Comparison of the results three months and twelve months after the implantation of the trifocal IOL Fine Vision

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No financial interest
The idea of Damiel Gatinel with the FineVision IOL was to combine two IOL designs that would result in a true three-foci design. The **trifocal diffractive multifocal IOL FineVISION®** combines two diffractive structures over the whole optic to achieve true tree focality:

one with a 3.50 D addition for near vision and one with a 1.75 D addition for intermediate vision.

**FineVision® (Physiol)**

- Bifocal diffractive lens
- Trifocal diffractive lens
The Fine Vision is apodized: the step height decreases from the center towards the periphery. This diffractive pattern is then pupil dependent allocating more energy to far vision in mesopic conditions (large pupil).
FineVision® (Physiol)

**Material:**
- Hydrophilic Acrylate with 25% water content

**Yellow:** UV and blue light blocker

**Dimensions:**
- Overall 10.75 mm
- Optic body 6.15 mm

**Angulation:** 5°

**A-constant:** 118.72 (IOL-Master), 118.5 (US)

**Optic is biconvex and aspheric**

Power range: 10.00 to 30.00 D in 0.50 D steps
Prospective consecutive clinical study

- August 2011 – May 2013
- Fine Vision in 44 eyes of 22 Patients
- mean age : 63
- IOL Power +12.5 to +26.5 D
- Follow up 3 and 12 months after the second Implantation

Selection criteria
- No retinal and optic nerve pathology
- Strong considered desire to achieve spectacle independence
- Willingness to accept potential optical side effects and longer optical adaptation period after surgery

Exclusion criteria:
- Patients who had never been satisfied with prescription of multifocal glasses
- Patients with overly high expectations for postoperative vision, anxious or demanding persons
- Patients whose jobs demand high visual acuity in the near or people who work at night.
- Astigmatism higher than 1.25 D
Mean UCVA and BCVA Distance (3 and 12 months post-OP)

Mean correction after 3 months: -0.35 D
Mean correction after 12 months: -0.25 D
UCVA after 3, 6 and 12 months
Mean UCVA for intermediate / for near (3 and 12 months post-OP)
Contrast sensitivity

The contrast sensitivity didn’t show any changes between 3 and 12 months.

Fine Vision

- **mesopic**
- **photopic**

test with functional acuity contrast method – developed by B.P. Ginsburg

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Results achieved with Radner Charts under photopic (100 cd/m²) conditions at 40cm distance
Do you need glasses??

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Do you experience Glare?

- After 3 months: 85% no, 15% yes
- After 12 months: 95% no, 5% yes
Do you notice halos?

<table>
<thead>
<tr>
<th>Time</th>
<th>No</th>
<th>Not Disturbing</th>
<th>Slight Disturbing</th>
<th>Very Disturbing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 months</td>
<td>80%</td>
<td>5%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>12 months</td>
<td>90%</td>
<td>5%</td>
<td>0%</td>
<td>5%</td>
</tr>
</tbody>
</table>

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Are you satisfied with the optical results after implantation of Fine Vision®?

- 80% very satisfied at 3 months
- 20% satisfied at 3 months
- 86% very satisfied at 12 months
- 14% satisfied at 12 months

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Conclusion

- The results of implantations of Fine Vision® trifocal IOL at 12 months, when compared with those after 3 months show improvement in both corrected and not corrected distance visual acuity, steady intermediate vision and slight improvement in near vision with increase of reading speed.

- Although still present at 12 months, the perception of halos and glare decreased.

- Only one patient (2.5%) of our study needed a Yag-laser treatment because of PCO.

- This study confirms that the optical rehabilitation after implantation of multifocal IOL Fine Vision is not completed after 3 months and continues up to 12 months.

- It may be that trifocality in IOLs means a longer period of neuroadaptation.
Thank you for your kind attention!