

R1  R2  R3  PG0  PG1  Estagiário  Tecnólogo   
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Service (sector) Cataract - PESQUISA CLÍNICA N° CEP

**Optical and ultrasound biometry: comparison between the two methods used for the calculation on accommodative intraocular lens**

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Purpose: To compare precision and reproducibility of two ultrasonic biometers and one optical biometer for the calculation of accommodative intraocular lens. Material and methods: Cataract patients were submitted to the examination with 03 different biometers (IOLMaster, Axis II and Humphrey Mod. 820) before the implantation of the C&C Vision AT-45 accommodative silicone intraocular lens. The Axis II biometer was used for both contact and immersion biometry. Axial length, anterior chamber depth and keratometry were the biometric parameters analyzed. Results: Thirty four patients from 53 to 90 years old (mean 70.6 y-o) were submitted to the examination with the three different biometers. The lowest mean axial length was obtained in the Axis II/contact (23,12 mm) and the highest in the Humphrey (23,21 mm). The lowest mean anterior chamber depth was obtained in the Humphrey (2,97mm) and the highest in the IOLMaster (3,10mm). Reproducibility for axial length was high for all the biometers tested (coefficient of variation was: 3,02% for the Humphrey; 3,07 % for the Axis II/immersion and 3,19% Axis II/contact and IOLMaster). All the biometers presented extremely close results on the analyzed parameters (99,01% for axial length and 94,77% for anterior chamber depth). Pearson's coefficient demonstrated high correlation between the biometers, regarding to the axial length and anterior chamber depth measurements. Conclusion: IOLMaster, Axis II and Humphrey Mod. 820 are comparable to measure axial length and anterior chamber depth.