertility
- Degeneration of knees and hips, disc herniation, chronic non-surgical low back pain
- Multiple disorders that are related to diabetes and yeast infections between skin folds
- Cancers of the breast, uterus, prostate, kidney, colon and pancreas

The American Medical Association (AMA) has formally recognized obesity as a disease requiring a range of medical interventions to advance obesity treatment and prevention. "Recognizing obesity as a disease will help change the way the medical community tackles this complex issue that affects approximately 1 in 3 Americans," said AMA board member Patrice Harris, MD. "The AMA is committed to improving health outcomes and is working to reduce the incidence of cardiovascular disease and type-2 diabetes, which are often linked to obesity."

The clinical definition of obesity does not define you. Whether you have a multitude of obesity-related health issues, or simply the potential for one, the future of obesity can be intimidating. Morbid obesity itself does not have to become a permanent state for you. Individuals like you have a choice to begin a new chapter of life everyday through bariatric surgery.

Obesity Statistics

- Percentage of adults aged 20 years and over who are obese: 35.9% (2009-2010)
- Percentage of adults aged 20 years and over who are overweight, including obesity: 69.2% (2009-2010)
- Percentage of adolescents aged 12-19 years who are obese: 18.4% (2009-2010)
- Percentage of children aged 6-11 years who are obese: 18.0% (2009-2010)
- Percentage of children aged 2-5 years who are obese: 12.1% (2009-2010)

The Obesity Epidemic

- In 1991, NO state had an obesity rate above 20%
- As of 2010, more than two-thirds of states (38) now have adult obesity rates above 25%
- Eight states have obesity rates above 30%: Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, and West Virginia

The physical impact of obesity can include difficulty in:

- Going to the movies
- Sitting on a bus or in a theater/plane seat
- Using seat belts
- Fitting through a turnstile
- Playing with and picking up children
- Maintaining adequate hygiene
- Buying clothes

Behavioral therapy for obesity was developed from the dated belief that obesity was the result of eating and exercise habits. Today, researchers realize that body weight is affected by factors other than behavior. The causes of obesity can include genetic, environmental and behavioral factors. Patients seek surgery because their comorbid conditions are progressive. It's not about their appearance.

Medical Implications of Obesity:

- Diabetes
- Hypertension
- Lipid disorders
- Heart disease
- Asthma
- Sleep apnea
- Gallstones
- Urinary incontinence
- Reflux
- Osteoarthritis and gout
- Cancer (breast, colorectal, prostate, endometrial, etc.)
- Infertility and menstrual problems



PSYCHOLOGICAL, SOCIAL & ECONOMIC CONDITIONS

Psychological:

- Depression
- Low self-esteem, self-hate and guilt
- Social withdrawal
- Neurotic disorder
- Suicide

Social:

- Clothing limitations
- Poor hygiene and sanitation
- Difficulty with seating, i.e. the movies, airplane or bus
- Sexual limitations
- Inability to participate in certain activities

Economic:

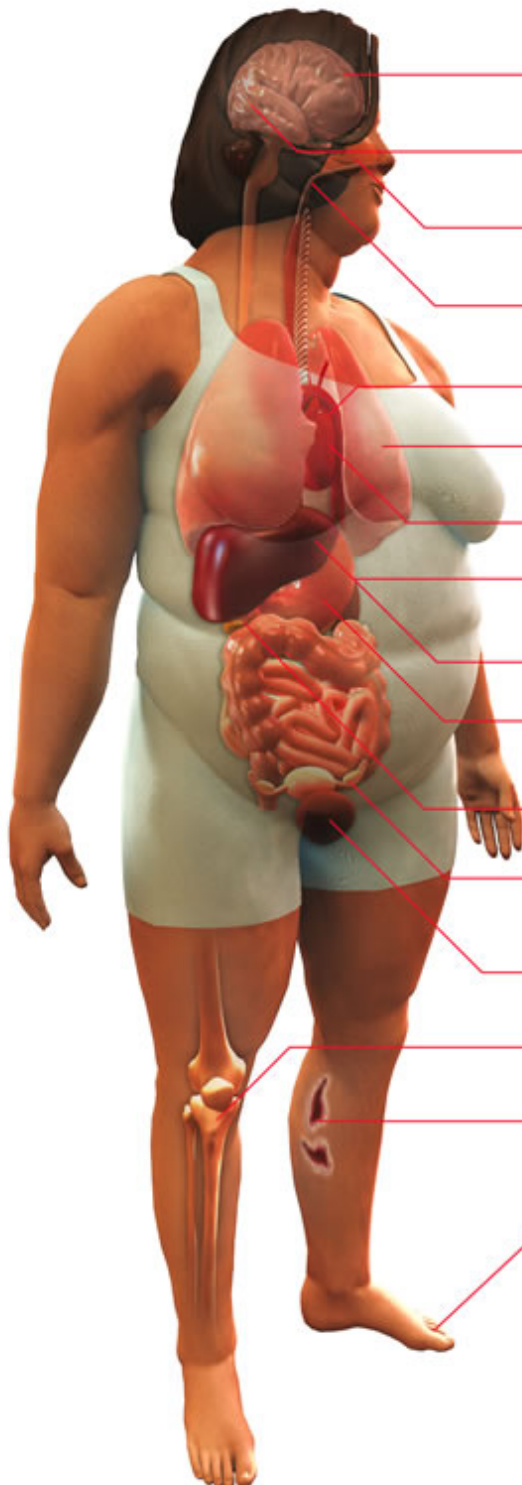
- Cost of weight loss programs/products
- Healthcare costs for co-morbidities
- Job discrimination
- Difficulty finding insurance

IS WEIGHT-LOSS SURGERY FOR YOU?

The weight-loss surgery journey is complex. However, it is an important health issue regarding your BMI and diabetes. Take a stand for you and your family. Learn more about the journey and the benefits of weight-loss surgery.

A better quality of life for your future includes improved health. For some, there is no amount of changes to one's diet, nutrition, exercise or diabetic condition that could significantly reduce severe obesity. Besides drastic weight loss, more than 90% of bariatric surgery patients experience improvement in their quality of life, and long-term mortality from obesity-related diseases were reduced by 30-40%.² These health issues include Type 2 diabetes, hypertension, dyslipidemia, sleep apnea, asthma, osteoarthritis, and gastroesophageal reflux disease (GERD)—all ailments that weaken you or prevent you from living your life to the fullest.

If you're suffering from morbid obesity, weight-loss surgery can contribute to your weight loss by restricting food intake and interrupting digestive processes. Learn more about the variety of surgical possibilities, along with the benefits. A better, stronger you, equals a healthier future.



- **Migraines**
57% resolved*
- **Depression**
47% resolved*
- **Pseudotumor cerebri**
96% resolved*
- **Obstructive sleep apnea**
74% to 98% resolved*
- **Hypercholesterolemia**
63% resolved*
- **Asthma**
69% resolved*
- **Hypertension**
69% resolved*
- **Nonalcoholic fatty liver disease**
90% resolved*
- **Metabolic syndrome**
80% resolved*
- **GERD**
72% resolved*
- **Type 2 diabetes**
82% to 98% resolved*
- **Polycystic ovarian syndrome**
79% resolution of hirsutism*
100% resolution of menstrual dysfunction*
- **Urinary stress incontinence**
44% resolved*
- **Osteoarthritis/degenerative joint disease**
41% resolved*
- **Venous stasis disease**
95% resolved*
- **Gout**
72% resolved*

Quality of Life Improved

in 95% of patients

Mortality Reduced

by 89% in five-year period



WHAT IS WEIGHT-LOSS SURGERY?

Weight-loss surgery is a surgical process that makes changes to your digestive system to enable you to lose weight by restricting how much you can eat, or by limiting the absorption of nutrients, and sometimes both.

Bariatrics is a branch of medicine that treats obesity as well as studies its causes and prevention. Bariatric surgery (weight-loss surgery) can be an important step to achieve your weight loss goals. [Read More](#)

HOW IT WORKS

To best understand the different options for weight-loss surgery, it's important to understand how the normal digestive tract functions. Your esophagus is the muscular tube that carries solid foods and liquids from the mouth to the stomach. The stomach is the "storage pouch" of the gastrointestinal tract. After food is swallowed, it arrives here where it is processed before passing to the small intestines. In the small intestines, nutrients and calories from the food are absorbed throughout the 20 to 30 feet of small intestines. The last part of the digestive track is the large intestines. Here is where water is re-absorbed into the body from the leftover liquid from digested food. Weight-loss surgery makes changes to the stomach and/or small intestines to enable weight loss.

WHAT ARE MY OPTIONS?

When it comes to bariatric surgery, it's important to be aware of your options, as well as the finer details of the various procedures. We offer two bariatric weight loss surgeries at Johnson City Medical Center:



Roux-en-Y Gastric Bypass

This procedure causes you to feel full more quickly by decreasing the size of the stomach, and causing food to go through only part of the small intestines. This reduces the amount of food you can eat, in addition to how much of the food and nutrients absorbed.



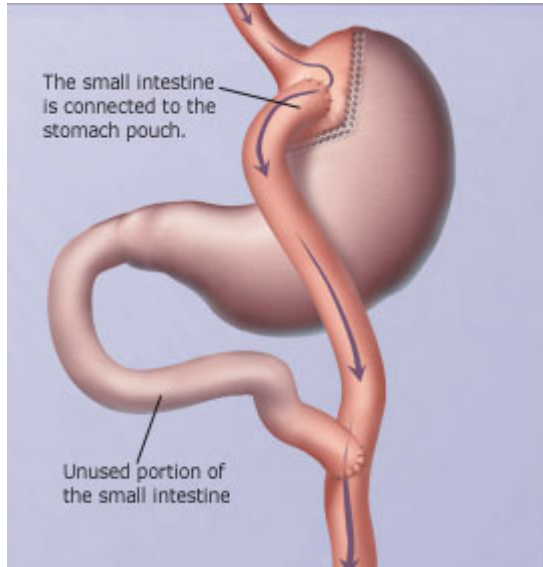
Sleeve Gastrectomy

This procedure is a restrictive surgery performed on the stomach. The sleeve gastrectomy removes two-thirds of the stomach, which provides a quicker sense of fullness and decreased appetite.



YOUR SURGICAL OPTIONS

Roux-en-Y Gastric Bypass



Roux-en-Y Gastric Bypass was developed to restrict the amount of food and limit absorption. This surgical procedure converts the stomach to a small pouch that holds approximately 2 ounces of food. The gastric bypass procedure then routes food past most of the stomach and first part of the small intestine. In addition to restricting food intake, a Roux-en-Y Gastric Bypass reduces nutrient absorption.

This surgery limits the amount of food that can be eaten, yet leaves the patient feeling full and satisfied on very little food. Having less food naturally results in reduced caloric intake, and weight loss usually follows. With Roux-en-Y Gastric Bypass, risks for nutritional deficiencies are higher than restrictive procedures (bypass causes food to skip the duodenum, where most iron and calcium are absorbed).

Advantages

- Average weight loss is 70 to 80 percent of your excess body weight.
- Average weight loss is greater than the average achieved by sleeve gastrectomy.
- Studies show that gastric bypass surgery alters the metabolism of carbohydrates and increases insulin sensitivity, often eliminating the need for diabetes medications.
- Medical conditions related to obesity — such as acid reflux, high cholesterol and high blood pressure, and sleep apnea — are improved or eliminated after surgery.

Disadvantages

- Absorption of iron and calcium is decreased because the duodenum, or first part of the small intestine, is bypassed. Deficiencies of these minerals can lead to anemia and bone disease so you must take vitamins and other supplements.

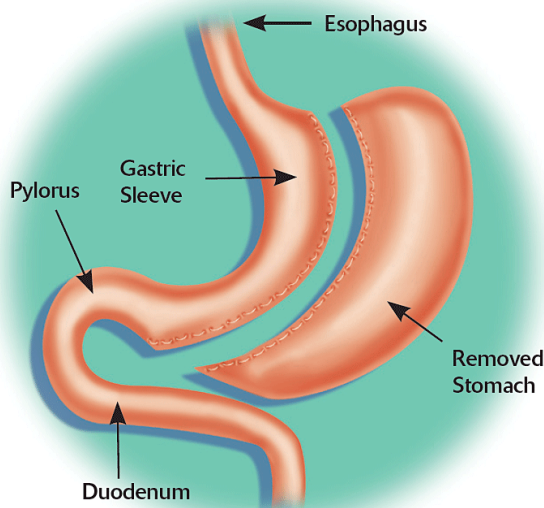


- Vitamin B12 supplements must be taken to prevent a deficiency.
- A condition known as "dumping syndrome" can occur after eating too quickly or after eating foods high in refined sugars or carbohydrates or high in fat. Symptoms include nausea, vomiting, sweating, light headedness, fainting, flushing and fast heart rate.
- In some cases, the procedure's effectiveness may lessen if the stomach pouch is stretched or if it is initially left larger than 15 to 30 cubic centimeters.
- The bypassed portion of the stomach, duodenum and segments of the small intestine cannot be easily visualized using X-ray or endoscopy if problems such as ulcers, bleeding or cancer occur.

Sleeve Gastrectomy

This procedure involves surgery on the stomach only (it is a restrictive procedure). It consists of making a stomach that looks like a pouch before surgery into a long tube, or "sleeve." The sleeve gastrectomy procedure removes approximately two-thirds of the stomach. After the procedure, the stomach is about the size and shape of a banana and resembles a sleeve. The smaller stomach restricts food intake by allowing only a small amount of food to be consumed in a single sitting, providing a quicker sense of fullness and decreased appetite.

The sleeve gastrectomy is believed to have an advantage over the adjustable gastric band due to removal of the part of the stomach that produces the hormone (ghrelin) that controls the desire to eat.





Advantages

- No rerouting of the intestinal tract.
- Much less impact on absorption process of the body.
- Average weight loss is greater than gastric band, but slightly less than gastric bypass.

Disadvantages

- Less long-term data available on the outcomes of sleeve gastrectomy.
- Risk of leaking at the staple line of the stomach.
- Not losing enough weight. Patients who have a sleeve gastrectomy should understand that healthy lifestyle and healthy habits will help them reach their health goals.

RISKS AND COMPLICATIONS OF BARIATRIC SURGERY

The decision to have any type of surgical procedure is serious. Bariatric Surgery should be considered after you and your physician have explored other alternatives. As with any surgery, bariatric surgery has risks including bleeding, serious infection, bowel obstruction, cardiac problems, blood clots and gastro intestinal dysfunction. Our expert team of nurses and physicians take every step possible to maximize safety and minimize risks for our patients. At the time of your consultation, we will help you understand your personal risks and decide if surgery is right for you.

Complications of bariatric surgery include, but are not limited to:

- Infection, bleeding, or leaking where the staple line has been placed
- Dehydration
- Blood Clots in legs or lungs
- Vitamin and mineral deficiency
- Protein malnutrition
- Incisional hernia
- Gastro intestinal dysfunction such as long-term nausea or food intolerance.
- Marginal ulcers in the pouch
- Stenosis or narrowing of the connection between stomach pouch and intestine, which may require a procedure to correct
- Hair loss or thinning of hair—this is temporary
- Dumping Syndrome- more commonly seen with Gastric Bypass than Sleeve Gastrectomy. This is covered in detail in the Nutrition Section.

NOTE: If complications arise during laparoscopic surgery, the surgeon may switch to open surgery.

Reduce Your Risks

Of course the staff and surgeons take every possible measure to prevent complications. But there are many things you can do to reduce your risks as well.

- Follow your pre-surgery and post-surgery instructions to the letter.



- Don't smoke. Ever.
- Move around. Get up and walk as soon and as much as possible after surgery. This reduces the risk of blood clots and improves lung function.
- Long before surgery, start practicing the eating habits that will be necessary after surgery to achieve success: counting calories, reading labels, preparing weekly menus, etc.
- Exercise. The stronger the heart and lungs, the better the body will tolerate surgery.
- Practice your new way of eating. Get accustomed to the Gastric Bypass Diet.
- Attend support group meetings. Learn from others

ARE YOU A CANDIDATE?

Weight loss through bariatric surgery may be an option for you. Standard eligibility criteria include:

- Patients who have a Body Mass Index (BMI) > 40 kg/m². This generally equates to 100 lbs. or more overweight for men or 80 lbs. or more overweight for women.
- Patients who have a Body Mass Index (BMI) between 35 and 40 kg/m² with serious conditions such as diabetes, high blood pressure and sleep apnea.
- Patients who have failed other medically managed weight loss programs.

These are simply guidelines. It is important to discuss the significance of the weight loss operation with both your family and doctor.

As you consider weight loss through bariatric surgery, understand how the surgery will impact your body, your lifestyle, your related health problems and what you need to do to help maximize your opportunity and truly take control of your life. An ideal candidate for weight-loss surgery will be well-informed about the procedure and have a supportive family and social environment. Being psychologically stable and understanding realistic expectations of the surgery are extremely important. Having an acceptable operative risk is important, as well as not having any active alcohol or substance abuse issues. Ultimately, successful results always depend on motivation and behavior.

TALK WITH YOUR FAMILY

Taking a stand against obesity means including your family and loved ones. Talk to them about your weight loss management goals, how you want to live, and why you want to make this change. You're not in this alone. You need your family by your side for support and encouragement. Your family is an essential part in making the right decision for you.

Why You're Having Weight-Loss Surgery

Family members may not understand the lifelong battle you've been fighting with various weight loss strategies. Talk about what the surgery means to you. Remind them the past examples of weight loss programs failing, and the importance of bettering your quality of life. Have an open discussion about the commitment you're willing to make to this now.

Explaining the positive side of weight-loss surgery and behavioral therapy can help family members understand what it means to you and the positive outcomes it can produce. Weight-loss surgery



will not only better your quality of life, it can have a positive effect on your loved ones too. In 95% of patients, quality of life was improved. And long-term mortality from diseases related to obesity were reduced by 30-40% in patients.¹ Type 2 diabetes, hypertension, dyslipidemia, sleep apnea, asthma, osteoarthritis, and gastroesophageal reflux disease (GERD) are just a few of the issues that can see positive progress with weight-loss surgery.

You Need Their Support

Surround yourself with people who understand and support your goals. Whether it's a phone call, a visit, or a letter, their help will guide you every step of the way.

Your family may be worried about your overall wellbeing, and if surgery is the right choice. Explain to your family members that you will not be alone during the process. You will have a complete team at your disposal, which will help you plan a lifetime of care. With your family by your side, you will be that much stronger.

UNDERSTAND YOUR TEAM

Your choice to begin a new chapter in life is not something you have to face alone. Standing up to obesity is a team effort—before, during, and after the procedure. A team approach fosters a supportive environment in which you can gain knowledge and compassion. Having experts on your side can help you understand the entire process, as they answer questions and keep you informed of what to expect on your weight loss journey. With the same end goal in mind, your team stands at the ready to help you get there.

Your team will include experienced staff such as:

- Weight loss surgeon
- Coordinator
- Dietitian/nutrition
- Multidisciplinary team including
 - Psychologist
 - Cardiologist (if needed)
 - Pulmonologist (if needed)
 - Bariatric trained nurses in the operating room and on the patient floor
- Support groups and
- Former patients

Bariatric surgery is not a quick or simple process. That's why you will want to assemble a team you can trust throughout the process. These are relationships that extend long after the procedure is complete. These are the individuals who will be by your side. They're the ones who will enable you to succeed.

PREPARING FOR BARIATRIC SURGERY

In the months leading up to surgery, you will have gathered information, met with experts, evaluated insurance options, and proactively made lifestyle changes to diet and exercise. With the surgery date set, it's time to make final preparations for surgery.



The Months Leading Up to Weight-Loss Surgery

Your future does not start after the surgery. It starts now. Since your BMI is a major deciding factor in weight-loss surgery, diet and exercise is extremely important. Beginning an exercise program before your surgery is the best time for your weight loss plan. The sooner you begin exercising, the easier it will be after you have surgery. Start by moving more. Walking daily improves your circulation and will help make recovery easier. Grab a pedometer to keep track of your progress. If joint conditions are an issue, look into aquatics programs. Water exercises are great to condition your breathing, but do not put pressure on your joints. If you're diabetic, be sure to measure your blood sugar before, during and after exercising, and always have insulin at your disposal.

Now is also the time to work on your diet and nutrition. Have a discussion with your doctor regarding your weight loss diet, what weight loss foods are essential, and how to make sure you are getting the right vitamins and minerals. Discuss weight loss meals before and after surgery.

Patients are encouraged to stop smoking 8 weeks before surgery, as well as to consider to permanently stop smoking after bariatric surgery. Not only is smoking bad for your health, but the complications associated with tobacco and surgery are considerable. Smoking hinders proper lung function and can increase the possibility of anesthetic complications. Smoking can increase your risk of additional complications, like deep vein thrombosis (blood clots in the legs). 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. Besides the well-known risks to the heart and lungs, smoking stimulates stomach acid production, leading to possible ulcer formation. If necessary, speak with your Primary Care Physician with the possibility of a prescription for a smoking cessation aid. You may also call 423-915-5200 for more information on our free smoking cessation program.

The Weeks Leading Up to Weight-Loss Surgery

Be sure your surgeon is aware of all medicines and herbal supplements you are taking. Be sure to avoid all aspirin and aspirin-based medicines for at least 10 days before weight-loss surgery. Even herbal medicines like ginkgo biloba, garlic, and others should be avoided, as they have blood-thinning properties. Check the label of your multi-vitamin, as many contain herbal supplements. Over-the-counter medication labels should be checked as well, as many contain aspirin. When in doubt, always check with your pharmacist and/or surgeon.

Your surgeon will give you a ten day liquid low fat diet to follow to reduce the size of your liver to make the laparoscopic approach easier to do. You can find this diet in the Nutrition section.

Good hygiene is a must before surgery. Your skin integrity is very important for the operative site. Keep skin clean and dry, especially the few days leading up to surgery. A skin breakdown could possibly cause your bariatric surgery to be delayed.

The Day Before Weight-Loss Surgery

At your pre-operative appointment, your surgeon will give you specific instructions to follow. You may only drink clear liquids, such as water, coffee, tea, apple juice, grape juice, bouillon, broth, clear popsicles, clear soda and gelatin. After midnight the day before surgery, you cannot take anything by mouth except medications approved by the anesthesiologist and surgeon. Your stomach must be completely empty at the start of the procedure to reduce the risk of aspiration.



If you are ill before surgery, with a cold, persistent cough, fever, skin breakdown, or any changes in your condition, please notify the surgeon immediately. You will then need to be re-evaluated for surgical readiness. Your bariatric surgeon wants you to be in the best possible shape for anesthesia.

The Day Of Weight-Loss Surgery – Your pre-admission nurse will instruct you

Do not use any moisturizers, creams, lotions or makeup. Remove jewelry and do not wear nail polish. You may wear dentures, but you will need to remove them just prior to surgery.

When you go to the hospital, just bring the essentials, such as:

- A small overnight bag with toiletries, including toothbrush, toothpaste, soap, shampoo and lotion
- Your eyeglasses and a case, if possible
- Protective storage case(s) for corrective lenses, dentures, hearing aids, etc.
- Bathrobe
- Address and phone numbers of loved ones
- Lip balm
- Comfortable, loose-fitting clothes to wear when you go home. Clothes that are easily removed and easy to slip on are best.

After Surgery

Typically, bariatric surgery patients can expect to return to work in about 2 to 4 weeks. This schedule can vary from person to person. The time you take from work can depend on a variety of things:

- The type of work you do
- Your general state of health
- Your need to work (i.e. compensation)
- Your work environment (how badly they need you to return)
- Your general state of motivation
- The surgical approach (laparoscopic vs. open)
- Your energy level

Be aware that you are not just recovering from weight-loss surgery, you are going to be eating very little and losing weight rapidly. You'll need time to get to know your new digestive system, rest, get proper nutrition, exercise, understand behavioral therapy, and meet with other patients in support group meetings.

Support groups are an integral part of the healing process, physically and emotionally. All patients are encouraged to incorporate a support group into their monthly schedule.

Class registration call 844-488-STAR [7827]

Alcohol can cause gastric irritation and liver damage. During periods of extreme 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. Additionally, alcoholic beverages are high in empty calories and may cause “dumping syndrome.” It is recommended that patients complete a year of abstinence from alcohol after surgery and avoid frequent consumption thereafter.



CAREGIVER INFORMATION

If you live with a person who is obese, you play a vital support role. You have likely observed their everyday challenges and struggles with some of life's basics. While most people enjoy going to the movies, playing with children, and buying new clothes, those struggling with obesity may find these ordinary routines are often challenging undertakings. In gaining a holistic view of obesity, the caregiver has the opportunity to make patients aware of all options to stand up to obesity, including weight-loss surgery.

It's important for caregivers of obese individuals to understand exactly what they're going through. The impact of obesity is medical, but also social, physical, psychological and economic. The psychological impact of obesity can include depression, low self-esteem, social isolation, being uncomfortable in public, intimacy, and decreased libido. Behavioral therapy in combination with bariatric surgery can help patients achieve healthier weights.

The physical impact of obesity can include difficulty in:

- Going to the movies
- Sitting on a bus or in a theater/plane seat
- Using seat belts
- Fitting through a turnstile
- Playing with and picking up children
- Maintaining adequate hygiene
- Buying clothes

Behavioral therapy for obesity was developed from the dated belief that obesity was the result of eating and exercise habits. Today, researchers realize that body weight is affected by factors other than behavior. The causes of obesity can include genetic, environmental and behavioral factors. Patients seek surgery because their comorbid conditions are progressive. It's not about their appearance.

Medical Implications of Obesity:

- Diabetes
- Hypertension
- Lipid disorders
- Heart disease
- Asthma
- Sleep apnea
- Gallstones
- Urinary incontinence
- Reflux
- Osteoarthritis and gout
- Cancer (breast, colorectal, prostate, endometrial, etc.)
- Infertility and menstrual problems

As a caregiver, your knowledge of the complexities of obesity will enable you to provide better care in support of your patient.



AFTER YOUR SURGERY

Recovery in the Hospital

Patients spend an average of two to four days in the hospital following bariatric surgery, or longer if complications develop. Patients who undergo laparoscopic bariatric surgery usually have a shorter hospital stay.

When you return to your hospital room after surgery, you will be closely monitored by your nurses. Along with periodic monitoring of your vital signs — blood pressure, pulse, temperature and respiration — your nurses will encourage and help you to perform deep breathing, coughing, leg movement exercises and to get out of bed. These activities can help prevent complications. 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, light-headedness, loss of appetite, gas pain, flatulence, loose stools and emotional ups and downs in the early days and weeks after surgery. Please discuss any concerns you have with your doctors and nurses.

Pain Control

You may feel pain at your incision site or from the position your body was in during surgery. Some patients also experience neck and shoulder pain after laparoscopic bariatric surgery.

Your comfort is very important to us. Although it is normal to experience some discomfort after surgery, keeping your pain under control is necessary for recovery. When you are comfortable, you are more able to walk, breathe deeply and cough, all of which are essential for recovering as quickly as possible.

If you are feeling pain after surgery, you will be able to push a button on a cord to administer pain medication to yourself. This is called "patient-controlled analgesia," or PCA. As soon as you are able to tolerate fluids, your medical team will add oral pain medication. Please know that you are not bothering the staff if you ask for pain medicine.

Your nurses and doctors will ask you to describe your pain. Two helpful ways to describe pain include the number scale (on a 0 to 10 scale, with 0 being no pain and 10 being the worst pain possible), or words to describe your pain as none, mild, moderate or severe.

No matter what form of pain control you receive, the following tips will help you stay comfortable:

- Tell your nurses and doctors if you are experiencing pain, particularly if it keeps you from moving, taking deep breaths and generally feeling comfortable. Everyone is different, so keeping your nurses informed about how you feel will help them help you.
- Plan ahead for pain; if you are comfortable lying down, you may still need pain medication to get up and walk around.
- Keep ahead of the pain — don't wait for the pain to be at its worst before you push the PCA button or ask for pain medicine. Pain medication works best when used to prevent pain.

The risk of becoming addicted to pain medicine is very low when it is used for a specific medical purpose, such as surgery.



Exercises to Speed Recovery

Activities such as walking and even changing positions in bed help promote circulation. Good blood flow discourages the formation of blood clots and enhances healing. Standing up, walking and doing your post-operative exercises may help speed up your recovery and minimize complications.

Repeat the following exercises at least once every hour after surgery. It's a good idea to practice them before surgery as well, to increase lung function and agility.

- The first night after surgery, with the help of your nurse or physical therapist, sit up and dangle your feet and stand at your bedside. This may hurt, but will get easier each time. If you are able, walk around the room and sit up the chair for 15-30 minutes. Each day you will notice your strength returning and less pain.
- You will be asked to get out of bed and walk the first day after surgery. After that, you will need to walk at least three times per day and perform your leg and breathing exercises hourly. You may not feel well enough to go for a walk, but it is very important to try your best and do as much as possible. Moving around is the best way to feel better faster!!!
- Your nurse will teach you how to cough and breathe deeply, and you will be shown how to use an "incentive spirometer" to help you expand your lungs. Coughing and deep breathing helps loosen any secretions that may be in your throat or lungs and helps prevent pneumonia. Deep breathing also increases circulation and helps to eliminate anesthesia.

How to breathe deeply:

- Inhale as deeply as you can.
- Hold the breath for two seconds.
- Exhale completely.
- Repeat three times.

How to cough:

- Inhale deeply.
- Cough. The cough should come from your abdomen, not from your throat. Hold a pillow on your abdomen for support.

How to exercise your feet and legs:

- Push your toes toward the end of the bed, as if you're pressing down on a gas pedal.
- Pull your toes toward the head of your bed, then relax.
- Circle each ankle to the right, then to the left.
- Repeat three times.

RECOVERY AT HOME

Discharge

Your surgeon will decide when you are ready to leave the hospital, based on your progress. Prior to your discharge, you will be given specific dietary and activity instructions, along with information about certain precautions and when to notify your surgeon. If you have any concerns about returning home, discuss them with your nurse or discharge coordinator.

You will be given specific discharge instructions when you leave the hospital, but we like to inform you of what to expect now so that you can be prepared for it.



When you return home, plan on taking things easy for a while. Your body will be recovering from major surgery and weight loss during the recovery period. Taking it easy does not mean stay in bed or on the couch. We want you to take walks and move around the house. If the weather is good, take short walks outside.

Planning Your Recovery at Home

It is important to think about your living environment and how you will manage it after surgery. Please tell the hospital staff about your living environment, as they can prepare your going home plan with your specific needs in mind. A rubber shower head with a detachable hose, long sponge stick or kitchen tongs, and toilet lift are all useful items.

Follow-Up Appointments

We care about your progress. Keep in communication with us, and we will do our best to ensure your recovery is as smooth as possible.

Your first office visit with your surgeon will be scheduled for 10 -14 days after surgery. Your discharge instructions will tell you when to return to the office for follow-up.

You will continue to see your surgeon periodically after the initial follow-up visit — usually six weeks, three months, six months and 12 months after surgery. Thereafter, you will have an annual appointment. Please call your surgeon's office with any surgical concerns between scheduled visits.

It is also important to keep your primary care doctor informed of your progress. Be sure to contact him or her with any medical concerns as well.

Activities to Avoid

Strenuous activity is prohibited for three to six weeks after surgery.

- Avoid lifting anything heavier than 20 to 30 pounds, or doing push or pull motions such as vacuuming, during the first six weeks after surgery.
- Avoid heavy work such as lifting, carrying or pushing heavy loads for the first three months after surgery.
- Avoid sitting and standing without moving for long periods. Change positions frequently while sitting, and walk around in lieu of standing still. These strategies may help prevent blood clots from forming in your legs. Climbing stairs is encouraged.

Recommended Activities

During the first several weeks after surgery, you may feel weak and tire easily after activity. However, light activity, such as frequent short walks, is recommended. Gradually increase the distance. The more physically active you are, the better. It will enhance your recovery and ultimately give you more energy.



Continue walking at least four times a day, so that you are walking 30 to 45 minutes per day by the sixth week. By your six-week office visit, you should be regularly walking two miles a day or more, unless you have specific problems with your weight-bearing joints. If so, water exercises are recommended. You can begin these about three weeks after surgery.

Staying Hydrated

You may be tired, weak or nauseated the first few weeks after surgery. Keep up your fluid intake with small, frequent sips as necessary. We recommend drinking 1.5 to 2 liters of water each day.

Travel

You can resume traveling short distances as soon as you feel strong enough to make the trip. Do not drive a motor vehicle until you are no longer taking prescription pain medication, which is usually about one week after surgery.

Personal Hygiene

Most patients like to have someone home with them the first few days after surgery for moral and physical support. Due to the nature of abdominal surgery, you may need some help using the toilet.

Flushable baby wipes, a peri-bottle or small sports top water bottle are gentler for personal hygiene. A long sponge stick can also be helpful.

Wound Care

Your wound should need minimal care. If sutures were used, they will most likely dissolve, so there is no need to remove any stitches.

Most of our patients will have surgical staples in place and they will have to be removed, usually around 10-14 days after surgery. This should not cause any pain. Your drain will be taken out at your two week post-op office visit also.

No matter how your wound was closed, it is important to keep it clean and dry to promote faster healing. Unless otherwise prescribed, you should shower, wash with soap, rinse and dry thoroughly. If the wound is oozing or catching on clothing, you may cover it with a very light dressing, but otherwise leaving the wound open to air whenever possible may help prevent suture infection.

After about three weeks, it is usually safe for your incision to get completely wet. Ask your surgeon for the official "go ahead" before taking 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. If your wound becomes reddened, swollen, leaks pus, has red streaks, has yellow/green purulent or odorous drainage, feels increasingly sore or you have a fever above 100.5°F, you must notify your surgeon right away. These may be signs of an infection.



Symptoms to Watch For

We do not expect you to have any serious problems after surgery. However, if you experience any of the symptoms below, you must contact your surgeon right away.

- Fever of 100.5°F or above
- Redness, swelling, increased pain or pus-like drainage from your wound
- Chest pain or shortness of breath
- Nausea or vomiting that lasts more than 12 hours
- Pain, redness or swelling in your legs
- Urinating fewer than four times in 24 hours
- Pain that is unrelieved by pain medication

Normal Symptoms

You may experience some of the symptoms below, which are considered normal.

- Moderate swelling and bruising. However, if you experience severe swelling and bruising, notify your surgeon, as it may indicate bleeding or infection.
- Mild to moderate discomfort or pain. However, if the pain becomes severe and is not relieved by pain medication, please contact your surgeon.
- When an incision is made during surgery, small sensory nerves to the skin are occasionally cut, which may cause temporary numbness. Sensation in those areas usually returns, typically within two to three months, as the nerve endings heal. However, it is important to be especially careful not to burn yourself when applying heating pads to areas that may have post-operative numbness.
- 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.
- Initially, all scars are red, dark pink or purple in color. Scars take about one year to fade. It is very important to protect your scars from the sun for a year after your surgery. Even through a bathing suit, a good deal of sunlight can reach the skin and cause damage. Wear a sunscreen with a sun protection factor (SPF) of at least 15 when exposed to the sun.

Nausea

Nausea may be related to insufficient chewing, fullness, sensitivity to odors, pain medication, not eating, post-nasal drip or dehydration. In the first days after surgery, nausea usually can be treated with medications called antiemetics. It is very important to take your nausea medication as prescribed by your surgeon.

Rarely, nausea can be so severe that it prevents patients from drinking adequate amounts of liquids. If this happens, you will need to come back to the hospital to receive intravenous (IV) fluids. Persistent vomiting may lead to dehydration and electrolyte imbalance, which may cause vitamin deficiencies.



Odors can sometimes be overwhelming after surgery. If you are dry heaving, try sniffing a few drops of peppermint essential oil on a handkerchief. Avoid perfumes and scented lotions. If food odors bother you, try having someone else prepare your meals or prepare bland foods.

Learn to recognize when you are full. This will not happen immediately, but by eating very slowly, it will become easier.

Should you have difficulty drinking due to nausea, try peppermint tea, fennel tea, decaffeinated green tea, or hot or cold water with lemon.

If you believe your pain medication is causing nausea, call your surgeon's office to request a prescription change.

Remember to stay hydrated by sipping fluids all day long. You need to drink a minimum of 1.5 to 2 liters of fluids per day, or more if you are sweating.

Vomiting

Vomiting is often caused by eating inappropriately. Initially, it can be difficult to gauge how little food will satisfy your hunger — chances are, you will feel full with very little food. A couple of teaspoons may be all you can eat at one time.

Possible causes of vomiting include:

- Eating too fast
- Not chewing food properly
- Eating food that is too dry
- Eating too much food at once
- Eating solid foods too soon after surgery
- Drinking liquids with meals or right after meals
- Drinking with a straw
- Lying down after a meal
- Eating foods that do not agree with you

To prevent vomiting:

- Chew your food well.
- Keep your food moist.
- If you experience nausea eat only ½ of what you anticipate eating
- Strictly follow your recommended post-surgery diet.

If you experience prolonged vomiting, call your surgeon.

Vomiting may indicate that your stomach pouch is blocked. If vomiting continues for more than 24 hours, contact your surgeon. Vomiting can lead to severe dehydration, a serious condition that needs medical attention. Contact your surgeon if you believe you may be dehydrated.



Dehydration

Dehydration will occur if you do not drink enough fluids. Symptoms include fatigue, dark colored urine, fainting, nausea, low back pain (a constant dull ache across the back) and a whitish coating on the tongue. If you experience these symptoms, you will need to have blood work done to establish the severity of dehydration. Dehydration may also lead to bladder and kidney infections.

Contact your surgeon if you believe you may be dehydrated. In some cases, you may be admitted to the hospital so we can administer fluids intravenously.

To prevent dehydration:

- Buy a sports bottle and take it with you everywhere so you can sip water all day.
- Drink at least 1.5 to 2 liters of fluids per day. Increase this amount if you are sweating.
- Avoid beverages that contain caffeine; they are diuretic and can dehydrate you. Unsweetened herbal iced tea is OK.
- If you have difficulties drinking due to nausea, suck on ice chips.

Bowel Habits

It is normal to have one to three bowel movements of soft stool per day. It may be foul smelling and associated with flatulence. Most of these changes resolve as your body heals and you adapt to changes. Please call your surgeon if you have persistent diarrhea.

After bariatric surgery, the amount of food you consume is greatly reduced, and the quantity of fiber or roughage you consume may be much smaller. As a result, the amount of bowel movements you have will be reduced, causing less frequent bowel activity and sometimes constipation. If this becomes a problem, you may want to try a stool softener to avoid rectal difficulties.

To keep 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 cow's milk products, other than yogurt.
- Use your pocket journal to help recognize problem foods.
- If cramping and loose stools (more than three per day) or constipation persist for more than two days, please call your surgeon's office.

Flatulence

Everyone has gas in their digestive tract. Bariatric patients have a shortened bowel, which can cause gas to be more odorous and expelled more forcefully. 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.

Foods high in carbohydrates cause gas; those high in fat and protein cause very little.

The foods that are known to cause more gas are beans, vegetables, some fruits, soft drinks, whole grains, wheat, bran, cow's milk and cow's milk products, foods containing sorbitol and dietetic products.



To help prevent flatulence:

- Eat your meals more slowly, chewing food thoroughly.
- Lactose intolerance is generally the culprit of gas. Discontinue eating all cow's milk products. Yogurt is OK.
- Avoid chewing gum and hard candy.
- Avoid drinking with a straw.
- Eliminate carbonated beverages.
- Remedies for flatulence include *Lactobacillus acidophilus* (a probiotic or "good bacteria" that aids digestion), natural chlorophyll and simethicone.

Hernias

To minimize the risk of developing a hernia, avoid heavy lifting for three months after surgery. You may notice a bulge under the skin of your abdomen. This is part of your bowels that are not being contained in the abdomen, due to a weakness in the abdominal wall at the site of your surgical incision. You may feel pain when you lift a heavy object, cough or strain during urination or bowel movements. The pain may be sharp and immediate. In some cases, the pain may be a dull ache that gets worse toward the end of the day or after standing for a long period of time. If you think you may have a hernia, please call your surgeon for a consultation.

Surgery is the only way to repair a hernia. If the hernia pops out and will not go back into place when you lie down, and is causing you pain and vomiting, it can result in an emergency. Call your surgeon's office or your primary care doctor immediately if this occurs.

Anemia

All menstruating women should take an iron supplement to prevent anemia, or iron deficiency. Please contact your doctor to find out which iron supplement is best for you.

Signs of iron deficiency anemia include paleness, decreased work performance, weakness, difficulty maintaining body temperature, fatigue, dizziness and shortness of breath.

Iron deficiency may also be caused by low vitamin A levels. Vitamin A helps to mobilize iron from its storage sites, so a vitamin A deficiency limits the body's ability to use stored iron. This results in an "apparent" iron deficiency because hemoglobin levels are low, even though the body can maintain an adequate amount of stored iron.

Temporary Hair Loss and Skin Changes

Hair thinning or loss is expected after weight loss. It is temporary, but can still be disheartening for patients.

During the phase of rapid weight loss, calorie intake is much less than the body needs, and protein intake is marginal. Your body reacts to this deprivation in various ways, with a common side effect being hair thinning. This is a transient effect and resolves itself when nutrition and weight stabilize. Hair loss usually occurs anywhere from three to nine months after surgery.



To minimize hair loss, take your multivitamins daily and consume at least 75 grams of protein per day. Nioxin shampoo has been shown to be helpful for some patients, as well as biotin tablets or powder.

We recommend avoiding hair treatments and permanents to prevent stressing your hair from the outside, too.

Skin texture and appearance may also change after bariatric surgery. It is not uncommon for patients to develop acne or dry skin after surgery, since protein, vitamins and water intake are also important for healthy skin.

Scars

Scars are expected after any surgery. The size of your scars depends on the type of bariatric surgery you had (open versus laparoscopic), the sutures used and how your body heals. If you would like to make your scars less visible, once your incisions are fully healed, you may start using silicone pads and scar-minimizing creams to make the scars look softer, smoother, flatter and closer to your skin's natural color.

Be sure to keep your scars out of the sunlight to help them heal properly.

Sexuality and Pregnancy

You may resume sexual activity when you feel physically and emotionally stable.

Women need to use a mechanical form of birth control, as fertility may be increased with weight loss and oral contraceptives may not be fully absorbed.

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 may confuse the ovaries and uterus and cause a lack of ovulation. As weight loss occurs, this situation may change quickly.

You may start planning a pregnancy after weight loss stabilizes, but it is imperative not to become pregnant during the first 18 months after your surgery, since both you and the baby need to be healthy and safe.

If you do become pregnant, please arrange for your obstetrician/gynecologist to contact your surgeon's office. They will discuss specific information about your surgery, so they can work together to provide you with the best prenatal care.

A Lifelong Commitment

Surgery gives you a physical tool to assist with weight loss, but you must be committed to making the mental and emotional changes necessary for long-term weight loss and maintenance.

After surgery, you must be committed to regularly taking vitamins and supplements, eating healthfully, attending follow-up appointments with your doctor, exercising and participating in support groups for life. Your emotional and physical well-being depends on this commitment.



Lack of exercise, poorly balanced meals, constant grazing, eating processed carbohydrates and drinking carbonated beverages are common causes of regaining weight after surgery. You will need to manage your food intake and exercise for the rest of your life.

Balanced Nutrition

Adhering to healthy nutrition guidelines after weight loss is essential for long-term success and weight maintenance. For optimal health, we recommend incorporating all of the food groups according to the American Dietetic Association (ADA) guidelines.

FOLLOW UP TESTS AND VISITS

Physical and Emotional Support for your New Way of Life

While weight loss surgery can lead to serious nutritional deficiencies, you'll need regular checkups to measure your blood levels of key nutrients. These follow-up tests, initially scheduled every 3-6 months, and then every year will test your levels of:

- Red blood cells (low count signals anemia)
- Vitamin B12
- Folate
- Iron
- Calcium

We also schedule numerous follow-up office visits to help support you as you work through your new diets. These consultations will also help you build emotional strength as you adjust to your new way of life.

DIET

You'll also want to stay in touch with your dietician. After the first year or so., you'll be able to tolerate more food, and will need to work closely with a professional to adjust your diet so that you don't regain weight.

Remember, success depends on maintaining healthy dietary habits for life. Though your initial weight loss will slow over time, if you are diligent, you can still continue to lose weight years after your surgery. Here are the statistics: 80% of weight loss surgeries are successful. Of the 20% that are not, the number one reason for failure is not following the post-surgery diet and even going over the liquid high-calorie diet.

Your dietary instructions, outlined in detail, are in the nutrition chapter of this document. You may contact the dietician at the Health Resource Center at any time if you have any questions or need support with your diet: 800-888-5551.



SUPPORT GROUPS

Ongoing Support After Surgery Leads to Greatest Success

Most bariatric surgeons agree that ongoing support after bariatric surgery leads to the greatest level of success.

Why? Support groups give you a great opportunity to discuss issues that arise from surgery or from history of obesity. The group allows you to surround yourself with people who understand and support you goals, which directly increases your chances of long-term success.

Our support groups meet monthly. We encourage you to attend before and after your surgery. Call The Professionals at 844-488-STAR [7827] to register for a Support Group.

EXERCISE AFTER WEIGHT-LOSS SURGERY

Exercise is recommended for success in achieving and maintaining weight loss. Develop and maintain a consistent exercise program to strengthen you heart and bones, burn calories, develop muscles, increase your metabolic rate, improve you mood and relieve stress. Exercising can also improve you blood sugar control.

Walking is an excellent exercise that you can begin immediately after your surgery. Start by walking 10 minutes a day at a fairly brisk pace. Increase your walk by one minute every few days. Working up to a minimum of 150 minutes per week (30 minutes/day, five days a week).

Remember, exercise needs to increase you heart rate, so gardening does not count. It is also recommended to add strength training to build and maintain muscle mass while toning your body, but please do not start strength training until at least six weeks after your surgery. It is important to allow your incisions to heal first. **Please keep in mind that you may not lose weight if you are not exercising.**

Tips for Developing an Exercise Plan:

- Find an exercise partner. You are more likely to stick to your plan if someone else is counting on you to be their exercise partner.
- Mountain States Health Alliance has several Wellness Centers that can work with you to develop a personal workout schedule for you. Our fitness instructors are well trained in helping weight loss surgery patients reach their health goals.
- Try all the classes they offer and find the ones you enjoy the most.
- Use the stairs instead of the elevator.
- Park your car as far from your destination as possible and walk.
- Walk as often as you can.
- Avoid using remote controls – get up and change the channel instead.
- Listen to your favorite motivational music while you exercise.
- Be creative! Try mall walking, aerobics, dancing or swimming.



- If you have a dog, take your dog for a walk every day.
- To look good and feel comfortable while exercising – wear comfortable workout clothes and shoes.
- Pack a gym bag so you can head straight to the gym after work.
- Adopt a weekly plan. Look at your schedule on Sundays and plan how you are going to fit physical activity into your schedule.

RESOURCES

<http://asmbs.org/patients>

<http://www.obesityaction.org/obesity-treatments/bariatric-surgery>

<https://www.nlm.nih.gov/medlineplus/weightlossurgery.html>

<http://bariatriccooking.com>

REFERENCES

<http://www.covidien.com/bariatrics/>

http://www.ucsfhealth.org/education/recovering_from_bariatric_surgery/