

The Visual and Refractive Outcomes and Complications of LASEK for Myopia and Myopic Astigmatism

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- **Purpose:** To evaluate the efficacy, predictability, and safety of laser-assisted subepithelial keratectomy (LASEK) for the treatment of myopia and myopic astigmatism. Two years followup. Setting: Department of Ophthalmology of Fajr Hospital and Negah Eye Hospital, Tehran, Iran. **Methods:** This retrospective analysis comprised 1476 eyes that had LASEK for myopia and myopic astigmatism. Primary outcome variables including UCVA, BSCVA, and manifest refraction, and complications were evaluated at 1 week and 2, 6, 12, and 24 months. Vector analysis was performed on eyes that received astigmatic correction. **Results:** The mean spherical equivalent
- was -3.11 ± 1.15 (SD) preoperatively, $-0.04 \sim 0.39$ D at 1 week, -0.06 ± 0.24 D at 2 months, -0.07 ± 0.26 D at 6 months, -0.10 ± 0.28 D at 1 year and -0.14 ± 0.26 at 2 years ($P = .017$). At 1 week and 2, 6, 12, and 24 months, the UCVA was 20/20 or better in 79.7%, 95.5%, 96.2%, 94.8%, and 96.4% of eyes, respectively, and 20/40 or better in 98%, 99.2%, 99.5%, 99.5%, and 99.5% (efficacy = 99.36). 90.2%, 97.6%, 96.9%, 95.3%, and 95.1%, respectively, were within ~ 0.5 D of emmetropia, and 98.6%, 99.9%, 99.5%, 99.3%, and 99.1%, respectively, were within ± 1.0 D. No eye lost more than two lines of BSCVA. At 24 months, 1.3% lost one to two lines and 2.7% gained one to two lines (safety = 1.004). At 2, 6, and 12 months, 6.5%, 0.5%, and 0.1% of eyes, respectively, had trace corneal haze. Vector analysis found a success rate of approximately 91.9% to 93.7% in achieving the astigmatic surgical correction at the three postoperative visits. **Conclusions:** LASEK was an effective, predictable, and safe procedure for the treatment of myopia and myopic astigmatism. Further studies are needed to determine the role of LASEK in the refractive surgery spectrum.