The Art of Body Contouring and Post-Bariatric Plastic Surgery

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MEET DR AGHA

Siamak Agha-Mohammadi, MD PhD, is a Board-Certified Plastic Surgeon who completed his medical education at the prestigious University of Cambridge, England, and his residency in Plastic and Reconstructive Surgery at the University of Pittsburgh Medical Center; one of the most respected and comprehensive Plastic Surgery training programs in the United States. He is a member of the American Society of Plastic Surgeons.

Dr. Agha has a special interest in Breast and Body Contouring Surgery, as well as Post-Bariatric Plastic Surgery. Prior to relocating to Orange County, Dr. Agha worked closely with Dr. Peter Rubin, the director of Life After Weight Loss Program at The University of Pittsburgh Medical Center and the co-author of Aesthetic Surgery after Massive Weight Loss, Plastic Surgery book (2007). He subsequently worked in private practice with Dr. Dennis Hurwitz, pioneer of the Total Body Lift procedure, at Hurwitz Center for Plastic Surgery in Pittsburgh for several years. Dr. Agha now dedicates about 50% of his practice to post-bariatric procedures.

Dr. Agha provides a comprehensive approach to bariatric patients who wish to achieve their optimal shape following weight loss. One of the most important considerations for a plastic surgeon to realize is that a bariatric patient must be treated differently from non-bariatric body contouring patients. What has worked well for many years on other patients simply does not provide adequate shaping and contouring for the bariatric patient. Dr. Agha is considered an expert in Post-Bariatric Plastic Surgery and has developed cutting-edge techniques such as High-Definition Abdominoplasty™, Spiral Thighplasty, and Buttock Reshaping. He has appeared as faculty of Body Contouring Conferences and has published numerous peer-reviewed articles and book chapters in plastic surgery and post-bariatric body contouring.

As you consider plastic surgery, one of the most important decisions you will make is choosing your surgeon. Apart from training in the discipline of Plastic and Reconstructive Surgery, it is also important to understand the artistic and aesthetic philosophy of your chosen plastic surgeon. This is best appreciated by reviewing your surgeon’s gallery of pre and post-op photos. Choose your plastic surgeon as if your results depended on it. Dr. Agha’s philosophy is commitment to excellence in patient care and superior surgical results.

Dr. Agha believes that an understanding of the human anatomy, and the changes that occur through ageing, pregnancy, weight loss, and life style are fundamental for achieving optimal surgical results. In addition, appreciation of aesthetics, beauty, and human physique forms the basis of optimal artistic results. His philosophy is to minimize the size of any given incision and to complete surgical procedures through well-hidden incisions. Please take a moment to review his surgical gallery with attention to symmetry, incision, and aesthetic outcome.
WEIGHT LOSS AND BARIATRIC SURGERY

Today, one of the most popular treatment strategies to obesity is bariatric surgery. More people are opting out for the surgical alternative, with its consistent track record of success. Of all the available methods for weight loss, bariatric surgery is currently the most effective method for sustainable weight loss and amelioration of obesity-related complications.

The current mainstay of bariatric surgery procedures is drastic reduction of food consumption by means of restricted food intake, malabsorption of the food, or a combination of both interventions. The two most common bariatric surgeries are the laparoscopic adjustable banding (LAGB) and the roux-en-Y gastric bypass (RYGBP). LAGB is a restrictive procedure, in which a small stomach pouch is created, resulting in early and prolonged satiety. The RYGBP procedure involves both restrictive and malabsorptive components. Typically, gastric bypass surgeries produce weight loss within a year after surgery, which is 3 to 4 times superior to what can be achieved with non-surgical weight management programs. More importantly, most of the lost weight is maintained for many years.

The number of bariatric operations has risen each year with an estimate of 205,000 procedures performed in 2007, according to American Society for Metabolic and Bariatric Surgery. The popularity of bariatric surgery has led to an increasing population of post-bariatric patients who require body contouring surgery. According to statistics released by the American Society of Plastic Surgeons, about 66,000 body contouring procedures were performed in 2007.

YOU ARE NOT ALONE

Gastric bypass surgery (bariatric surgery) or massive weight loss (MWL) leaves a spectrum of changes that most patients find unpleasing. The nature and degree of the changes that occur after weight loss are determined by the patient’s gender, age, pre-bariatric weight, the actual weight loss, and genetic predisposition of the patient. As we gain weight, the skin is all too accommodating in expanding and stretching in order to meet the body’s growing size. With cycles of weight gain and loss, expansion of the soft tissues of the body can adversely affect the skin dermal elasticity, as well as the underlying connective tissue stability. It is this connective tissue mesh that is responsible in holding the skin tightly against the underlying muscle structures. This results in skin stretch marks and inability of the skin to undergo contraction with weight loss.

After the weight loss, many patients experience significant changes in the form, shape, and contour of their arms, upper chest, breasts, back, buttocks, abdomen, thighs, and calves. Many of these changes follow a predictable course.

The arms show mild, moderate or severe laxity of their undersurface. This extends from the elbow to the upper back through a hanging and hollowed arm pit. The breasts undergo typical deflation and flattening, as well as significant sagging. The upper chest laxity hangs loosely as cascading rolls over the chest and back, and obscures the breasts. The infra-mammary fold under each breast is pulled down by the weight of the hanging abdominal pannus (bulge). This pull deforms the shape and form of the infra-mammary fold, resulting in displacement of the breasts on the chest region. These changes further deform the breast/chest demarcation and result in a boxy contour.

The abdominal laxity presents as a large hanging pannus that often extends over the pubic region. The groin region is lax and sagging. The lower back tissue forms a roll that extends from the abdominal pannus over the waist regions. The buttocks are deflated, loose and sagging. Also the
thigh tissue becomes loose and sags in the front, back, inner and outer surfaces. Folds of loose thigh tissue can develop on both the inner and/or outer surface.

Weight-loss patients probably embody the concept of “individuality” more than any other group of surgical patients. The aim of body contouring surgery is a customized correction of the lost shape and form. In the weight loss patient a thorough understanding of the deformity and the patient’s desires need appreciation.

**PREPARATION FOR BODY CONTOURING SURGERY**

As you know, bariatric surgery alters the amount of food intake and absorption of food by the gastrointestinal tract. The decrease in calorie intake and nutrient absorption that facilitates significant weight loss often results in nutritional deficiencies that can cause poor wound healing, poor defense mechanisms, anemia (a decreased red blood cell count) and impaired clotting mechanisms. In the months to years that follow bariatric surgery, many patients develop nutritional deficiencies of proteins, vitamins, and minerals. To understand the nutritional as well as physiological status of the weight loss patient, Dr. Agha recently reviewed the nutritional deficiencies of post-bariatric patients in an article that appeared in the August 2008 issue of Plastic and Reconstructive Surgery Journal the official organ of the American Society of Plastic Surgeons. *Nutritional Deficiency of Post-Bariatric Body Contouring Patients: What Every Plastic Surgeon Should Know?* The review indicates that many of the patients are deficient in protein, vitamin A, C, B₁, B₆, B₁₂, C, D, K, folate, thiamine, iron, zinc and selenium. Unfortunately most of these nutrients are necessary for effective wound healing and optimal immune response.

It is well known that nutrition profoundly influences the process of wound healing, such that depletion exerts an adverse effect and nutritional supplementation has a positive effect. Multiple published studies in gastrointestinal surgery, cardiovascular surgery, and head and neck surgery, have confirmed a significant reduction in postoperative infectious complications, length of hospital stay, and complication and death rates in subjects receiving nutritional supplementation. The greatest improvement was observed in patients receiving specialized nutritional support before their operation. These observations have led to development of a specific guideline for “Enhanced Recovery after Surgery (ERAS)” by the European Society of Clinical Nutrition and Metabolism. The essence of the guideline is integration of nutritional support into the overall operative management.

Since 2005, Dr. Agha has worked with NutrEssential Inc. to develop a nutritional supplement to specifically meet the needs of the weight loss patients in preparation for body contouring surgery. ProCare M.D. (NutrEssential) is a comprehensive formula of protein, free amino acids, arginine, glutamine, and dietary nucleotides, as well as vitamin A, C, B₁, B₁₂, folate, thiamine, iron, zinc and selenium. Arginine and glutamine have been deemed essential in many studies to the healing of wounds and optimization of the immune system.

Prior to your surgery, Dr. Agha will evaluate your nutritional parameters through laboratory tests for albumin, prealbumin, vitamin A, C, B₁₂, folate, and homocystine levels. You will then be asked to start ProCare M.D. three weeks prior to your surgery and continued until healed at about 4 to 6 weeks after surgery. Since using ProCare M.D., Dr. Agha has noted accelerated wound healing and significantly lower complication rates in many body contouring patients. The concept of “Enhanced Recovery after Surgery” and our results with the use of ProCare M.D. will soon appear in a manuscript to appear in Plastic and Reconstructive Surgery Journal: *Potential Impacts of Nutritional Deficiency of Post-Bariatric Patients in Body Contouring Surgery.*
## Nutrients Commonly deficient in gastric bypass patients and their impact on wound healing and immune response activity

<table>
<thead>
<tr>
<th>Primary nutrient deficiency</th>
<th>Wound Healing</th>
<th>Immune System Function</th>
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<tbody>
<tr>
<td><strong>Protein</strong></td>
<td>Required for proliferation of cells involved in wound healing (fibroblasts), new vessel formation, and angiogenesis, and collagen production.</td>
<td>Protein is necessary for white cell activity and immunoglobulin production against infections. Protein deficiency leads to increased susceptibility to bacterial, viral, and parasitic infections</td>
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| **Vitamin C** | Involved in collagen synthesis which is detrimental in wound healing and new vessel formation. | + Enhances white cell response and function of phagocytes.  
- Decreases free radical production  
- Decreases risk of infection |
| **Vitamin A** | Increases white cell influx to wound site, fibroblast proliferation and collagen synthesis- all necessary in wound healing | - Involved in white cell function in defense responses.  
- Involved in mucosal barrier function to infectious agents. |
| **Vitamin B12** | Necessary for DNA synthesis of newly proliferating fibroblast cells involved in wound healing | Necessary for DNA synthesis of newly proliferating white cells involved in defense responses |
| **Folate** | Necessary for DNA synthesis of newly proliferating fibroblast cells involved in wound healing | Necessary for DNA synthesis of newly proliferating white cells involved in defense responses. |
| **Iron** | Required for collagen synthesis in wound healing | Involved in white cell (T-lymphocyte and macrophage) production and response to infections |
| **Zinc** | Required for DNA metabolism, protein synthesis, synthesis of structural proteins such as collagen, function of several hundred zinc finger proteins, DNA synthesis, and for normal insulin-like growth factor production | Prolonged zinc deficiency results in white cell death, especially T- and B-lymphocytes. |
| **Selenium** |  | Increases antioxidant host defense system affecting white cell function |
| **Copper** |  | Involved in white cell production |

### TIMING FOR BODY CONTOURING SURGERY

On average, gastric bypass patients lose 60% to 70% of their excess weight during the first 12 months after surgery. Many patients regain some of the lost weight during the ensuing years and on average regain about 25 lb by their fifth post-operative year. Thus, from the standpoint of plastic
surgery, the best time for body contouring surgery is probably between 18 to 24 months after weight loss. This is the time that patients have lost most of their excess weight and have significant tissue excess and laxity. However, this is also the time that most patients have minimal nutritional reserves following months of reduced food and calorie intake and continued malabsorption of fat, carbohydrates, proteins, vitamins and minerals. With up to 50% of reported nutritional deficiencies occurring within the first year of weight loss surgery, it is essential to pay serious attention to the patient’s nutritional status prior to any body contouring procedures. Dr. Agha contemplates body contouring surgery only when your weight has reached a plateau for several months. He considers this period critical for repleting your nutritional reserves. It is also important to realize that 3 to 5 percent of post-bariatric patients lose greater than 100% of their excess weight. This group of patients have often had complicated post-bariatric course and may be clinically malnourished. Again, it is imperative to recognize this group of patients pre-operatively, since body contouring surgery on a malnourished patient can potentially lead to more severe complications.

CONSULTATION

During your initial consultation, you will be asked about your general physical and mental health status, pre-existing health conditions, prior surgeries, your medications, allergies, and smoking habits. Relevant questions in the history include:

- Previous surgical procedures (including laparoscopic procedures)
- History and method of weight gain and loss
- A detailed history of current medical and psychological problems, e.g. heart disease, diabetes, and a history of thromboembolic disease, connective tissue disorders and wound healing problems.

It is important that you be thorough when providing the requested information as this will allow Dr. Agha to proactively address medical concerns. When asked about medications, be sure to include any diet pills, vitamins or herbal preparations. Certain diet pills can interfere with anesthesia and adversely complicate your surgery. Also, some vitamins and herbal medications can affect your blood pressure and clotting ability. Honesty regarding your smoking and alcohol use is also very important, as these will have a profound impact on your recovery period and your ability to heal following your procedure.

After reviewing your medical history, Dr. Agha will discuss your concerns, priorities and motivations for pursuing body contouring surgery. Dr. Agha will then proceed with examining you and assesses your upper and lower body laxity. Each of these components will determine which procedure is best for you. Dr. Agha will subsequently provide you with information on different options and will explain the advantages and disadvantages of each procedure to you. You will then be provided with information regarding the potential risk and complications of each surgery. Finally, considering your input, Dr. Agha will develop a comprehensive plan for your body contouring procedures to best suit your anatomy, and to meet your desires. He will also discuss the limitations of surgery based on presenting condition and the expected outcome. Typically, Dr. Agha performs a total body contouring in one to three stages.

In summary:

- Body-contouring surgery is major surgery and may involve multiple stages.
- Medical evaluation and clearance for surgery are mandatory.
- You will need to participate in making decisions regarding your desired procedures.
- Potential complications do exist and should not be taken lightly.
- Insurance authorization will take time and patience.
- To ensure the best outcome, the "whole person" needs to be treated.
- Nutrition should be optimized before and after surgery
- Weight-loss surgery is essentially a trade of between scars and tighter contour.
- Many patients experience some degree of skin laxity months after the body contouring surgery. Thus, secondary surgery may be necessary.

**MEDICAL EVALUATION**

Although many medical disorders resolve themselves with weight loss, long-term obesity can have lasting impacts on the organs. The demands of the extreme weight on the body can cause cardiac disease and pulmonary issues. Prior to surgery, you will be asked to obtain specific lab tests to ascertain your nutritional reserves, your liver and kidneys function, blood clotting ability, and cell counts. A careful medical evaluation by your primary care physician is always necessary prior to plastic surgery after weight loss. Depending on your age and health status, you may also need additional studies such as a chest x-ray, electrocardiogram, stress tests, mammogram, etc. The specific set of tests is determined on a patient-to-patient basis. These precautions are taken to ensure that surgery will be safe and to rule out the possibility of medical issues that could compromise your surgery.

**INSURANCE COVERAGE**

Insurance carriers generally do not cover body contouring surgery after significant weight loss. These procedures are considered elective and cosmetic in nature. But, your carrier may cover a certain percentage of your surgeries if you have an abdominal wall hernia that will be corrected through the procedure or a very large abdominal pannus that meets certain criteria (see below). The presence of an overhanging pannus may result in chronic and persistent local skin irritations in the abdominal folds. These conditions may include intertrigo, intertriginous dermatitis, cellulitis, ulcerations or tissue necrosis, or they may lead to painful inflammation of the subcutaneous adipose tissue (i.e., panniculitis). When panniculitis is severe, it may interfere with activities of daily living, such as personal hygiene and ambulation. In addition to excellent personal hygiene practices, treatment of these skin conditions generally involves topical or systemic corticosteroids, topical anti-fungals, and topical or systemic antibiotics.

In this situation, a panniculectomy is indicated. Panniculectomy is an effective procedure that removes the redundant pannus of skin and subcutaneous fat located in the lower abdominal area. Although the incision resembles that of a tummy tuck approach, there is no correction of the abdominal muscle laxity, nor removal of excess upper abdominal tissue. Panniculectomy is a functional operation rather than a cosmetic correction.

*Insurance coverage for a panniculectomy may be provided for the following criteria:*

- Pannus hangs to or below the level of the pubis, as demonstrated on preoperative photographs.
- The individual’s medical record documents that the hanging panniculus causes skin irritation and/or infection that results in pain, ulceration, intertrigo, and/or panniculitis that is chronic, persistent, and refractory to medical treatment for at least six months. In addition to good hygiene practices, treatment should include topical antifungals, topical and/or systemic corticosteroids, and/or local or systemic antibiotics.
- Pannus interferes with activities of daily living.

*Most insurance companies will request:*
- Dated photographs of the pannus hanging over the pubis and of the pannus elevated to expose the chronic, persistent, and refractory skin infection or irritation.
• Office notes from the treating primary care physician that reflect the chronic, persistent, and refractory skin infection or irritation that persists despite optimal medical care over a six-month period.
• A list of the medications that were prescribed during a six-month period and the length of time the agents were used.

For those who meet the criteria, Dr. Agha will write a letter to their insurance carrier, making the case for medical necessity. It’s also very important to realize that insurance may only cover certain portions of the surgery, and you will be responsible for the remainder. Insurance plans may also exclude coverage of any complications that might occur from surgery.

**COSTS**

The cost of body contouring surgery is dependent on the number of procedures planned and the amount of work needed. Some patients elect to pay prior to surgery, while others opt to finance their procedures. Medical loans and second mortgages are common ways that people pay for body contouring.

Although, the cost of body contouring is a major factor to consider, it is yet another reason not to take body contouring options lightly and to seek a plastic surgeon who specializes in this field.

We do have financing options available through Care credit and Mymedical loan companies. For more information please visit our website.

**WHERE WILL YOUR PROCEDURE BE PERFORMED?**

Dr. Agha has been granted staff privileges at several local hospitals and outpatient surgery centers. In the interest of the safety of his patients, he only performs surgery in fully accredited facilities with the proper services and staff. Your anesthesia will always be administered under the care of a Board Certified M.D. anesthesiologist. General anesthesia is the deepest form of anesthesia, and many consider it to be the safest as well. You are asleep, free of pain, and will not remember the procedure. This is the most common type of anesthesia used for post-bariatric body contouring because these procedures tend to be lengthy and require full muscle relaxation for maximum tightening during surgery.
OPERATIVE PROCEDURES

ARM LIFT OR BRACHIOPLASTY

An aesthetically beautiful arm is considered to be lean and firm, displaying features of the underlying muscles. On the outer surface, the convexity of the shoulder deltoid muscle merges with that of the arm biceps muscle, producing topography that represents a well-built physique. The back surface should be slightly convex from the arm pit (axilla) to the elbow. Typically, with significant weight gain and loss, the soft tissue of the arm will lose its connective tissue attachments to the underlying structures and will sag on the undersurface, leading to ptosis (sagging) or the bat-wing appearance. According to statistics provided by the American Society of Aesthetic Plastic Surgeons, there were 2,516 upper arm lift cases in 1997. In 2007, that number increased to 21,870 cases.

In weight loss patients, Dr. Agha tailors the soft tissue of the arm to fit the underlying musculature by surgically removing excess skin and fat. Depending on the degree of arm tissue excess and laxity, Dr. Agha will plan a customized plan for your surgery. For those with stretched or excess skin, the incisions are determined by the severity of the condition. Minimal skin excess may be treated with a limited brachioplasty with an incision in the armpit alone. Moderate to severe skin laxity is treated with an extended brachioplasty with an incision on the inner aspect of the arm; from the armpit to the elbow. For those patients with severe arm tissue and upper chest laxity, the L-brachioplasty procedure effectively treats the arm, the arm pit and the upper chest laxity. Most patients with significant weight loss fall into this category. The incision typically extends from the elbow on the inner surface of the arm, through the arm pit, and over the outer aspect of the chest (Right picture).

UPPER BODY LIFT

In the weight loss patients, upper body laxity can present in a vertical direction as back rolls, or circumferential direction as excess tissue under the arm pits. The vertical upper body laxity often presents as hanging tissue that drapes from the rib cage in the front to the vertebral column in the back. Recent studies by Dr. Agha (submitted for publication in Plastic and Reconstructive Surgery) identifies up to 5 typical chest and back rolls in severe cases. The upper back roll extends from the breast tail over the chest towards the vertebral column. The midback laxity can present as one or two rolls. The lower back roll spans horizontally over the lower back and upper buttock at the level of the waist and extends as the abdominal pannus in the front.
An Upper Body Lift is a procedure to correct the upper body laxity that includes that of the chest and back. The mainstay treatment strategy for correction of upper back laxity is “transverse thoracoplasty”. This technique involves removal of upper back rolls through incisions that are placed horizontally at the bra level. Although this technique is versatile and effective for severe upper back laxity, it exhibits unsightly back scars.

For milder cases, a “J-thoracoplasty” technique will produce effective correction as well as a well-hidden scar. This technique, developed by Drs. Agha and Hurwitz, involves incisions that are placed vertically from the arm pit to the infra-mammary fold. Through this incision, mild to moderate cases of upper body laxity can be effectively treated.

**Markings for the J-thoracoplasty** - 43 year-old patient of Dr. Agha who weighed 270 lbs before gastric bypass. This patient lost over 130 lbs.

**Same patient as above:** Before and after pictures of upper body lift via J-thoracoplasty technique

**BREAST RESHAPING**

With significant weight loss, typically, the breasts undergo mild, moderate or severe loss of fatty tissue and deflation. The dermal stretch gives a damaged quality to the breast skin. The nipple
areola complex (pink part of breast) often becomes distorted and sagging. The infra-mammary fold under the breast loses its semi-circular form and becomes semi-linear over the outer aspect of the chest, due to the weight of the excess abdominal tissue and back rolls. The breasts are displaced downward and outward on the chest. They also appear broadened by the loss of outer breast tail/chest demarcation. This results in flattening and a loss of breast projection with mild, moderate or severe degrees of sagging.

Many of the aforementioned changes occur independently on each side of the body and the degree of change is often asymmetrical. It is thus not surprising to find that the breasts are also asymmetrical in many aspects; most noticeably the shape and size. For some, the breasts will be completely deflated and empty, whereas others will still have very large breasts (macromastia). In between these extremes, there are variable breast shapes and sizes. However, virtually all weight loss patients will require some form of a breast lift procedure. This is often combined with either a breast reduction or a breast augmentation.

A 43 year-old patient of Dr. Agha who weighed 298 lbs before gastric bypass. The patient lost over 120 lbs.

For those with existing macromastia and sagging, Dr. Agha commonly perform a Wise-pattern breast reduction with internal breast lift by employing the dermal bra suspension technique. This procedure has been developed and described by Drs Rubin and Agha in Plastic Surgery Book: Aesthetic Surgery after Massive Weight Loss (2007).

For others who require breast volume, Dr. Agha offers either the use of breast implants or your own excess upper body tissue as flaps for breast augmentation. This latter technique has been pioneered and developed by Drs. Agha and Hurwitz and have been published in Annals of Plastic Surgery (2006). For certain patients, Dr. Agha has found this approach an effective and safe strategy to aesthetically contour the breast and upper chest and back. It treats the breasts and the upper body laxity in unison and uses the excess upper abdominal tissue, as well chest tissue or upper back tissue to supplement the lost breast volume. Both breast reshaping and upper body lift are thus performed simultaneously.

Use of your known excess upper back tissue to augment your breast. This is termed “the Spiral Flap” by Drs Agha and Hurwitz.
A BDOMINOPLASTY

There are many types of abdominoplasty that are routinely performed in the realm of Plastic Surgery. However, most weight loss patients often benefit from a circumferential abdominoplasty with or without a Fleur-de-lis component (vertical incision). Circumferential abdominoplasty, also known as “belt abdominoplasty”, is reserved for those patients who present with lower body laxity. The typical patient is unhappy with the looseness of her/his abdomen, thighs and buttocks. The circumferential abdominoplasty places incisions that extend all the way across the patient's lower back. Through these incisions the excess abdominal tissue, waist tissue, and lower back tissue are removed. The buttocks and outer aspect of the thighs are elevated, followed by completion of the abdominoplasty procedure.

A 37 year-old patient of Dr. Agha who had a lower body lift, buttock augmentation with her lower back tissue, and circumferential abdominoplasty. Post-op pictures were taken and sent by the patient at 6 weeks since she was an out-of-state patient.

Some patients may need an Inverted-T or Fleur-de-lis abdominoplasty. This procedure combines a vertical resection of excess abdominal tissue with that of the horizontal resection that the circumferential abdominoplasty offers. The vertical incision of Fleur-de-lis is reserved for those rare patients who have lost significant weight and need substantial quantity of skin and tissue removed. The patients often present with both vertical and circumferential abdominal tissue laxity and lose their hour-glass look due to fullness of their waist and sides. Whereas the vertical incision removes excess circumferential tissue, the horizontal resection removes excess vertical tissue. Fleur-de-lis abdominoplasty is also suitable for those patients who already have a midline incision due to previous abdominal surgery, such as gall bladder surgery or open gastric bypass surgery.

A 31 year old female who lost 110 lbs of weight through open gastric bypass surgery. She weighed 150 lbs before her body contouring surgery. Patient had a single-stage total body lift with Fleur-de-lis circumferential abdominoplasty since she already had a midline scar from her bariatric surgery.

LOWER BODY LIFT

The lower body lift is a combination of the circumferential abdominoplasty, buttock lift and outer or lateral thigh lift. Through the circumferential abdominoplasty incisions, the excess lower back,
waist, upper thigh, and abdominal tissues are excised. The buttock tissues are elevated and secured at an appropriately marked position on the lower back. A buttock lift on its own can result in flattening of the buttock region. Dr. Agha often combines this procedure with buttock augmentation (see below). The outer thighs are undermined selectively, elevated and secured at a higher position to complete the lower body lift. This results in a smoother contour of the outer thigh skin and recreates the waist concavity. Finally, the excess abdominal tissue is excised and the abdominoplasty is completed in front.

**BUTTOCK ENHANCEMENT**

Most weight loss patients present with lower body rolls and buttock deflation and sagging. The buttocks become deflated, broad and sag over the upper thigh region on the back. They also lose projection and their round-shape. A number of procedures have been developed by Dr. Agha and other Post-bariatric Plastic Surgeons to optimize the shape and projection of the buttocks in the weight loss patients. Most of these procedures lift the buttock region and enhance the buttock projection and shape.

**Buttocks Reduction and Lift**

Some patients wish to have smaller buttocks. Most often, for larger reductions, a buttock lift together with buttock reshaping will be needed. This requires a plastic surgeon who has an excellent knowledge of female proportions, an artistic eye, and a keen three-dimensional sense. Like all buttock enhancement surgeries, buttock reduction and lift truly requires a much customized strategy. During this procedure, Dr. Agha removes excess skin and tissue of the upper buttock region and lower back. He will then lift the buttock tissue to a predetermined position on your lower back and will reconstruct the V-shaped depression between the buttock and the back that is a recognized aesthetic feature. A buttock reduction and lift can flatten the buttock mound. Dr. Agha will restore buttock projection and form during these procedures by use of buttock reshaping techniques.
The same patient as above- She had a lower body lift, buttock reduction, reshaping and lift, and Spiral thighplasty

Buttock Augmentation and Lift

For other weight loss patients, the buttocks are loose and severely deflated. A combination of buttock lift, buttock augmentation and reshaping will serve these patients the best. This procedure involves creation of pockets under the buttock regions to accommodate for the lower back tissue that is turned under (as flaps) to augment the buttocks with your own tissue. In this manner, moderate degrees of buttock augmentation can be performed. The buttocks are then lifted to a predetermined position on the lower back to reconstruct the V-shaped demarcation. This is a rather complex surgery that truly requires enhanced training in body contouring surgery. This procedure is most often done in conjunction with a lower body lift. Dr. Agha performs his own signature buttock reshaping procedure that combines many of the procedures described here.

Buttock Lipoaugmentation

Buttock lipoaugmentation is employed by Dr. Agha to sculpt, contour and project the buttock regions appropriately. This procedure is designed to fill the buttocks so that the final overall shape is a lifted and rounded contour. It involves harvesting your own body’s fat from the flanks, hips, lower back, thighs, or abdomen, and transferring it into the buttock tissue. Because the areas receiving liposuction are now leaner and sculpted, the round full buttocks will become the beautiful highlight of your sensuous new shape. A patient must have some fat and muscle already present in her/his buttock to serve as a foundation for the grafted fat to be placed into and to grow into. Dr. Agha removes fat from selected areas of your body with very gentle liposuction to protect the living fat cells. The liposuctioned fat is then washed with antibiotic solution, processed, and carefully injected into the buttocks as small droplets or micrograft. During this fat micrografting process the buttocks can be contoured to the desired shape and size. The fullness and projection of the buttocks can be greatly increased by layering many fine layers of fat micrografts throughout the buttock region.

Patient of Dr. Agha after one session of Buttock lipoaugmentation at 9 months.
THIGH LIFT

The ideal thigh contour follows certain features that define an aesthetically beautiful and healthy figure. These include thighs that are proportionate to the buttocks, abdomen, and legs. The trunk and outer thighs follow an hour-glass silhouette with pleasing concavity of the waist rising to a smooth convexity of the outer thighs. From the back, the thigh is demarcated from the buttock with a well-defined fold. From the front, the thighs are smooth and conform to the mass of the underlying muscles. The inner thighs are firm and flat. Both men and women who have loose tissue and skin of their thighs will benefit from a thigh lift. The skin is usually saggy, flabby and/or dimpled. These characteristics display poor skin quality that will not respond to liposuction.

There are two different types of thighplasty performed by Dr. Agha for weight loss patients. These procedures include the Vertical thighplasty and the Spiral thighplasty which was developed by Dr. Agha. Each procedure targets a certain area for a specific result.

Spiral Thighplasty

A Spiral thighplasty is the signature thigh lift procedure that Dr. Agha has developed for those who require lower body lift surgery. As the name implies, the spiral thigh lift improves the thigh laxity of the front, back, inner and outer thigh. The procedure starts on the back with an incision below the buttock fold. Through this incision, the excess tissue of back of the upper thigh is excised. The thigh is then elevated to a higher position and secured to the underlying tissue. The buttock fold is then meticulously reconstructed. The remaining laxity of the inner thigh and the front are then corrected by continuing the incision over the groin crease at the junction of the thigh and pubic area. A wedge of excess skin with fat is then removed and the inner thigh is lifted and secured at a higher position to the underlying tissues. The groin crease is then reconstructed where the scars are often undetectable under clothing. This provides a tighter and smoother thigh contour and enhanced skin flow. In essence, the Spiral thighplasty combines the incisions of the thigh lift with that of a lower body lift to improve the thigh contour circumferentially, as well as to lift the buttocks, to restore an hour-glass waist, and to tighten the lower back and abdomen.

*Patient who had Circumferential abdominoplasty, Buttock Lift, Upper Buttock Augmentation with her own lower back tissue, Lower body lift and Spiral thighplasty.*
**Vertical Thighplasty**

A vertical thighplasty is recommended for the treatment of loose skin of the thigh in a circumferential dimension, especially in mid and lower thighs. The procedure involves removal of a large ellipse of skin and inner thigh tissue through a vertical scar that starts at the groin crease and extends to the inner knee. The procedure is recommended for a selected number of patients who have lost significant weight and present with significant thigh laxity. For these patients, Dr. Agha combines the Vertical thighplasty and the Spiral thighplasty to obtain thigh circumferential reduction and lift. Whereas the scars after the Spiral thighplasty are covered by most underpants, the vertical thighplasty scar will be seen when the inner thighs are exposed.

**HIGH_DEFINITION BODY LIFT™: DR AGHA’S PERSONAL APPROACH AND PHILOSOPHY**

The female physique embodies the true sense of a three dimensional shape in space. It not only represents curves in a 2 dimensional hour-glass form, but also curves that are appreciated as the bust in the front and the buttock in the back. Unfortunately, the body lift procedure is a purely one-dimensional correction of the vertical tissue laxity. It does not correct for the circumferential laxity nor for the lack of contours and projections. Dr. Agha performs his signature Body Contouring Procedure that aims to return a three-dimensional correction to the tissue laxity. This involves correction of both vertical and circumferential laxity, as well as the third dimension of projection and contour. The latter is most applicable to the breasts, the lower back, the buttocks and the abdomen.

Typically, Dr. Agha performs his signature “High-definition Body Lift™” in 2 stages. This involves about 16 hours of team surgery in total. By using trained physician assistants, Dr. Agha is able to complete each stage of the surgery in about 7-8 hours. Depending on the patient’s desire or what produces the best outcome, one stage will address the lower body and another stage the upper half. He performs his lower body lift with a three-dimensional depiction of the female body in mind. He starts the procedure on the patient’s back. First the upper back rolls are liposuctioned. This liposuctioned fat is then collected in a sterile container, washed with antibiotics and processed for injection into the buttock regions as small droplets (see buttock lipoaugmentation section). In this manner, the contour and projection of the lower buttock regions are restored. The upper and lower incisions of the circumferential abdominoplasty are then made on the lower back and the upper buttock, respectively. The lower back tissue, in between the two incisions, is then mobilized as flaps for augmentation of the upper buttock region. Appropriately sized pockets are then created under the upper buttock regions for flap accommodation. The buttock is then lifted and the incisions are brought together by internally placed absorbable
sutures. In this way, the buttock sag and laxity are corrected with a buttock lift, and the volume lost is replaced through your own lower back excess tissues. Thus buttock projection that defines feminine beauty and sensuality is returned and at times even enhanced. Many patients discover a curvier and fuller buttock than ever before. Dr. Agha then continues the lower body lift procedure by completing the outer thigh lift. The outer tight tissue is selectively undermined using a special instrument as far as the knee region. It is then elevated and secured at a higher position with deep stitches. Next, he turns his attention to the thigh region below the buttocks. To correct laxity of the thigh back, Dr Agha has developed a signature procedure that he has termed the Spiral thighplasty. This procedure corrects for the thigh laxity starting below the buttock region. The excess upper thigh tissue is excised at the buttock fold, and the thigh is elevated to a higher position. The thigh is then secured to the underlying tissues and the buttock fold is carefully reconstructed. After closure of all the skin incisions, the patient is rotated on the bed and placed on her back with ample help.

Dr. Agha next completes the circumferential abdominoplasty in the front, followed by completion of the Spiral thighplasty. The Spiral thighplasty, unlike other thigh lift procedures, reduces both the thigh excess in a vertical as well as circumferential dimension. Most of Dr. Agha’s patients notice a marked reduction in their thigh measurements as well as their overall size. The whole mark of Dr. Agha’s approach is return of a three-dimensional contour to the body, as well as placement of symmetrical incisions that are placed low on the abdomen and well-hidden in a bikini. This combination of procedures can take anywhere from 7 to 8 hours of surgery.

During the subsequent stage, the remaining body contouring procedures, including an extended L-brachioplasty, an upper body lift, and breast reshaping, is completed. This combination of procedures can take anywhere from 6 to 7 hours of surgery. The second stage is best undertaken once all the incisions of the first stage are fully healed and the nutritional reserves of the patient replaced. In Dr. Agha’s practice, most patients typically wait between 3 to 6 months for the second stage. The L-brachioplasty corrects for the significant arm skin and tissue laxity. The upper body lift can be performed as a vertical incision on the outer chest (J-thoracoplasty), or a horizontal incision on the back (transverse thoracoplasty). The choice depends on the degree of back tissue laxity, the orientation of the laxity and the patient’s desires and aversions of scars. Finally, he finishes the breast reshaping as described above.

YOUR RECOVERY

Lower or upper body contouring procedures may be performed as an outpatient procedure in a Surgical Center or in a hospital depending on the planned extent of the procedures. For more extensive or multiple procedures, you are recommended to stay overnight and in a nearby after care facility for 2-3 days. For out-of-state patients, you should plan to stay locally for 2 to 3 weeks after a lower body contouring, and 1 to 2 weeks for upper body contouring. Please visit our website for full instructions on Your Recovery and After Care.

SURGICAL RISKS AND POTENTIAL COMPLICATIONS

All surgical procedures have potential risks associated with their performance. The decision to have body contouring procedures is extremely personal and a patient has to decide if the benefits will achieve her/his goals and if the risks and potential complications are acceptable. It is important for you to realize that combined lower or upper body contouring procedures may increase the risks related to wound healing, need for revisional surgery and deep venous thrombosis (DVT). Please visit our website for further information regarding the potential risks associated with various procedures.
A 38 year old male from Pennsylvania who lost 130 lbs of weight through diet and exercise. Patient had a two-stage total body lift procedure. This included Limited brachioplasty of the arms, vertical thoracoplasty to correct upper body laxity, Circumferential abdominoplasty, Lower Body Lift, Buttock Lift, Upper Buttock Augmentation with his own lower back tissue, and Spiral thighplasty.
A 42 year old female from Pennsylvania who lost 150 lbs of weight through gastric bypass surgery. She presented to Dr. Agha for a lower body lift. Patient had a single-stage lower body lift procedure. This included Circumferential abdominoplasty, Buttock Lift, Upper Buttock Augmentation with her own lower back tissue, Lower body lift and Spiral thighplasty.
A 43 year old female from Baltimore who lost 142 lbs of weight through gastric bypass surgery. Patient has also had an abdominal incision for removal of her gall bladder. Her pre-operative weight was 130 lbs. Patient had a two-stage total body lift procedure. This included L-brachioplasty of the arms, J-thoracoplasty to correct upper body laxity, Breast augmentation with implants, Wise-pattern Breast Lift, Circumferential abdominoplasty with a midline Fleur-de-lis incision to remove her previous abdominal scar, Buttock Lift, Upper Buttock Augmentation with her own lower back tissue, lower buttock lipoaugmentation, Lower body lift and Spiral thighplasty.
A 44 year old female from New Jersey who lost over 115 lbs through laparoscopic gastric bypass surgery. Her pre-operative weight was 175 lbs. Patient had a two-stage total body lift procedure. This included L-brachioplasty of the arms, J-thoracoplasty to correct upper body laxity, Wise-pattern Breast Lift of the right breast, Breast Augmentation with her own excess chest tissue, Circumferential abdominoplasty, Lower Body Lift, Buttock Lift, Upper Buttock Augmentation with her own lower back tissue, lower buttock lipoaugmentation, and Spiral thighplasty.
A 31 year old female from Ohio who lost 110 lbs of weight through gastric bypass surgery. She weighed 150 lbs before her body contouring surgery. Patient had a single-stage breast augmentation with silicone implants through her abdominoplasty incision, circumferential abdominoplasty with Fleur-de-lis component to revise her previous midline incision, buttock lift with recontouring, lower body lift, liposuction as needed, and Spiral thighplasty.
A 37 year old female from Pennsylvania who lost 140 lbs of weight through gastric bypass surgery. She subsequently had an abdominoplasty with excision of her navel by another surgeon. She presented to Dr. Agha for a lower body lift and navel reconstruction. Her pre-operative weight was 147 lbs. Patient had a single-stage lower body lift procedure. This included Circumferential abdominoplasty with reconstruction of a navel, Buttock Lift, Upper Buttock Augmentation with her own lower back tissue, lower buttock lipoaugmentation, Lower body lift and Spiral thighplasty and vertical thighplasty.
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