

The flap thickness outcomes with new dual femtosecond laser platform

Bilgehan Sezgin Asena

Kaskaloglu Eye Hospital, Izmir, Turkey

Abstract

Purpose: To evaluate flap thickness in femtosecond (FS) laser assisted LASIK operation for myopia performed with new LenSx dual platform using curved interface.

Materials and methods: Fifty eyes of 26 patients (mean±SD age: 26.9±8.1 years, 53.8% were females) with myopia or myopic astigmatism operated with FS laser-assisted LASIK were evaluated in this study. Data on patient demographics, preoperative and postoperative keratometric and aberrometric parameters and flap thickness outcome including mean central flap thickness (MCFT), mean total flap thickness (MTFT), intra-FT range and flap thickness homogeneity (FTH) were recorded.

Results: Flap thickness assessment revealed median values for MCFT to be 123 µm (range, 109 to 134), while MTFT was 123 µm (range, 109 to 133.7), Intra-FT range was 4.0 µm (ranged, 1 to 6) and FTH was -2 µm (range, -6 to 2). Overall flap thickness was thicker than planned by +3.0 µm (minimum, 109.0 µm with a -11.0 µm average difference and maximum, 133.7 µm with a +13.7 µm difference) with an average thickness standard deviation of 6.6 µm.

Conclusions: In conclusion, our findings related to FS laser assisted LASIK surgery for myopia with new LenSx dual platform using curved interface revealed favorable corneal flap thickness outcome in terms of closeness of flap thickness to the intended value and low intra-flap range. Thus, our findings emphasize the likelihood of planning and producing more successful LASIK outcomes in terms of consistency and predictability of corneal flap thickness with use of new LenSx dual platform.