GOAL OF REFRACTION

The ideal refractive state of the eye is emmetropia (Figure 1-1). In an emmetropic eye, the refractive powers of the cornea and the crystalline lens combine to precisely focus parallel rays of light from a distant object onto the retina as a single point. The cornea plays the greater role in achieving this.

Optically, the purpose of refraction is to place a focal point onto the retina. Clinically, refraction is how we determine best corrected visual acuity as well as the optimal glasses prescription; the latter is maximally important to the patient.

The goal of clinical refraction is to determine the strength of the corrective lens that will achieve this precise focus when placed in front of the eye. With a well-performed refraction, we are helping our patients see more clearly—without medicine or surgery—and they benefit from a correct glasses prescription all day, every day!

An eye whose refractive power does not produce this precise focus is ametropic, and is described as having a refractive error.