

# Comparison of Refraction Derived from Z-View™ Wavefront Aberrometer Measurement and Subjective Refraction

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## Abstract

**Purpose:** To evaluate the clinical efficacy of refraction provided by a new grating-based wavefront aberrometer.

**Methods:** In a double masked protocol, refractive errors of 100 patients (199 eyes) between ages 18 and 81 years, without cycloplegia, were obtained from a grating-based wavefront aberrometer (Z-View™, Ophthonix, Inc., San Diego, CA.), and compared to manifest refraction using a phoropter. Data were analyzed in terms of sphere, cylinder, and spherical equivalent. A comparison was made between the manifest refraction and wavefront-derived refraction.

**Results:** Wavefront refraction, and manifest refraction were found to have approximately normal distributions. The Pearson Correlation Coefficient for wavefront measurement to manifest refraction were: sphere  $R^2 = 0.976$ , cylinder  $R^2 = 0.851$ , spherical equivalent  $R^2 = 0.979$ .

**Conclusions:** Wavefront refraction derived from the Z-View™ aberrometer correlated well with manifest refraction.