Circumferential Truncal Contouring
The Belt Lipectomy

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KEYWORDS

• Body lift • Belt lipectomy • Massive weight loss • Abdominoplasty • Thigh lift • Buttocks lift • Liposuction • Body contouring

KEY POINTS

- The primary goal of belt lipectomy surgery is to improve the contour of the inferior truncal circumferential unit and to place the resultant scar in natural junctions.
- Excessive intra-abdominal content is a contraindication for belt lipectomy.
- The anterior abdominal resection and contouring should have a higher priority than the back resection.
- The higher the presenting patient's body mass index (BMI), the higher the risk of postoperative complications and the less impressive the results. The converse is also true: the lower the BMI, the lower the risk of complications and the better the results.
- The most common complications are small wound separations and seromas.

INTRODUCTION

As obesity has become an epidemic in the United States, bariatric surgery has rapidly evolved and increased in popularity. The American Society for Metabolic and Bariatric Surgery reports that 36,700 bariatric surgeries were performed in 2000, 171,000 were performed in 2005, and 220,000 were performed in 2009. The increase in obesity and bariatric surgery has led to an increase in the number of patients requesting body contouring after massive weight loss and subsequently the emergence and rapid growth of body contouring.

The term belt lipectomy, first coined by Gonzalez-Ulloa in 1961, describes a combination of procedures designed to enhance the contour and appearance of a patient's abdomen, waist, lower back, buttocks, and thighs. Belt lipectomy combines abdominoplasty, lateral and anterior thigh lift, buttocks lift, and sometimes liposuction, in a manner that coordinates the result to achieve more than can be delivered by any of these procedures individually. Other names that have been used for circumferential lower truncal procedures include circumferential abdominoplasty, extended abdominoplasty, central body lift, and lower body lift. The authors prefer the term belt lipectomy rather than body lift because both upward lifting and downward pulling forces are applied to truncal areas in the procedure and the term belt is more descriptive of what is removed.

A wide range of patients can benefit from belt lipectomy; patients with massive weight loss, patients with massive weight loss who underwent an anterior-only procedure, patients without massive weight loss in the range of 26 to 29 body mass index (BMI), and normal-weight patients who desire a significant improvement in their lower trunk overall. Discussion in this article is limited to patients with massive weight loss.

PATIENT PRESENTATION

A diverse group of patients can benefit from belt lipectomy and are grouped here into clinically relevant categories.

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Clin Plastic Surg 41 (2014) 765–774
http://dx.doi.org/10.1016/j.cps.2014.06.008

Patients with Massive Weight Loss

Patients with massive weight loss have a wide range of body contours and sizes. Multiple factors contribute to this diversity: the BMI at presentation, the quality of the skin/fat envelope, and the fat deposition pattern. BMI at presentation ranges on a continuum, placing individuals in categories from still significantly obese to those near ideal weight. Whether from bariatric surgery or lifestyle changes, weight loss stabilizes or plateaus at different levels in different individuals and this plateau is not easily altered. The second factor affecting diversity in presentation is the quality of the skin/fat envelope, which includes its thickness and elasticity. An important determinant of skin/fat envelope quality is its translation of pull. Translation of pull is assessed before surgery by pinching the intended area of resection and examining the mobility of surrounding tissues. The third major factor, the fat deposition pattern, describes the genetically controlled amount and location of fat deposition during weight gain and fat loss during weight loss.

Although variable in presentation, patients with massive weight loss share many common body features, particularly an inverted-cone appearance to their inferior trunk with a narrow ribcage and wide pelvic rim. Patients with massive weight loss often lack lateral waist definition because of excess tissue draping, concealing the underlying musculoskeletal anatomy. Many patients have large and distinct hip rolls.

Patients with massive weight loss have pendulous anterior panniculi, typically with 1 to 3 soft tissue rolls. Almost all patients with massive weight loss present with some degree of abdominal wall laxity, caused by rectus muscle diastasis. Some also present with hernias, especially if they have had open bariatric surgery procedures. The mons pubis most often presents with ptosis and lipodystrophy, as well as vertical and horizontal excess. The opening of the vulva in women and the penis base in men are directed downward, rather than the normal anterior inclination.

The buttocks may be overprojected in patients with high BMI, or underprojected in patients with low BMI. Almost all patients lack definition of the buttocks because of a lack of a distinct transition from the lower back to the buttocks. The superior extent of the central buttocks crease may be low and may present with loss of soft tissue overlying the coccyx. The infrabuttocks crease varies greatly with BMI. Patients with high BMI often have an abnormal, horizontally oriented infrabuttocks crease, whereas patients with low BMI may present with crease redundancy.

Back rolls are variable in their presentation and depend on the patient's fat deposition pattern. Some patients present with no back rolls, whereas others present with multiple rolls.

The overall goal of belt lipectomy is to return the patient's inferior truncal contour to within normal range of the general population. Specific goals for the abdomen include elimination of hanging tissue and rolls, creation of a flat contour, restoration of an anterior-facing vulva in women, and restoration of an anterior penile takeoff point in men. Goals for the lateral aspect of the lower trunk include an hourglass figure with narrowing at the waist for women. Goals for the posterior aspect of the lower trunk include reduction or elimination of lower back rolls if present and creation of demarcation between the lower back and the buttocks. If the buttocks are overprojected, this projection should be reduced. If the buttocks are underprojected, definition should be improved and, if needed, projection should be improved. If inferiorly displaced, the superior extent of the buttocks crease should be elevated. Also, the infrabuttocks crease ideally should be returned to a normal semicircular appearance.

Patients with Massive Weight Loss Status Post Anterior-only Resection Surgery

An enlarging subgroup of patients with massive weight loss includes individuals who have previously undergone anterior truncal resections but are disappointed with their lateral and posterior contours, presenting in the form of dog ears and a lack of waist definition. In some of these patients even the anterior resection is inadequate, as shown in **Fig. 1**. The goals of this subgroup of patients are similar to those of patients with massive weight loss who have not undergone prior resection.

PREOPERATIVE EVALUATION

All candidates for belt lipectomy should undergo a complete history and a thorough physical examination.

History

Belt lipectomy should not be performed on patients with significant uncontrolled medical problems or psychiatric disorders. Weight history, exercise routine, and nutritional habits should be specifically documented. Patients must achieve stable weight loss, preferably for a 1-year period, but most experienced postbariatric surgeons are willing to operate if patients have stabilized their weight loss for at least 3 months. Patients with