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International Conference and Expo on

## **Cataract and Optometrists Meeting**

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Topographically-guided laser-in-situ keratomileusis for myopia using a customized aspheric treatment zone

**Purpose:** To assess the efficacy, predictability, safety and quality-of-life effects of topography- guided laser *in situ* keratomileusis (LASIK) for the correction of myopia with astigmatism using the EC-5000 CXII excimer laser equipped with a customized aspheric treatment zone algorithm.

Setting: Ophthalmology clinics in the United States and Mexico.

**Methods:** In a multicenter United States Food and Drug Administration study of topography- guided LASIK, 4 centers enrolled 135 eyes with a spherical manifest refraction error ranging from -0.50 to -7.00 diopters (D) and astigmatism ranging from 0.50 to 4.00 D. All eyes were targeted for emmetropia. Refractive outcomes, higher-order aberrations (HOAs), and contrast sensitivity were analyzed preoperatively and postoperatively. Patient satisfaction was assessed using 2 questionnaires.

**Results:** Six months postoperatively, the mean manifest refraction spherical equivalent in all eyes was  $-0.09 \pm 0.31$  (SD); of the 131 eyes, 116 (88.55%) had an uncorrected visual acuity of 20/20 or better and 122 (93.13%) had an MRSE within +0.50 D. The best spectacle-corrected visual acuity (BSCVA) increased by 2 or more lines in 21 (16.03%) of 131 eyes; no eye lost 2 lines or more of BSCVA. The total ocular HOA increased by 0.04 mm. Patients reported significantly fewer night driving and glare/ halo symptoms postoperatively than preoperatively.

**Conclusion:** Use of a customized aspheric treatment zone in eyes with myopia and astigmatism was safe, effective and predictable and reduced symptoms associated with night driving, glare and halos.

## **Biography**

Paul Dougherty, MD is an internationally renowned Eye Surgeon who has helped pioneer many of today's most popular vision correction techniques. He serves as Medical Director of Los Angeles-based Dougherty Laser Vision and as Assistant Clinical Instructor of Ophthalmology at UCLA's Jules Stein Eye Institute. He is also one of just 40 surgeons worldwide to serve on the Editorial Board of the *Journal of Refractive Surgery* – the official peer-reviewed refractive surgery specialty journal published by the American Academy of Ophthalmology (AAO).

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