# Lower Eyelid Reconstruction: A New Classification Incorporating the Vertical Dimension

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**Background:** Lower eyelid defects are traditionally classified based on depth and 25 percent increments in defect width. The authors propose a new classification system that includes the vertical defect component to predict functional and aesthetic outcomes.

**Methods:** A retrospective review of patients who underwent lower lid reconstruction performed by a single surgeon was performed. Defects were classified into four categories based on the vertical component: (1) pretarsal; (2) preseptal; (3) eyelid-cheek junction; and (4) complex pretarsal/preseptal. Preoperative and postoperative central and lateral marginal reflex distance-2 values were obtained. Aesthetic outcomes were evaluated by three blinded reviewers. Outcomes were compared using one-way analysis of variance and analysis of covariance with Bonferroni corrected post hoc comparisons to control for defect area and width.

**Results:** Thirty-four patients underwent reconstruction of lower eyelid defects. There were 12 pretarsal defects (type I), nine preseptal defects (type II), nine eyelid-cheek defects (type III), and four complex pretarsal/preseptal defects (type IV). Postoperative retraction was highest in the complex pretarsal/preseptal group at 75 percent, with a significantly greater change from preoperative to postoperative central and lateral marginal reflex distance-2 compared with the other groups ($p < 0.01$) and worse postoperative mean aesthetic scores ($p < 0.001$). Type IV patients had significantly more revision operations (mean, 5.5) compared with the other groups ($p < 0.001$).

**Conclusions:** The vertical dimension of lower eyelid defects is an important variable. A new classification system is proposed that supplements width-based methods for improved surgical planning and prediction of postoperative outcomes in lower eyelid reconstruction. (*Plast. Reconstr. Surg.* 144: 443, 2019.)

**CLINICAL QUESTION/LEEVL OF EVIDENCE:** Therapeutic, IV.


Functional outcomes are paramount when reconstructing lower eyelid defects by maintaining the normal lower eyelid height, position, and closing mechanics to protect tear film integrity. In addition, criteria for an aesthetic reconstruction include the following: (1) recreating a natural lid margin that contours to the globe resting at the lower scleral limbus that is distinct from the preseptal segment, (2) anterior lamella resurfacing with skin that has qualities similar to those of the contralateral side, and (3) restoring a crisp lateral scleral triangle and canthal angle.

Traditional teaching in lower eyelid reconstruction endorses replacement of the bilamellar structure with a combination of grafts and flaps

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