

# Gluteal Aesthetic Unit Classification: A Tool to Improve Outcomes in Body Contouring

The author analyzes the aesthetics of gluteal contouring, combining the contributions of other experts with his unique classification system that divides the gluteal region into 8 distinct aesthetic units. He advises that careful anatomic analysis and surgical technique, as well as communication with patients to determine their aesthetic preferences, are essential to positive outcomes. (*Aesthetic Surg J* 2006;26:200-208.)

**P**lastic surgeons in the United States have recently experienced dramatically increased interest and demand for aesthetic gluteal contouring surgery, a procedure that only a few years ago was not in the public consciousness. This new popularity may be attributed to changing demographics, improved body contouring techniques, and the evolution of aesthetic and fashion norms. In this article, I introduce a system of "Gluteal Aesthetic Unit Classification," a tool for improving outcomes in gluteal contouring surgery.

## Historical Perspective

The idea of an aesthetically pleasing gluteal region has been with us since early recorded history. The ancient Greeks had nomenclature to describe an aesthetically pleasant buttock area: *callipygian* is derived from *calli*, meaning beautiful, and *pyge*, meaning buttocks. The well-developed buttock, a trait unique to primates, appeared with the evolution of vertical posture, a uniquely human characteristic that contributes to the lumbosacral curve.

Buttock projection is created from a combination of the gluteus maximus muscle and fat deposits in the superficial fascia. Ethnicity and gender account for a wide variety in gluteal size and shape. Aging also contributes to gluteal appearance; the shape of the buttocks may change significantly with variations in fat, muscle content, and distribution, as well as skin laxity.<sup>1-3</sup>

As early as 1969, surgeons reported using breast prostheses in an attempt to improve gluteal contour.<sup>4</sup> The use of breast implants for gluteal augmentation,

as reported in several publications, was related to the growing popularity of breast augmentation.<sup>5,6</sup> However, these early procedures yielded results that were far from aesthetically ideal, and complications were common, driving the need for better and safer techniques.

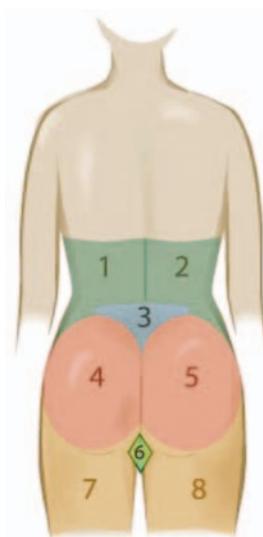
Today, we have a plethora of techniques for enhancing the gluteal region that evolved to address the challenges and shortcomings associated with surgery in this anatomical area. The techniques use implants, autologous fat transfer, or autologous autoaugmentation in combination with the circumferential body lift.<sup>7-12</sup>

There are 3 techniques for gluteal augmentation with implants: (1) the subfascial technique, (2) the intramuscular technique, and (3) the submuscular technique.<sup>6,9,11,13</sup> The subcutaneous technique, having fallen out of favor, has been abandoned. Numerous implant designs have been marketed in the United States by various manufacturers, but only silicone elastomer implants in round and anatomic shapes are currently available here. Polyurethane-covered silicone gel implants are marketed in Europe and Central and South America. The lack of diverse products may represent a significant limitation for plastic surgeons in the United States, and it is currently theorized that this explains the higher complication rates reported in practices in the United States.<sup>9</sup>

The recent rise in popularity of autologous fat transfer extends to its application in gluteal contouring. Lasting results with improved patient safety continue to be reported with this technique, both in the United States and abroad.<sup>7,14</sup> Most recently, the increase in body contouring surgery after massive weight loss has led to the development of innovative techniques for autologous gluteal augmentation in combination with the circumferential body lift.<sup>10,12</sup>



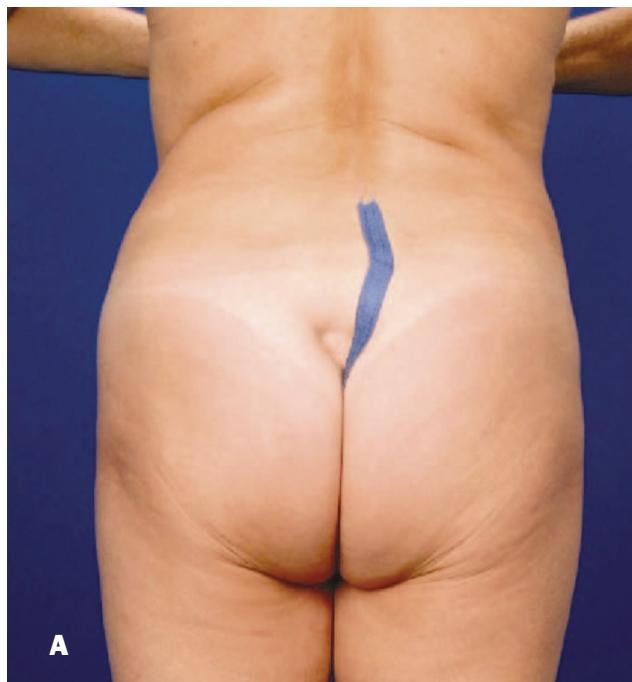
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**Figure 1.** The 8 gluteal aesthetic units include 2 symmetrical “flank” units (1 and 2); 1 “sacral triangle” unit (3); 2 symmetrical gluteal units (4 and 5); 2 symmetrical thigh units (7 and 8); and 1 “infragluteal diamond” unit (6).



**Figure 2.** Illustration of the low “inverted-dart” incision modification of posterior CBL.



**Figure 3.** **A**, Preoperative view of a 56-year-old woman. The odd “divot” seen in the preoperative view is a congenital deformity in the sacral triangle area. **B**, Postoperative view 4 months after CBL lift illustrates placement of the inverted-dart scar.

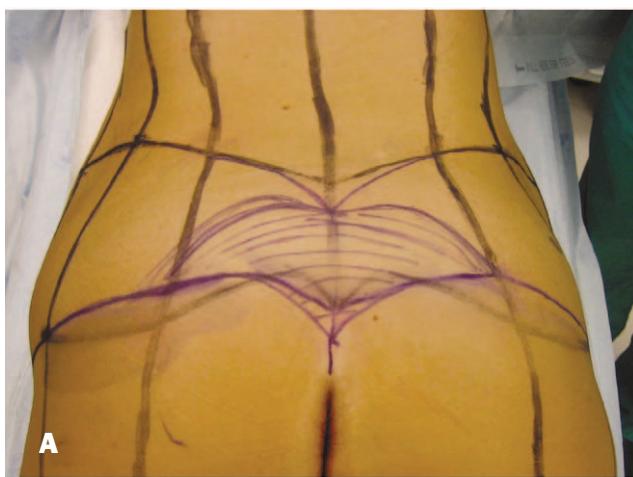


### Codifying the Gluteal Aesthetic

To determine the appropriate surgical plan for gluteal enhancement or body contouring surgery, it is essential to carefully determine the characteristics of the aesthetically ideal gluteal area. However, until recently, there

has been only one well-codified and accepted gluteal aesthetic available.

In 2004, Cuenca-Guerra and Quezada<sup>8</sup> reported on an exhaustive study that analyzed more than 1000 images of the gluteal area taken from various media



**Figure 4.** **A**, Markings for the sacral triangle plateau. **B**, Dissection of the sacral triangle plateau.

sources. Their analysis, as follows, helped to clarify some of the most recognizable characteristics of an aesthetically pleasing gluteal region:

- A lumbosacral depression that helps to distinguish the back from the buttock
- Two presacral dimples that correspond to the posterior superior iliac spines
- Two mild lateral depressions that correspond to the greater trochanter of the femur
- Short infragluteal creases that do not extend beyond the medial two thirds of the posterior thigh
- An absence of excess fat in the lumbosacral, medial thigh, and anterior thigh regions, and in areas commonly referred to as “love handles, saddlebags, and banana roll”
- A point of maximum projection on the lateral view that corresponds to the level of the mons pubis

Cuenca-Guerra and Quezada also provide an excellent analysis of gluteal aesthetics from the lateral view that incorporates the buttocks, surrounding torso, and lower extremities. The ratio of the anterior superior iliac spine to the greater trochanter, and the greater trochanter to the lateral point of maximum projection of the buttock, should not exceed 1:2. This lateral-view analytical system is logical, easy to implement, and has proven useful and clinically relevant in my practice.

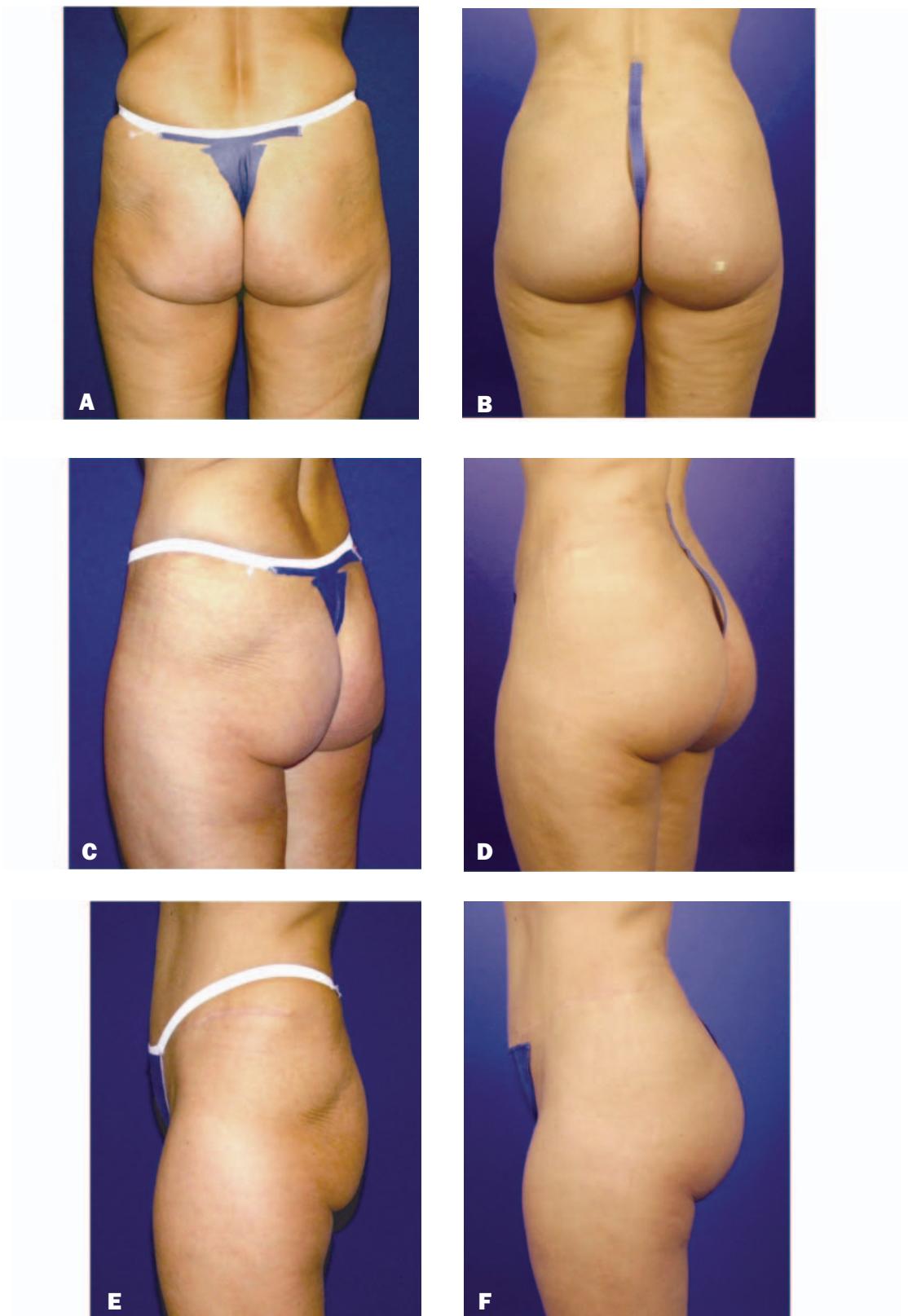
De la Pena,<sup>15</sup> evaluating the gluteal region, classifies buttock ptosis into 3 grades analogous to breast ptosis. He reports that grades I and II ptosis can be corrected with subfascial placement of implants, but grade III requires an excisional buttock lift in addition to implant placement.

Roberts<sup>16</sup> recently described significant variations in aesthetic ideals among ethnic groups in the United States. For example, he reports that Asian Americans prefer a shorter buttock with a higher point of maximum projection, providing the illusion of longer legs and a more balanced proportion between the torso and extremities. In Roberts' experience, Hispanic and African Americans seem to prefer more projection than either Asian or white Americans. A higher point of maximum projection, deeper lumbosacral depression, and an absence of lateral thigh depressions also appear to be favored by African Americans. White Americans prefer a more athletic ideal with greater definition of the muscular and bony anatomy and less anterior-posterior projection.

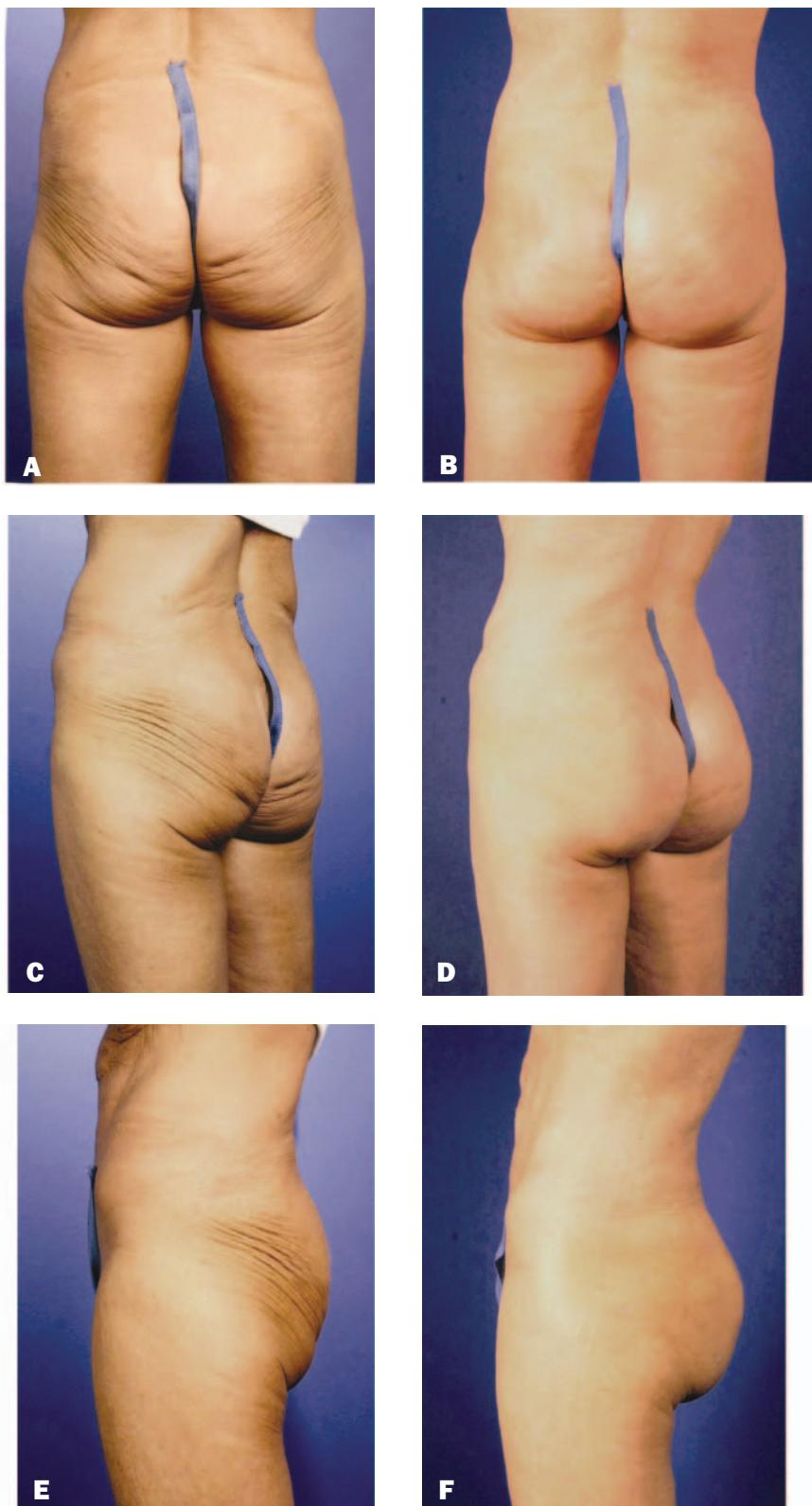
Mendieta<sup>9</sup> analyzed the gluteal aesthetic to guide surgical intervention. However, rather than basing his classification on the ideal, he describes 4 general commonly occurring buttock shapes: A-shaped, V-shaped, square, and round. His round buttock shape comes closest to the ideal. Mendieta<sup>17</sup> stresses the importance of analyzing the length of the intergluteal fold, which, he believes, should not be too long in the aesthetically pleasing buttock. Another contribution to the gluteal aesthetic is an infragluteal diamond-shaped space at the junction between the medial thighs and infragluteal folds.

### Gluteal Aesthetic Unit Classification

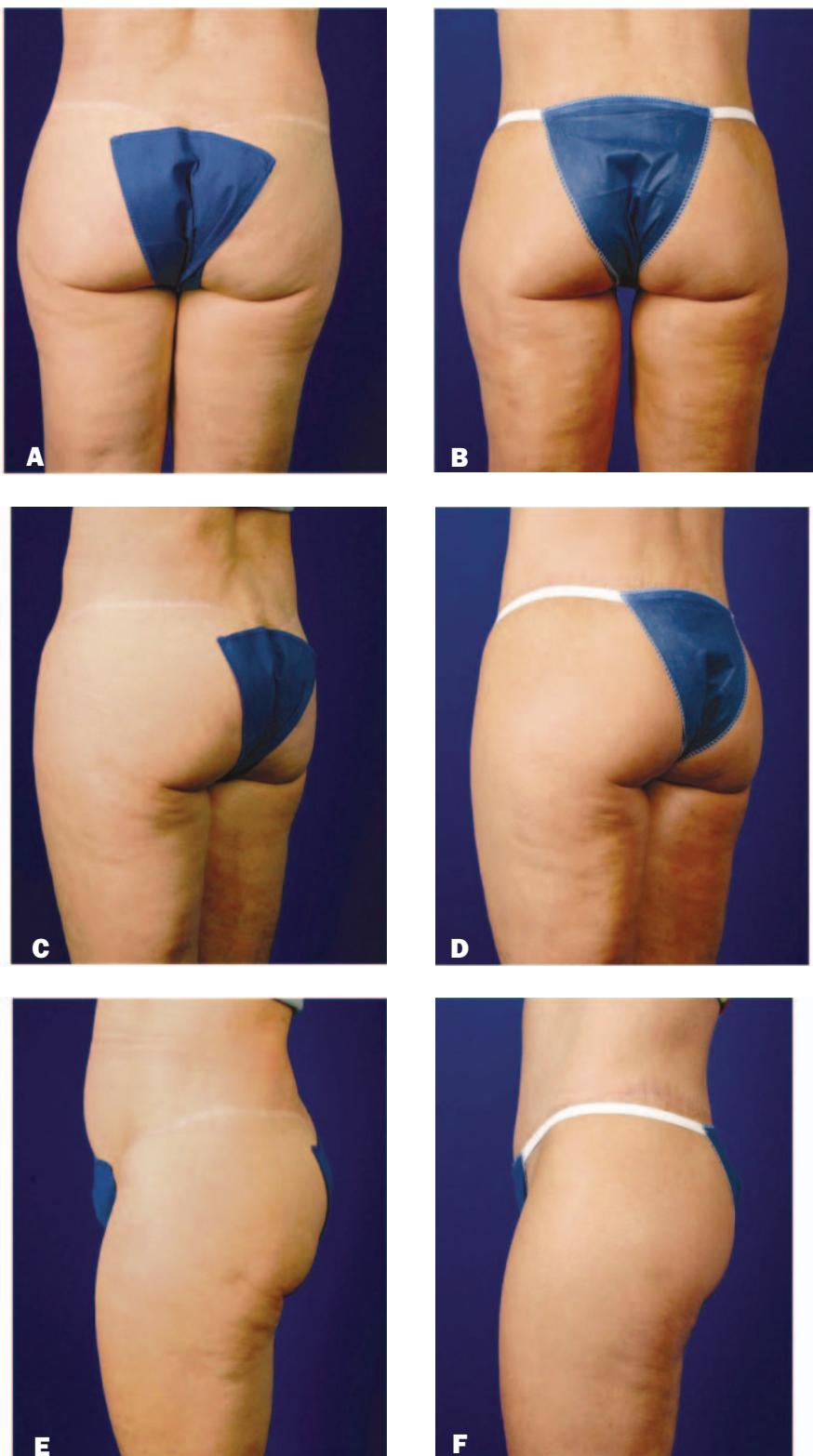
My goal is to integrate gluteal aesthetic concepts into a new analytical tool that is clinically relevant, easy to implement, and accessible. Aesthetic surgeons regularly perform procedures on the torso, gluteal region, and lower extremities that have immense impact on the aes-



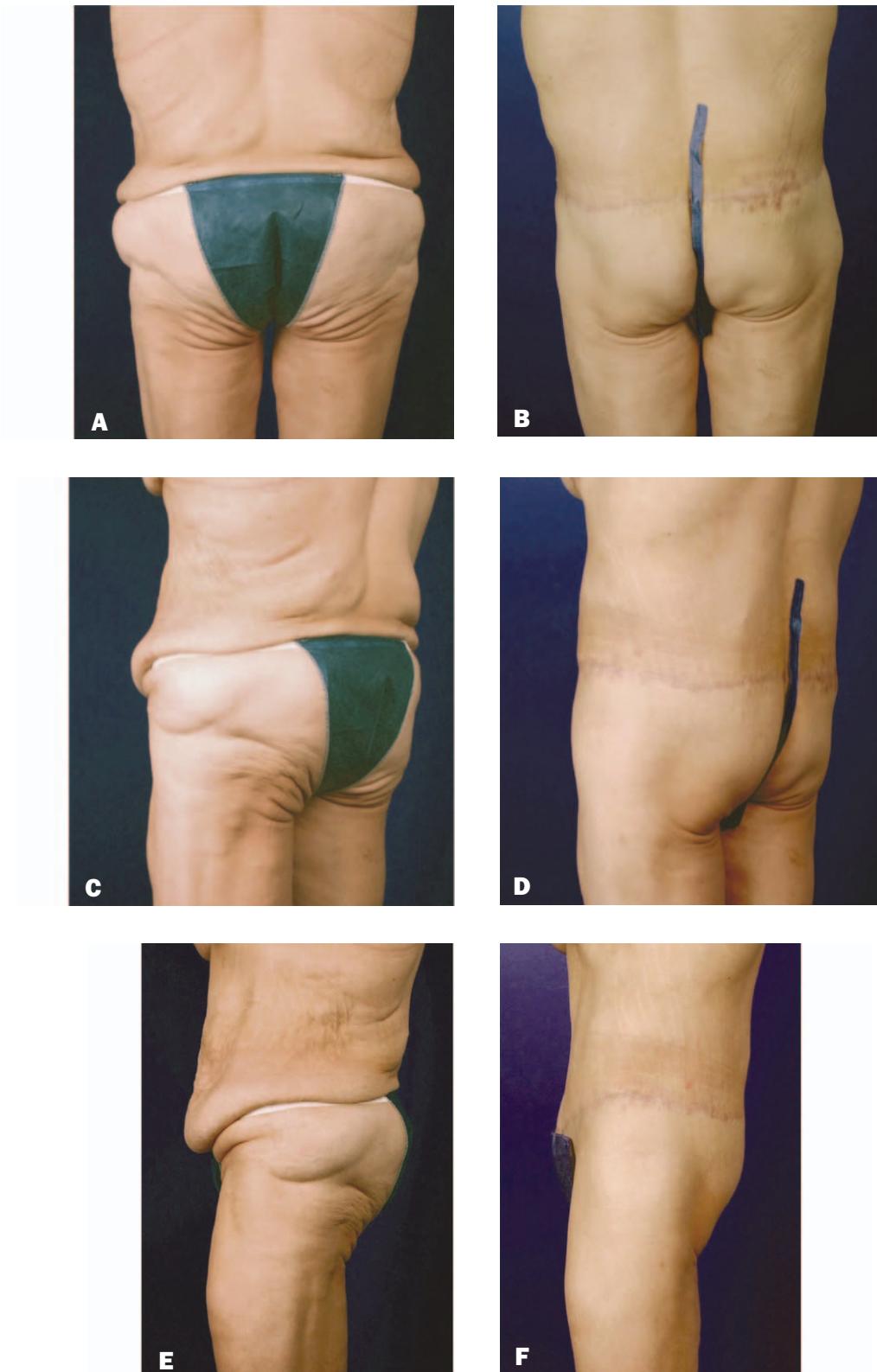
**Figure 5.** **A, C, E,** Preoperative views of a 50-year-old woman who complained of decreased gluteal projection and buttock ptosis after suction-assisted lipoplasty. **B, D, F,** Postoperative views after treatment with subfascial placement of silicone elastomer implants, which increased projection, shortened the infragluteal fold, and restored volume to gluteal aesthetic units 4 and 5. Gluteal aesthetic units 1 and 2 were addressed with flank lipoplasty.



**Figure 6.** **A, C, E,** Preoperative views of a 53-year-old woman who complained of decreased gluteal projection and skin laxity in the gluteal region due to weight loss and sun damage. **B, D, F,** The patient was offered a CBL with autologous gluteal autoaugmentation but refused because of the long incisions. She opted for gluteal augmentation with autologous fat transfer. Significant improvement of her skin laxity in units 4 and 5 was achieved with volume restoration. Lipoplasty of units 1, 2, and 3 was performed as adjunctive treatment.



**Figure 7.** **A, C, E,** This 52-year-old woman, presenting several years after a CBL, was displeased with the appearance of her buttocks. **B, D, F,** She underwent repeat CBL with an “umbilical float” technique and medial thigh lipoplasty. Note the improvement of aesthetic units 1 and 2 due to the CBL. Unit 3 was preserved with the “inverted-dart” incision modification. Unfortunately, the photo underwear obscures the scar. Units 3 and 4 were enhanced by being shortened with the CBL and by lower incision placement at the level of the iliac crest. Units 6, 7, and 8 were improved with medial thigh lipoplasty and the lift effect of the CBL.



**Figure 8.** **A, C, E,** This 46-year-old woman illustrates one of the gluteal deformities present in the massive weight loss patient. **B, D, F,** Postoperative views demonstrate that pre-existing platypygia was exacerbated by the lifting effect of the CBL. Furthermore, incision placement that violated gluteal aesthetic unit 3 caused the buttock to appear shorter, square, and more masculine. I performed CBL on this patient before I adopted the "inverted-dart" incision.

thetic perception of the buttock. Abdominoplasty, for example, has the potential for either improving or harming this aesthetic. Patients with significant intra-abdominal fat may have a widened, squared appearance when abdominoplasty alone is performed. The same procedure in a patient without significant intra-abdominal fat can define the waist and improve gluteal aesthetics. Judicious lipoplasty of the abdomen, anterior thigh, medial thigh, lateral thigh, flanks, and lumbosacral region can greatly enhance gluteal aesthetics. In contrast, overly aggressive lipoplasty of the buttock, subgluteal fold, or hips can detract from the gluteal aesthetic.

Various incision locations also have different effects on the overall appearance of the buttock. A classic circumferential body lift (CBL)—incision placement that is too high will deleteriously elongate the appearance of the buttock. If an incision that runs straight across the back is either too high or too low, the buttock will appear, respectively, too rectangular or too square. Even with an untrained eye, we perceive a proportional relationship and natural transition between the buttock and its surrounding area. Similar to treating the face, nose, and abdomen, the preservation or enhancement of gluteal relationships can improve clinical outcomes.<sup>18</sup>

The posterior-anterior view of the gluteal region is extremely important when planning gluteal contouring surgeries and assessing outcomes. From this view, the gluteal region appears to have 8 aesthetic units (Figure 1): 2 symmetric “flank” units, a “sacral triangle” unit, 2 symmetric gluteal units, 2 symmetric thigh units, and 1 “infragluteal diamond” unit. Clearly, each of these units can be further subdivided into subunits (for example, the gluteal and thigh units), but this level of more detailed analysis seems to yield diminishing returns with respect to clinical outcomes. All 8 gluteal aesthetic units have a clinically relevant impact on outcome after gluteal body contouring, and their preservation, surgical enhancement, or reduction can independently enhance overall gluteal appearance. Consequently, these units should be considered during the surgical planning process, and the junctions between aesthetic units should guide incision placement during excisional procedures.

Figures 2 and 3 illustrate the “inverted-dart” incision, introduced in 2005,<sup>10</sup> which I now use exclusively in all my CBL patients because it consistently produces superior cosmetic results. In addition to the inverted-dart incision, I have recently started to create a sacral triangle plateau that greatly enhances aesthetic unit #3 (Figure 1) and the lumbosacral curvature in the lateral view (Figure 4). Another benefit of leaving this plateau of tissue in this

“watershed” sacral triangle area is its enhancement of wound healing.

### Case Studies: From Analysis to Execution

Four case studies illustrate the utility and clinical relevance of the “Gluteal Aesthetic Unit Classification” tool for improving the results of body contouring surgery. Gluteal augmentation with implants or autologous fat transfer can dramatically improve gluteal contour (Figures 5 and 6). A CBL has the potential to either impair or enhance the gluteal aesthetic (Figures 7 and 8). Because of its powerful lifting effect, CBL can significantly flatten the buttock. In a patient with gluteal excess and skin laxity of the flank, buttock, and thigh, the aesthetic improvement produced by the lift can be dramatic (Figure 7). However, in a patient with pre-existing platypygia, the lifting effect can further reduce projection and detract from the overall aesthetic (Figure 8).

### Conclusion

The guidelines I present are useful for evaluating the gluteal region before undertaking surgical intervention. They help in surgical decision making, but cannot replace good doctor-patient communication. To achieve a successful outcome, it is imperative to understand the patient’s aesthetic ideal. Toward this end, this simplified “Gluteal Aesthetic Unit Classification” tool can be very useful. Patient-supplied magazine clippings and digital image manipulation are useful in the informed consent process and further support the utility of this classification tool. Finally, to be successful in this arena, it is critical for the surgeon to set aside personal preferences and biases with respect to gluteal aesthetics. What you think looks good may be irrelevant if the patient disagrees. ■

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1090-820X/\$32.00

doi:10.1016/j.asj.2006.01.001