

Near Vision Accommodating Intraocular Lens with Adjustable Power

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Technology description

Technical Summary

Accommodation is the ability of the eye to focus upon near objects. All individuals eventually lose this ability due a condition known as presbyopia, an age related loss of elasticity in the crystalline lens. Persons reaching this stage of life become dependent on reading glasses for close work. In a separate disorder, individuals experience a clouding of the lens due to cataract formation which can result in a total loss of vision.

Replacement of dysfunctional crystalline lenses or cataracts and implementation of plastic intraocular lenses is an accepted treatment; however, many problems remain unsolved. Present methods involve the implantation of an artificial intraocular lens of fixed optical power which does not restore the ability to accommodate. Further, post-implantive modification or adjustment of intraocular power is not possible which results in a majority of patients requiring spectacles to obtain clear vision.

Dr. Keith Thompson at Emory University has developed a biocompatible intraocular lens that can both accommodate for near vision via natural mechanisms and provide for adjustment of its refractive power during or after surgery. The lens is designed to be implanted following standard techniques of modern cataract surgery.

In addition, the invention provides a means by which the lens can be stretched into its non-accommodative shape during attachment to the ciliary body and capsular bag. This supplementary method of insertion described permits attachment to the ciliary body without disruption of the local architecture caused by contemporary techniques. Such disruption often results in scarring or other functional distortion of the ciliary musculature.

Application area

Restoration of accommodation following cataract surgery.

Institution

[Emory University](#)

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