Experience of Fat Repositioning in Lower Eyelid Blepharoplasty
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INTRODUCTION
Variable factors contribute to the aging of the lower eyelid, and many methods have been described to rejuvenate the lower eyelid. Resection of herniated suborbicularis fat in lower lid blepharoplasty may result in exacerbating the hollow appearance of the nasojugal groove. Fat injection has variable results, and fillers are temporary. Fat repositioning techniques address the lower eyelid complex by repositioning the areas of excess fat to areas of deficiency, resulting in a smooth contour to the lower eyelid complex.

METHODS
The medical records of a consecutive series of patients who underwent lower lid blepharoplasty with fat repositioning were reviewed. All procedures were performed by the senior author (AJ). Inclusion criteria were adult patients undergoing bilateral lower lid blepharoplasty for poor cosmetic appearance. Patients were not excluded if they had a history of prior lower blepharoplasty or if they were undergoing other simultaneous cosmetic procedures such as upper blepharoplasty. Records were reviewed for patient demographics, primary indications for procedure, and complications. Complications were defined as infection, hematoma, dry eye, ectropion, or entropion. Aesthetic complications were defined as asymmetry, scarring, and unfavorable cosmetic result.

TECHNIQUE
The patient is marked preoperatively while awake. A transconjunctival incision is then made. Dissection is then performed in the plane between the orbicularis muscles and orbital septum. The orbital septum is then detached from the arcus marginalis. The medial and central fat compartments are dissected (Figure 1). Fat is removed in select cases if an excess amount of fat is present. The dissected fat is then repositioned anteriorly and inferiorly in a supraperiosteal pocket over the maxillary bone. The resulting appearance is a full, protruding lower eyelid with a prominent nasojugal groove. A tear trough deformity may also be seen in young patients and refers to the appearance of a nasojugal crease medially due to the relative position of the inferior orbital rim to the orbital septum. Traditional blepharoplasty involving removal of orbital fat may exacerbate the sunken appearance of the lower eyelid in these conditions. Fat repositioning techniques have been previously described and involve repositioning of the suborbicularis fat over the maxillary bone. We performed a series of lower lid blepharoplasties utilizing fat repositioning along with removal of fat in select cases (Figures 3-5). Conservative fat removal was preferred because this could be easily corrected if postoperative fullness or asymmetry persisted, as in the case of two patients in this series. Repositioning of fat resulted in an improved contour of the lower eyelid complex and smoother transition to the midface and malar area.

RESULTS
The records of 57 consecutive patients were reviewed. The median age was 49.2 (range: 27-78) years. The mean follow-up time was 12 months (range: 9 - 20). Complications included asymmetry in 5 patients (8.8%) and ectropion in 1 patient (1.8%). No patients experienced infection, bleeding, visual changes, or other complications. One patient developed entropion due to weak laxity of the lower lid, which was improved after lateral canthal tightening. Of the five patients who noted postoperative asymmetry, two underwent revision blepharoplasty with removal of additional fat. The remaining three patients noted improvement in the asymmetry with time as swelling resolved and did not desire further intervention. The revision rate was 3.5% during the study period.

REFERENCES

DISCUSSION
Many factors contribute to the aging appearance of the lower eyelid, including skin relaxation and laxity of the orbital septum with associated fat herniation. The resulting appearance is a full, protruding lower eyelid with a prominent nasojugal groove. A tear trough deformity may also be seen in young patients and refers to the appearance of a nasojugal crease medially due to the relative position of the inferior orbital rim to the orbital septum. Traditional blepharoplasty involving removal of orbital fat may exacerbate the sunken appearance of the lower eyelid in these conditions. Fat repositioning techniques have been previously described and involve repositioning of the suborbicularis fat over the maxillary bone. We performed a series of lower lid blepharoplasties utilizing fat repositioning along with removal of fat in select cases (Figures 3-5). Conservative fat removal was preferred because this could be easily corrected if postoperative fullness or asymmetry persisted, as in the case of two patients in this series. Repositioning of fat resulted in an improved contour of the lower eyelid complex and smoother transition to the midface and malar area.

CONCLUSIONS
Fat repositioning in lower lid blepharoplasty results in an improved cosmetic appearance by addressing the variable anatomical conditions of the aging lower eyelid complex. Patients in our series successfully underwent this technique with favorable cosmetic result and a low incidence of complications.