Video Article

Lower Lid Blepharoplasty With Lateral Retinacular and Orbicularis Suspension

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This article and accompanying Video will briefly describe the technique originally described and advanced by Fagien for lower lid blepharoplasty with lateral retinacular and orbicularis suspension. Dr Fagien’s technique has evolved over the last 25 years with subtle nuances after more experience has proven its effectiveness and fine-tuning elements of the procedure that are titratable depending on the individual patient’s presentation. The premise of this procedure was a comprehensive approach to those individuals that require skin and muscle tightening while maintaining support to the lateral canthus. This advance also challenged traditional approaches as it has been consistently observed that extensive dissection of the orbicularis or commonly performed skin-muscle flaps as an approach to lower blepharoplasty led to denervation of the muscle and did not result in an improvement of aesthetic outcomes. Additionally, this technique has the advantage of improvement of the appearance of the lid-cheek junction and skin and maintains or improves the natural posture/shape of the lower eyelid.

All necessary supplies are listed in Table 1. Corneal shields are placed before performing any procedures on the lower eyelid. Canthal suspension and all approaches to the anterior eyelid lamella (skin and muscle) are generally completed after orbital fat resection and orbicularis retaining ligament release through a transconjunctival approach.

The target areas are injected with a local anesthetic, typically 1% lidocaine with 1:100,000 epinephrine mixed 3:1 with 0.5% bupivacaine. If an upper lid blepharoplasty has been completed, the lateral portion of the incision is left open to facilitate the lateral retinacular suspension. Otherwise, a small incision can be made in the upper lid at the lateral crease. A 4-0 silk traction suture is placed through the lower lid margin to provide counter tension. A subciliary incision is made from the position of the punctum extending temporally past the lateral commissure (Figure 1). The lower lid skin is elevated off the orbicularis muscle, creating a skin-only flap. An orbiculotomy is made laterally with variable undermining or dissection underneath the muscle, ensuring a cuff of muscle is left superiorly to help support the lateral retinacular suspension (Figure 2). Minimal dissection of the orbicularis prevents denervation of the muscle.

The lateral retinacular suspension (Figure 3) is performed by placing the first stitch (of 4-0 or 5-0...
double-armed polypropylene suture on a small half-circle [SH] needle) through the cuff of muscle and close to the lateral commissure. This suture is then variably placed depending on orbital vector and passed through periosteum at the internal aspect of the lateral orbital tubercle of the lateral orbital rim and then exits the lateral upper eyelid incision/wound. A small orbiculotomy is made at the lateral upper eyelid where the suture exits to allow the knot to be buried under the muscle. The second needle is used to place the second bite just lateral to the first and again, rim periosteum is grasped. The canthopexy is checked using a temporary suture before reinforcing around the polypropylene with 5-0 Vicryl sutures to prevent early cheese-wiring through the tissue. The canthopexy is then tied down, and the upper incision is closed (Figure 4). This can also serve as a browpexy of sorts as the deeper soft tissue of the lateral upper eyelid becomes fixed to the upper lateral orbital rim.

Next, the orbicularis suspension is performed with a 5-0 Vicryl on a P-3 needle. A secure purchase of periosteum at the lateral orbital rim is grasped through the orbicularis myotomy (Figure 5). The suture is then placed through the cut edge of orbicularis before being tied down and serves as a secondary canthal support as well to tighten the pre-septal muscle along with the extent of the lower eyelid aiding to improve the appearance of the lid-cheek junction (Figure 6).

The skin flap is redraped superomedially ensuring no tension at the incision before excising any excess skin. The lateral portion of the incision is closed before performing a tarsorrhaphy though the lateral lower eyelid incision. Once the tarsorrhaphy is completed, the rest of the incision is closed (Figure 7). We also commonly place a Frost suture that is removed the day after surgery.

We counsel patients that they will have some exaggerated canthal tilt for roughly 2 to 3 weeks, but this will subside. Skin and tarsorrhaphy sutures are removed at 1-week post-op unless chemosis is present, in which case the tarsorrhaphy can be left for longer, generally less than 2 weeks. Typical patient results are demonstrated in Figures 8 and 9.

In the senior author’s experience, complications have been very infrequent, with no patient requiring revision in the last 15 years (less than 1:1000). However, failure to properly place the lateral retinacular suspension suture may result in lower lid malposition or canthal dystopia/disjunction (pulling the lateral commissure away from the globe). This complication can be avoided by paying particular attention to the orbital vector and degree of enophthalmos or exophthalmos. These factors will dictate the location of the suture (higher or lower) on the orbital rim. The surgeon must also ensure adequate purchase of periosteum. Finally, we have found that placing the canthopexy suture from the lower lid incision allows for a more posterior bite, again preventing canthal dystopia or disjunction.
Figure 2. Skin flap dissection and orbicularis myotomy. Reproduced with permission from Elsevier.

Figure 3. Placement of lateral retinacular suspension suture and closure of the upper lid incision. Reproduced with permission from Elsevier.

Figure 4. Lateral retinacular suspension tied down with resulting tightening of the lower lid. Reproduced with permission from Elsevier.

Figure 5. Placement of orbicularis suspension sutures. Reproduced with permission from Elsevier.

Figure 6. Completed orbicularis suspension. Reproduced with permission from Elsevier.

Figure 7. Final appearance of lower eyelid after skin excision and closure. Reproduced with permission from Elsevier.
Supplemental Material

This article contains supplemental material located online at www.asjopenforum.com.

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This procedure has been previously published in Dr. Fagien's textbook, but the video and material presented here are original for this article.

Disclosures

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

Figure 8. This 56-year-old female preoperatively demonstrates lower lid fat herniation and tear trough deformity.

Figure 9. Three months postoperatively, this 56-year-old female demonstrates correction of excess lower lid fat, well-blended lid-cheek junction, unchanged orbital vector, and good lower lid position.

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