One of the first procedures performed during an eye exam prior to a patient seeing his/her optometrist is the autorefractor test. Commonly referred to as the AR for short, the autorefractor is a machine that obtains several objective measurements of a patient’s eye that allows for the estimate of a patient’s prescription. These measurements provide an optometrist or ophthalmologist with a starting point for determining the patient's prescription with a phoropter during the exam. While the autorefractor does estimate a patient's prescription with accuracy, an optometrist or ophthalmologist is vital in order to refine the accuracy of the prescription and to account for conditions that the test is unable to identify such as irregularities in the front surfaces of the eye.

To perform the autorefractor test, a patient places his/her chin on the machine's chinrest and forehead against a forehead bar. What the patient then sees is an image on the screen that is brought in and out of focus as the machine is taking measurements. This process is performed on both eyes, and usually takes no more than a few seconds per eye. While the patient sees the image increase and decrease in resolution, the autorefractor is calculating the curvature of the front surface of the eye, known as the cornea. Additionally, the autorefractor shines a light into the eye through the pupil and measures how this light changes as it bounces off the back of the eye, known as the fundus. In doing so, the machine is able to determine how the eye focuses light. The autorefractor obtains a total of three measurements and averages them. When the test is complete, the autorefractor produces measurements for the refraction, sphere, cylinder and axis of both eyes as well as a keratometry reading. An optometrist or ophthalmologist then uses these results to begin determining the patient's prescription for eyeglasses and contacts.

Works Cited:
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