# 11th ESCRS Winter Refractive Surgery Meeting

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in conjunction with the 21st Meeting of the
Hellenic Society of Intraocular Implant and Refractive Surgery

# BOOK OF ABSTRACTS

ESCRS

European Society of Cataract & Refractive Surgeons

# POSTERS

## KOIVULA, ANNEMARI

### CORNEAL ENDOTHELIAL CHANGES AND VISUAL ACUITY OUTCOME IN MYOPIC EYES WITH PHAKIC REFRACTIVE LENS AT 1 YEAR AFTER SURGERY

A. Koivula, C. Zetterström
*St. Eriks Eye Hospital, Stockholm, Sweden*

PURPOSE: To evaluate endothelial cell changes, uncorrected visual acuity (UCVA) and best corrected visual acuity (BCVA) after the Phakic Refractive Lens (PRL 101) implantation in myopic eyes.
SETTING: St. Eriks Eye Hospital, Stockholm, Sweden.
METHODS: In this prospective study, including 78 eyes of 53 patients, endothelial cell count and manifest refraction with visual acuity test were evaluated before surgery and 3 months and 1 year after surgery.
RESULTS: Endothelial cell measurements at 3 months after surgery showed 7.1% ($p< 0.05$) and at one year 6.3% ($p<0.05$) cell loss. There was no significant change between 3 months and 1 year. UCVA at 1 year postoperatively was 1.0 (20/20) or better in 52 eyes (67 %) and 0.5 (20/40) or better in 76 eyes (97%). Thirty eyes (38%) had no change in BCVA, 43 (54%) gained 1 or more lines and 5 (6%) eyes lost one line tested with ETDRS acuity charts. No eyes lost two or more lines of BCVA.
CONCLUSIONS: There was a moderate cell loss at 3 months after surgery without measurable changes thereafter. Visual acuity outcome shows excellent results in the study eyes.
FINANCIAL DISCLOSURE: 12

## KREMER, ISRAEL

### TOXIC ANTERIOR SEGMENT SYNDROME FOLLOWING IRIS-SUPPORTED PHAKIC IOL IMPLANTATION WITH VISCOELASTIC MULTIVISC-BD

I. Kremer, E. Levinger, S. Levinger
*Enaim Medical Center, Jerusalem, Israel*

PURPOSE: To report on acute severe, toxic anterior chamber inflammation following implantation of phakic iris-fixated intraocular lens (IOL) with the use of viscoelastic Multivisc - BD.
SETTING: Surgical suit, Enaim medical center, Jerusalem, Israel.
METHODS: Two patients with high myopia underwent iris-fixated phakic IOL (verisyse, AMO) implantation on the same surgery day. In one patient Artisan IOL was implanted and in the other, Artiflex. In both patients the viscoelastic used during surgery was Multivisc-BD. The surgical procedure was uneventful and Multivisc was manually aspirated by a 23 gage disposable cannule connected to a 5 cc disposable syringe. Multivisc was not used in other surgeries performed on the same day.
RESULTS: Acute severe, toxic anterior chamber inflammation with fibrinous reaction was found 12 - 24 hours post surgery. Each patient underwent anterior chamber washout with intracameral injection of antibiotics, and intensive local steroid and antibiotic therapy in addition to systemic steroid treatment. The inflammatory process regressed gradually within several days and the visual acuity improved from finger counting to 6/9 uncorrected.
CONCLUSIONS: Multivisc-BD is the most possible etiologic factor, as it was used only in these two cases among other intraocular surgeries performed on the same day. Any viscoelastic material may be contaminated by a bacterial heat-stable endotoxin. Refractive surgeons should be aware that it may cause severe toxic fibrinous inflammation.

## KRUMEICH, JORG H.

### DECO PHACO TECHNIQUE: A NEW APPROACH OF PHACOEMULSIFICATION

J.H. Krumeich
*Outpatient Vision Clinic Bochum, Germany*

PURPOSE: Comparison of energy consumption in deco phaco (Deco) versus standard phacoemulsification of divide and conquer (D&C) techniques.
SETTING: Outpatient Vision Clinic Bochum, 28-30 Propst-Hellmich-Promenade, Germany.
METHODS: In deco phaco the anterior cortex is removed first to create a space circularly around the nucleus. The nucleus is split with a round-head side-port canula from below against the phaco tip. A prospective randomized evaluation of consumption of phaco energy by digital Joule read-out is statistically carried out.
RESULTS: 110 deco (group 1) versus 120 cases D&C cases (group 2) are compared. Group I to III of nuclear hardness have no measurable Joule uptake in either group. In group IV deco has a consumption of 25 versus 130 Joule (J) (18,5%); in group V 60 versus 266 J (24%), in group VI 147 versus 490 J (30%).
CONCLUSIONS: Lower amounts of energy consumption of 30% or less in the deco technique seems to offer a new valuable approach.

## KRUMEICH, JORG H.

### POSTOPERATIVELY COMPUTER-ASSISTED POSITION-OPTIMIZING OF TORIC PHAKIC LENSES

J.H. Krumeich
*Bochum, Germany*

PURPOSE: Reduction of postoperatively remaining refraction after phakic toric lenses.
METHODS: On the basis of preoperative refraction, parameters of lens implanted and obtained postoperative result, the surgeon is able to optimize postoperative outcome using a computer program. The optimum that may be obtained for sphere and cylinder can be determined. New fixation points may be marked with the green laser on the iris.
RESULTS: Own experience in 7 out of 77 implanted lenses, in which a deviation of more than 1 D of the predicted refraction resulted confirm that even in high ametropias deviation of only + 0.75 D of spherical and cylindrical values do result.
CONCLUSIONS: Results after implantation of torical lenses can be optimized by a computer program, which indicates amount and direction of rotation. Results of tune-up rotation correspond within + 0,75 D of prediction.

## KULIKOVA, IRINA L.

### COMBINATION OF LASER IN SITU KERATOMILEUSIS AND LASER THERMOKERATOPLASTY FOR CORRECTION OF HIGH HYPEROPIA AND HYPEROPIC ASTIGMATISM IN CHILDREN

I.L. Kulikova, N.P. Pashtaev, N.A. Pozdeeva
*Svyatoslav N. Fyodorov SI IRTC Eye Microsurgery Complex, Cheboksary Branch, Russia*

PURPOSE: To assess the efficacy and safety of laser in situ keratomileusis (LASIK) in combination with non-contact laser thermokeratoplasty (Glass-Yb:Er LTK, wavelength 1.54 μm) for the treatment high hyperopia and hyperopic astigmatism in children with anisometropia.
SETTING: Svyatoslav N. Fyodorov SI IRTC Eye Microsurgery Complex, Cheboksary Branch, Russia.
METHODS: Thirty eyes of thirty patients were unilateral treated with non-contact Glass-Yb:Er LTK 6 months after LASIK. The mean preoperative manifest refraction spherical equivalent (MRSE) was +4.63D ± 1.66 D (range +1.5 to + 6.5 D), the mean refractive astigmatism was -3.81D ± 1.22 D (range -6.25 to -3.10 D). The laser spots were applied in the peripheral cornea around the flat corneal meridian and out of the corneal flap. The mean contrast sensitivity for 6 frequencies was 10.23 cycles per degree (cpd) (the mean normal was 43.90 cpd). The median follow-up was 24 months.
RESULTS: Six months after LASIK MRSE was +1.75 ± 0.81D (range -0.15 to +4.455 D), mean astigmatism was -1.25 ± 0.66 D (range -3.25 to 0.15 D); mean MRSE was within ±1D in 40% of eyes. Postoperatively uncorrected visual acuity (UCVA) 20/40 and better was in 60% of eyes. Twelve months after LTK MRSE was +1.55 ± 0.91D, mean astigmatism was -0.58 ± 0.71 D (range -1.00 to 0.00 D), mean MRSE was within ±1D in 64% of eyes, UCVA 20/40 and better was in 80% of eyes, mean contrast sensitivity was 40.44 cpd.
CONCLUSIONS: Combination of LASIK and Glass Yb:Er LTK is an effective and safe treatment approach for high hyperopia and hyperopic astigmatism in children with anisometropia. It is an alternative to other options and increases refraction effect and visual acuity without risk of potential complications of LASIK retreatment.