Lateral Subcutaneous Brow Lift: Updated Technique

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Age-related changes affecting the periorbital area and resulting in eyebrow ptosis have a greater impact on the lateral eyebrow; correction of this deformity is a common request from patients seeking periorbital rejuvenation. Various techniques have been utilized to address eyebrow ptosis, including the coronal brow lift, endoscopic technique, anterior hairline approach, transpalpebral lift, midforehead lift, and direct brow lift. Furthermore, arguments for dissection in each of the different tissue planes—subcutaneous, subgaleal, or subperiosteal—have all been discussed. Each of these approaches has specific indications, risks, and benefits, and should be selected after comprehensive evaluation of the patient. In our experience, a full coronal incision often results in an obvious midline scar in the central forehead, increases the risk of elongating the vertical height of the forehead, and can result in paresthesias posterior to the hairline, a symptom that is very bothersome to patients. Endoscopic brow lifts require additional equipment with increased operative time, and the deeper dissection involved in this technique results in suboptimal brow elevation compared to the subcutaneous approach. Furthermore, not all patients are appropriate candidates for endoscopic brow lifts, including those with significant convex frontal bones, high or receding hairlines, deep transverse rhytides, or significant brow ptosis.

In patients presenting with lateral brow descent, the temporal or lateral subcutaneous brow lift has produced consistent and effective results. This technique has been well described in the literature, and has several advantages, including shorter operative time, feasibility under local anesthesia, decreased risk of hairline elevation, inconspicuous scars, and decreased risk of postoperative scalp dysesthesia or anesthesia. The senior author has integrated a modification to the technique, which has further enhanced the effectiveness and ultimate aesthetic outcome of the procedure.

**OPERATIVE DETAILS**

The senior author’s technique is outlined below, with the key modification highlighted.

1. Mark a 5 cm planned incision in the hairline, beginning medially at the level of the pupil, and extending laterally to the temporal scalp (Figure 1).
2. Infiltrate the planned incision site with 15 mL of 0.25% marcaine with epinephrine (1:100,000) and/or 20 mL of 0.5% lidocaine with epinephrine (1:200,000) on each side.
3. Sharply incise the scalp to the level of the frontalis muscle, beveling the initial skin incision to minimize permanent hair follicle disruption.
4. Use tenotomy scissors to dissect the subcutaneous flap for approximately 2 cm distally, and then switch to blunt manual dissection for further flap elevation.

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Modification: Most papers discuss elevation of the flap to 1.0-1.5 cm above the level of the supraorbital rim. In this technique, a gauze sponge or manual probing is used to bluntly dissect distally to the level of the lateral canthus, extending 1 cm laterally (Figure 2). We prefer manual probing, but a gauze sponge can be helpful if there are fibrous attachments causing the plane to be more adherent.

Lift the skin flap superiorly to assess the effects on lateral brow position and to determine any adjustments in desired vector for securing the flap. The procerus and corrugator muscles can be accessed easily through the skin incision and can be addressed at this time if desired.

Use bovie or bipolar electrocautery for hemostasis if needed.

Vertically incise the central aspect of the flap to the extent of desired brow lift, while anticipating a tension-free closure. Push the scalp forward when excising the redundant skin flap to maintain the elevation of the brow. (Figure 3A). Secure with a single 3.0 nylon suture.

Mark and excise the excess medial and lateral skin.

Close the incision with a 4.0 nylon running suture. Remove the initial 3.0 nylon fixation suture (Figure 3B; a video that demonstrates the technique may be viewed in the Supplementary Material).

MY EXPERIENCE

The senior author began incorporating this additional maneuver into his practice in 2004. It has been performed on 100 patients; 99 of those were female, age range 33-82 years, with an average age of 55 years. We believe that all patients who undergo a lateral subcutaneous brow lift are candidates for this technique modification because they have significant lateral brow descent to warrant a brow lift and desire a reliable lasting result. We consider performing a full brow lift if appropriate; however, the goal is to avoid an unnatural frightened or surprised look, and many
patients present specifically with lateral brow hooding and need elevation only of this area. The previously described technique results in 5-7 mm elevation of the lateral brow and utilizing the senior author’s maneuver an additional 5 mm of lateral brow elevation is achieved. This allows for appropriate height elevation that is often unable to be attained with the original procedure, particularly in these patients with considerable lateral hooding warranting

Figure 4. (A, C, E, G, I) Preoperative view of a 61-year-old woman presenting with dermatochalasis and lateral eyebrow hooding. (B, D, F, H, J) Postoperative view 18 months after bilateral upper eyelid blepharoplasty and bilateral lateral subcutaneous brow lift.
surgical intervention. The alteration is safe, and the full procedure can be performed expeditiously in approximately thirty minutes (fifteen minutes per side). While some authors have discussed variations such as use of progressive tension sutures, our technique produces a stable and consistent result without need for this adaptation, and precludes potential complications such as suture extrusion, sensory nerve entrapment, or asymmetry due to failure of a tension suture.

OUTCOMES

No complications have been identified in the early postoperative period or in long-term follow-ups. No patients experienced paresthesia, unsightly or widened scarring, or hairline elevation, and there were no seromas or surgical site infections in any patient. There was no incidence of hematoma in our series of patients, likely due to the avascular plane that is developed between the subcutaneous tissue and frontalis muscle. Furthermore, brow elevation was durable and overall reported patient satisfaction was high for all those who underwent this procedure. Typical clinical results are shown in Figure 4.

COST

As demonstrated in the operative details, no additional equipment or tools are necessary for this technique modification. As such, there is no further cost beyond the basic operative instruments.

CONCLUSION

The senior author has noted that the modification of extending the dissection distally to the level of the lateral canthus and laterally 1 cm has provided a notably enhanced outcome from the original technique. It provides improved immediate periorbital rejuvenation and can accommodate any inferior descent that may occur in the initial postoperative period. This technique results in durable long-term restoration of the lateral eyebrow to its previous, more youthful position.

Supplementary Material

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