

A very good illustration of a hypermetropic eye is one in which the crystalline lens has been removed in the operation for cataract. To enable such an eye to see distinctly, even distant objects, it is necessary to place in front of it a strong convex lens of about four inches focus, called a cataract glass. The eye having too low a refractive power to converge rays to a focus, on the retina, it is necessary to give rays falling upon the eye, a preliminary degree of convergence; the eye having sufficient power to complete their refraction to a point upon the retina. We do the same thing in relieving cases of hypermetropia.

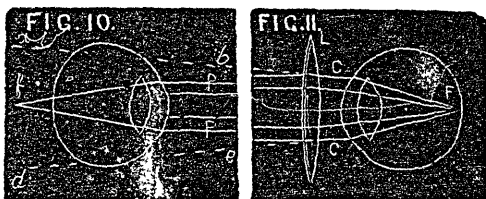


Fig. 10 represents a hypermetropic eye in a state of rest. P, P are parallel rays which are focussed behind the retina at f. L, Fig. 11, is a convex lens which changes the parallel rays to convergent ones, at c, c, as if they came from the direction a b and d e, which again are refracted by the eye, and brought to a focus upon the retina at F.

When a hypermetropic eye is in a state of rest, and directed to distant objects, it is adjusted for convergent rays; images upon the retina will consequently be ill defined, and vision will be indistinct. To remedy this, it is necessary for the eye to increase its refractive power by increasing the antero-posterior diameter of the crystalline lens, so as to bring parallel rays to a focus on the retina.

When a person with hypermetropia attempts to read or write, or accommodate his eyes to short distances, it is necessary for him to tax his accommodation to its utmost extent, in order to bring the diverging rays to a focus on the retina. This excessive effort at accommodating the eye for short distances, can not be kept up for more than a few minutes, when the ciliary muscle begins to relax,—the “near” point commences to recede, and (if he is reading) the letters become indistinct. The eye also feels fatigued, and others symptoms arise which will be referred to when speaking of Asthenopia.

*Diagnosis.*—When we suspect a patient has hypermetropia, we test his eyes as follows:—We place series of test-types, No. xv., xx., xxx., &c., at a distance of about 20 feet. If he can read No. xv. or xx. at this distance, his acuteness of vision is normal. We then try his vision with weak convex glasses, say No. 50, and if he can read the same type, at the