

The method of locating the lens 10 on the cornea 12 comprises the steps of applying a lens 10 to the anterior surface of the cornea 12, the lens 10 having a posterior surface curvature complementary to such anterior surface. Next, the optical portion 20 of the lens is centered to overlie the pupillary zone of the cornea and the haptic portion 22 is attached to the eyeball 14 to fix it in position. In one method the haptic portion 22 is stapled or sutured to superiorly and inferiorly located peripheral portions of the cornea, while in another method the haptic portion 22 is fixed to the episclera immediately adjacent the corneal boundary. The sutures or other attachment means pass through one or more layers of the cornea. The sutures or staples are not tied or locked so tightly as to cause an alteration of the corneal curvature and thereby induce astigmatism.

The contact lenses of the prior art have been designed to move relative to the cornea to allow the tear film to reach almost all portions of the cornea beneath the lens. Great care has been exercised to promote such movement. In contrast, the present lens 10 is designed for the opposite purpose of fixing it to the cornea so that no relative movement is possible. This surprising departure from the prior art is possible primarily because of the drastic reduction in the size of the lens. The reduced lens area greatly improves metabolism and minimizes concentrations of foreign bodies such as bacteria and inorganic debris. Consequently, it can be worn indefinitely without significant eye irritation.

In practicing the present invention it is of primary importance to reduce the size of the lens as much as possible, commensurate with the object of providing an optical portion sufficiently large to provide the desired optical corrections, and a haptic portion adapted to be secured to the eyeball and preferably the cornea. However, the particular lens configuration, lens materials, attachment means or the like that are used is a matter of choice and are not critical to the present invention. Alternative structures and materials for accomplishing the stated functions will immediately suggest themselves to those skilled in the art, and are within the intended scope of the invention.

Various modifications and changes may be made with regard to the foregoing detailed description without departing from the spirit of the invention.

I claim:

1. An artificial lens for eyes, said lens comprising: an optical portion configured for placement upon the central anterior surface of the cornea, said optical portion being dimensioned to overlie less than the total anterior surface area of the cornea; and a marginal haptic portion extending from said optical portion and including means adapted to extend through a portion of the eyeball for fixation of said haptic portion to the eyeball.
2. An artificial lens according to claim 1 wherein said haptic portion comprises a pair of oppositely extending tabs each having a width approximating the width of said optical portion.
3. An artificial lens according to claim 1 wherein said haptic portion is annular, and said means comprise openings adapted to receive fastening elements.
4. An artificial lens according to claim 1 wherein said haptic portion comprises a pair of oppositely extending tabs each having a width approximating the width of said optical portion, and each having a length such that their outer extremities are adapted to overlie a portion of the sclera for fixation to the sclera.

5. An artificial lens according to claim 1 wherein said haptic portion is undercut to reduce its potential area of contact with the cornea.

6. An artificial lens for eyes, said lens comprising: an optical portion configured for placement upon the central anterior surface of the cornea, said optical portion being dimensioned to overlie less than the total anterior surface area of the cornea; and a marginal haptic portion including a plurality of tabs extending from said optical portion, said tabs having openings adapted to receive fastening elements.

7. An artificial lens according to claim 6 wherein said openings are relatively large to reduce the potential area of contact with the cornea.

8. An artificial lens for eyes, said lens comprising: an optical portion configured for placement upon the central anterior surface of the cornea, said optical portion being dimensioned to overlie less than the total anterior surface area of the cornea; and a marginal haptic portion including a plurality of tabs extending from said optical portion, said tabs having notches adapted to serve as anchorages for fastener elements.

9. An artificial lens for eyes, said lens comprising: an optical portion configured for placement upon the central anterior surface of the cornea, said optical portion having a posterior surface curvature complementary to the anterior surface curvature of the cornea for direct contact therewith, said optical portion being dimensioned to overlie less than the total anterior surface of the cornea; and a marginal haptic portion extending from said optical portion and including means enabling fixation of said haptic portion to the eyeball.

10. A method of locating on the cornea an artificial lens provided with an optical portion having a posterior surface area substantially less than the anterior surface area of the cornea and characterized by a curvature complementary to such anterior surface, and further provided with a marginal haptic portion extending outwardly of said optical portion, comprising the following steps:

applying said artificial lens to the anterior surface of the cornea and arranging said optical portion to overlie the pupillary central zone of the cornea; and attaching said haptic portion to the portion of the eyeball adjacent said haptic portion by means extending through a portion of the eyeball to fix said optical portion upon the cornea for movement therewith.

11. A method of locating on the cornea an artificial lens provided with an optical portion having a posterior surface area substantially less than the anterior surface area of the cornea and characterized by a curvature complementary to such anterior surface, and further provided with a marginal haptic portion extending outwardly of said optical portion, comprising the following steps:

applying said artificial lens to the anterior surface of the cornea and arranging said optical portion to overlie the pupillary central zone of the cornea; and attaching said haptic portion to the portion of the eyeball adjacent said haptic portion by passage of surgical staples through one or more layers of said cornea and coupling of said staples to said haptic