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Clinically significant laser in situ keratomileusis flap striae

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In this retrospective case series of 875 eyes, investigators examined clinically significant LASIK flap striae and considered the incidence, the risk factors, and the results before and after a flap lift with irrigation. There was a 0.79% incidence of eyes requiring striae treatment. In the first hour after surgery, 9% of these were irrigated. Investigators determined that preoperative spherical equivalent and ablation depth posed an exponential risk for striae. In striae cases a 0.2 D hyperopic shift was seen, which after treatment was reversed. Prior to relift investigators noted there was a loss of one or more lines of corrected visual acuity in 51% of eyes. After treatment with irrigation, 96% of patients had uncorrected distance visual acuity of 20/40 or better, 87% had 20/25 acuity or better, and 68% were at 20/20 or better. However, 13% fewer of these eyes attained 20/20 uncorrected disease acuity than those that did not require treatment. Also, 6.28% of eyes that required treatment underwent laser refractive enhancement, while of the controls that did not need a relift, 3.04% underwent an enhancement. Investigators concluded that 0.79% of eyes required striae treatment, with an exponential risk for this occurring in eyes that had a higher preoperative spherical equivalent. Flap lifting with irrigation resulted in restored acuity close to the control eye, however, striae treated eyes were more likely to also require retreatment with the excimer laser.

Vision-related quality of life and dependency in French keratoconus patients: Impact study

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Investigators set out to see how French keratoconus patients fared in terms of quality of life. Included in this prospective study were 550 keratoconus patients who were asked to complete the National Eye Institute Visual Function Questionnaire-25 as well as a French disability and dependency validated questionnaire. Investigators determined that there was an increasingly negative impact on quality of life in particular for women with keratoconus, as well as for those with 20/40 or worse distance corrected visual acuity and steep keratometry of more than 52.0 D. In addition, having previously undergone corneal transplant surgery or having been treated with corneal ring segments or corneal crosslinking as well as starting out with more severe keratoconus resulted in worse quality of life. Investigators found that because of keratoconus 4.9% of patient needed to switch jobs. Also, 7.8% received keratoconus disability, and 12.5% were considered dependent due to difficulty performing activities of daily living. Investigators concluded that there was a significant reduction in quality of life for those with keratoconus. However, findings did not indicate that keratoconus patients were socially excluded.

Aspheric versus wavefront-guided aspheric photorefractive keratectomy in eyes with significant astigmatism

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The aim of this study of individuals with significant astigmatism was to determine how refractive and higher order aberrations compared after PRK with an aspheric profile versus a wavefront-guided aspheric one. Included in this prospective randomized case series were 64 eyes that underwent PRK with a refractive astigmatism of more than 2 D. In the study, one eye was treated with aspheric PRK while the other underwent wavefront-guided and aspheric treatment with a personalized treatment advanced algorithm. Preoperatively, investigators determined that the mean refractive astigmatism was -4.07 D in the aspheric and wavefront-guided group and -4.02 D in the aspheric group. At the 12-month postoperative mark investigators determined that in both groups the root mean square of total higher order aberrations was significantly increased. They found, however, that fewer higher order aberrations were induced with aspheric PRK than with wavefront-guided and aspheric PRK. Investigators concluded that in high astigmatic eyes with aspheric PRK there is lower residual astigmatism than with wavefront-guided and aspheric PRK. Also, in the combined wavefront-guided and aspheric group there was a greater increase in higher order aberrations than with aspheric treatment alone.