

necessary to position a tool such as a spatula, (an end portion of which is indicated at 52 in FIGS. 5, 6 and 8) against an upright portion of posterior loop 24. Positioning the spatula as indicated permits intraocular lens 20 to be maintained in stable position during removal of tool 30 so that surfaces 36, 38 may be withdrawn from engaging opposed sides of lens body 22. Removal of tool 30 results in releasing clip 28 so that it moves toward posterior loop 24 by "springing back" or returning to its nonstressed condition through iridectomy 48 to thereby securely lock or attach iris 44 to the lens body. It is generally not necessary to provide an iridectomy in capsule 50 adjacent iridectomy 48 because the membranous material of the capsule is extremely thin and flimsy. With the lens implanted as shown in FIG. 9, spatula 52 is removed, incision 46 is suitably sutured, and the operation is essentially complete.

From the above description, it should be readily apparent that there are several distinct and very important advantages resulting from use of the intraocular lens of the present invention and the method of implanting same. First of all, by providing a clip which normally assumes a nonstressed condition when extending through an iridectomy provided in the iris, (or merely through the iris) it can be seen that no resulting forces are applied to any portion of the lens body. This results in a stabilized locking or attaching of intraocular lens 20 to the iris and prevents resulting forces which may act on the iris tending to rotate the lens body out of position.

Additionally, it may be appreciated that the present invention provides an intraocular lens 20 which may be suitably used with a novel tool 30 for implanting the intraocular lens. With clip 28 flexed to a stressed condition by means of tool 30 simultaneously holding both lens body 22 and the clip, it is only necessary for the surgeon to grip the tool for placement of the intraocular lens in the capsule or "bag." The surgeon maintains complete control and may "steer" the intraocular lens accurately into position. Upon removal of tool 30, it can be seen that clip 28 will naturally assume the predetermined orientation in a nonstressed condition shown in FIG. 9. It must be emphasized that it is not necessary for the surgeon to grip lens body 22 with a lens-holding forceps in order to effectuate placement. Further, with conventional intraocular lenses, it may be necessary for a surgeon to regrip the lens body several times with the forceps during urging of a conventional clip through the iridectomy. By regripping the lens body, the surgeon substantially increases the risk of contact between the lens body and the endothelium. In addition, it can be seen that urging a conventional clip through the iridectomy so that it is locked behind a posterior loop will result in forces being imparted to the lens body which also increases the chances of contact with the endothelium.

In contrast, the present invention of intraocular lens 20 combined with a surgical procedure utilizing tool 30 only requires that the tool be removed from engagement with lens body 22. No regripping is required and it is not necessary for the surgeon to push or urge clip 28 into its locking position. Rather, clip 28 naturally "springs back" or assumes its nonstressed condition

through the iridectomy. The result is much greater simplicity in implanting an intraocular lens with significantly decreased chances for contacting the endothelium.

Of course, another significant advantage of the present invention is that a surgeon knows that removal of tool 30 will absolutely result in clip 28 assuming its predetermined, nonstressed condition in attaching the iris to the lens body. The surgeon always knows the exact position that the clip will assume. Guesswork in deforming or manipulating a clip into its locking position is virtually eliminated.

It should also be appreciated that tool 30 may be designed with a plunger element slideably extending within bore 32a of member 32. The plunger element could be suitably manipulated by the surgeon toward clip 28 for exerting a force thereagainst when it is desired to withdraw tool 30 from engagement with the lens body. Such an arrangement would make it unnecessary to employ spatula 52.

Materials suitable for use in the construction of clip 28 may include polypropylene or platinum-iridium. Of course, other materials may be readily employed as long as the feature of providing the intraocular lens with a clip normally positioned in a nonstressed condition, corresponding to its position extending through the iris, is maintained.

While the invention has been particularly shown and described with reference to the foregoing preferred embodiment, it will be understood by those skilled in the art that other changes in form and detail may be made therein without departing from the spirit and scope of the invention as defined in the appended claims.

It is claimed and desired to secure by Letters Patent:

1. An intraocular lens for surgical implantation in the eye comprising:

a lens body;

positioning means extending from said lens body for orienting said lens body in the eye's anterior chamber; and

retaining means including a resilient member joined to said lens body for extending outwardly from a marginal portion thereof, said resilient member being elastically deformable away from said positioning means to a stressed condition and releasable, when said lens body is implanted, from the stressed condition so that it may move toward said positioning means and assume a predetermined orientation in a nonstressed condition extending into the iris to thereby attach the iris to said lens body.

2. The tool of claim 1 wherein said elongate means includes an end configured to hold the lens body when the retaining means is received a predetermined distance within the bore.

3. The tool of claim 2 wherein said end is defined by a throat having opposed surfaces dimensioned for frictionally engaging opposite surfaces of the lens body to thereby hold same during implantation.

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