



# BARIATRIC SURGERY

## PATIENT MANUAL GUIDE

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## ABOUT OBESITY

*Obesity is a chronic Disease that afflicts approximately 9 million adult Americans.* The **health effects** associated with morbid obesity are numerous and can be disabling. Often, individuals with morbid obesity suffer with more than one health effect, creating a situation that can shorten life span and negatively impact quality of life.

The good news are that *you are not alone*, and our team is here to help you overcome this disease and put you on the track of a healthy life.

The many benefits of achieving appropriate weight and eating control are obvious. Everyone feels better physically and emotionally when his or her weight is under control. In addition, high blood pressure, sleep apnea, reflux, diabetes, cholesterol problems and other health problems have been demonstrated to be improved once weight loss is achieved. It is important to understand that weight loss should be gradual, sustained, and accompanied by careful attention to proper nutrition.

## BARIATRIC PROCEDURES

### - Restrictive procedure / Gastric Sleeve

The vertical sleeve gastrectomy is a restrictive form of weight loss surgery in which approximately 80% of the stomach is removed leaving a sleeve shaped stomach with a capacity ranging from about 60 to 100 cc. Unlike many other forms of bariatric surgery, the outlet valve (pylorus) and the nerves to the stomach remain intact and, while the stomach is drastically reduced in size, its function is preserved. The sleeve is not reversible.

Because the new stomach continues to function normally there are far fewer restrictions on the foods which patients can consume after surgery, the difference will be that the quantity of food eaten will be considerably reduced. This is seen by many patients as being one of the great advantages of the gastric sleeve, as is the fact that the removal of the majority of the stomach also results in reduced production of hormone ghreline, which stimulates hunger.

Perhaps the greatest advantage of the gastric sleeve lies in the fact that it does not involve any bypass of the intestinal tract and patients do not therefore suffer the complications of intestinal bypass such as anemia, osteoporosis, vitamin deficiency and protein deficiency.

#### - Malabsorptive procedures / Gastric Bypass and Duodenal Switch

Gastric bypass is a surgical procedure in which the stomach is divided into a small upper pouch and a much larger lower "remnant" pouch and then the small intestine is rearranged to connect to both.

Gastric bypass is a bariatric procedure which consist on the creation of a small, (15–30 mL/1–2 tbsp) thumb-sized pouch from the upper stomach, accompanied by bypass of the remaining stomach. This restricts the volume of food which can be eaten. Then the Re-construction of the GI tract to enable drainage of both segments of the stomach.

Duodenal switch also combines malabsorptive with restriction, The restrictive portion of the surgery involves removing approximately 80% of the stomach along the greater curvature (sleeve is the first step of the DS).

The malabsorptive portion of the surgery reroutes a lengthy portion of the small intestine, creating two separate pathways and one common channel.

**With gastric bypass and Duodenal Switch surgery, exist risk for:**

\* ***Nutritional deficiencies.*** Your body will be less able to get nutrients from food. Because these surgeries change how your body handles food, you should talk with your doctor about making sure you get all the nutrients you need.

The malabsorptive element of the DS and the bypass requires that those who undergo the procedure take vitamin and mineral supplements above and beyond that of the normal population. Commonly prescribed supplements include a daily multivitamin, calcium citrate, iron, and the fat-soluble vitamins A, D, E and K.

\* **Dumping syndrome.** When that happens, food moves too quickly from the stomach to the small intestine. Symptoms include nausea, weakness, sweating, fainting, and, occasionally, diarrhea after eating, as well as becoming extremely weak after eating sweets.

**NOTE:** To gain the maximum benefit from bariatric surgeries, it is important that the patient eat only at mealtimes, 5 small meals daily, and *not* graze between meals.



## BEFORE SURGERY

Follow the pre op instructions provided.

From 1 to 2 weeks prior to surgery **suspend medications** such as:

- Vitamins, Aspirin, Ibuprofen, Motrin, Advil, Nuprin, Aleve, birth control pills or any other non-steroidal anti-inflammatory medication, this includes most arthritis medications. These medications can cause unnecessary bleeding after surgery or high risk to develop clots.

If you use baby aspirin prescribed by your cardiologist, do not suspend.

**NOTE:** If you are not sure of the medication you should suspend, please check with our doctors.

- For headache or minor pains you may use Tylenol.
- Do not take any herbal medications/remedies.

**NOTE:** High blood pressure, anti-depressives, diabetes, thyroid hormone substitutes medications **SHOULD NOT** be suspended.

Resume medications that were previously suspended 1 week after surgery or ask your surgeon when would be the right time to start certain medications.

**Birth Control pills** should be suspended 1 week prior surgery and be resumed 1 month after surgery.

## WHAT TO EXPECT AFTER SURGERY

It is very important to follow the eating and drinking instructions starting right after the operation to allow the new stomach structure to heal completely.

You will notice a difference in the amount and type of food you can eat. Since the amount of food you can eat will be much less, it becomes very important to eat the right types of food to be sure your body gets enough nutrients.

Exercise is important. Most people find that as the weight comes off after surgery, it becomes easier to exercise. Then, as they exercise more the weight comes off even more. We recommend that our patients exercise at least 30 minutes a day at least 5 days a week.

Excess body weight will be lost 80% to 90% on the first 2 years after surgery. During the first months you will experience a faster weight loss, then it becomes gradually and after the 6th month it goes slowly but constant.

Weight-related medical problems may be alleviated or eliminated after weight-loss surgery. Such conditions include diabetes, high blood pressure, sleep apnea, and weight related depression. Significant weight loss may also decrease your risk of heart disease and some types of cancer.



## DISCHARGE INSTRUCTIONS

### BATHING:

You may shower 24 hours after surgery. No tubs baths, swimming or hot tub use for 4 weeks following surgery, (your incisions need to be completely closed before you do this).

### WOUND CARE:

Keep the dressing dry. After 48 hours you may remove the top dressing and leave the steri-strips (thin white pieces of tape). These may get wet and will eventually fall off voluntarily. The incision where the drain was placed may drain a clear light brown or pale red color fluid for some days, this incision doesn't have sutures, it will close by itself, 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.

It is important to keep your incisions clean and dry to promote faster healing. You should shower, wash with soap, rinse and dry thoroughly.

### ACTIVITY:

You may resume usual self-care. You may drive when you feel you are able. No lifting, pushing, pulling or tugging over 25 lbs. for 6 weeks. (This is to prevent the develop of an **hernia** in one of your incisions).

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

### **MEDICATIONS:**

Gas-X as needed up to 7 times per day.

Liquid Imodium only directed for diarrhea. Tylenol Rapid Blast for mild pain. Follow package directions.

**NO ASPIRIN, NO NONSTEROIDAL ANTI-INFLAMMATORY DRUG, NO TIME RELEASED DRUGS(Arthritis medication, Aleve, Motrin, Advil), NO BIRTH CONTROL PILLS.**

### **POSSIBLE SHORT TERM COMPLICATIONS**

**When you are back home, keep an eye on possible post surgical complications.**

#### **Pulmonary Embolism**

A pulmonary embolism is a clot that has traveled from another part of your body, usually your legs that blocks air from going in and out of your lungs. This is the most common early complication of surgery.

#### **Symptoms of Pulmonary Embolism**

- Chest pain: Under the breastbone or on one side, Especially sharp or stabbing; also may be a burning, aching, or dull, heavy sensation. May get worse with deep breathing, coughing, eating, bending, or stooping (person may bend over or hold his or her chest in response to the pain)
- Cough: Begins suddenly and may have some blood or blood-streaked sputum
- Rapid breathing
- Rapid heart rate
- Shortness of breath: May occur at rest or during activity or it may start suddenly

**This is an emergency! Go straight to your local Emergency Room!**

### **What you can do to prevent a Pulmonary Embolism:**

**WALK!!!**The day of surgery, the nurses will have you walking in the halls. This will help to decrease the chance of a blood clot in your legs. You will also be given a dose of a blood thinner prior to surgery and after surgery. You will also use a compression device on your legs while lying in bed in the hospital to decrease the risk.

At home...**WALK, WALK, WALK.**Choose the bathroom furthest from your room. Resume your activities as directed.

If your flight home is long, stand up and walk every hour during the flight.

NOTE: Patients with BMI higher than 60, or patients that the surgeon thinks necessary, must get the additional medication “enoxaparine” to be used after surgery for at least 1 or 2 weeks, depending on the risk.

### **Dehydration**

- It is very important that you drink 8 glasses of water a day (1.5 to 2 liters). Dehydration may lead to hospitalization.

To prevent this...

**Sip! all day long! Small sips during the day.**

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.

### **Wound Infection**

After surgery, you will have multiple small incisions on your abdomen.

Any wound can become infected. If your wound becomes reddened, swollen, leaks pus, has red streaks, has white/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.

## WHEN TO CALL YOUR PHYSICIAN

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.

- PAIN not relieved by pain medication
- Shortness of breath or increase in breathing
- Rapid or increase in heart rate
- Redness, swelling, increased pain or pus-like drainage from your wound
- NAUSEA OR VOMITING that is not relieved by medications or that prevent fluid intake for a day or that lasts more than 12 hours.
- CALF OR LEG PAIN and/or swelling.

## COMMON OR POSSIBLE POST OP SYMPTOMS

### Chest pain when eating

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

### Nausea and Vomiting

It is very common for post operative patients to feel nauseated during the first few months. If this nausea causes frequent vomiting, this needs a phone call or visit to your doctor for follow-up.

When you feel full, stop eating and put the food away. Don't pick at it if you are still at the table. A meal should take no longer than 15 – 20 minutes to finish. If it is taking longer, you are probably waiting too long between bites, or getting full and waiting for it to pass through to give you more room. The goal is not to finish your meal; it is to learn what full means and feels like.

### Frothing

As the new pouch heals, mucous sometimes is excreted to help break down food. With some patients, this mucous will back up in the esophagus and causes frothy clear vomiting. This is short lived and usually resolves by the 3rd month. Frothing is not a complication, so try drinking hot water 1/2 hour prior to your meal to emulsify the mucous. Your meal should then be better tolerated.

### Gas Pains

Gas pains are common in the first few weeks after surgery. Sometimes these pains can be severe and more uncomfortable than the “surgical” pain. To help relieve these pains, try to increase your activity level to include some walking. You can also try anti-gas over-the-counter preparations such as Mylanta, Maalox and Gaviscon.

Gas pains or spasms may occur months or even years after your operation. The cause for random episodes of gas or spasms is often unknown, and this discomfort will usually relieve itself in a short time. If the discomfort from gas or spasms persists, contact your surgeon for evaluation and possible treatment with medication to relax the intestine.

### Hair Loss

Hair loss can be distressing to bariatric surgery 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 from 3 to 9 months after the surgery.

- . Iron is highly correlated with hair loss.
- . Low protein intake is associated with hair loss. We recommend 70-80Gm protein each day.

. Zinc deficiency has been tied to hair loss .

. Biotin is a B-complex vitamin that supports healthy skin, hair and nail growth.

To minimize hair loss, take your multivitamins daily and consume at least 75 grams of protein per day.

Hair re-growth frequently occurs after several months.

### **Bowel Habits**

It is common to have some temporary bowel changes following surgery. These changes range from constipation to diarrhea. If you do not move your bowels by the first or second day at home, you may try a mild laxative such as Milk of Magnesia. Follow the bottle instructions.

It may be foul smelling and associated with flatulence. Most of these changes resolve as your body heals and you adapt to changes.

### **Constipation**

After surgery, constipation may occur. Remember that food intake now is very small compared to that before surgery; therefore, bowel movements will be decreased. Many people report having a bowel movement every two to three days. If stools are hard, be sure to drink an adequate amount of fluid (48 to 64 ounces per day) between meals. Also, when appropriate, include more fiber-containing foods in the meal plan.

### **Diarrhea**

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

## **AFTER SURGERY CARE AND ACTIVITY**

### **Returning to Work**

You should plan on taking 7-14 days off work. We recommend to those who must return to work before 2 weeks. You will need to be sure your employer will allow you to take time to eat your meals slowly at work to ensure proper nutrition. If you need “return-to-work” or other insurance papers completed, please bring them with you when you come for surgery or send it to our email or fax number. Remember, NO lifting over 25lbs. For 6 weeks... NO EXCEPTIONS.

### **Activity**

It is important to be up out of bed or chair and active when you return home. You might notice that you tire easily and need to take frequent rest periods. You can resume sexual relations when desirable, keeping the restrictions on other physical activity in mind.

### **Exercise**

Exercise is one of the most important things you can do for yourself after surgery to keep healthy, increase your energy level and lose the maximum amount of weight. Walking will burn about 200 calories per mile (there are 3,500 calories in one pound). When you get home, you should start a walking program to your tolerance. In addition to the walking program, you should be active and walking as you would normally around your house. If you begin to feel short of breath, tired or exceed your target heart rate during the walking program, slow your pace or stop. After the first couple weeks, you can substitute another type of exercise you enjoy for the walking program if you are feeling strong enough. The exercise should have an aerobic component that raises heart rate to a healthy target heart rate. You should start weight or higher effort exercise after the 6th week post op.

### Pregnancy after Surgery

Women of childbearing age should be on a reliable method of birth control until their weight has stabilized for at least 12-18 months. We DO NOT recommend pregnancy until at least 12 months after surgery! If pregnancy does occur, a detailed consultation with your bariatric surgeon and obstetrician will be necessary to assess your nutritional status. After delivery, weight loss will resume.

### Vitamins

For patients undergoing gastric sleeve is only *neccesary* to take a multivitamin, biotin and calcium citrate for the first 6 months, if you want to continue more time is optional.

NOTE: For specific cases of deficiency, additional supplements must be needed.

For patients undergoing gastric bypass or Duodenal Switch is neccesary the multivitamin, calcium citrate, double dose of iron, vitamin B12 and vitamin D for life.

### Multivitamins

- . Take a high-potency daily chewable multivitamin and mineral supplement.
- . Take two (2) over the counter MVIs or one (1) Specialized Bariatric MVI (as indicated in serving size) every day for a lifetime. MVI(s) must provide at least 200% RDA for iron (36mg), folic acid (800mcg) and thiamine (3mg) and 2 mg of copper. It is best if MVI also contains selenium and zinc.
- . For gastric sleeve we suggest MVI in for at least the first 6 months if not for a lifetime. And for a lifetime in case of Bypass or Duodenal Switch.

## **Iron**

Necessary for patients undergoing Bypass or Duodenal switch.

. If MVI contains iron- Take an additional 18-29 mg elemental iron per day. If MVI does not contain iron- Take 60-65 mg elemental iron per day. Total intake should be 54-65 mg elemental iron a day.

. Taking Vitamin C at the same time as iron can increase absorption.

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

## **Calcium Supplement**

Take 1,200 to 2,000 mg of calcium daily to prevent calcium deficiency and bone disease. To enhance absorption, take the calcium in two to three divided doses throughout the day - for example, a 500 to 600 mg supplement taken three times a day. Calcium citrate is the preferred form of calcium.

## **Vitamin D Supplement**

Take a total of 800 to 1,000 International Units (IUs) of vitamin D each day. This total amount should be taken in divided doses of 400 to 500 IUs twice a day. Vitamin D should be taken with your calcium supplement. If you prefer, you can take a combination calcium-vitamin D supplement to avoid taking multiple pills, so long as it contains the proper dosages.

## **Vitamin B12 Supplement**

Take 500 mcg of vitamin B daily. It can be taken as a tablet, or in sublingual forms placed under the tongue.



## 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, 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 sugar added 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.

**This information is for educational purposes only and is not intended to replace the advice of your doctor or health care provider. We encourage you to discuss with your doctor any questions or concerns you may have.**