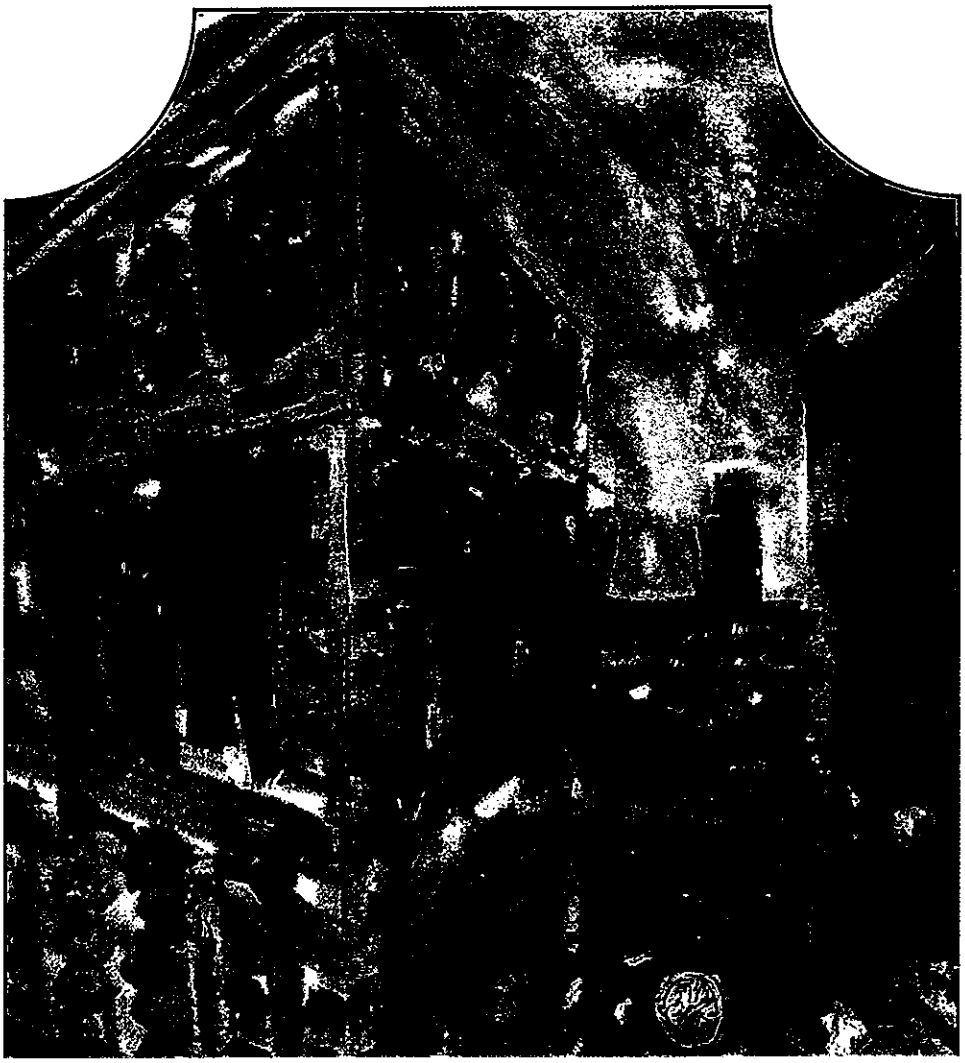
Dr H. GAKAR

ABSTRACTS



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One year follow-up of LASIK for the treatment of low myopia with and without astigmatism.

Y. Ralph Chu, MD, David R. Hardten, MD, Jason G. Jedlicka, OD, Nelson Preschel, MD and Richard L. Lindstrom, MD*

Purpose: We evaluated the efficacy, safety and predictability of LASIK in the treatment of low myopia with and without astigmatism. **Methods:** A prospective study of LASIK for myopia of -0.75 to -6.00 D with up to 4 D of astigmatism was performed at our institution from March through November, 1997. Preoperative refraction, uncorrected and corrected visual acuity were compared to postoperative refraction, uncorrected and corrected visual acuity. **Results:** One day, one month and one year results are available on all patients. One hundred and nineteen eyes underwent LASIK with a mean preoperative spherical equivalent of -3.41 ± 2.50. Mean preoperative astigmatism was +1.91 ± 4.48 D. At one day, 45% were 20/25 or better and 80% were 20/40 or better. The day one mean spherical equivalent was +0.31 ± 0.74 D with 80% between ± 1.00 D of emmetropia. At one month, 66% were 20/25 or better and 90% were 20/40 or better. The one month mean spherical equivalent was -0.01 ± 0.72 D with 88% between ±1.00D of emmetropia. At one year, 71% were 20/25 or better and 95% were 20/40 or better. The one year mean spherical equivalent was -0.13 ± 0.90 D with 74% between ± 1.00 D of emmetropia. **Conclusion:** LASIK for treating low myopia with and without astigmatism appears to be safe and effective.

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Steroids: Do we really need them after LASIK for low myopia?

David R. Hardten, M.D., and the LVCI LASIK Study Group *

Purpose: To evaluate the necessity of utilizing steroids after LASIK for low myopia. **Methods:** In a randomized, prospective, multicenter study of LASIK, 307 eyes were randomized to receive topical steroids or a placebo artificial tear following the surgery. The VISX STAR laser was used with the Steinway/Chiron microkeratome. **Results:** The mean preoperative spherical equivalent was -4.44 ± 1.25 D, with a mean preoperative astigmatism of 0.81 ± 0.80 D. At 1 day 84% of the eyes were within 1 D of emmetropia and 59% were within 0.5 D of emmetropia. At three months 87% were within 1 D of emmetropia and 79% were within 0.5 D of emmetropia. Uncorrected vision (UCVA) was 20/20 or better in 26% of the eyes at 1 day and 53% at 3 months. UCVA was 20/40 or better in 82% at 1 day and 89% at 3 months. The group receiving steroids had no significant difference from the group without steroids in achieved effect, need for extra steroid medication, or postoperative visual acuity. The average effect achieved was 113% of the entered laser correction at 3 months. Complications occurred in 2% of the eyes and were not more frequent in the patients treated with or without steroids. **Conclusions:** The results of LASIK for low myopia are not different whether patients are treated postoperatively with steroids or not. LASIK is capable of treating low myopia with reasonable accuracy and safety.

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Laser in situ Keratomileusis (LASIK) for myopia after Photorefractive Keratectomy (PRK)

Hanefi Çakır M.D.,Aydın Yıldırım M.D.,Mehmet Çakır M.D., Nusret Baş M.D.

Purpose: We present the clinical results of Laser in situ keratomileusis (LASIK) to correct residual myopia after PRK.**Methods:**35 eyes of 20 patients are included in this study.Preoperative spherical equivalent was -6,58+/-2,3 diopters(D)(range:-1,50 to -13,00D).5 eyes had twice PRK operations previously.Mean haze grading was 1,12+/- 0,82 (range:0-2).All LASIK operations were performed at least 1 year after PRK.Surgery was carried out using Chiron Automated Corneal Shaper and VISX Star excimer laser. **Results:**Mean postoperative equivalent refraction was -0,91+/- 0,42D at 6-months.The mean spectacle corrected visual acuity preoperatively was 0,48+/-0,12 and postoperatively was 0,52+/- 0,16.30 eyes(86%) had refraction within +/-1 D.No eyes lost two lines or more of spectacle-corrected visual acuity.Epithelial ingrowth occurred in 3 eyes (9%) and perforated flap occurred in 1 eye (%2.8). **Conclusions:**LASIK is a safe and effective technique for residual myopia after PRK.

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LASIK after PRK.

Gerard Sutton, MD, Graham Fraenkel MD, Michael Lawless, MD, Chris Rogers, MD, Susan Weber, MD.

Purpose: To assess the efficacy of LASIK for the correction of residual refractive errors following photorefractive keratectomy. **Methods:** Seventeen eyes with residual myopia following PRK, underwent LASIK with a Summit Apex Plus laser and a Chiron microkeratome. **Results:** Seventeen eyes have been treated of which thirteen have three months followup and eight with six months followup. The reduction in mean spherical equivalent was from -2.91 +/- 1.5 (SD) pre-operatively to -0.20 +/- .65 (SD) at three months, and -0.74 +/ - 1.41 (SD) at six months. Mean refractive cylinder decreased from 0.88 +/- .49 to -0.28 +/- .28 (SD) at six months. A sub-group of these patients who had no haze (N = 10) had a mean spherical equivalent reduction of -2.2 +/- :98 (SD) to 0.09 +/- 0.3 (SD) at one month. **Conclusion:** LASIK can successfully correct residual myopia following photorefractive keratectomy. The predictability and visual results are better if there is little or no haze.

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Laser in situ Keratomileusis (LASIK) for myopia from 1 to 22 diopters.

Aydın Yıldırım M.D.,Mehmet Çakır M.D.,Hanefi Çakır M.D., Nusret Baş M.D.

Purpose: To evaluate effectiveness and safety of LASIK in low and high myopia in Turkey.**Methods:** The data from 287 consecutive eyes of 162 patients aged 18-63 were analyzed. Surgery was performed using the Chiron Automated Corneal Shaper and VISX Star excimer laser under a hinged corneal flap without sutures.**Results:** Mean spherical equivalent before surgery was -9,89+/-4,2(range:-1,00 to-22,00 diopters (D)) and after surgery was -0,99+/-1,47 D at 6 months.We divided the eyes into two groups.The lower myopia group (141 eyes of 75 patients) had a mean preoperative spherical equivalent refraction of -6,28+/-2,06D(range:-1,00 to-9,75D) and mean postoperative refraction of -0,42+/-0,81D (range:0,00 to-3,00D).The higher myopia group(146 eyes of 87 patients) had a mean preoperative spherical equivalent refraction of -13,37+/-2,41D(range:-10,00 to -22,00D) and a mean postoperative refraction of -1,44+/-1,71(range:+1,00 to -6,00D).At 6 months,spherical equivalent was within 1 D of emmetropia in 72.9% of all eyes.The mean spectacle corrected visual acuity preoperatively was 0,53+/-0,27 and postoperatively was 0,54+/-0,22.Complications like free cap , pupil bisection,epithelial ingrowth and central islands were rarely encountered.**Conclusions:**LASIK is a safe and effective technique for the treatment of low and high myopia.

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LASIK vs PRK in low myopia

E.Silva,MJ.Santos ,F.Vaz, P.Torres,R.Pinto, A.Marinho

Purpose: To evaluate the results of LASIK and PRK with the Chiron C217 Planoscan in low myopia

Methods: We analysed the results of 78 eyes with mean myopia of -3.97 diopters and a mean age of 30.5 years old operated with LASIK (O.Z. 5.5-6.0 mm), and 66 eyes with mean myopia of -3.89 diopters and a mean age of 31.2 years old operated with PRK (5.5-6.0 mm). The minimum follow-up in both groups is 1 year. The parameters used to asssess the results were : efficacy,predictability, safety, stability , patient satisfaction and quality of vision (contrast sensitivity, BAT and mesoptometer)

Results: There were no significant differences in the refractive outcome and the quality of vision, but patient satisfaction was higher in the LASIK group (less ain, quick recovery of visual acuity) and regression was higher in PRK.

Conclusion: The overall results show LASIKas the first choice procedure in low myopia

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Low contrast acuity after hyperopic-astigmatic LASIK: Effect of optical zone size

Maria-Clara Arbelaez, MD and Dan Z Reinstein, MD MA(Cantab)

Purpose: To quantify and compare the decreases in low contrast acuity after hyperopic LASIK for 4.5, 5.0 and 5.5 mm optical zone size.

Methods: Thirty-six low (<4.0 D, Group 1) and 35 high (>4.0D, Group 2) hyperopic eyes underwent LASIK using the Chiron 117 (Planoscan). Treatments were subdivided into optical zone sizes of 4.5, 5.0 and 5.5 mm consecutively within each group to achieve equal numbers. Low contrast acuity was measured with best correction using the B-VAT II SG system pre-operatively and 3 months post-operatively.

Results: Spherical equivalent (SD) was reduced from +1.58 (1.13) to +0.36 (0.74) and from +5.91 (1.47) to +1.23 (0.74) for groups 1 and 2 respectively. Cylinder magnitude (SD)was decreased from 1.87 (1.98) to 0.36 (0.86) and from 0.79 (0.97) to 0.36 (0.38) for groups 1 and 2 respectively. In both Groups 1 and 2, there was no difference in the number of lines lost at 50% and 25% contrast for all optical zones, however at 12.5% and 6.25% contrast levels there was a significantly lower number of lines lost in the 5.5 mm zone treated eyes versus the 4.5 and 5.0 mm zone treated eyes (which were similar).

Conclusion: As expected, the hyperopic LASIK with larger optical zones produce less loss of low contrast acuity. However, the change in effect was not detectable until the optical zone size was 5.5 mm. Hyperopic LASIK should be carried out with optical zone size of greater than 5.0 mm whenever possible.

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Inferior eccentric ablation: A new technique of LASIK to correct hyperopia that corrects presbyopia.

Jorge M. Bauerberg, MD

Purpose: To compare the common ablation with the inferior off-center ablation: Is this method equally predictable for far vision? Is it stable? **Methods:** Sixteen eyes of 8 patients older than 50 years, with hyperopia of between +2 and +6 D, and contact lens intolerance. The group selected underwent an inferior off-center ablation in one of their eyes that was compared with the other one that had standard centered centered ablation. Maximum follow-up was 22 months (8 eyes). Mean UCVA was 20/100 and BCVA was 20/20 or better. The surgeon performed an off-center ablation of 1 mm in the inferior segment of the cornea. The same studies used for preoperative evaluation were repeated postoperatively and contrast sensitivity was tested. **Results:** At 12 months, mean spherical refraction obtained was 0.38 D. Mean UCVA increased to 20/30 or better. No loss of BCVA was reported. No surgical or postsurgical complications have been showed, except for 2 eyes with astigmatism of + 1.00 D related to LASIK procedure. Eyes subjected to inferior off-center ablation could read more lines in the Snellen scale than eyes with standard ablation. With the traditional method, reading capacity decreases in some patients after 4 or 6 months, but with the inferior decentered ablation that capacity is higher and persists in most of the cases. Patients ended up not only with better far but also better near vision. **Conclusions:** inferior off-center ablation is a succesful treatment to correct hyperopia that corrects presbyopia.

or Chamber flare reaction after PRK and LASIK.
L. Alió, MD,PhD, Juan J. Pérez-Santonja, MD,

se: To evaluate anterior chamber inflammation PRK and LASIK for the correction of low a. **Methods:** Twenty eyes underwent PRK, and wenty eyes LASIK, for the correction of myopia 1.00 to -6.00 D. The VISX 20/20 Excimer laser sed for corneal ablation in both groups, and the ated Corneal Shaper (Chiron Vision) for the n of a corneal flap in the LASIK group. or chamber inflammation was measured by means laser flare cell meter (LFCA Kowa 1000). s: In the PRK group a slight inflammation is t with flare values above normal levels for at least eeks first after surgery, whereas in the LASIK no significant increase in flare values were ed. Cell values were not increased in any of the roups. **Conclusions:** PRK causes significant 01) more inflammatory flare reaction in the or chamber than LASIK, in the correction of low a.

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Complications in Laser in situ Keratomileusis (LASIK)
Mehmet Çakır M.D.,Aydın Yıldırım M.D.,Hanefi Çakır M.D., Nusret Baş M.D.
Purpose: To investigate the complications encountered in patients undergoing Laser in situ Keratomileusis (LASIKI).
Methods:İntraoperative complications in 1247 eyes of 748 patients undergoing LASIK and early postoperative complications within the first month were investigated.287 eyes of 162 patients who could come to 6-month follow-up visit were evaluated as late postoperative complications.
Results: Intraoperative complications were pupil bisection in 6%,free cap 4% and perforated flap 4% of eyes in the first 50 cases and 0,17%,0.17% and 0,25% respectively in the remaning 1197 eyes.In the early postoperative period, epithelial ingrowth occurred in 4% of eyes in the first cases and 0,5 % of eyes in the last cases.Central island occurred in 1,4% of 287 eyes.
Conclusions: Serious complications encountered in LASIK occur during the learning curve.As surgeon's experience increases complications decrease significantly.

of complications for myopic Lasik
cimary cases versus enhancements.
ge J. Pardos, M.D.
ose: To compare rate and type of
lications for primary myopic lasik
edures versus myopic lasik enhance-
s. **Methods:** One thousand consecutive
s of myopic lasik, performed by the
surgeon, will be reviewed retrospec
ly, to determine the incidence and
of complications following primary
as lasik myopic enhancements.
lts: To be determined.
lusion: To be determined.

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Method to reduce epithelial growth within the interface following LASIK
Steven E. Wilson, MD
Purpose: Rates of epithelial growth within the interface as high as 15% have been reported in large LASIK studies. Epithelium may be transferred into the interface by the microkeratome, grow into the interface from the peripheral cornea, or grow into the interface through flap defects. A method is described which reduces growth of epithelium within the interface after LASIK. **Methods:** A lid speculum attached to suction is used throughout the procedure. Following ablation, the flap and bed are profusely irrigated with balanced salt solution using a 0.2 micron filtered cannula. Lint-free sponges are used in a centrifugal pattern from center to periphery on both the flap and bed to remove any residual interface epithelium. The bed and flap are irrigated once again before rotating the flap back into position. After a 5 minute waiting period in which the peripheral cornea is dry, a Soflens66 F/M base curve contact lens (Bausch and Lomb) is used for 24 hours. **Results:** Only 1 case of epithelial growth within the interface (associated with a donut shaped flap) has occurred in 101 consecutive LASIK procedures with a minimum of 3 months followup. **Conclusion:** Epithelial growth within the interface after LASIK is associated with complications such as interface haze, irregular astigmatism, overgrowth of the pupil, and necrosis of the flap. This complication can be limited by careful LASIK technique.