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Abstract Title:	**OBJECTIVE VALUES OF VISUAL ACUITY AND CONTRAST SENSITIVITY OBTAINED FROM RETINAL IMAGE QUALITY MEASUREMENTS**
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Purpose: Double-pass measurements permit to obtain directly actual retinal images including higher order aberrations and intraocular scattering and provide quite useful information on the optical quality of the eye. From these images objective values of visual acuity and contrast sensitivity can be obtained.
Methods: We measured retinal image quality of 62 eyes in 40 subjects using a double-pass instrument (OQAS, Visiometrics S.L). Measurements were performed for 3 and 5 mm pupil diameter. The mean subject age was 28.3±6.5 (range 20 to 45 years). Mean spherical refraction was -1.6±2.4 diopters (range +2 to -4 diopters) and only subjects with astigmatism lower than 0.5 diopters took part in the experiment OQAS permits a very precise correction of spherical refraction. We measure the Visual Acuity (VA) and Contrast Sensitivity(CS) (CSV-1000.Vectorvision Inc) for the same values of pupil diameter. In this case spherical refractive error was corrected using trial lens. From the double-pass images, the ocular Modulation Transfer Function (MTF) is calculated. The predicted visual acuity for each contrast was estimated taking into account the spatial frequency corresponding to different values of MTF.
Results: The values of VA and CS deduced from double-pass images obtained with OQAS were almost in relation with the subjective values obtained by psychophysical measurements. Statistically significant differences were not found between objective and subjective methods. Results will be specially useful in the refractive surgery setting because they will avoid subjective limitation in evaluating the visual functions of patients.
Conclusions: We have obtained a good correlation between visual acuity and contrast sensitivity values obtained from subjective measurements and predicted from double-pass measurements. Therefore double-pass measurements can constitute a useful method to determine objectively visual acuity and contrast sensitivity.

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