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PIBIC Last Name - Yamada First Name - Ana Carolina Middle - Noriko

Service (sector) Cataract N° CEP

### **FUNCTIONAL ACUITY CONTRAST TEST WITH ASPHERIC AND SPHERICAL INTRAOCULAR LENSES**

Ana Carolina N. Yamada, Karolinne M. Rocha, Juliana M. Bottós, Kátia M. Bottós, Maria Regina Chalita, Mauro Campos, Walton Nosé, Eduardo Soriano.

**PURPOSE:** To compare the Functional Acuity Contrast Test (FACT) in patients who received Acrysof Natural WF, Acrysof Natural or AMO Sensar intraocular lenses (IOLs) in different illumination conditions and also simulating glare. **METHODS:** Prospective, randomized and double-blinded study. One hundred and twenty eyes of sixty patients were randomly divided into three groups: 40 eyes received Acrysof Natural WF IOL (group I), 40 eyes received Acrysof Natural IOL (group II) and 40 eyes received AMO Sensar IOL (group III). Contrast sensitivity was measured using a new Functional Acuity Contrast Test (Optec® 6500) after 45 to 90 days postoperatively. Both eyes were tested with distance correction and the test was performed on photopic, mesopic and mesopic with glare conditions. The target illumination was 3.0 cd/ m<sup>2</sup> for night and 85 cd/ m<sup>2</sup> for day. The F.A.C.T. sine-wave grating chart tests five spatial frequencies (1.5, 3, 6, 12, 18 cycles per degree) and nine levels of contrast. **RESULTS:** Mean age in each group was: 69 yo (Acrysof WF), 70 yo (SN60) and 68.2 yo (AR40). All eyes in all groups had BSCVA ≥ 20/25. There were no statistically significant contrast sensitivity differences between the three groups in photopic and mesopic with glare conditions. But in mesopic condition, we find statistical difference between the group I and the others, specific in 3 and 6 cpd spatial frequencies. The mean values of log contrast sensitivity (in mesopic condition and at 3 cpd spatial frequency) were 1.59±0.18 in the group I, 1.43 ± 0.46 in the group II and 1.46±0.35 in the group III. The mean values of log contrast sensitivity (in mesopic condition and at 6 cpd spatial frequency) were 1.43±0.40 in the group I; 1.3±0.6 in group II and 1.29±0.6 in group III. **CONCLUSION:** This Functional Acuity Contrast Test provides a relevant assessment of contrast sensitivity at a range of functionally significant spatial frequencies. The Acrysof Natural WF showed great values in night contrast sensitivity considering the other groups.