

## ROTATIONAL STABILITY OF THE MEDICONTUR (601 HP) ONE-PIECE HYDROPHYLIC ACRYLIC IOLS

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## MEASURING ROTATIONAL STABILITY

- INCREASED IMPORTANCE AS TORIC IOLS BECOME AVAILABLE ON THE MARKET
- HOW TO MEASURE IT EXACTLY?
- WHEN DOES POSTOPERATIVE IOL ROTATION OCCUR?
- HOW LARGE ROTATION IS ACCEPTABLE?

## ROTATION AND EFFECTIVENESS

- 1 DEGREE OFF AXIS = ~3% LESS EFFECT
- 10 DEGREE OFF AXIS = ~30% LESS EFFECT
- 33 DEGREE OFF AXIS = TORIC IOL HAS NO EFFECT ON ASTIGMATISM

## MEASURING POSSIBILITIES

- Two sets of digital photographs
- Immediately postop and after 6 month
- 2 characteristic points of the conjunctiva and the IOLs (optic-haptic junction)
- The points were connected with a line and an angle was determined
- Comparing the 2 sets of images yielded an angle that revealed the rotation

## TORIC IOLs ON THE MARKET

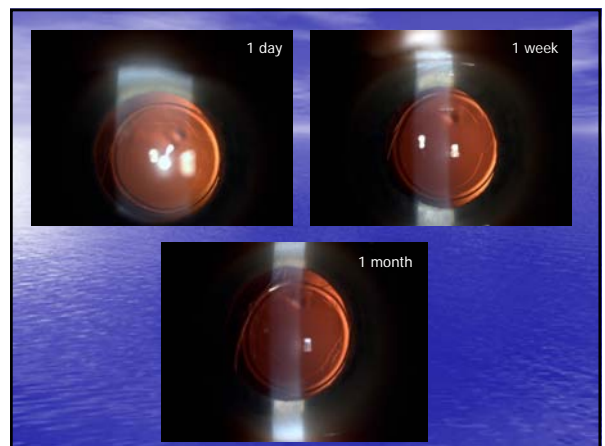
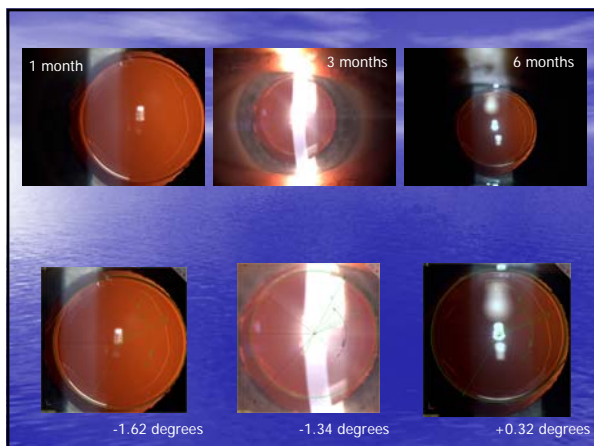
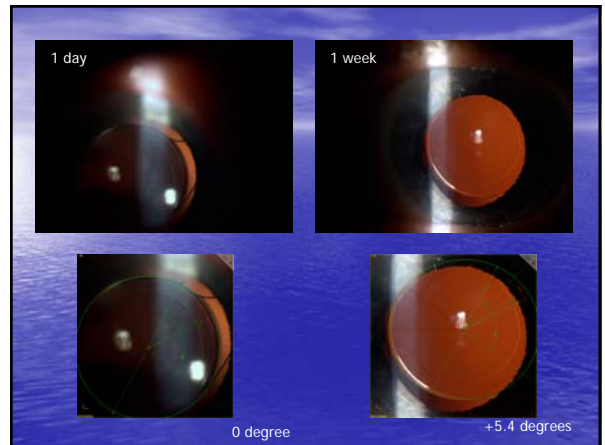
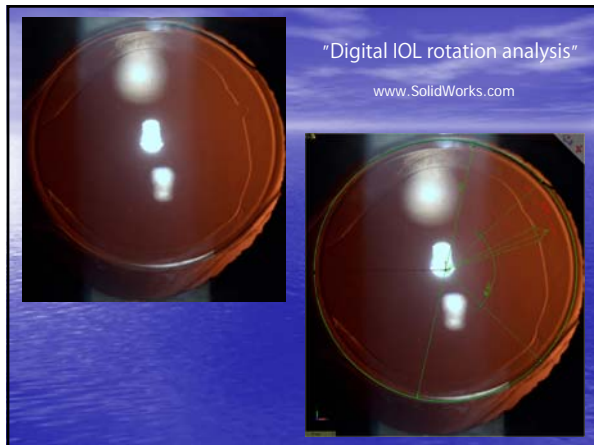
- Staar Toric IOL (Staar), cyl: +2.0D - +3.5D
- T-Flex IOL (Rayner), cyl: +1.0D - +6.0D
- MicroSil (HumanOptics), cyl: +2.0D - +12.0D
- AcrySof Toric (Alcon), cyl: 1.5D, 2.25D, 3.0D

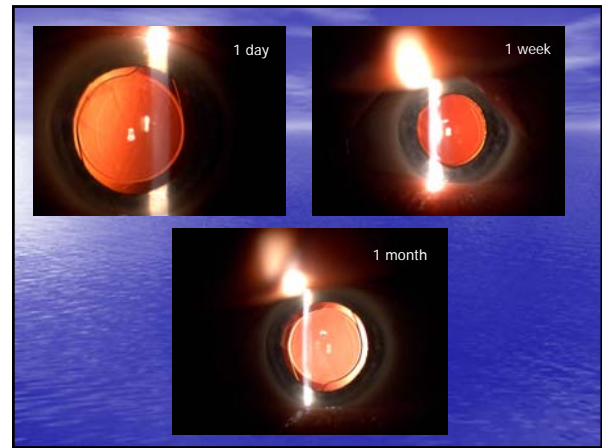
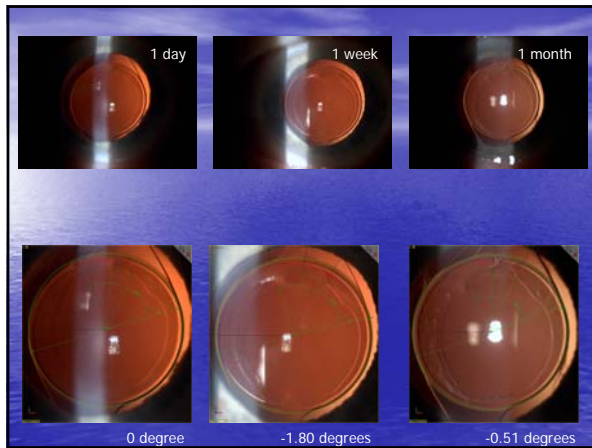
## MEDICONTUR IOL (601 HP)

- FOLDABLE
- HYDROPHYLIC ACRYLIC IOL
- SINGLE PIECE, "C" – LOOP
- MONOFOCAL, NON TORIC

## METHODS

- PROSPECTIVE OBSERVATIONAL STUDY
- 20 EYES OF 20 PATIENTS
- PHACOEMULSIFICATION, MEDICONTUR IOL IMPLANTATION, 2 CAPSULE CUTS AND TINY CAPSULE FLAPS WERE CREATED AT THE CENTRE OF IOL HAPTIC
- DIGITAL PHOTOGRAPHY 1 DAY, 1 WEEK, 1 MONTH, 3 MONTHS, 1 MONTH, 3 MONTHS POSTOPERATIVELY





## RESULTS

- $\pm 5.0$  DEGREE ROTATION WITHIN 1 WEEK
- $\pm 2.0$  DEGREE ROTATION BETWEEN 1 WEEK AND 1 MONTH
- $\pm 2.0$  DEGREE ROTATION BETWEEN 1 MONTH AND 3 MONTHS
- $\pm 0.5$  DEGREE ROTATION BETWEEN 3 MONTHS AND 6 MONTHS

## CONCLUSIONS

- CYCLOTORSION OF THE EYE SHOULD BE TAKEN INTO ACCOUNT DURING MEASUREMENT
- IT IS IMPORTANT TO INJECT THE ANTIBIOTIC, TO REMOVE THE SPECULUM AND THE DRAPE CAREFULLY AT THE END OF SURGERY
- MORE FREQUENT EARLY POSTOPERATIVE FOLLOW-UP IS RECOMMENDED WITH TORIC LENSES (1 DAY, 1 WEEK, 1 MONTH)

## CONCLUSIONS

- WITH OUR METHOD IT WAS POSSIBLE TO PRECISELY DETERMINE THE IOL ROTATION
- MEDICONTUR IOL HAS A GOOD ROTATIONAL STABILITY, AND
- CAN BE RECOMMENDED AS TORIC IOL

## LITERATURE

- Weinand et al: J Cat Refract Surg, 2007
- Wehner W: Ophthalmologe, 2007
- Warlo et al: Ophthalmologe, 2005
- Becker et al: Ophthalmologe, 2004
- Tehrani et al: J Cat Refract Surg, 2003
- Chang DF: J Cat Refract Surg, 2003
- Gerten et al: Ophthalmologe, 2001