Gluteal Augmentation in Men

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KEYWORDS

• Male buttock sculpting • Male gluteal augmentation • Body contouring • Gluteal autoaugmentation • Male gluteal implants

KEY POINTS

- Regardless of technique, avoid lateral buttock expansion in men, which leads to a more rounded, feminine appearance.
- During fat transfer/BodyBanking for the purpose of male gluteal enhancement, the inferior and superior poles in addition to the central region are augmented achieving a vertical, oblong shape.
- An inferiorly based vertical turnover flap can be used for gluteal autoaugmentation in men who present with significant skin laxity after massive weight loss.
- Properly placed subfascial or intramuscular implants can enhance buttock shape, projection, and contours with a reasonable safety profile.
- Combinations of gluteal implants, regional liposuction, fat transfer, and local tissue rearrangement can be performed to optimize the aesthetic result for each patient.

INTRODUCTION

As Male Plastic Surgery becomes increasingly popular and more accepted in modern day society, the demand for male gluteal enhancement procedures parallels this demand. Several techniques have been described to achieve patient goals with a high level of satisfaction. Gluteal implants, fat transfer, and local tissue rearrangement are the 3 ways to accomplish augmentation and improve contours. Each technique offers unique benefits that are offset by particular risks and limitations. Similar to other areas within plastic surgery, mastery of the craft involves appropriate patient selection and tailoring the operative plan to patient-specific anatomy and desires. An overwhelming amount of interest in the literature relates to female buttock augmentation (also referred to as Brazilian Butt Lift, BBL, S-Curve, and others), because male gluteal augmentation only accounts for approximately 5% to 10% of the gluteal augmentation market in the United States. This article focuses on the latter by emphasizing the nuances of male gluteal contouring and augmentation; particularly, how it differs from the female counterpart.

GENDER-BASED DIFFERENCES IN GLUTEAL ANATOMY

Biologic requirements of pregnancy and childbirth explain the differences between the male and female pelvic structure, which translates to 2 distinct gluteal shapes with vastly different contours. The male pelvis is described as android (heart-shaped), whereas in women, it is gynecoid (rounded-shaped). This is due to differences in average pelvic width, length of sacral bones, and the variable amount of iliac tilt/flare. Men have narrower, shorter pelvic bones with longer sacrums, and parallel iliac bones that do not have much lateral flare. The most superficial muscle in the region, the gluteus maximus, accounts for most of the buttock projection. It originates on the posterior iliac crest, sacral and coccygeal bones and inserts laterally on the greater trochanter. Studies have found that the superficial fascia system is tightly adherent to the periosteum of the iliac crease in men, whereas it is relatively adherent to the muscle fascia in the gluteal depression and several centimeters above the iliac crest in women.[1] These differences are compounded by

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the fact that men tend to have less subcutaneous fat in this region, making the overall shape of the buttock more closely resemble the underlying osseous and muscular contours. The location of fat deposits around the body are influenced by sex chromosomes, hormonal controls, and nutritional input. In men, adipocytes located in the gluteal region and lower body are less efficient at up taking circulating triglyceride–fatty acids from meals, therefore do not hypertrophy as easily compared with female counterparts.[2] These biologic differences contribute to the gender-based phenotypic differences observed in overall body shape, particularly of the gluteal region.

IDEAL MALE GLUTEAL AESTHETICS

The ideal male buttock differs from the female buttock in several ways. Women tend to prefer a round, full buttock with a width that closely approximated the vertical height. A soft, feminine, gentle curve exists as the narrow waist transitions from the midback to the buttock. This has been described to represent an "hourglass." Conversely, a more athletic torso and gluteal silhouette are aesthetically preferred in men. Sharper transitions are expected, as muscles tend to be thicker, and their edges are more evident. This can be seen with the more dramatic lateral gluteal concavity in men. Other abrupt transition points include the latissimus border to the external oblique, as it interdigitates with the thoracolumbar fascia; and from the lower back muscles to the superior aspect of the gluteus maximus. Inferior to the buttock, the hamstrings are well-defined and distinct from the gluteal musculature. In well-developed men, the vertical distance of each gluteus is relatively longer compared with the width and the projection of the buttock and is maintained within the width of the underlying gluteus maximus muscle. This is likely due to the minimal fat content in this region as described above. Projection is equally important to both genders. One commonality between both sexes is that the area of greatest projection should reside in the midpoint of the buttock with a 50:50 vertical ratio above and below this point.

IMPLANT-BASED GLUTEAL AUGMENTATION

The first published record of placing silicone implants in the gluteal region occurred in 1969 when Bartels and colleagues[3] performed the operation to correct unilateral muscular atrophy. Since then, gluteal implants have evolved in design and material. Various sized and anatomic shapes using silicone cohesive and solid elastomer options are now available. These implants have been tried in the subcutaneous, subfascial, intramuscular, and submuscular planes through a single median incision or a double (paramedian) incision technique. Each of these permutations has a unique set of benefits, challenges, and complications. For the most part, subcutaneous implant placement has been abandoned owing to high rates of palpability, migration, malposition, and extrusion. Seasoned surgeons with vast experience with these operations continue to debate ideal incision placement and implant pocket.

In general, the operative sequence is as follows. On the day of surgery, the patient is marked in the standing position, and implant templates are used to template the pocket borders. For both subfascial and intramuscular techniques, the pocket is drawn 2 cm lateral to the sacrum and 5 cm above the infragluteal fold.[4–6] The size or range of sizes considered depends on the patient's height, body habitus, and structural anatomy. Regardless of incision choice (median vs 2 paramedian incisions), dissection begins in the subcutaneous space until the lateral edge of the sacrum is reached. Two centimeters beyond lateral to the sacral border, a 6- to 8-cm fascial incision is made. At that point, a decision is made to elevate a subfascial pocket or continue the dissection to an intermediate depth within the gluteus maximus muscle using electrocautery. If so, typically, 1.5 to 2 cm of muscle coverage is evenly maintained on the superficial aspect of the pocket dissection. Care is taken to avoid inadvertent deep dissection to injure or expose the sciatic nerve. During the dissection, transection of the inferior gluteal nerve is avoided while superior and inferior gluteal artery perforators are controlled with prospective hemostasis with long insulated forceps, if encountered.[7] Also, respecting the lateral border of the gluteus maximus muscle is imperative for 2 reasons: (1) maintains the aesthetically pleasing lateral gluteal concavity and (2) prevents lateral migration of the implant. After the precise pocket dissection, sizers can be used to confirm the extent of pocket dissection and determine the ideal implant volume/dimensions. After implant selection, it is delivered into the pocket followed by a meticulous 5-layer closure (**Fig. 1**). In rare instances, additional customization of implants is warranted. Meticulous shaping of the implant is performed by the surgeon before insertion (**Fig. 2**). Patient education regarding postoperative care (avoiding activities that cause stretching, friction, or pressure to the surgical area) is equally important, as most wound dehiscence complications are thought to be mechanical and occur between days 12 and 16.[8]

A high level of vigilance for maintaining complete sterility minimizes the risk of infection, which is inherently problematic for this operation because of its

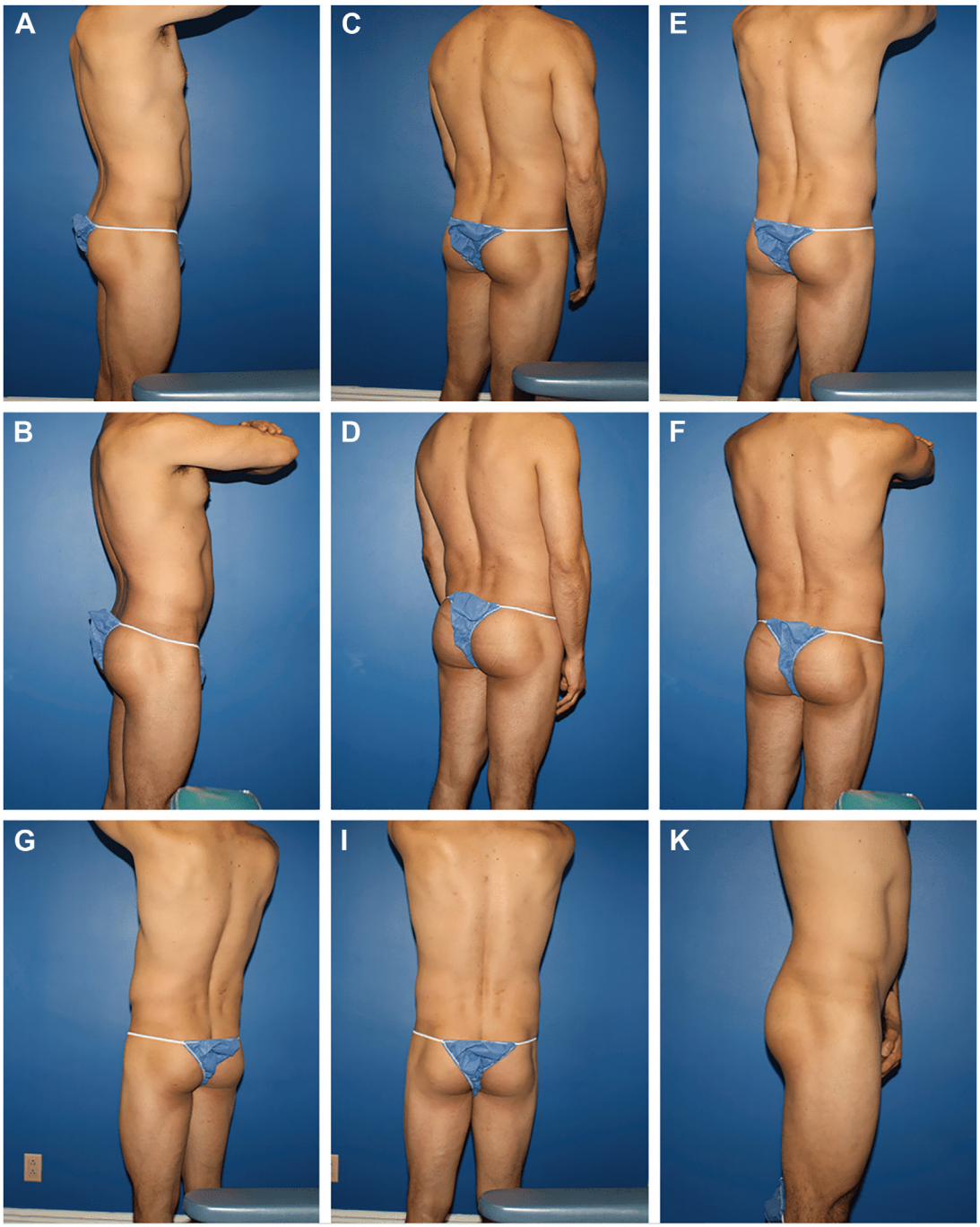


Fig. 1. (*A, C, E, G, I, K, M, O, Q, S, U*) A 32-year-old, 5-foot 9-inch, 170-pound, mesomorphic man underwent intramuscular gluteal implantation with 305-cc custom-contoured silicone implants. (*B, D, F, H, J, L, N, P, R, T, V*) Seventeen months postoperative results demonstrate a natural contour with enhanced gluteal volume, particularly at the superior pole without a visible incision.

proximity to the anus and high rates of wound healing complications. Perioperative precautions to decrease infection risk include appropriate administration of preoperative antibiotics, meticulous preparation/draping, use of antibacterial loban drapes to further isolate the surgical field and prevent skin flora contamination, antibiotic-based pocket irrigation, surgeon glove changes, "no-touch" delivery devices (ie, Keller funnel [Allergan Aesthetics, Irvine, CA]), and a strong watertight closure. If drains are used,

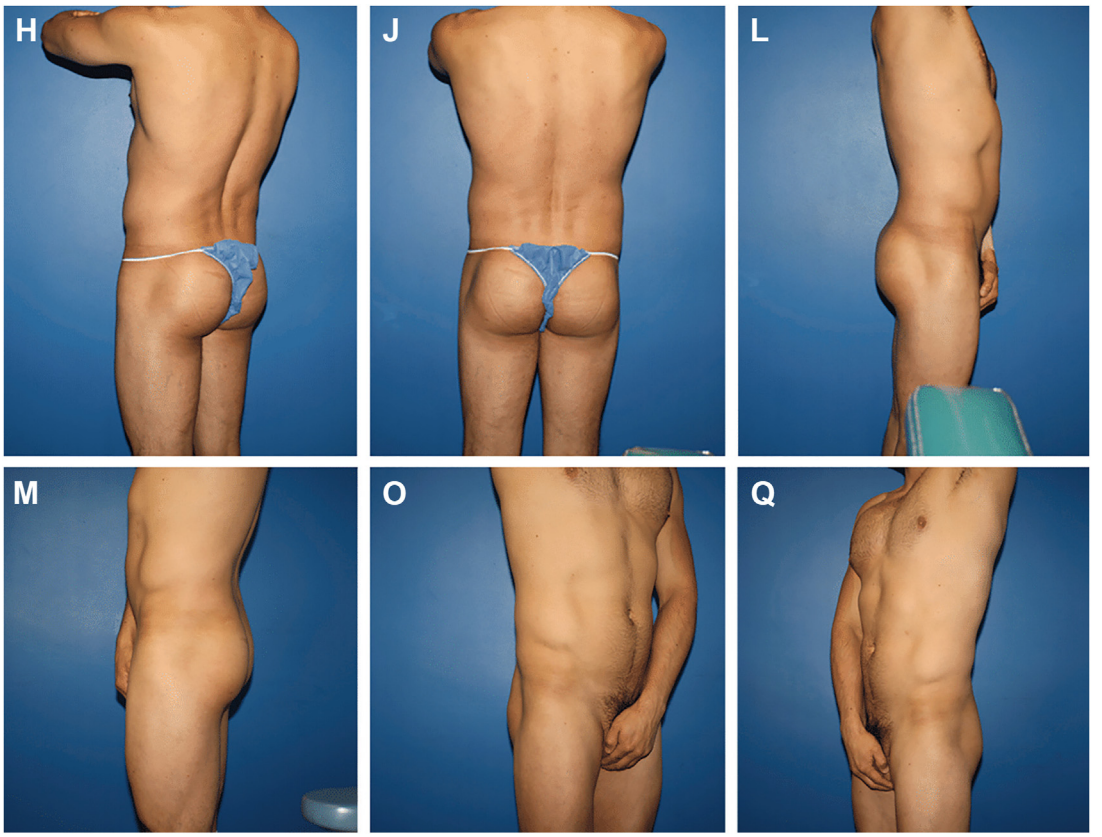


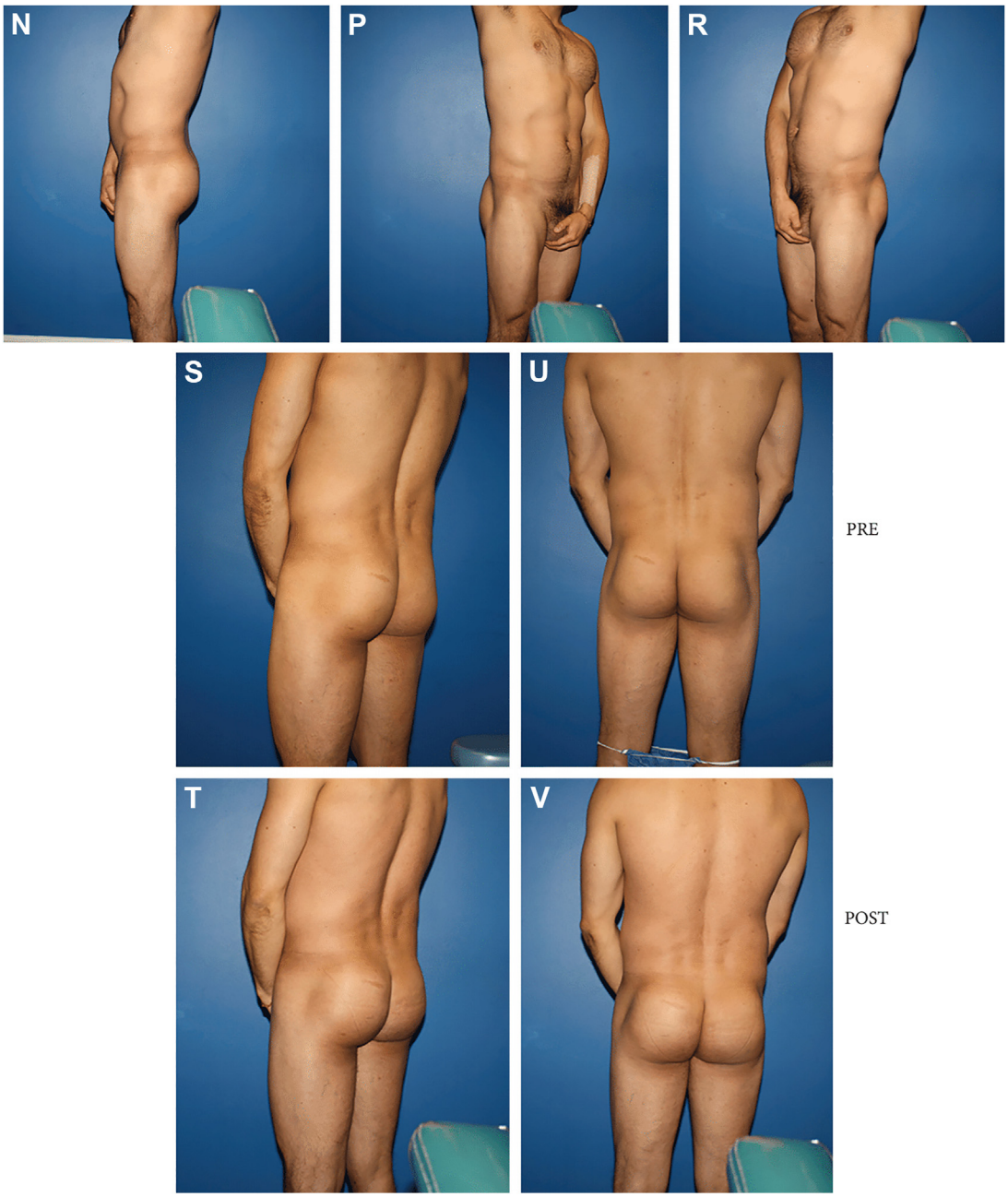
Fig. 1. (*continued*)

some surgeons advocate for continued use of oral antibiotics in the postoperative period until the drains are removed.

Overall, ideal candidates for this procedure are fit, but lack buttock projection. It is important to counsel patients about ptosis if identified preoperatively, as this will not be automatically corrected with the placement of implants. In addition, excess regional adiposity must be evaluated. Ancillary liposuction can be performed at the time of implant placement to refine contours and amplify the appearance of the implant. Selecting the most appropriate implant shape and size is paramount. This involves experience, consideration of regional anatomy, and artistic vision.

GLUTEAL LIPOSCULPTING

Refined torso sculpting from liposuction along with large-volume fat grafting for gluteal augmentation has become significantly more popular for both men and women. This procedure has a smaller incision burden and avoids the inherent risks associated with the implants themselves mentioned above. A major benefit of this procedure is the ability to redistribute the location of the fat cells. Fat is harvested from carefully selected areas of excess to highlight underlying skeletomuscular definition (ie, rectus abdominus, external obliques, serratus anterior interdigitations, deltoids, pectoralis major muscles). This is performed by debulking the deep layer (ie, subscarpal fat in the abdomen) followed by careful sculpting the superficial layer (ie, suprascarpal fat). Liposuction of the flanks narrows the width of the waist and thereby alters the waist-to-hip ratio even before the surgeon embarks on the buttock portion of the procedure. By decreasing the thickness of the subcutaneous layer and accentuating the shadows between various anatomic muscular-skeletal transitions of the abdomen, flanks, chest, and arms, desirable athletic definition can be unveiled. After the fat is collected, processed, and prepared for injection, the surgeon artistically delivers the fat to shape the gluteal region. Adherence to previously described fat-grafting principles in order to optimize graft survival includes delicate processing of fat, injection with low sheer-force devices, and avoidance of overgrafting. Ultimately, the goal is to create an aesthetically pleasing buttock with masculine characteristics that is balanced with the rest of the torso and legs.



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Most men desire highlighting gluteal musculature, mimicking the shape of a well-trained athlete. Thus, fat is delivered preferentially to the superior and inferior poles of the buttock, creating an elongated aesthetically masculine appearance. Oftentimes, the superior and inferior poles need to be widened as well as augmented. Medial and central projection enhances the appearance of the gluteus maximus and gives the illusion of a taller buttock. Judicious amounts of fat, if any, are placed in the midlateral region. It is critical to avoid lateral expansion, which will have a rounding effect on the buttock. As mentioned previously in the article, the ideal male gluteal aesthetic is a more oblong shape with a greater height-to-width ratio. Meticulous technical skill is required to prevent the creation of sharp corners and a rectangular shelf, as this appears unnatural.

In addition, fat transfer can be used to fine-tune gluteal contours after placement of a gluteal

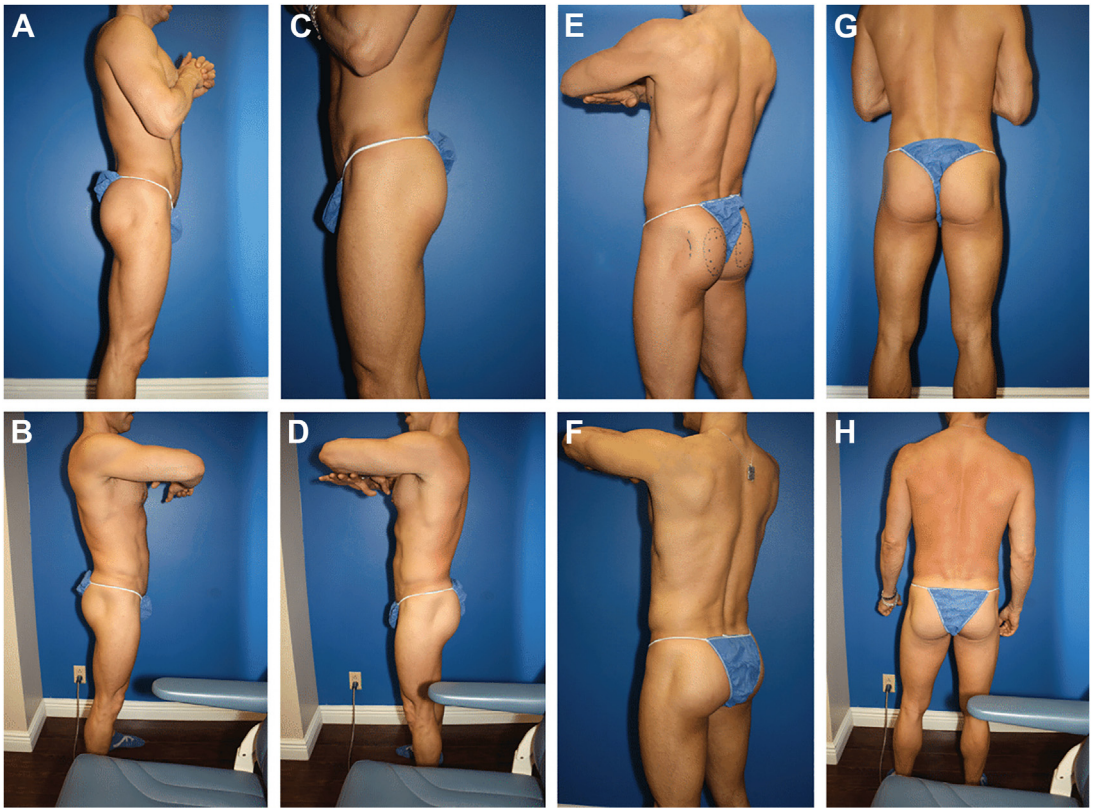


Fig. 2. (*A, C, E, G*) A 42-year-old, 5-foot 11-inch, 165-pound, mesoectomorphic man underwent intramuscular gluteal augmentation with a 276-cc custom-contoured silicone implant. The round implant was trimmed medially and laterally by the surgeon to allow for a more athletic, lean appearance to achieve sufficient posterior convexity while maintaining lateral concavity. (*B, D, F, H*) Five-year postoperative result demonstrates stability in volume increases preservation of natural contours without a visible incision.

implant. This hybrid technique allows the surgeon to camouflage implant borders, softening transitions from areas of convexity to areas of concavity. This ultimately allows surgeons to maintain even greater control in the operating room to deliver aesthetically pleasing contours (**Figs. 3** and **4**).

MALE GLUTEAL AUTOAUGMENTATION

A modern approach to male gluteal augmentation involves harnessing tissue transfer concepts in order to repurpose adjacent tissue for improvements in buttock projection and create an aesthetically pleasing male buttock overall. Although powerful in simultaneously transforming the shape of the waist and buttock, gluteal autoaugmentation procedures can only be offered to a narrow patient population.[9] Typically, patients with massive weight loss present with excess adiposity and skin laxity of the anterior and posterior torso. Those who are willing to accept the well-hidden circumferential scar burden are considered good candidates for this procedure.

The 360° Torso Tuck with Gluteal "Wallet Flap" Autoaugmentation

The 360° Torso Tuck with gluteal "Wallet Flap" Autoaugmentation procedure harnesses multiple plastic surgery principles and concepts to ultimately create a balanced, natural, aesthetically pleasing athletic result. Although the patient is in the supine position, fat is harvested from the abdomen and flanks, essentially narrowing the waist and unveiling the external oblique musculature, inferior ribs, and iliac crest without compromising blood supply to the abdominoplasty flap. The patient is carefully turned and secured in the prone position. Using pinch-and-displacement techniques, preoperative markings are confirmed on the table. The width and height of the "wallet flap" as well as the associated pocket dimensions have also been previously marked based on the patient's anatomy. The pocket is envisioned with bias toward the medial aspect of the buttock. This ensures that the medial and central regions of the buttock will be augmented over the gluteus

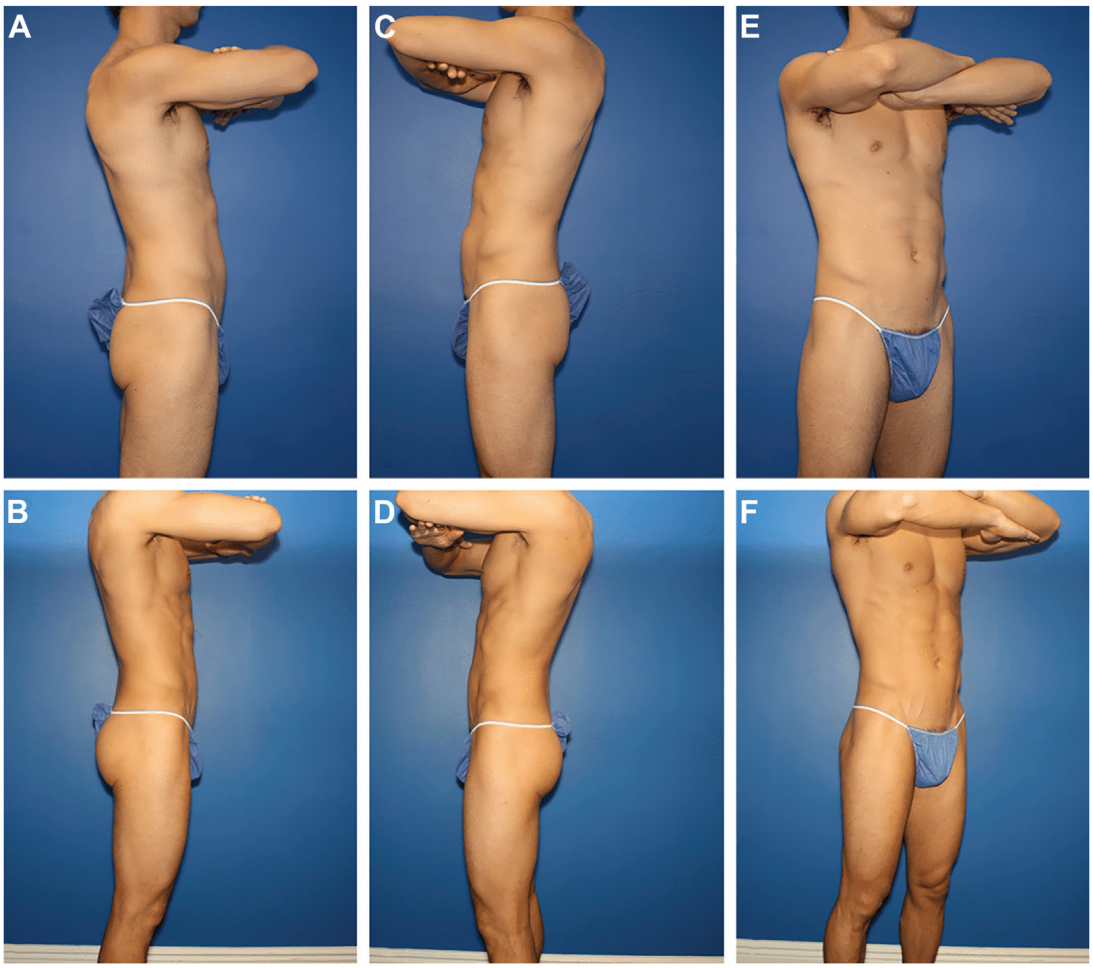


Fig. 3. (*A, C, E, G, H, I, M, O, Q, S, U, W, Y*) This 29-year-old, 5-foot 11-inch, 165-pound, ectomorphic athlete underwent intramuscular gluteal augmentation with a 276-cc custom-contoured silicone implant. BodyBanking fat transfer was performed to add additional volume superiorly. The hybrid technique allowed for shape customization, elongating the appearance of the gluteal musculature and preventing implant visibility and an artificial appearance. (*B, D, F, H, J, K, L, N, P, R, T, V, X, Z*) Twenty-one-month postoperative results demonstrating natural contours, increased volume, and enhanced shape without a visible incision.

maximus muscle without widening or rounding the buttock shape. After incisions are made, an inferiorly based oblong flap is developed on each side. The deep dissection is carried inferiorly in the subfascial plane to allow for reflection of the flap. A deep subcutaneous pocket is created within the inferior gluteal flap using the exact dimensions of the flap. This concept is analogous to the precise creation of a pocket, allowing for the placement of a gluteal implant. The flap is folded over itself, in the superioinferior trajectory, and secured into the previously created custom pocket ensuring not to compromise blood supply. The inferior gluteal flap is translated superiorly and meticulously reapproximated to the superior back flap for closure. Lateral dog ears are dealt with after the patient returns to the supine position and the abdominoplasty portion of the procedure is performed. Supplemental fat grafting (or BodyBanking, as described by the senior author) can be used on the posterior or anterior side to fine tune shape and enhance contours.

DISCUSSION

Many differences exist between the 2 sexes with regards to gluteal cosmetic surgery (**Table 1**). The innate structural differences between the android and gynecoid pelvis represent the foundation and major underlying contribution to the buttock shape and contour. Furthermore, differences in muscle mass and regional fat deposition

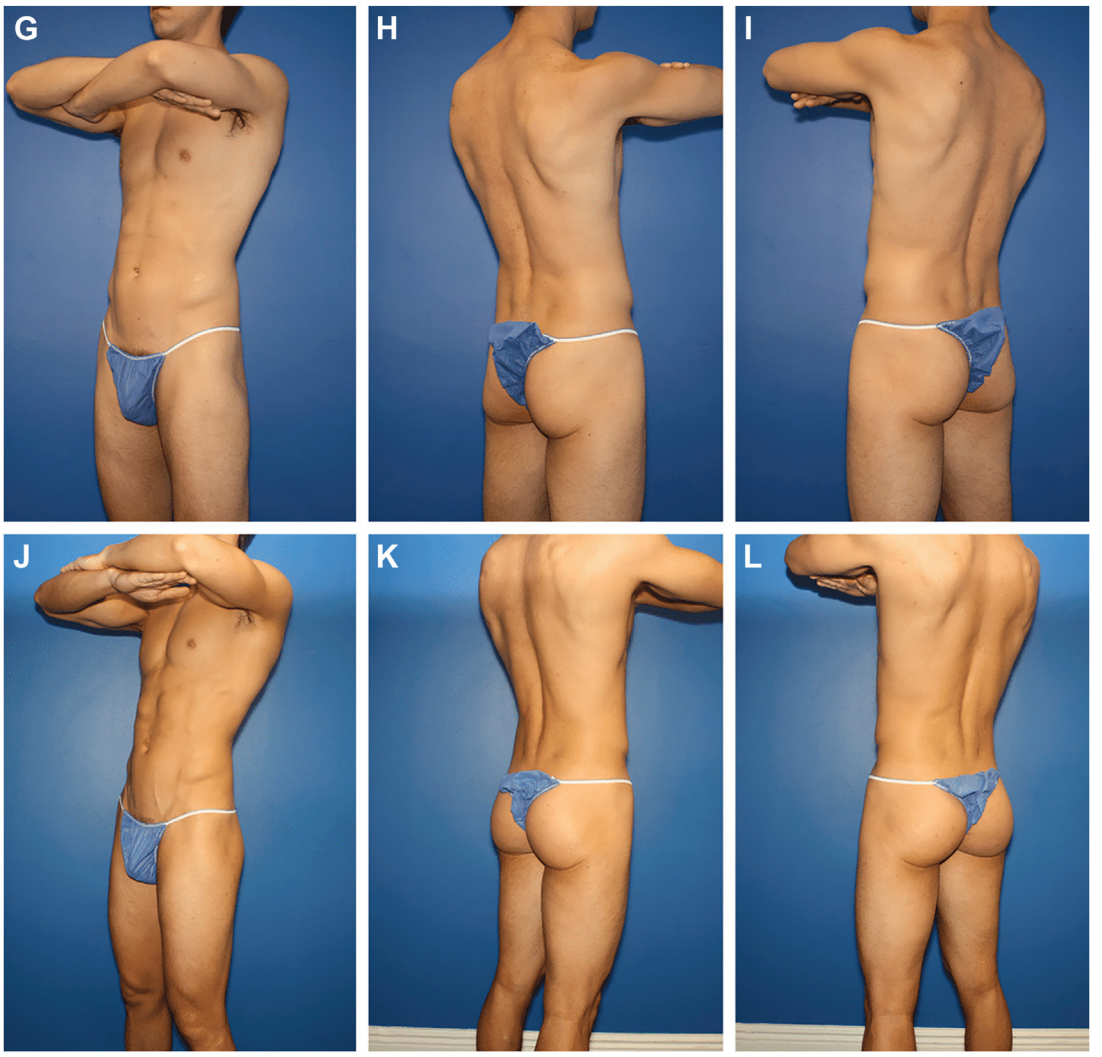


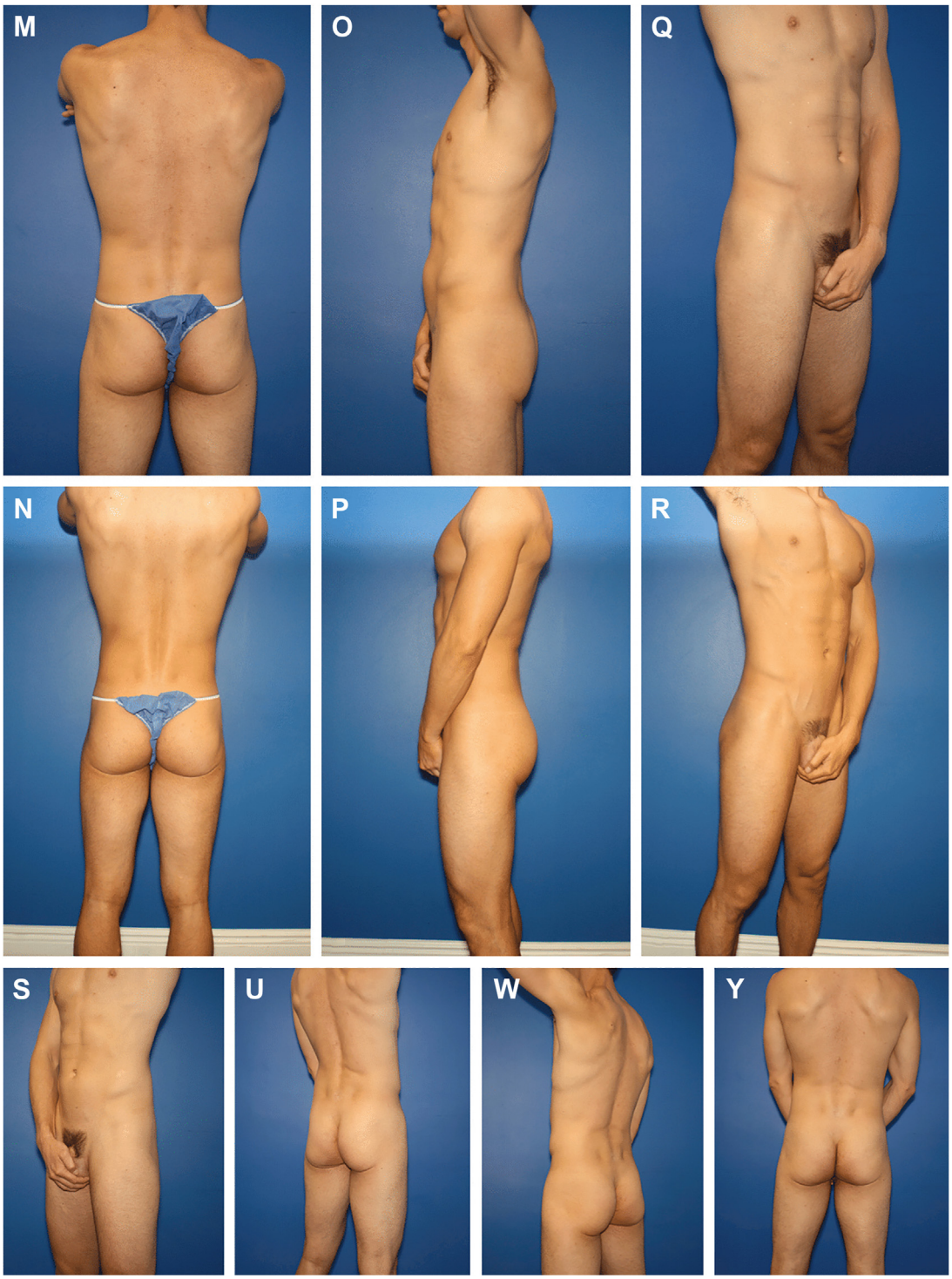
Fig. 3. (*continued*)

have been described in the literature. Preoperative observation classifies men into 3 categories based on height, baseline muscle mass, and fat deposition: endomorph, mesomorph, and ectomorph. Oftentimes the excess skin obscures underlying muscle tone and contours, but it is important to appreciate which category a patient belongs to.

Society and culture influence aesthetic ideals, which guide the surgeon to artistically sculpt an aesthetically pleasing buttock. To do so, a plastic surgeon relies on various techniques and plastic surgery principles to accomplish this task. When performing body modification and body contouring procedures, it is important to create balance and harmony among the anterior/posterior torso and gluteal definition. A highly sculpted buttock and posterior torso would look strange on a patient with an obese abdomen and wide thighs that lack definition. Although this article focuses on gluteal augmentation and shaping, it touches on other regional anatomic areas, as these procedures typically complement each other and improve the overall aesthetic result.

Gluteal Implants

Gluteal implant surgery can produce remarkable results with significant improvements in projection, volume, and shape. However, it also carries high rates of complications, up to 38%, reported in a multicenter survey published a decade ago.[7] Since then, surgeons have consciously implemented various modifications in their practice to decrease complications. Many surgeons advocate for separate incisions for each implant instead of a median



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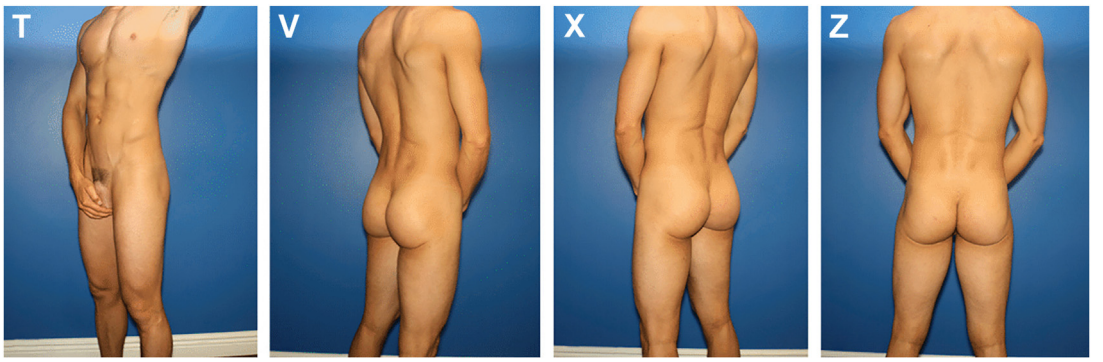
incision over the sacrum—which decreased the rate of wound dehiscence rates from 30% to 5% in one practice.[8] The senior author also endorses that a low complication rate can be achieved through 2 paramedian incisions when the implants are placed intramuscularly, and certain intraoperative precautions described above are implemented. Ultimately, these procedural modifications require



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further investigation to determine their contribution to minimizing complications while maintaining aesthetic outcomes. There are certain benefits and drawbacks with each pocket plane selection. Both the subfascial and the intramuscular pockets offer good implant coverage. When placed within the muscle, the implant is less palpable and has a lower rate of migration. This is due to the greater

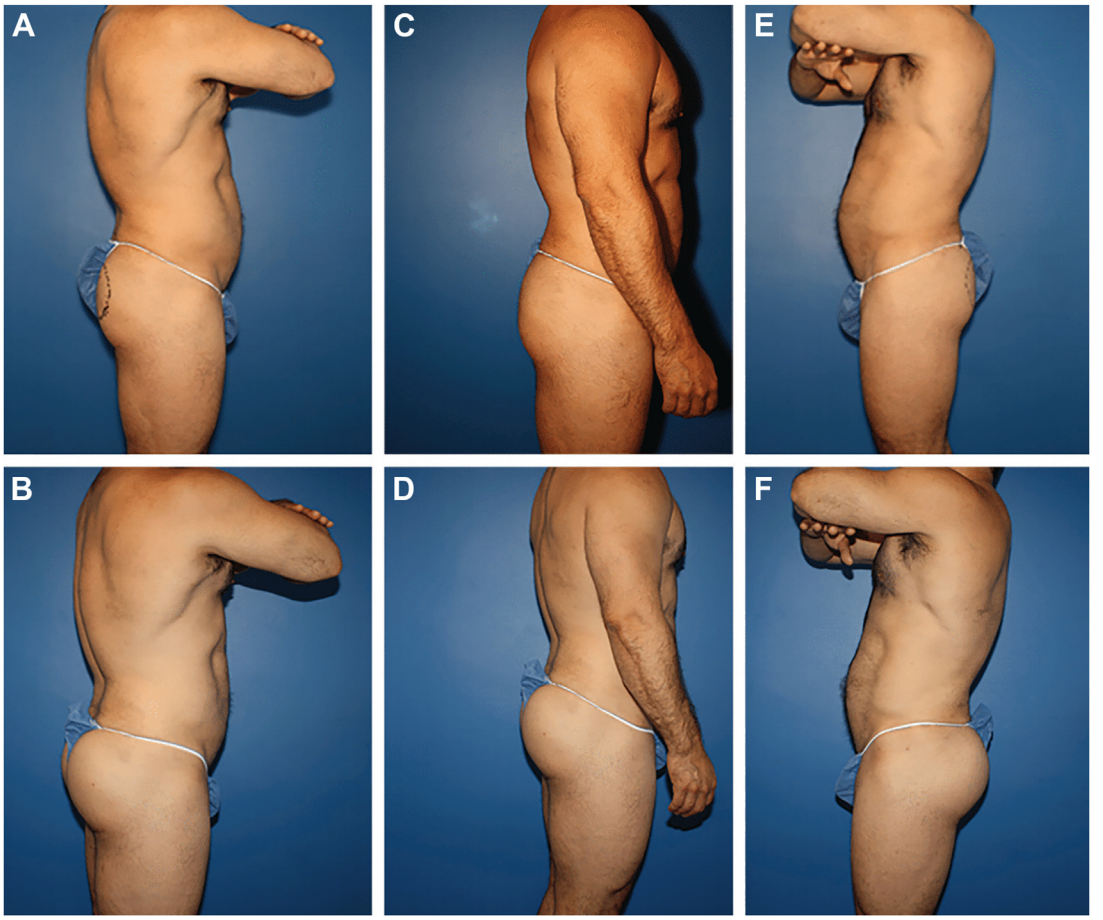

Fig. 4. (*A, C, E, G, I, K, M, O, Q, S, U, W*) A 46-year-old, 5-foot 7-inch, 168-pound, endomesomorphic man underwent intramuscular gluteal implantation with a 330-cc custom-contoured silicone implant. BodyBanking principles were used to harvest fat from the flanks and transfer to the superior aspect of the buttocks. (*B, D, F, H, J, L, N, P, R, T, V, X*) The composite technique resulted in a more elongated, muscular appearance. Thirty-five-month postoperative results demonstrate a well-maintained natural contour and enhanced superior gluteal volume without a visible incision.

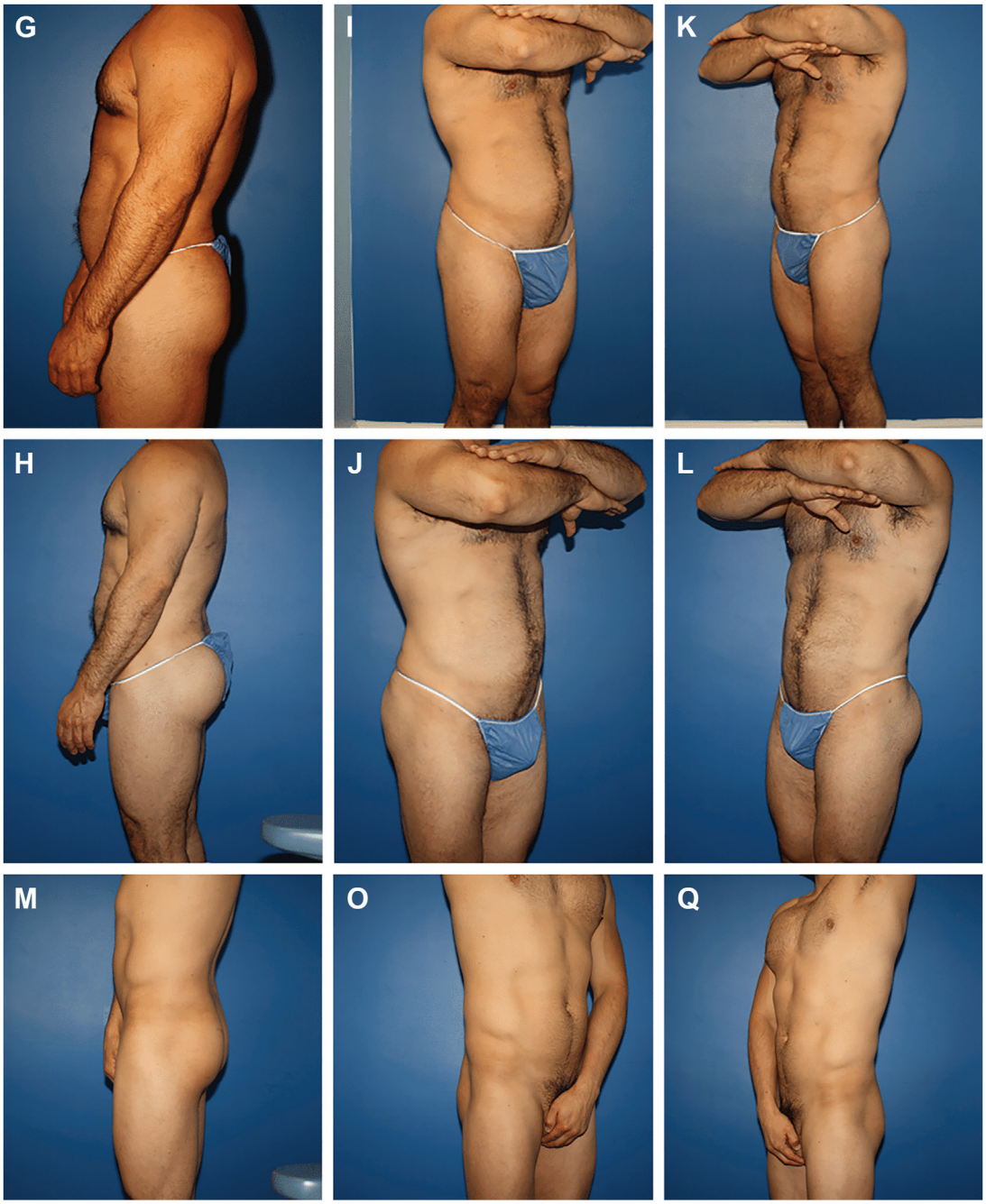

Fig. 4. (*Continued*)

amount of padding; however, there is a theoretical risk of sciatic nerve compression given its proximity to deeper structures.

Gluteal Fat Transfer

Fat grafting has gained popularity, as this procedure avoids the longer incisions required for implant-based gluteal contouring that can result in high rates of dehiscence along with the inherent risks associated with the implants themselves—malposition, migration, palpability, and infection. Various techniques with regard to collecting, separating, processing, and delivering the fat have been described; however, that discussion is outside the scope of this article.

Fig. 4. (*continued*)

The fat harvest portion of the procedure presents an opportunity for the surgeon to debulk and sculpt distant and nearby donor areas. These changes affect the shape of the entire torso, not just the buttock. In fact, they often enhance the appearance of the buttock, as the surgeon is able to create harmony between the adjacent anatomic areas. However, a potential downfall of fat transfer is that as the patient's weight fluctuates, the size and shape will mirror these fluctuations and perhaps lose the aesthetic appeal created at the time of surgery.

Additional limitations to this procedure must be considered. Thin patients that lack an adequate amount of adiposity from all donor sites are not candidates for this procedure or might be better suited for a hybrid procedure (implant and fat transfer). The inherent uncertainty of fat graft

Table 1
Differences and considerations between male and female buttock augmentation

	Male	Female
Gluteal/pelvic anatomy	• Thicker gluteal fascia • Less body fat stored, greater bone and muscle mass • Android pelvis (heart-shaped) • Narrower pelvic bones • Longer and narrower sacrum	• Wider angle of iliac crest tilt • More body fat stored • Gynecoid pelvis (rounded shape) • Wider pelvic bones
Aesthetic ideals of the buttock	• Athletic appearance • Well-defined lateral gluteal concavity • Greater height-to-width ratio • Waist-to-hip ratio approximates 0.9	• Round and voluptuous • Soft lateral gluteal concavity or mild convexity • Wider • Waist-to-hip ratio approximates 0.6
Implant characteristics	• Smaller • Round	• Larger • Anatomic
Autoaugmentation procedures	• Vertical turnover flap ("wallet flap")	• Rotational flap (lateral to inferior rotation)

viability after transfer is a consideration. Current estimates predict that 70% to 80% of the fat transferred will survive.[10,11] Thus, surgeons will "overcorrect" knowing that there will be a certain amount of "deflation" that occurs within the first 6 to 9 months, even if a patient's weight remains constant. The senior surgeon strongly advocates for a high carbohydrate diet in the postoperative period to encourage graft survival and implantation. Even after attempting to optimize all of the known variables, unlike implant-based gluteal augmentation whereby the shape and volume of the implant will remain constant, a small amount of unpredictable change in shape and volume will take place from the on-table result to the long-term result with fat-grafting procedures. This reality can be bothersome to both the surgeon and the patient, particularly as the patients get used to the size/shape immediately after surgery when edema and the volume transferred are at their greatest.

Last, numerous cases of fat embolus and death have been reported as a consequence of large-volume fat grafting to the gluteal region. The risk of fat embolus can be mitigated by grafting in the subcutaneous plane and taking the necessary precautions that involve patient positioning, use of large-bore stiff cannulas, and calculated incision placement for ideal cannula angulation to avoid piercing the deep fascia. To date, very few surgeons prefer intramuscular fat injection advocating for the ability to harness greater projection.[12,13] However, caution must be maintained when using this technique, as the risk for big vessel injury, fat migration, and fat embolus increases with these maneuvers.

Gluteal Autoaugmentation

In the appropriate candidate, the "wallet flap" autoaugmentation procedure yields excellent aesthetic results. The design of the flap with a vertical turnover from the superior to inferior direction preferentially adds volume to the superiomedial aspect of the buttock. The bulk created by folding tissue over itself ultimately creates a prominent, athletic-appearing superior gluteal crease. Medial bias in pocket design avoids unnecessary excess volume laterally, which ultimately translates to a more masculine oblong gluteal shape. The amount of additional inferior pole volume that can be achieved from the flap depends on how much tissue laxity the patient presents. This is determined by the distance between the upper and lower incision lines, which approximates the amount of turnover one can expect from the flap. Fortunately, by lifting the inferior gluteal skin over the "wallet flap," the inferior gluteal crease becomes more defined. The redraping of redundant skin also contributes to a more youthful, taut, rejuvenated appearance. Additional inferior pole volume can be added through the use of fat-grafting/BodyBanking techniques. The vertical fold-over "wallet flap" autoaugmentation differs from other rotational autoaugmentation techniques that have been described in the literature for body lift procedures in patients with massive weight loss. Those procedures rotate superiolateral tissue to the central aspect of the buttock,

but the bulk from the rotation point remains in the superior lateral quadrant, which is less than ideal in male gluteal aesthetics.

CLINICS CARE POINTS

- Regardless of technique, the goal is to augment medial and central projection (superiorly and inferiorly) to maintain a narrowed, muscular-appearing buttock with a dramatic lateral gluteal concavity.
- Evaluation should include the entire torso, buttock, and thighs. Ancillary procedures, such as liposculpting and fat transfer/BodyBanking, should be considered to enhance the overall aesthetic result.
- Creating harmony and balance between the buttock and nearby anatomic areas is critical in attaining a natural-appearing buttock.
- Preservation of the trochanteric depression along with dramatic highlights of the gluteal musculature is critical to deliver an athletic, aesthetically pleasing male buttock.
- Postoperative high carbohydrate diet is critical for fat graft survival and minimizing complications while maintaining consistency in long-term results.

Pitfalls

- Gluteal implants are associated with high complication rates; adherence to important preoperative, intraoperative, and postoperative considerations to maintain sterility and prevent wound dehiscence greatly decreases complication rates.
- Meticulous intramuscular dissection avoids inadvertent damage to deep structures (ie, sciatic nerve).

DISCLOSURE

Dr N.M. Vranis does not have any financial or commercial disclosures relevant to this article. Dr D. Steinbrech receives book royalties from Thieme and Elsevier; in addition, has financial investment in Allergan Aesthetics (AbbVie) and Alpha Aesthetics.

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