

An Anatomical Approach to Auto Fat Fill in Brazilian Buttack Surgery: Two Case Reports

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Introduction

The cultural standard of female beauty is ever changing. Contemporary women like the breast and buttock curves just like a youthful vibrant facial appearance. The allure of a female buttock contour has grown rapidly in the last decade. The surgical contouring has presented many challenges especially when buttock atrophy and ptosis are considered [1]. Buttock augmentation with implants [2-4], dermal fat flaps [5] and fat fills [6-10] have all gained notoriety. Autologous fat augmentation avoids the perils of implant migration, and asymmetries seen in dermal fat flaps. It also gives a plastic surgeon the opportunity to sculpt the waist and hip to a 0.7 ratio [11]. There is considerable demand for this procedure.

Fat infiltration for gluteal contour is a procedure that has gained much acceptance over time. Liposuction alone has not given the quality of results for buttock contouring without fat re-injection. Lipografting has been shown to moderately increase buttock volume [6-9]. Lipoaspiration is performed and the patient's own fat is reinjected into the buttock. Very little, however, is published as to where the fat is injected based upon the anatomy of and blood supply to the gluteal area.

Buttock Zone Definition

The author's purpose is to demonstrate before and after photos of two patients who underwent body contour liposuction with autofill to their buttocks. Five key zones of the buttock are demonstrated with respect to underlying muscle anatomy, and blood supply [Figure 1]. The secret to quality results is the exact placement of fat transfer into three of these five zones (2, 3, and 4), especially into areas with better blood supply to accept a fat graft, which has little structural design.

Zone 1 starts at the top of the gluteal crease, not at the top of the pelvic rim, and extends up to the ribcage. Simply lift the buttocks and draw a line at the top of the crease to the sacroiliac joints. Then connect the two across the top of the sacrum. This area is an excellent area to harvest fat from, but does not receive fat in a fat transfer. You also get excellent contour results by narrowing the waist.

Zone 2 starts at the sacroiliac joints. Two parallel lines are drawn down to the lower gluteal crease [Figure 1]. This area commonly shows superficial cellulite and lipodystrophy. It is an excellent area for

superficial fat injection.

Zone 3 is the soft tissue over the gluteus maximus muscle. Fat transfers take well here, and a large percentage of fat fill is in this zone. Myocutaneous blood supply is abundant here where the superior and inferior gluteal vessels supply the blood.

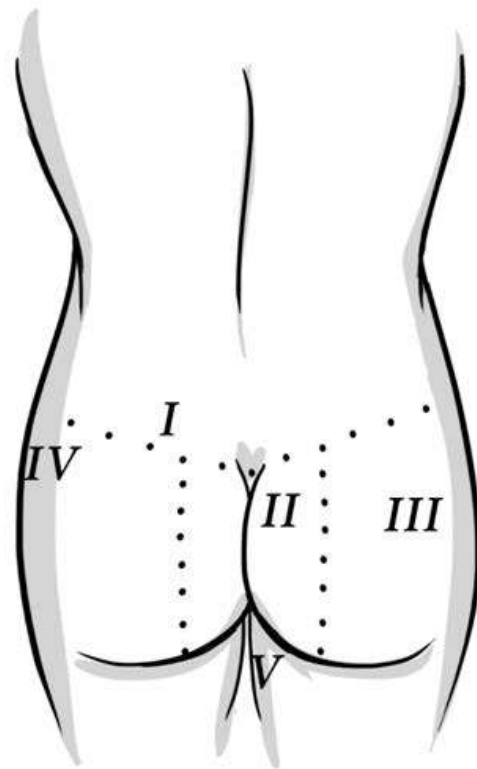


Figure 1

Zone 4 is the soft tissue over the gluteus medius muscle. Upper lateral fill is important here to get a 0.7 waist to hip ratio. Mark the fat fill up to the anterior superior iliac spine just below zone 1. The superior gluteal vessels supply blood to this zone.

Zone 5 is the infra gluteal crease. Superficial liposuction below the crease will give longer and better crease definition. A small amount of fat can be injected into this crease.

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Method

Two patients are presented with before and after photographs. They were marked pre-operatively upright with respect to the 5 buttock zones, especially zones 3, 4 and 2. Both patients underwent back, posterior hip and abdominal liposuction to procure fat for a fat fill, and for esthetic contouring. The surgery was performed under general anesthesia using tumescent solution with 500mg lidocaine and 0.5 mg epinephrine per liter of Ringers Lactate. The fat was washed twice in a closed system using Ringers Lactate solution, and a large jar with a spicket on the bottom for syringe aspiration. The supernatant fat was filled into a Toomey syringe and injected above the gluteal muscles into the soft tissue while withdrawing the syringe into zones 2, 3 and 4. Care was taken to avoid intra and submuscular fat injection. This is to avoid an intra operative fat embolus [12]. Custom postoperative garments were worn for three weeks, and Spanx for an additional three weeks. The post-operative photos were taken four months following their procedure. Zones 3 and 4 received the bulk of the fat fill, and zone 2 a lesser amount for superficial fat fills.

Results

Patient 1 is a 36 yr. female who had 5450 cc of liposuction, and 585cc of fat injected into each buttock mostly into zones 3 and 4, with a minimal superficial fill to zone 2. The donor sites were the abdomen, back and waist. Esthetic contouring of her abdomen and back was performed at the same Time. The postop photos for this patient show an excellent contour following her liposuction [Figure 2]. She also has a nicely contoured buttock especially in zones 3 and 4. Also note the waist/hip ratio due to the fat fill in the lateral zone 4 area.



Figure 2: Patient 1 Pre-operative Post-operative images

Patient 2 is a 31 yr female who had 3365 cc of liposuction, and 770 cc of fat injected into each side of her buttocks. Her donor sites were the abdomen, back, waist and outer thighs. The esthetic contouring was performed during the liposuction. The postoperative photos show impressive contour to her torso and buttocks. Especially note the good

take of the fat graft in zones 3 and 4 where there is excellent blood supply [Figure 3]. Also, note the improved waist:hip ratio following her procedure.



Figure 3: Patient 2 Pre-operative Post-operative images

Discussion

Brazilian Buttock Surgery is rapidly expanding as a modality for esthetic contouring. For this reason, plastic surgeons need to pay attention to the details of buttock anatomy and blood supply. Patient expectations for quality results will require this knowledge. Both patients had an excellent take to their fat grafting procedures. This is due to the careful placement of fat fills to zones 3 and 4 where myocutaneous blood supply exists. Typically, the author slightly over fills the area as not all the fat transfer can survive. In addition, the lateral fat fill to zones 4 greatly adds to the waist: hip ratio we all like at 0.7, as demonstrated in patient 2.

Skin grafts are structured tissue, not like a fat graft which has none. The classic imbibition, inosculation and neovascularization that allows a skin graft to take is not present in a fat graft following liposuction. The fat graft take is not always predictable, but can be enhanced by inserting the fat into an area with better blood supply. The author speculates that supernatant fat has stem cells in large quantities, and the angiogenesis from the stem cell activation may be the key determining factor in fat cell survival in our patients. The inflammatory reaction following the fat cell injections may cause the stem cells to differentiate. There has been a significant increase in research to identify methods to maximize fat graft survival. Despite differences in harvest and implant technique, no standard protocol has been established for this surgery [13]. Further studies are needed in this area.

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References

1. Coban YK, Uzel M and Celik M. Correction of buttock ptosis with anchoring deepithelialized skin flaps. *Aesthetic Plast Surg*. 2004; 28:116-119. [\[Crossref\]](#)
2. MendietaConstantino G. Gluteoplasty. *AesthetSurg Journal*. 2003; 23:441-455. [\[Crossref\]](#)

3. Gonzalez Raul. Gluteal Implants: The XYZ Intramuscular Method. *AesthetSurg J.* 2010; 30:256-264. [[Crosssref](#)]
4. Abel de la Pena. Subfascial Technique for Gluteal Augmentation. *AestheticSurg Journal.*2004; 24:265-273. [[Crosssref](#)]
5. Sozer Sadri O, AgulloFrancisco and PalladinoHumberto. Autologous Augmentation Gluteoplasty With a Dermal Fat Flap. *AestheticSurg J.* 2008; 28:70-76. [[Crosssref](#)]
6. Cardenas-Camrana L, LaCouture AM and Tobar-Losada A. Combined Glutealplasty: Liposuction and Lipoinjection. *PlasReconstr Surg.* 1999;104:1524-1531. [[Crosssref](#)]
7. Chajchir A. Fat Injection: Long Term Follow up. *AestheticPlas Surg.* 1996; 20:291-296. [[Crosssref](#)]
8. Lewis, CM .Correction of Deep Gluteal depression by autologous fat grafting. *AestheticPlas Surg.* 1992; 16:247-250. [[Crosssref](#)]
9. Peren PA Gomez JB, Guerreasantos J and Salazar CA. GluteisAugmentation with Fat Grafting. *Aesthetic Plas Surg.* 2000; 24:412-417. [[Crosssref](#)]
10. Cardenas-CamerenaLizaro, Arenas-Quintana Rafael and Robles- Cervantes. Buttocks Fat Grafting: 14 years of evolution and Experience. *Plas Recon Surg.* 2011;128:545-555. [[Crosssref](#)]
11. Rosique Rodrigo G, Rosique Marina J and GustavoDe Mores Carlos. Gluteoplasty with Autologous Fat Tissue: Experience with 106 Consecutive Cases. *PlastReconstr Surg.* 2015; 135:1381-1391. [[Crosssref](#)]
12. Mofid M Mark, TeitlebaumSteven, SuissaDaniel, Ramirez-Montana, AstaritaDennis C, MendietaConstantino, et al. Report on Mortality from Gluteal Fat Grafting: Recommendations from the ASERF Task Force. *AesthetSurg J.* 2017; 37:796-806. [[Crosssref](#)]
13. Strong AL, Cederna PS, Rubin JP, Coleman SR and Levi B. The Current State of Fat Grafting: A Review of Harvesting, Processing, and Injection Techniques. *PlastReconstr Surg.* 2015; 136:897-912. [[Crosssref](#)]