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## Method And Apparatus To Modify The Cornea Using Electrochemistry

Tech ID: 33886 / UC Case 2019-672-0

### BRIEF DESCRIPTION

A revolutionary non-surgical device for correcting refractive errors and treating corneal dystrophies using electrochemistry.

### FULL DESCRIPTION

This technology offers a novel approach to corneal shaping and vision correction by leveraging electrochemical reactions to alter the cornea's curvature without the need for surgical intervention. Utilizing a combination of electrical energy and a firm contact lens, the device induces controlled redox reactions within the cornea, leading to a change in its geometry. This method maintains the cornea's optical transparency and structural integrity, making it a promising alternative to conventional treatments like LASIK and PRK.

### SUGGESTED USES

- » Non-surgical vision correction for refractive errors such as myopia, hyperopia, and astigmatism.
- » Treatment for corneal dystrophies and age-related presbyopia.
- » Alternative to LASIK, PRK, and orthokeratology for individuals seeking non-optical vision correction.

### ADVANTAGES

- » Non-surgical, minimizing risks associated with traditional corneal surgeries.
- » Cost-effective compared to laser-based therapies.
- » Applicable to a wide range of refractive errors and corneal conditions.
- » Preserves the cornea's native chemical environment and optical clarity.
- » Suitable for eyes with thin corneas or deep dystrophies where other treatments are not viable.

### PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	2020/206140	10/08/2020	2019-672

Patent Pending

### RELATED MATERIALS

### CONTACT

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### OTHER INFORMATION

#### CATEGORIZED AS

- » **Biotechnology**
  - » Health
- » **Medical**
  - » Devices
  - » Disease: Ophthalmology and Optometry

#### RELATED CASES

2019-672-0

» Stokolosa, A. M., et al. Wong, B. F. J., Hill, M. G. (2023). Electromechanical cornea reshaping for refractive vision therapy. ACS Biomater. Sci. Eng. 9 (2).

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