

## Comparison of Implantable Contact Lens (ICL) and Laser-assisted In Situ Keratomileusis (LASIK) for Low Myopia

*Donald Sanders, MD, PhD\* and John A. Vukich, MD†*

---

**Purpose:** To compare the results of laser-assisted in situ keratomileusis (LASIK) and implantable contact lenses (ICL) in the correction of myopia -4 to -7.88 D.

**Methods:** One thousand six hundred seventy-eight LASIK eyes from the Davis Duehr Eye Center, Madison, WI, and 144 ICL eyes from the 14-site US FDA Clinical Trial for ICL for Myopia were compared. Both series were concurrently operated on with 4 to 7.88 D of preoperative spherical equivalent of the manifest refraction and were examined at 1 day, 1 week, 1 month, and 6 months postoperatively. The mean baseline myopia was slightly higher in the ICL group (ICL:  $-6.4 \pm 1.1$  D; LASIK:  $-5.6 \pm 1.1$  D). BSCVA, UCVA, and refractions were collected prospectively in both series.

**Results:** BSCVA loss of at least 2 lines was significantly higher in the LASIK series in the early healing period (1 week: 6% vs. 0.7%;  $P = 0.008$ ), whereas a BSCVA gain of at least 2 lines was statistically better with the ICL at 1 (5% vs. 0.9%,  $P = 0.001$ ) and 6 months (4% vs. 0.8%,  $P = 0.013$ ). Proportion of cases seeing 20/15 or better uncorrected (21.6% vs. 7.8%,  $P < 0.001$ ) and 20/20 or better (67% vs. 57%,  $P = 0.027$ ) at 6 months postoperatively was better in the ICL group. The ICL was statistically more predictable at 6 months:  $\pm 0.50$  D (79% vs. 70%,  $P = 0.034$ ) and  $\pm 1.0$  D (97% vs. 88%,  $P < 0.001$ ). Stability was achieved ( $95\% \leq 1.0$  D) at the 1-week to 1-month interval for both groups (95% LASIK; 98% ICL). The stability of refraction ( $\leq 0.5$  D change) was significantly better in the ICL group than the LASIK group through 6 months. No serious complications occurred in either series.

**Conclusions:** The ICL was safer and more effective than LASIK and seems to be a viable alternative to corneal refractive excimer surgery in the treatment of low myopia.