

INTRAOCULAR ARTIFICIAL LENSES

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The present hydrogel technology can be used as a lens replacement material for the permanent treatment of cataracts and presbyopia as well as a vitreous substitute. This co-polymeric hydrogel system can be reversibly converted between a hydrogel in the oxidized state and a solution in the reduced state and mimics the optomechanical properties of the native lens and vitreous. Rabbit studies using the hydrogel system as a vitreous substitute indicate that the material can be injected into the eye, undergo gelation, remain optically clear, and remain well tolerated. Long-term biocompatibility and degradation studies are in progress.

Benefits:

- Permanent solution to cataracts, presbyopia, and vitreoretinal pathologies.
- Minimally invasive and easily deliverable through injection.
- Can conform to fill native or potential cavities.
- Drugs and/or particles may be added to the system.