Results and complications of 9366 Consecutive Multifocal IOLs With Rotational Asymmetry

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No Financial Interest
The light is refracted to other foci only in a specific sector

The rest of the lens is monofocal

This result in

- Better contrast sensitivity
- Less duplication of images (< ghosting, halos and glare)
- Better image quality
Concept of rotational asymmetry

Rotational Asymmetry

Aspheric, asymmetric distance-vision dominant zone

Combined with sector-shaped near vision zone of +3.00 D
9366 eyes of 4683 patients treated between November 2009 and September 2011
- 4240 MF30 312 design (C loop)
- 5126 MF30 313 design (Plate)

Retrospective
- 313 design
- 312 design
Demographics

- Mean age 58 years +/- 7.9 SD
- 45% Males / 55 % Females
- Only patients with corneal cyl less then 2.0 D included
- Preoperative sphere +2.06 D +/- 3.37 SD (from -17.5 to +11.0)
Stability of spherical equivalent

3 months Mean SEQ = -0.02 +/- 0.57 SD
Predictability of spherical equivalent

\[ y = 0.9964x + 0.0259 \]

\[ R^2 = 0.9698 \]
Safety

- Lost 2 lines or more: 3.8% (3 months), 4.4% (6 months)
- Lost 1 line: 19.2% (3 months), 17.1% (6 months)
- Unchanged: 47.0% (3 months), 47.8% (6 months)
- Gained 1 line: 21.7% (3 months), 22.6% (6 months)
- Gained 2 lines or more: 8.2% (3 months), 8.0% (6 months)

Comparison between 3 and 6 months.
Efficacy – monocular UCVA

- 6/6 or better: 58.0% (3 months), 56.4% (6 months)
- 6/7.5 or better: 81.9% (3 months), 80.6% (6 months)
- 6/9 or better: 92.0% (3 months), 91.5% (6 months)
- 6/12 or better: 96.8% (3 months), 96.7% (6 months)
# Efficacy – binocular UCVA

<table>
<thead>
<tr>
<th></th>
<th>3 months</th>
<th>6 months</th>
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</thead>
<tbody>
<tr>
<td><strong>6/6 or better</strong></td>
<td>80.5%</td>
<td>78.9%</td>
</tr>
<tr>
<td><strong>6/7.5 or better</strong></td>
<td>95.0%</td>
<td>94.4%</td>
</tr>
<tr>
<td><strong>6/9 or better</strong></td>
<td>98.4%</td>
<td>98.3%</td>
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<tr>
<td><strong>6/12 or better</strong></td>
<td>99.2%</td>
<td>99.7%</td>
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</tbody>
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Binocular Near VA

- 6/6 or better: 24.2%, 23.0%
- 6/7.5 or better: 51.3%, 49.4%
- 6/9 or better: 77.7%, 76.4%
- 6/12 or better: 92.4%, 91.7%

- 3 months
- 6 months
## Lens Exchanges

<table>
<thead>
<tr>
<th>Reason for Lens exchange</th>
<th>Number of eyes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glare/Ghosting</td>
<td>41 eyes <em>(dominant eye only)</em></td>
</tr>
<tr>
<td>8 lenses – 4 patients <em>(bilateral lens exchange)</em></td>
<td></td>
</tr>
<tr>
<td>Lens tilt</td>
<td>25 eyes <em>(312 C loop design only)</em></td>
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</table>
Patient Questionnaire
filled in the clinic on 3 months follow-up appointment

“How satisfied are you with the outcome of your procedure?”

- Very satisfied: 64%
- Satisfied: 34%
- Dissatisfied: 1%
- Very Dissatisfied: 1%

N = 1244
“Would you recommend the Procedure?”

N = 1244

98% Yes
2% No
How has your procedure affected your ability to DRIVE at NIGHT?“

- Significantly Improved/Improved: 45%
- Not affected: 22%
- Impaired: 18%
- Sig impaired: 6%
- I do not drive: 9%

N = 1244
“How has your procedure affected your ability to READ SMALL PRINT such as a telephone book, newspaper or medicine bottle?“

- Significantly improved: 57%
- Improved: 29%
- Not affected: 7%
- Impaired: 6%
- Significantly impaired: 1%

N = 1244
Conclusion

• Uncorrected Distance/Intermediate/Reading vision were excellent

• Improved contrast sensitivity compared to lenses with rotational symmetry

• 0.5% IOL exchange rate for night time glare and ghosting

• High satisfaction rate in high volume practice without patient selection
Thank you for your attention