Lower Eyelid Rejuvenation: A Pictorial Management Guide

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Lower eyelid rejuvenation has undergone a paradigm shift over the last 10–15 years. The outdated convention was to remove all prolapsing fat until it was flush with the inferior orbital rim. This can accentuate a sunken, hollow look and will likely do very little for the naso-jugal (tear-trough) deformity, eyelid-cheek junction, and midface descent and deflation. Some patients may not have lower eyelid steatoblepharon and are more bothered by excessive skin, hypertrophic orbicularis, or retracted lower eyelids. Each patient is unique and requires an individualized approach to maximize both aesthetic and functional improvements.

Some patients require only orbital fat repositioning. These tend to be younger patients seeking improvement of the "bags" under their eyes (Fig. 153.1).

Some youthful patients, however, may require more significant fat sculpting and repositioning as shown in Fig. 153.2. This upper 20s female had significant prolapsing fat and prominent tear-trough deformities. She benefited by some conservative fat sculpting but more significantly by fat repositioning of the abundant available fat to help fill in tear-trough deformities. A 25 % TCA chemical peel was done on the lower eyelids.

Male patients undergo the same age-related changes consisting of midface descent, accentuation of the eyelid-cheek junction, and prolapse of orbital fat causing prominent tear-trough deformities and "rings" under their eyes. This results as the eyelid fat cannot descend inferiorly because of the orbital septum attachments at the inferior orbital rim while the midface/SOOF complex does sag inferiorly. This leaves the inferior orbital rim "tear-trough" hollow, dark, and unprotected. Figure 153.3 shows a 40-year-old male that was bothered by his lower eyelid "bags." He underwent conservative fat sculpting and repositioning to restore a more youthful appearance. He did not wish to have a chemical peel to smoothen the lower eyelid skin, and he would have benefited though declined, because of high postoperative satisfaction, some additional conservative lower eyelid skin removal. This patient, like most males, does not want to contend with up to a month of eyelid erythema following a peel and therefore more often require some conservative skin removal. Never hesitate to give lateral canthal or orbicularis support if there is any sign of lower eyelid laxity, which is evidenced by a positive snap/distraction test, and if any inferior sclera show.

Older patients often have more complex and multifactorial issues to address. Figure 153.4 shows an elderly female with lower eyelid steatoblepharon, dry eyes, and ectropion changes. She

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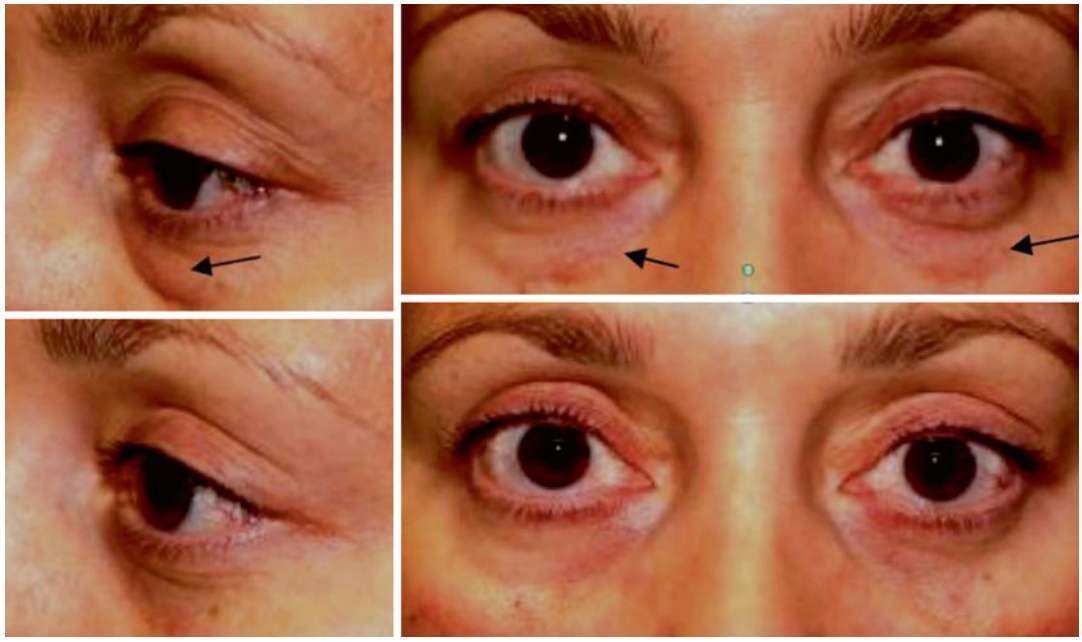

Fig. 153.1 A lean mid-30s female patient, seeking a minor refreshing of her eyes, was particularly bothered by her lower eyelid bags. *Arrows* show the preoperative prolapsing fat that was bothersome. She underwent fat repositioning, as there was minimal fat to remove and would have created a sunken appearance. Note improvement of tear-trough hollows by repositioning the available fat inferiorly

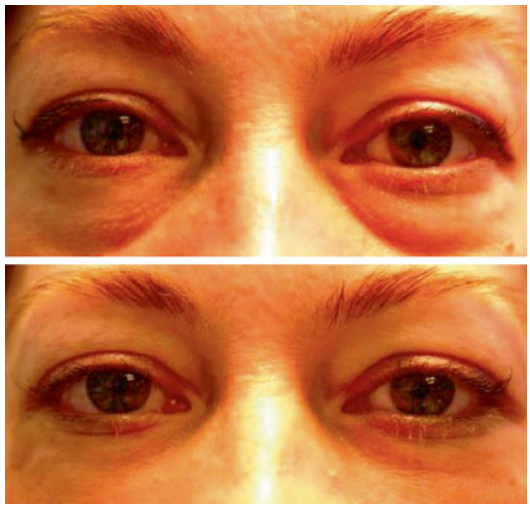

Fig. 153.2 Young female patient pleased following conservative transconjunctival fat sculpting and considerable fat repositioning to diminish prominent tear-trough deformities

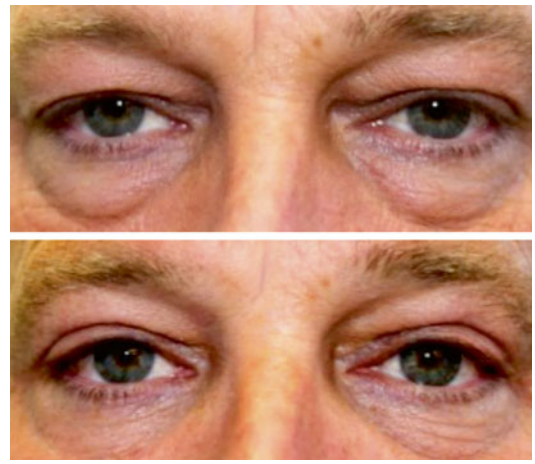

Fig. 153.3 A 40-year-old male that underwent conservative fat sculpting with more focus given to fat repositioning

underwent lower eyelid ectropion repair by lateral tarsal strip, fat sculpting/repositioning, preperiosteal midface elevation, and 25 % TCA peel of the lower eyelids. No skin removal of the lower eyelids was necessary. Raising and tightening the lateral canthus and performing TCA chemical peel in our experience have been the best and safest treatment for what may appear to be excess lower eyelid skin.

Fig. 153.4 Elderly female following lower eyelid tarsal strips, transconjunctival fat sculpting/repositioning, 25 % TCA, and midface elevation

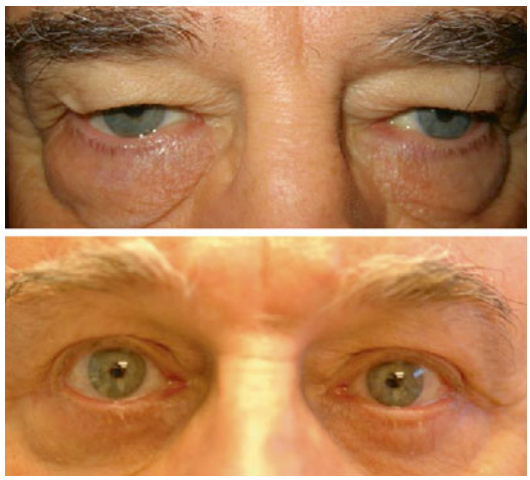

Fig. 153.5 Elderly male with significant lower eyelid fat "bags" that required considerable fat sculpting as well as repositioning and midface elevation through an upper blepharoplasty approach. The lateral canthal and midface elevation is best performed via the temporal upper blepharoplasty approach

Some elderly patients (Fig. 153.5) may have significant orbital fat herniation that will not be improved by repositioning alone. These patients require considerable fat removal in addition to targeted fat repositioning to the areas with tear-trough deformities.

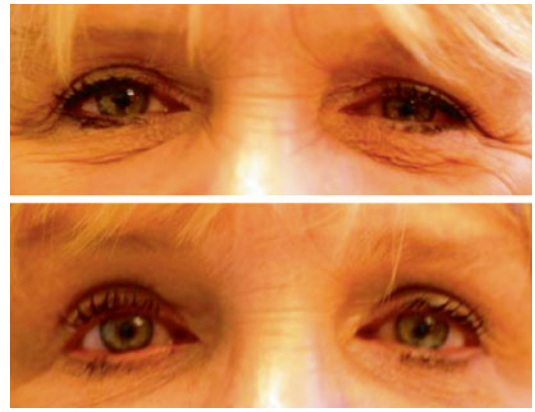

Fig. 153.6 Female patient before and after lower eyelid skin removal blepharoplasty, lateral canthal resuspension, TCA peel, and midface elevation through upper blepharoplasty approach

Lastly, some patients may have excessive, wrinkled lower eyelid skin but require no fat sculpting or repositioning. Figure 153.6 shows a mid-50s female bothered by such changes. She underwent an infraciliary lower eyelid blepharoplasty that included subincision orbicularis debulking, 25 % TCA peel, lateral canthal resuspension, and midface elevation through an upper blepharoplasty approach. Removal of the lower eyelid skin almost always results in some degree of lower eyelid retraction as seen in this patient whose lower eyelids were slightly drawn downward despite initially being very tight. A more aggressive lateral canthal resuspension, midface elevation, or adding additional support by performing a superolaterally directed orbicularis flap suspension might have reduced this mild postoperative retraction. More conservative skin removal and TCA peel may have also helped minimize this, but she was very pleased with her result. Caution against overtightening the lateral canthus is advised as it can be uncomfortable during early healing and may induce bothersome refractive changes. Postoperative ectropion is an even more feared complication following overly aggressive skin removal. This is largely avoidable by resecting only the redundant eyelid skin that can be marked with the patient opening their

Fig. 153.7 Young female patient with minor lower eyelid rhytids suitable for botulinum toxin

mouth and gazing upward. These maneuvers place maximal vertical tension on the lower eyelid skin so marking of excess skin can be done more safely. Unfortunately, severe retraction or ectropion following lower eyelid skin removal may require skin grafting with or without aggressive midface elevation and lateral canthal resuspension. Also important when performing lower eyelid transcutaneous surgery is to minimize cautery especially of the middle lamella, which can lead to scarring and retraction. When performing combined transcutaneous lower blepharoplasty and upper blepharoplasty, it is best to keep the incisions at least 5 mm apart to avoid lateral webbing and lymphatic disruption.

Some younger patients can have a "roll" or ridge line of hypertrophic orbicularis a few millimeters below the lower eyelashes. Oftentimes, these can be quite amenable to very small (e.g., a few units per lower eyelid divided across a few injection points) amounts of botulinum toxin (Fig. 153.7). For a more permanent improvement, if there is no preoperative lower eyelid laxity or inferior scleral show, a "pinch blepharoplasty" is done by pinching with a forceps or a mosquito clamp the redundant skin followed by excision and suture closure of this redundant tissue. Caution must be exercised not to remove any non-hypertrophic orbicularis as this can affect the normal upward movement of the eyelid during blinking. If laxity or retraction is present, lateral canthal resuspension and support is required while performing the "pinch blepharoplasty."

In summary, surgeons rejuvenating the lower eyelids need to be comfortable with its anatomy and with the surgical techniques for extended lower eyelid to provide optimal results. This includes dealing with prolapsing fat above the orbito-malar sulcus that defines the overlying eyelid-cheek junction. Supraperiosteal blunt dissection to release the described orbicularis retaining ligament present at the approximate outer one-third and inner two-thirds of the orbito-malar sulcus is critical to allow lateral lower eyelid mobilization and improved access to the SOOF. Once this structure is released, as well as the orbicularis adhesions along the orbital rim inferiorly, the lid-cheek continuum may be lifted, smoothened, and restored. Even more important, to improve the tear-trough available fat may then be transposed to "herniate" into the created preperiosteal pocket to further correct naso-jugal (tear-trough) deformities. Skin quality and fine-line improvements can be achieved through TCA chemical peeling. Lateral canthal support and midface elevation is critical to improve lateral rhytids and excess skin or if any skin removal or aggressive lower eyelid peeling is performed.