Autologous Flap Gluteal Augmentation
Purse-String Technique

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KEYWORDS

• Gluteal augmentation • Purse-string gluteoplasty • Buttock ptosis • Massive weight loss

KEY POINTS

- The ideal patient for purse-string gluteoplasty has buttock deflation and ptosis, and wishes to improve projection.
- Key elements of the procedure are buttock lifting combined with auto-augmentation, no undermining of auto-augmentation tissue, complete vascular preservation and use of a purse-string suture to enhance projection of auto- augmentation tissue.
- Purse-string gluteoplasty is a safe and effective technique to correct buttock ptosis and atrophy.

INTRODUCTION

Buttock atrophy and ptosis after massive weight loss or secondary to aging is a common complaint of many patients. First described in 2009,[1] the purse-string gluteoplasty is an alternative to existing methods of autologous buttock augmentation. Autologous buttock augmentation has been described by several authors.[2–8] Previously described methods involve undermining, rotational flaps, or flaps with a narrow base that are based on named perforator vessels. These methods relied on rotation flaps, which theoretically were axial pattern flaps, but in reality had random vascularity that frequently was associated with vascular embarrassment and tip loss. The purse-string gluteoplasty method of autologous buttock augmentation uses the patient's own redundant soft tissues to augment the atrophic buttocks in conjunction with lifting of the buttocks. This procedure has been shown to dramatically improve the result compared with a buttocks lift with excision of the redundant tissues, which can lead to a very lifted, but deflated buttocks.

The purse-string gluteoplasty was developed owing to inconsistent results with rotation flaps as a safe and predictable method of autologous buttock augmentation. This procedure involves no undermining or rotation of the augmented tissue, thereby simplifying the procedure and increasing the reliability of the augmented tissue. As one of its hallmarks, this method involves complete vascular preservation. The purse-string suture also lends shape and additional projection to the buttocks. The procedure can be done as an isolated procedure or in conjunction with circumferential abdominoplasty or bodylift.

The increasing number of obese patients and success of weight loss surgery has led to more demand for body contouring procedures.[9] Significant psychological stress owing to the deformities of massive weight loss is seen in this patient population.[10] It has also been suggested that buttock auto-augmentation during buttock lifting leads to

Disclosure Statement: The authors have nothing to disclose.
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Clin Plastic Surg ■ (2017) ■–■
https://doi.org/10.1016/j.cps.2017.12.008

greater patient satisfaction than buttock lift without auto-augmentation.[11] The purse-string gluteoplasty provides these patients with high satisfaction and aesthetically pleasing body contouring results.

The ideal purse-string gluteoplasty candidate is a patient with redundant skin and soft tissues of the lower back and gluteal region with deflation of the buttocks. This habitus can be determined using bimanual pinch and palpation. This procedure is not exclusive to the massive weight loss population. Patients with buttock atrophy and ptosis can greatly benefit from this procedure.

Patients should be medically healthy enough to undergo body contouring surgery, and have adequate cardiopulmonary status to tolerate prone positioning during surgery. Smoking cessation is imperative for at least 6 weeks before surgery (our policy) and until complete healing has occurred. Caution should be used in patients with diabetes or vascular disease. Blood loss is typically minimal; however, the surgeon should be aware of the patient's preoperative hemoglobin and coagulation status.

In consultation, patients often demonstrate their desired result by pulling up on their buttocks and thigh tissue. Patients may also wish to discuss other options such as buttock fat grafting or buttock implants. The classic massive weight loss patient requires skin removal to achieve satisfactory lifting of the ptotic and deflated buttock. Patients with "complete weight loss" will not have adequate body fat to harvest via liposuction for buttock fat grafting.[12] Prosthetic buttock implants come in a limited size range and are not typically recommended for use in conjunction with buttock lifting. Autologous tissue is usually plentiful, natural feeling, and redundant in virtually all massive weight loss patients, making the purse-string gluteoplasty, for many patients, an ideal body contouring procedure.

PROCEDURAL DETAILS

The patient is marked while standing. The point of maximum buttocks projection is identified, as previously described by Centeno and Mendieta,[13] as a line from the trochanter across the buttocks to the coccyx. This line identifies the point of ideal buttocks maximum projection. This is the intended final incision line because it centers the autologous buttocks augmentation (purse-string gluteoplasty) at the point of maximum ideal projection (**Fig. 1**).

The first bimanual palpation markings are performed in the midaxillary line (**Fig. 2**). Because patients want to help us with the markings they tend to lean toward the surgeon when they are marked.

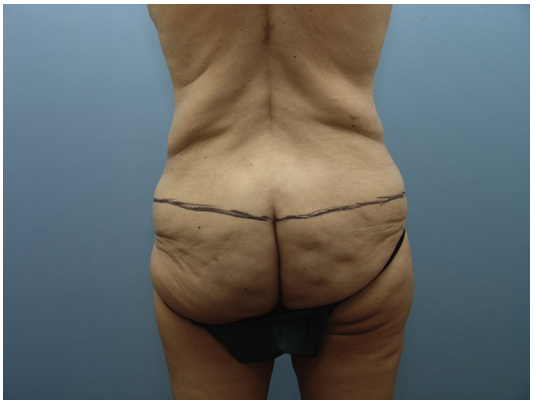

Fig. 1. The planned level of final scar. This overlies the point of maximal projection. The ideal incision is placed on a line drawn from the trochanter to the coccyx.

This may lead to an excessive amount of skin being removed, so we ask the patient to lean slightly away from us when we mark the midaxillary line. If this is being performed with a body lift, the incision continues anteriorly into the lower body lift incision across the abdomen. The upper abdominal incision is an estimate that will definitively be determined intraoperatively with the use of a tissue demarcator.

Bimanual palpation then gathers up the excess tissue across the entire buttocks bilaterally (**Fig. 3**). There is always less tissue gathered up in the midline because of the strong midline zone of adherence. Realignment marks are then placed to facilitate reapproximation. The purse-string gluteoplasty is drawn from the medial aspect of the buttocks curvature to the lateral aspect of the buttocks curvature within the upper and lower lines of bimanual palpation. In the midline, a butterfly shape of tissue is identified, which will serve as

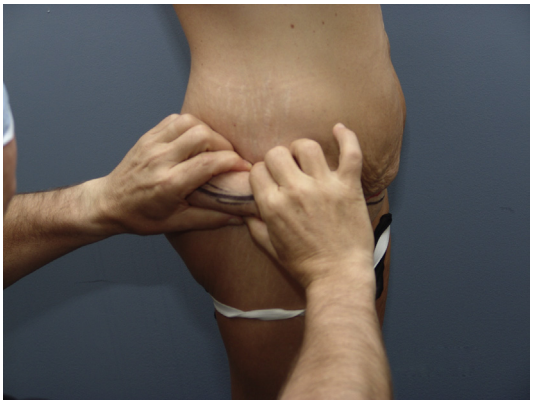

Fig. 2. The first bimanual pinch is performed at the anterior axillary line. Having the patient lean slightly away from the surgeon minimizes the risk of excessive tension.