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The Life After Weight Loss Program

A Paradigm for Plastic Surgery Care After Massive Weight Loss

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Obesity has become a natÚnwide problem. In every state, at least 1 in 5 individuals is obese. Because of the obesity epidemic and the comorbidities associated with obesity, many people turn to bariatric surgery as a treatment optÚn. The most popular bariatric procedures are Roux-en-Y gastric bypass, sleeve gastrectomy, and gastric banding. With the success of these procedures, patients experience massive weight loss in a short perÚd of time. Their weight loss can be from 50 lb to more than 100 lb. Because of this massive weight loss, patients are left with loose hanging skin. Body contouring in plastic surgery has increased in demand, following the popularity in bariatric procedures. In 2002, the Life After Weight Loss clinical program was established at the University of Pittsburgh, by Dr. J. Peter Rubin, Chair of the Department of Plastic Surgery, UPMC, and Director of the Life After Weight Loss Program.

According to the Centers for Disease Control and Prevention, more than one third of U.S. adults (35.7%) are obese. Obesity-related conditions include heart disease, stroke, Type 2 diabetes, and certain types of cancer (www.cdc.gov). Because of the increased incidence of obesity and the associated comorbidities, many people have chosen bariatric surgery as a treatment option. The most popular bariatric procedures include the Roux-en-Y gastric bypass, sleeve gastrectomy, and gastric banding (Gilbert & Wolfe, 2012).

The success of these bariatric procedures results in patients experiencing massive weight loss, approximately 50–100 lb, in a short period of time. Many patients in our practice report a rapid weight loss during the first 3 months after their surgery, at times up to 30–40 lb. As a result of this rapid weight loss, patients have hanging abdominal skin, deflated arms and breasts, and skin laxity of their upper and lower body, including thighs and buttocks. This has increased the demand for body-contouring procedures. Obesity is defined as having a body mass index (BMI) greater than 30 kg/m^2. Ideally, patients presenting for body contouring should have a BMI of 30 kg/m^2 or less. A lower BMI reduces the risk of potential complications and will also allow for a wider range of treatment options and a better aesthetic outcome (Bossert & Rubin, 2012). Weight stability is an important factor to consider when assessing a patient for body-contouring surgery. Ideally patients should wait at least 12 months after their bariatric procedure before considering body-contouring surgery. After a year, patients will start to stabilize their weight loss and plateau. Waiting at least a year also allows patients to stabilize their eating habits and nutrition (Bossert & Rubin, 2012). If a patient is still actively losing weight, surgery should be delayed until they are weight stable for 3 months. Patients with residual obesity after bariatric surgery (i.e., a BMI $>$ 35 kg/m^2) are counseled on further weight loss but are not necessarily excluded as surgical candidates. Counseling includes further assessment of their exercise regimen, diet, and lifestyle. Patients are referred to our comprehensive support program BodyChangers, which includes exercise guided by a personal trainer, nutrition, and behavioral seminars, or they are referred to a personal trainer and dietitian within their vicinity. This program is a joint effort by the Department of Plastic Surgery and the Bariatric Surgery Division at Magee-Womens Hospital of University of Pittsburgh Medical Center (UPMC). By incorporating both surgical groups, this provides the patient with ongoing support during all phases of their weight loss and body-contouring processes. For patients in need of further weight loss, a subsequent appointment is made for

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3 months after their initial visit to provide a motivational goal for the patient.

Certain bariatric procedures, such as the Roux-en-Y gastric bypass, can lead to problems with malabsorption or anemia. Patients should be assessed for dumping syndrome associated with the bypass. Patients with frequent dumping syndrome with certain foods may need to see their bariatric surgeon for reevaluation. Anemia may also result from malabsorption. The patient's anemia should be corrected prior to any surgical intervention to avoid unnecessary blood transfusions, but also to have the patient in optimal health before undergoing body-contouring surgery. Many postbariatric patients are on a daily iron supplement. Routine laboratory work ordered on our preoperative massive weight loss patients include a complete blood cell count, coagulation studies, a comprehensive metabolic panel, and albumin and prealbumin (Tang, Song, Choi, Fernstrom, & Rubin, 2007). Residual comorbidities may signal the need for further medical clearances from various subspecialists or the patient's general internist, and these are also ordered during their preoperative visit.

During the patient's initial consultation, an assessment of their self-image is obtained. By reviewing this with the patient, we can establish how the patient perceives his or her body after their weight loss. Many patients have a low self-image after massive weight loss because of the excess skin they now have. A low self-image, coupled with a history of anxiety and/or depression, may signal patients who either have body dysmorphic disorder or may have unrealistic expectation of what body contouring can achieve (Gusenoff & Rubin, 2008). These patients are referred to their mental health professionals, primary care provider, or to a new professional for clearance prior to surgery. Patients are also asked if they have an adequate support system available for the postoperative recovery period. Patients usually need assistance with their activities of daily living the first week after their procedure and having a support system available is a necessity during the initial recovery period.

Medical coverage for body-contouring surgery varies by state and insurance company. A panniculectomy (removal of the abdominal pannus) usually includes removal of the apron of skin below the umbilicus. Current procedural terminology considers the addition of transposing the umbilicus or tightening the rectus muscles as an abdominoplasty, and additional fees may apply as determined by the surgeon. Other procedures covered by insurance include breast reduction when adequate volume remains after weight loss to be reduced and the patient is symptomatic. For the majority of postbariatric patients, there is insufficient volume for a breast reduction because of skin laxity and deflation, and a breast lift, or mastopexy, with or without augmentation would be indicated.

In 2002, the Life After Weight Loss clinical program was established at the University of Pittsburgh. Our Life After Weight Loss program specializes in body-contouring surgery after massive weight loss either by bariatric surgery or by self-induced weight loss (Tang et al., 2007). The following scenario follows a patient through the initial consultation for body-contouring surgery at the UPMC Life After Weight Loss program.

Lily (factitious patient) is a 36-year-old, 5′ 5″ tall woman who underwent Roux-en-Y gastric bypass surgery in April 2011. Lily's initial plastic surgery consult was in January of 2013 and she weighed in at 145 lb with a BMI of 24 kg/m^2. Her weight prior to the gastric bypass surgery was 250 lb with a BMI of 42 kg/m^2. She stated that her weight has been stable for the past 3–4 months. Her postsurgery weight loss pattern was assessed to determine whether she had plateaued slightly higher or had regained significant weight after the bariatric procedure. Lily expressed concern about the excess abdominal skin (hanging pannus) she had developed since her massive weight loss. She had other areas that bothered her but the pannus was what was causing her the most discomfort. She experienced rashes under the pannus that caused a burning sensation. It was noted that her pannus extended down over the genital area. She experienced the rashes all year long, but they were intensified in the summer months. She had tried over-the-counter powders and creams but had not had any relief.

Review of Lily's medications, allergies, medical history, and surgical history was completed. Her only medications are vitamins and iron supplementation. Prior to the weight loss, she had been treated for hypertension and diabetes but had been off all medications since her laparoscopic gastric bypass. She had been anemic since her bypass surgery, which she was told is not uncommon, and she had been taking the prescribed iron supplementation. Lily underwent a comprehensive nutritional evaluation in our program that includes an assessment of all daily meals and snacks, as well as fluid intake. Ideally, she should be consuming 70–100 g of protein a day around the time of surgery. Protein intake is essential for wound healing as amino acids compose the collagen in the wound; having a low protein intake can lead to wound breakdown (Koltz, Chen, Messing, & Gusenoff, 2010). Lily was counseled on ways to optimize protein intake. Eating foods such as yogurts, cottage cheese, eggs, protein shakes, and protein bars is encouraged. Because malnutrition often occurs after bariatric surgery, total protein, albumin, and prealbumin levels are often checked prior to surgery.

An evaluation of Lily's exercise program was also performed. Lily told the provider that she exercised 3–4 times a week at home. Exercising is an important aspect in helping patients obtain an ideal BMI for surgery (Koltz et al., 2010). Maintaining a healthy lifestyle is important for maintaining results after body-contouring surgery. If patients are actively

losing weight, surgery should be deferred so that they do not develop further loosening of the skin with ongoing weight loss after their surgery. Lily had smoked a pack of cigarettes a week for the past 5 years. Lily was counseled on smoking cessation and was informed that she had to be off cigarettes for at least a month prior to surgery and also a month after surgery. Lily was informed that smoking causes vasoconstriction of the blood vessels, which can cause wound healing issues at her surgical incision sites (Gusenoff & Rubin, 2008). She will also be given a printed instruction list on smoking cessation, which includes not being around second-hand smoke or using nicotine patches or gum. Patients are counseled to see their primary care physician for medical assistance with smoking cessation. She also was informed that a urine cotinine test would be performed 2–3 weeks prior to surgery and if the test was positive her surgery would be cancelled. This urine test detects the presence of cotinine, a metabolite of nicotine, and is also sensitive enough to measure the exposure to secondhand smoke. Once she tests negative, her surgery would be rescheduled.

Lily has a good support system at home and they are committed to seeing her through this surgical process. She understands that she may feel depressed after the surgery but that her mood will lighten as her recovery progresses. For many patients, the first week after their surgery is the most difficult. They are experiencing pain and limited mobility, depending on the procedure they underwent. Having a panniculectomy is a very big surgery, and it does take time for the body to adjust to the changes. The incision is from hip to hip and she will have two drains. She will need to wear a binder for 6 weeks, and during the first week she will be walking in a bent over position to eliminate any tension to the abdominal incision. The most common complaint from patients is pain at their drain sites; once these are removed, they feel more comfortable and have more freedom of movement.

Lily prepared herself for the physical examination but was not looking forward to being evaluated in front of a mirror. The plastic surgeon identified the areas of greatest concern and then determined an appropriate treatment plan for the patient. Lily was a candidate for a panniculectomy and the procedure was explained to the patient in detail, including that she would be trading the excess skin in for a scar. Asymmetries were also pointed out at the time of surgery, as well as any surrounding areas that might be affected by the surgery. For instance, after procedures such as a breast reduction, extra skin around the back or the abdomen may appear more prominent. Similarly, after a panniculectomy, hips and thighs may appear larger once the extra skin is removed. After the initial evaluation was complete, photos were taken of Lily's abdomen. Multiple views were taken including a frontal view, oblique views, lateral views (Figure 1–5).

FIGURE 1 Frontal view.

FIGURE 2 Right oblique.

FIGURE 3 Right lateral.

FIGURE 5 Left lateral.

Lily will return to the office for a second counseling visit prior to surgery. During this second consultation, all the preoperative instructions are given. She will be given a booklet with emergency contact numbers; a list of medications to avoid 2 weeks before or after surgery including aspirin-containing medications and herbals; drain instructions; procedure specific instructions; and information about bowel preparations for any abdominal based surgery or body lift. She will be given instructions on performing light bowel preparation before surgery so that she does not have to strain after the surgery. Two days before surgery, Lily was instructed to clip the hair in her pubic region or any other hair-bearing regions being operated upon to reduce infection risk on the day of surgery (Association of periOperative Registered Nurses, 2013).

FIGURE 4 Left oblique.

FIGURE 6 Pre-op markings right oblique view.

FIGURE 7 Pre-op markings right lateral view.

FIGURE 8 Pre-op markings left oblique view.

FIGURE 9 Pre-op markings left lateral view.

FIGURE 10 Frontal view with the pannus lifted to demonstrate any mons ptosis.

FIGURE 11 Post-op frontal view.

FIGURE 12 Post-op right oblique view.

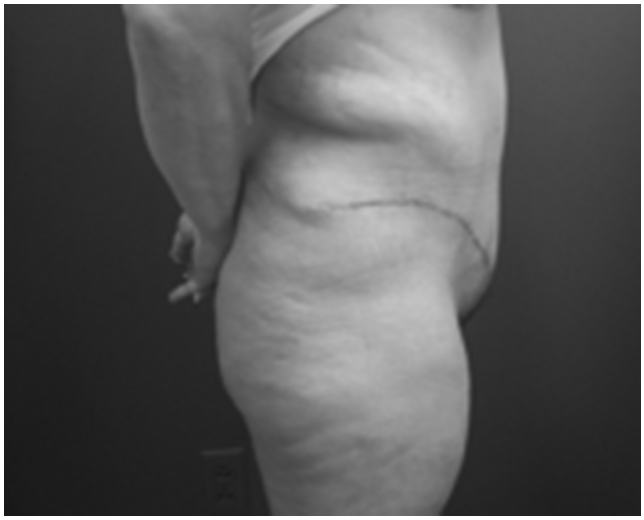

FIGURE 13 post-op right lateral view.

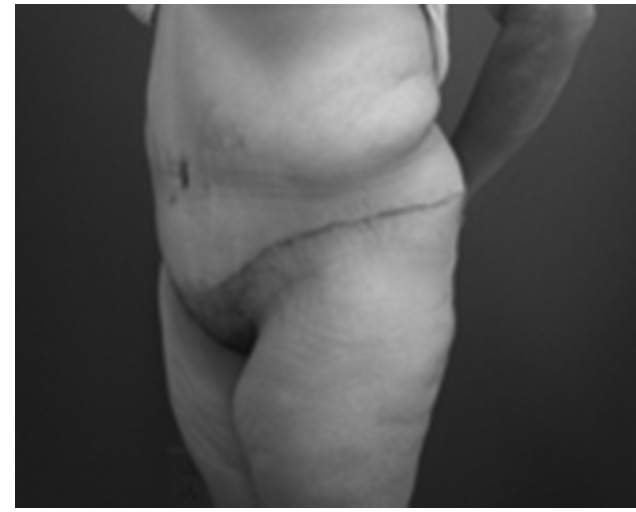

FIGURE 14 Post-op left oblique view.

A comprehensive informed consent was performed, preoperative tests were ordered, and consultations with any medical specialists were arranged at that time.

On the day of surgery, the surgeon marked the patient and identified the future scar positions (Figure 6–10). This was done in the preoperative holding area.

Lily is very pleased with her postsurgical results and asks questions on what she can do now to maintain these results (Figure 10–14). Maintenance of weight stability is important after body-contouring surgery to maintain their results. The patient was instructed to continue with her current exercise and eating regimen. Her exercise routine would be limited during the first 6 weeks after surgery, but walking is encouraged.

The postbariatric body-contouring population is a challenging subgroup of patients with unique needs. The comprehensive Life After Weight Loss program has become a practice model for other surgical centers striving for excellence in body-contouring procedures. In addition to clinical care, the program also is dedicated to clinical and basic science research including extensive adipose stem cell biology research. Collaborations with the bariatric surgery program also aid in providing the utmost support for patients undergoing body-contouring surgery.

REFERENCES

Bossert, R. P., & Rubin, J. P. (2012). Evaluation of the weight loss patient presenting for plastic surgery consultation. *Plastic and Reconstructive Surgery, 130*(6), 1361–1369.

Gilbert, E. W., & Wolfe, B. M. (2012). Bariatric surgery for the management of obesity: State of the field. *Surgical Management of Obesity, 130*(4), 948–954.

Gusenoff, J. A., & Rubin, P. (2008). Plastic surgery after weight loss: Current concepts in massive weight loss surgery. *Aesthetic Surgery Journal, 28*(4), 452–455.

Koltz, P. F., Chen, R., Messing, S., & Gusenoff, J. A. (2010). Prospective assessment of nutrition and exercise parameters before body contouring surgery: Optimizing attainability in the massive weight loss population. *Plastic and Reconstructive Surgery, 125*(4), 1242–1247.

Association of periOperative Registered Nurses. (2013). Recommended practices for perioperative patient skin antisepsis. In: *Perioperative Standards and Recommended Practices* (pp. 75–90). Association of periOperative Registered Nurses.

Tang, L., Song, A. Y., Choi, S., Fernstrom, M., & Rubin, P. J. (2007). Completing the metamorphosis building a center of excellence in post bariatric plastic surgery. *Annals of Plastic Surgery, 58*(1), 54–56.

SUGGESTED READING

Retrieved October 3, 2013, from http://www.upmc.com/bodychangers