# Three-Dimensional Liposculpture of the Iliac Crest and Lateral Thigh 

"Surgical Strategies" focuses on refinements in aesthetic surgical techniques. Contributors are Aesthetic Society members or other recognized experts.

Three-dimensional liposculpture is based on the concept of maintaining the multiple spheres and angles of the lateral thigh and the iliac crest rather than converting the region into a single plane. The goal of the procedure is not to achieve a general loss of volume and flattening of the lateral thigh, but rather to obtain a gentle convexity in an anterior-posterior direction and a slight concavity in the region of the " $G$ " point. Lateral thigh and iliac crest fat deposits produce a rectangular shape so that the contour from the rear view appears boxlike rather than round. The posterior aspect, however, should have a circular contour bordered by two convexities.

## The Lateral Thigh and "G" Point

From a three-dimensional view, the upper lateral thigh should flatten and curve posteriorly into the location of the banana roll. This produces a slight concavity at the superolateral aspect of the thigh known as the " G " point (Figure 1). This concavity separates the lateral thigh from the buttock and causes the lateral thigh to have an elongated appearance. Anatomically, the " $G$ " point is at the inferior edge of the buttock and at the posterior edge of the tensor fascia lata and iliotibial tract where the lateral intermuscular septum descends and attaches to the linea aspera of the femur.

## The Iliac Crest

The iliac crest deposit extends anteriorly to meet the lateral abdominal fat deposit. Inferiorly it merges with the convexity of the buttock. Posteriorly it merges with the concavity of the midline back and superiorly with another concavity of the lateral flank. In the prone position the vastus lateralis, buttock, and iliac crest fall toward the table, exaggerating the deformity. In the supine lateral decubitus position, tension on the lateral thigh tightens the iliotibial band, making the vastus lateralis more
prominent. The tension on the thigh reduces the prominence of the saddle bag area and prevents visualization of the gentle flow of the upper thigh and its junction with the buttock.

## Clinical Application

The initial advantage of liposuction was the removal of fat through small incisions. A disadvantage of this procedure, however, has been its inability to create a smooth, even contraction of the skin combined with the removal of fat. Most lipoplasty surgeons treating patients with flaccid lateral thigh skin are faced with the postoperative problem of continued skin folds and laxity. I suction in the superficial layer of fat beneath the dermis and reduce the weight of the integument, which results in a concentric retraction of the overlying skin, avoiding the redundant folds and laxity.

## Marking

Marking is performed by use of visualization and tactile maneuvers. I mark the most prominent areas with plus signs and dots, and those areas that are secondary in nature with minus signs (Figure 2). I mark the patient from the back first, using the index fingers of both hands and pressing in the lateral thighs to determine the superior extent of the lateral thigh deformity and the best place to produce a rounded buttock line. Using an 18 -inch ruler, I press it against the lateral thigh to cvaluate the bulge against the low points superiorly and inferiorly. I use this measurement to determine the new contour line. The profile of the new contour line on the lateral thigh is analogous to that marked on the nose. The final contour in the lateral decubitus position should approximate this vertical thigh line. Medial to this line, I mark the point of maximum concavity at the superior part of the thigh (the G point) over the posterior-superior portion of the tensor fascia lata. I draw a second vertical line medial to the lat-


Figure 1. Concavity of "G" point.
eral thigh line and lateral to the banana roll to identify the " $G$ " zone. This area is inferior to the oblique part of the lateral buttock crease, whereas the banana roll is inferior to the horizontal part of the buttock crease. When marking the iliac crest deposit, I outline the posterior extension. This marking extends in an oblique superior direction from the front to the back. Turning the patient to the front, I identify the anterior extent of the lateral thigh and iliac crest deformities. Because patients look at themselves from the front, special attention must be paid to any anterior extension of the lateral thigh and iliac crest deformity.

## Positioning

Placing the patient in the lateral position has the dual benefit of elevation, thus possibly reducing blood loss during suctioning, as well as postoperative tamponade while suctioning on the opposite side.

## Surgical Procedure

One incision is made at the superior edge of the lateral thigh deformity. Making this incision outside of the deformity rather than at its margin will cause a depression beyond the deformity. The second access incision for the lateral thigh is made at the inferior point of the highest area for the same reason. The wetting solution is injected at both the deep and superficial levels. Approximately 420 ml is used for the iliac crest and lat-


Figure 2. Special markings with primary (plus signs and dots) and secondary (minus signs) suctioning points indicated.
eral thigh combined. One half to an equal amount of the estimated volume to be removed is injected.

The suction machine should be positioned to the top left of the patient. The left side should be suctioned first. If the surgeon is right-handed, the left lateral thigh is suctioned from the left (posterior) side and the left iliac crest is suctioned from the right (anterior) side. When suctioning the right side, the right thigh is suctioned from the left (anterior) side, and the right iliac crest is suctioned from both the left (anterior) and right (posterior) approaches. The contour is checked primarily from the posterior view; however, both the anterior and posterior views are examined.

Suctioning is begun with a 3 or $4 \mathrm{~mm}, 20 \mathrm{cc}-$ long accelerator tip cannula. The cannula is passed deeply from the superior thigh entrance port to the most distal or inferior portion of the deformity. Suctioning is performed initially at the deep and intermediate levels. Only after the entire lateral thigh zone has been reduced should one begin suctioning at the superficial level to finish the last $40 \%$ of the contouring. After an even debulking of the deep layer, superficial suctioning is performed using a 3 mm accelerator tip cannula. The last $15 \%$ to $25 \%$ of superficial contouring is performed with a single-hole 3 mm cannula. If an area does not "drop" with superficial suctioning a significant deep layer of fat may still exist, making it necessary to return to the deep or intermediate level to reduce the area further.


Figure 3. Preoperative (A,C) and postoperative (B,D) appearance of patient after three-dimensional liposuction of iliac crest and lateral thighs.

To maintain an even reduction across the entire lateral thigh area, the surgeon should separate this region into anterior, middle, and posterior thirds and then reduce each third. The distal two thirds of the lateral thigh zone are suctioned first, followed by the " $G$ " area and then the banana roll. Only superficial suctioning is performed in the banana roll area. The " $G$ " point and " $G$ " areas are suctioned more superficially and less deeply than the lateral thigh area.

The entire iliac crest area is suctioned by use of the superior thigh incision. After an initial debulking, I make an anterior incision and suction superficially throughout the iliac crest deformity. The region is contoured to allow a smooth transition of the superior buttock into the waist area. It may be necessary to use a beveled cannula to remove fat from the fibrous tissue in this area, as well as in the flank. The trochanteric area to be suctioned is accessed from the inferior incision in the lateral thigh area and from the anterior incision in the iliac crest region. The trochanteric area should be reduced so that there is a slight concavity inferior to the lateral buttock when the latter is compressed downward in the lateral position.

## How to Evaluate the End Point

There should be a slight concavity at the " $G$ " point inferior to the new oblique line of the buttock crease. In addition, there should be a gentle reduction in height
between the buttock and the lateral thigh at the mid lateral line when compressing the buttock in a caudal direction. The superior-inferior buttock convexity should form a small inferior slope leading into the anterior-posterior convexity of the gluteal depression and lateral thigh. The lateral thigh skin should be about 1 cm in fold thickness and pliable. There should be a roundness of the buttock with a concavity above and below it (Figure 3).

## Conclusion

Precise marking of the patient based on a clear anatomic understanding of the areas to be treated and careful evaluation of the results of suctioning in each fat compartment can lead to success in treating the three-dimensional region of the iliac crest and lateral thigh.

Reprint orders: Mosby-Year Book, Inc., 11830 Westline Industrial Drive, St. Louis, MO 63146-3318; phone (314) 453-4350; reprint no. 70/1/85963

## References

1. Gasparotti M. Superficial liposculpture. Problems in Plastic and Reconstructive Surgery. 1992;2(23):408-23.
2. Last RI. Anatomy regional and applied. 6th ed. Edinburgh: Churchill Livingstone; 1978.
3. Hetter GP. Lipoplasty: the theory and practice of blunt suction lipectomy. Boston: Little, Brown and Company; 1984;158.
4. Gasparotti M. Superficial liposuction: a new application of the technique for aged and flaccid skin. Aesth Plast Surg 1992;16:141-53.
5. Kirwan L. Brief communication: photoaging patients for liposuction. Plast Reconstr Surg. 1995;95:942.
