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Service (sector) Cornea and External DiseaseN° CEP

Wavefront-Guided Retreatments For Highly Aberrated Eyes With The CustomCornea Platform

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PuPorpose: To evaluate the outcome of wavefront-guided ablations for the correction of residual myopia and astigmatism after standard LASIK. **Methods:** Twenty nine eyes (26 patients) of individuals that underwent wavefront-guided LASIK retreatment with the Alcon CustomCornea platform were evaluated. Complete ophthalmologic exam, corneal topography and wavefront measurements were performed. Uncorrected visual acuity (UCVA), best corrected visual acuity (BCVA), manifest refraction and wavefront analysis were evaluated preoperatively, 1 week, 3 months and 6 months after surgery. Wavefront measurements were assessed using the LADARWave device. Statistical analysis was performed using McNemar's test and percentages of success. **Results:** One week postoperatively, UCVA was $\geq 20/40$ in 100% of eyes ($\geq 20/20$ in 31.04%) and BCVA was $\geq 20/40$ in 100% ($\geq 20/20$ in 72.41%). Wavefront analysis showed a decrease in total aberrations, high order aberrations, defocus, coma, spherical aberration and other terms of HOA at the 1 week follow up. Three months after surgery, UCVA was $\geq 20/40$ in 100% of eyes ($\geq 20/20$ in 38.09%) and BCVA was $\geq 20/40$ in 100% ($\geq 20/20$ in 80.95%). Six months after surgery, UCVA was $\geq 20/40$ in 100% of eyes ($\geq 20/20$ in 60%) and BCVA was $\geq 20/40$ in 100% ($\geq 20/20$ in 90%). Wavefront analysis showed decrease in total aberration, high order aberration, defocus, coma and spherical aberration. **Conclusion:** Wavefront-guided LASIK retreatment in post-LASIK eyes represents a good option for laser vision correction. All eyes showed reduction in preexisting total aberrations. Some high order aberration components decreased in this initial series. Further follow up is necessary to assess the initial predictability of wavefront-guided LASIK upgrade.