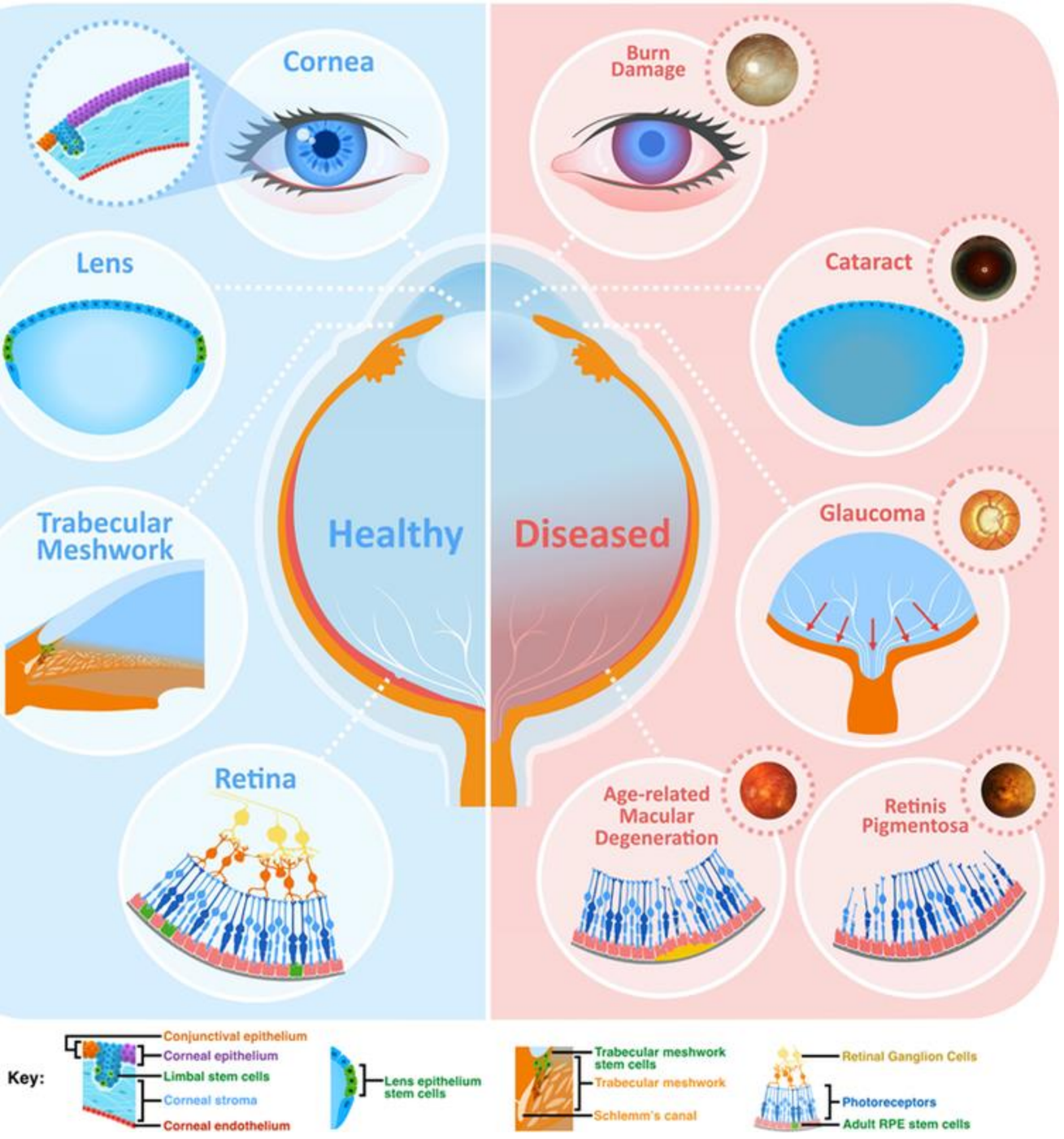
EYECELL

EYE REGENERATION AND VISION RECOVERY



PROBLEM

- Loss of vision is a major health care problem
- Up to 76% of adults develops some form of vision-reducing eye disease by age 65
  - Age-related macular degeneration
  - Glaucoma
  - Cataract
  - Diabetic retinopathy
- Vision impairment decreases ability to perform daily activities and increase risk for depression
- Most available treatments address the symptoms not the causes of eye disease
- No current treatments regenerate eye tissue

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MACULAR DEGENERATION

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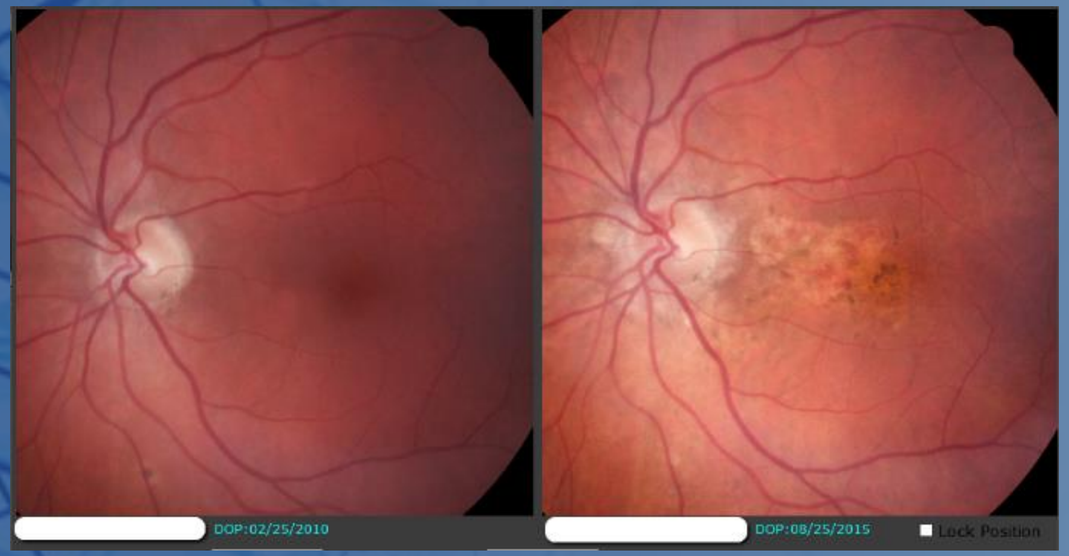
MACULAR DEGENERATION PROGRESSION



Baseline

5 Year Progression

Baseline

5 Year Progression

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SOLUTION

EYECELL Treats the Causes of Eye Disease

- Non-invasive bioelectric therapy
- Specific stimulation signals control the signaling of biological proteins necessary for vision recovery

EYECELL PLUS BIOLOGICS

- **In Early stages**

  Biologics + non-invasive EyeCell stimulation.

- **In Advanced cases**

  An implantable combination micro bioelectric stimulator and refillable infusion pump with proprietary biologics composition for eye regeneration.

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HOW DOES IT WORK?*

- Bioelectric signals cause SDF1 and PDGF to be released which homes reparative stem cells to the eye
- Bioelectric signals cause IGF1, Sonic hedgehog and LI to be released to regenerate nerves
- For severe cases, biologic injections or infusions are added to attempt to regenerate the eye

*Proposed Method of Action

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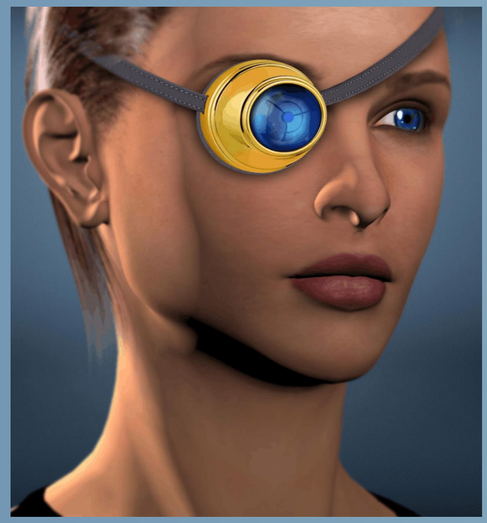
BIOLECTRIC STIMULATORS AND GOGGLES

Benchtop

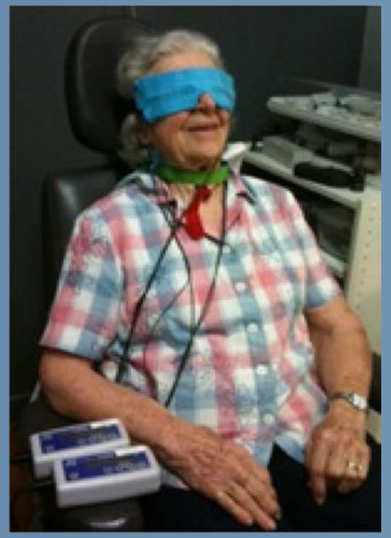
Portable

Portable

Goggles



Artist's rendition of potential future goggle



Three OEM manufacturers

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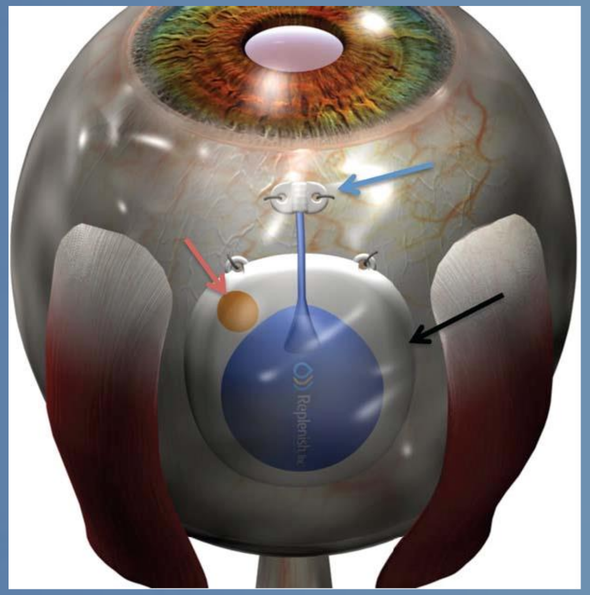
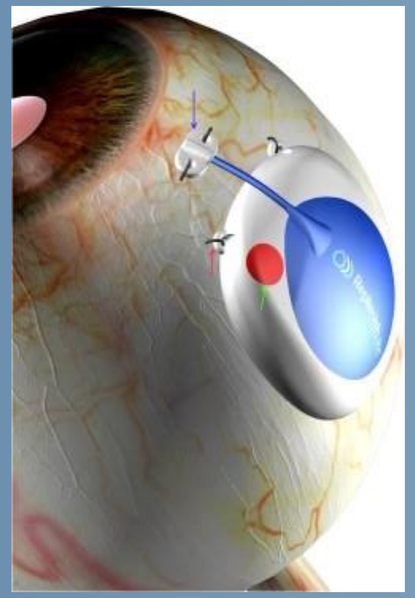
EYECELL PLUS BIOLOGICS

Biologics composition





Combination implantable micro bioelectric stimulators and refillable infusion pump

In Early stages: Biologics composition + non-invasive EyeCell stimulation

In Advanced cases: Biologics composition + implantable micro stimulators

Proprietary biologics composition for eye regeneration may include:
Stem cells, hydrogels, and other growth factors

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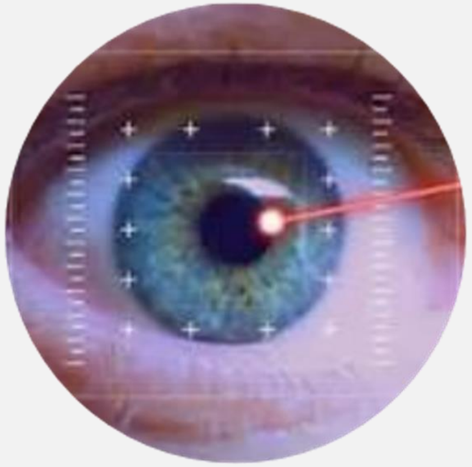
COMPETITION

No current treatment regenerates eye tissue

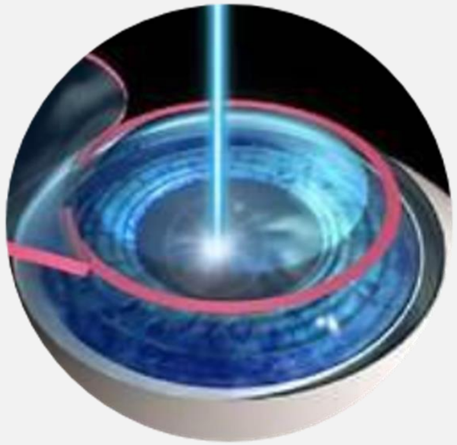
LASER THERAPY

Blood vessels may grow beneath the macula, causing blood and fluid to leak beneath which can lead to vision loss. Laser surgery seals off the leaky vessels. Does not regenerate eye tissue



VISUDYNE

A medication injected into the arm. Activated by shining a low-energy laser beam into the eye to produce a chemical reaction that destroys abnormal blood vessels. Does not regenerate eye tissue.



LUCENTIS

A medication injected into the eye to inhibit Vascular Endothelial Growth Factor (VEGF) which stimulates blood growth.

Does not regenerate eye tissue.

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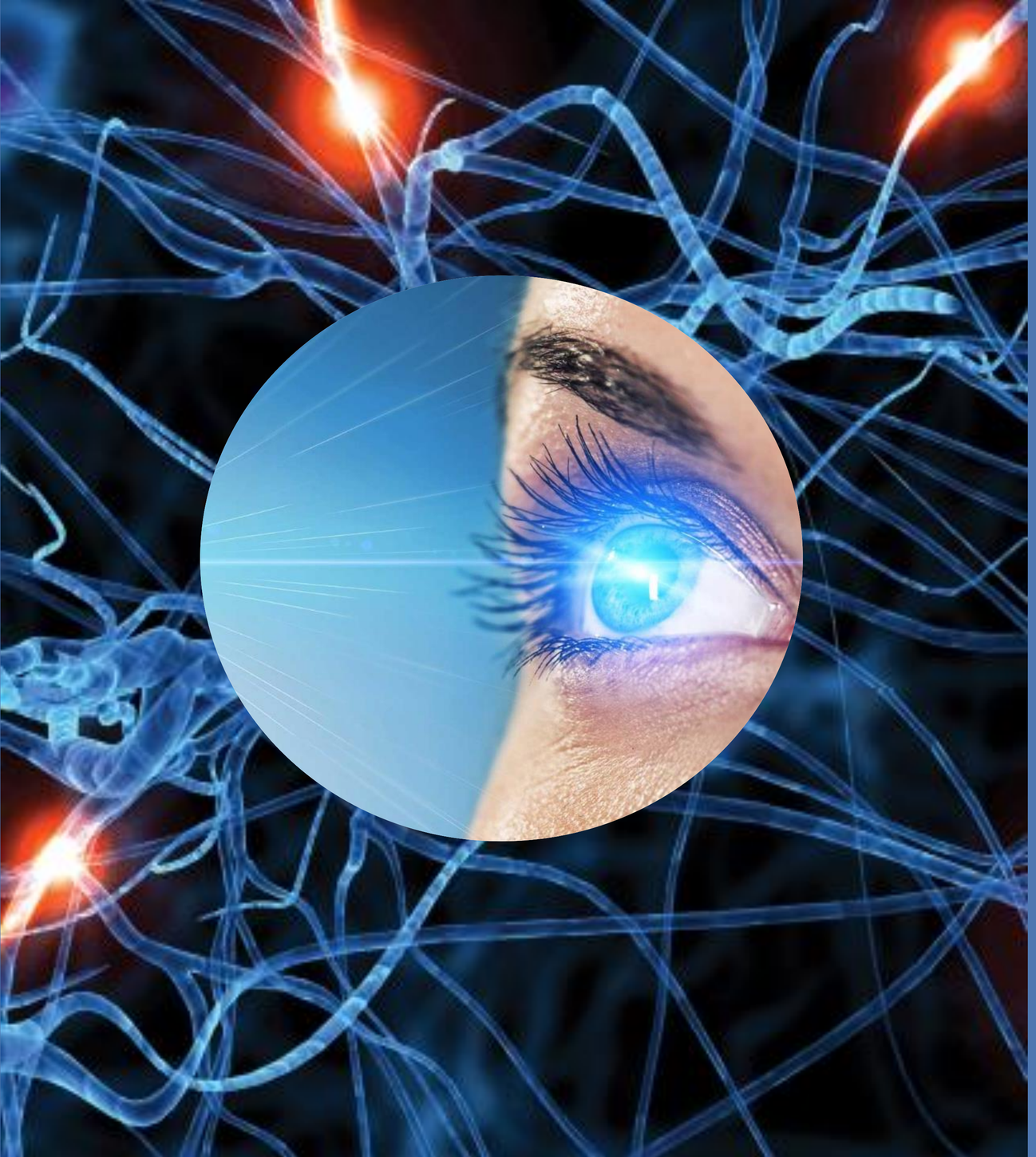

HOW IS EYECELL UNIQUE?

- Precise control of regenerative protein expressions through programmed bioelectric stimulator signals
- Proprietary mixed biologics compositions include patented klotho-expressing Mesenchymal Stem Cells (MSCs)
- Multiple patents for klotho supplementation for reversing aging disorders including vision loss
- Patented stem cell homing signals
- Patented inflammation modulation signals
- Patented signals to stop leaky blood vessels from leaking

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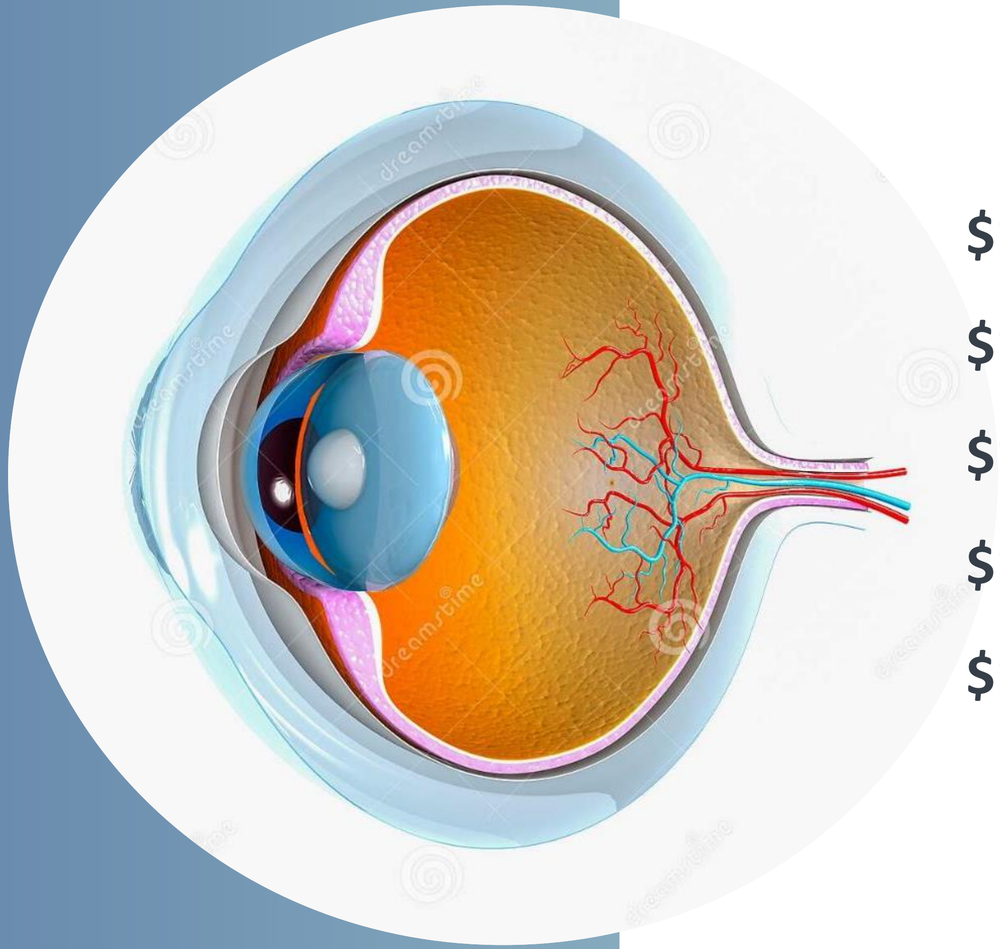
MARKET SIZE



$11 B Macular degeneration

$12 B Glaucoma

$12 B Cataracts

$15 B Diabetic retinopathy

$10 B All other vision loss

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EYECELL TEAM

Howard Leonhardt
Founder, Board Chair, and CEO

Leslie Miller, MD
Chief Medical Officer

Jorge Genovese, MD, PhD
VP of Bioelectric and Biologics Research

Dr. Patrick Johnson
Chief Ophthalmologist Officer

Dr. Peter Wilcox
Chief Optometrist Officer

Sejal Chaudhari, MS
Chief Scientific Officer for Pre-Clinical Research

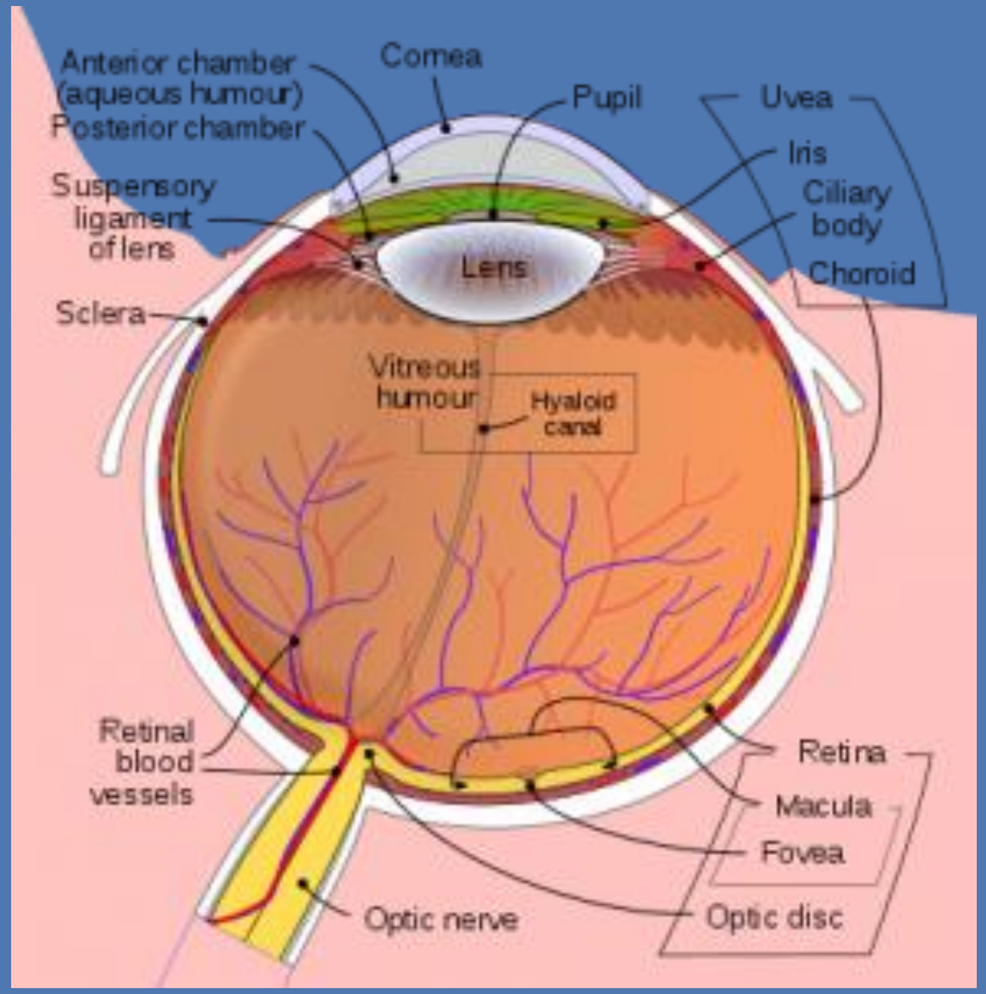
Dr. Laurie Chaikin
Senior Advisor Optometry and Rehabilitation

Dr. Jay Hydren
Biostatician Bioengineer

Brian Hardy
Director of Marketing

The Late Dr. Y King Liu
President

SUPPORTING DATA



- Chaikin data
- Kondrot data
- Protein expression data for klotho, IGF1, PDGF, BDNF, Sonic Hedgehog, LIM, Serotonin, GDF10 and more
- Other studies

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CLINICAL STUDY

Microcurrent stimulation in the treatment of dry and wet macular degeneration

Dr. Laurie Chaikin, et. al. 2015

Purpose

To determine the safety and efficacy of the application of transcutaneous (trans-palpebral) microcurrent stimulation to slow the progression of dry and wet macular degeneration or improve vision in dry and wet macular degeneration.

Methods

17 patients aged between 67 and 95 years with an average age of 83 years were selected to participate in the study over a period of 3 months in two eye care centers. There were 25 eyes with dry age-related macular degeneration (DAMD) and six eyes with wet age-related macular degeneration (WAMD). Frequency-specific microcurrent stimulation was applied using two programmable dual channel microcurrent units delivering pulsed microcurrent at 150 µA for 35 minutes once a week. Early Treatment Diabetic Retinopathy Study or Snellen Visual Acuity (VA) was measured before and after each treatment session. All treatment was administered in a clinical setting.

Results

Significant increases were seen in VA in DAMD (*P*=0.012, Wilcoxon one-sample test), but in WAMD, improvements did not reach statistical significance (*P*=0.059). In DAMD eyes, twice as many patients showed increase in VA (52%) compared to those showing deterioration (26%), with improvements being often sizeable, whereas deteriorations were usually very slight. In WAMD eyes, five of six (83%) patients showed an increase and none showed deterioration.

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CLINICAL STUDY

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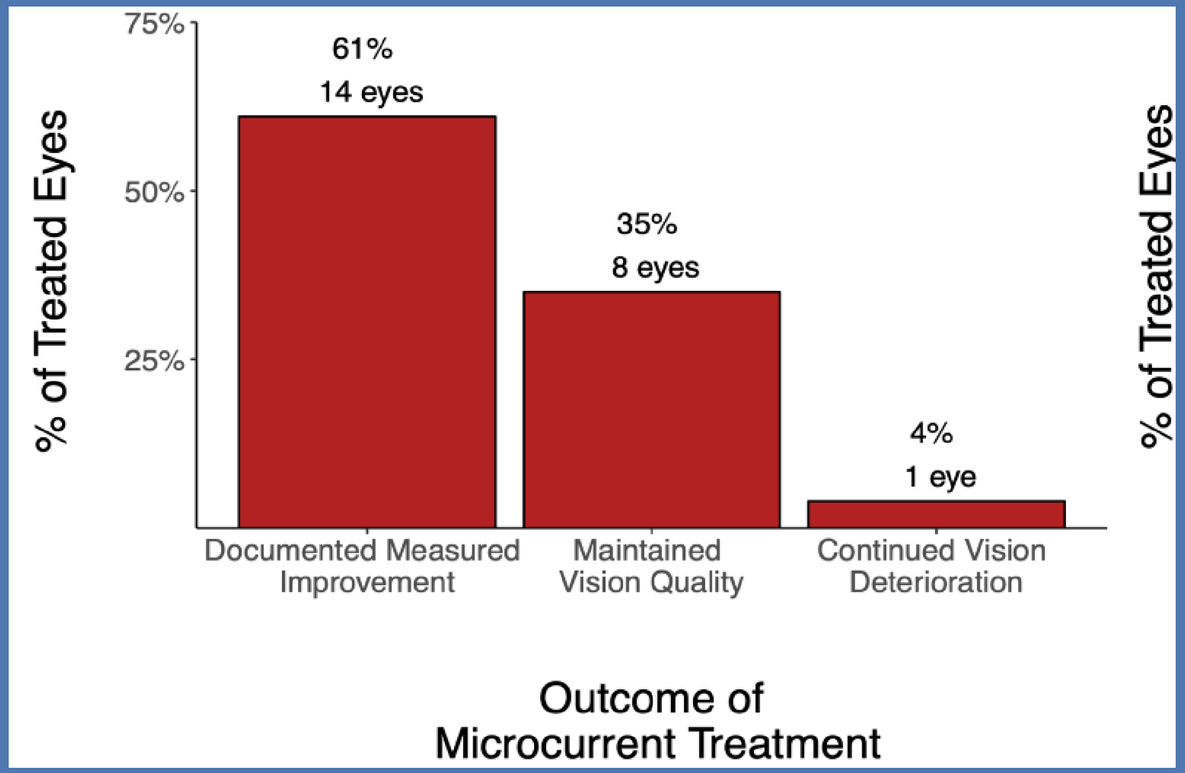

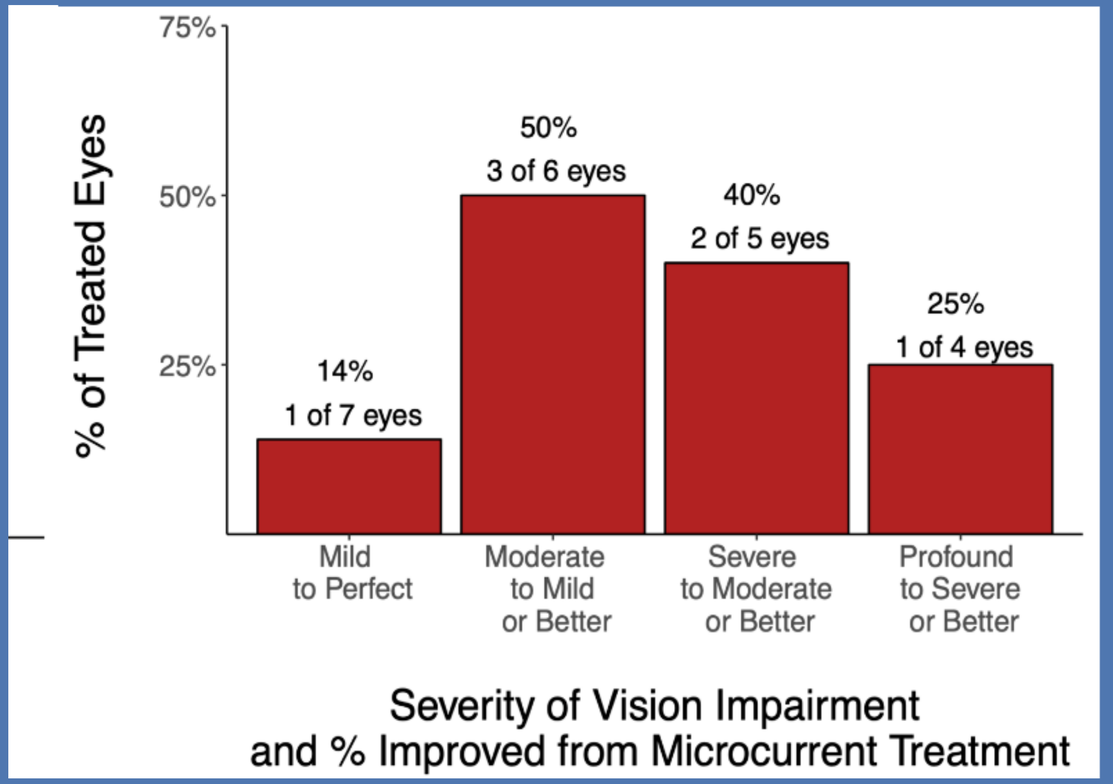

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CLINICAL STUDY

Acuity, Contrast, and Visual Field Improvement

Dr. Ed Kondrot 2011 and 2012

- ARMD Dry 70 patients
- ARMD Wet 20 patients
- Macular hole, Macular wrinkling, pucker 9 patients
- Stargardts 3 patients
- Cataracts 6 patients
- Ischemic Optic Nerve disease 4 patients
- Retinitis Pigmentosa 4 patients
- Diabetic Retinopathy- 3 patients
- Histoplasmosis scarring- 3 patients
- Cone Dystrophy- 1 patient

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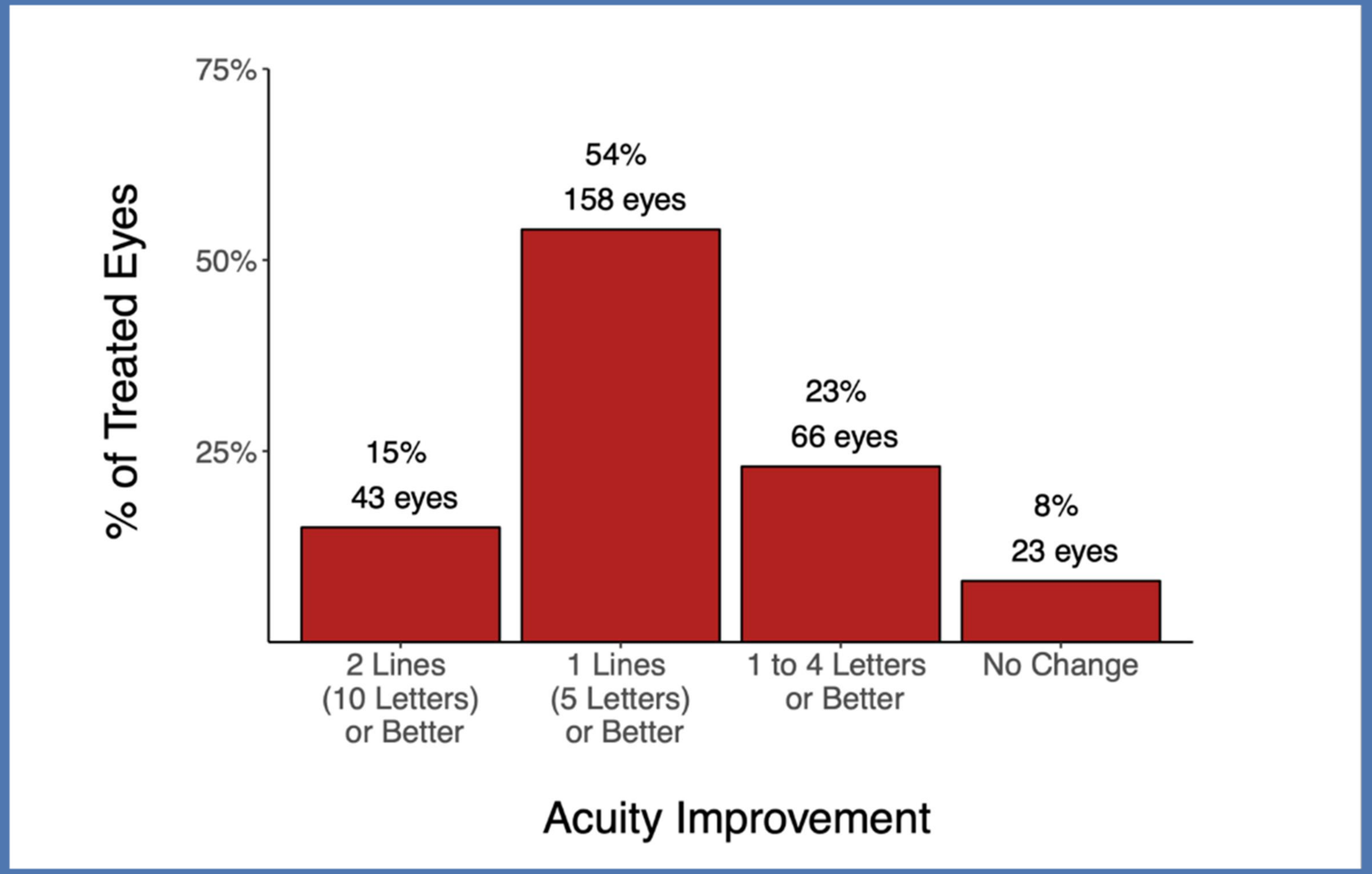
CLINICAL STUDY

Acuity Improvement

Dr. Ed Kondrot 2011/2012



Results of
152 patients
290 treated eyes

Improvement of acuity is listed in either lines (5 letters in a line) or letters better

Improvement of contrast is listed in the number of additional letters read

Minimal – 0 to 5 degrees expansion of the visual field

Moderate – 5 to 10 degrees

Marked – greater than 10 degrees

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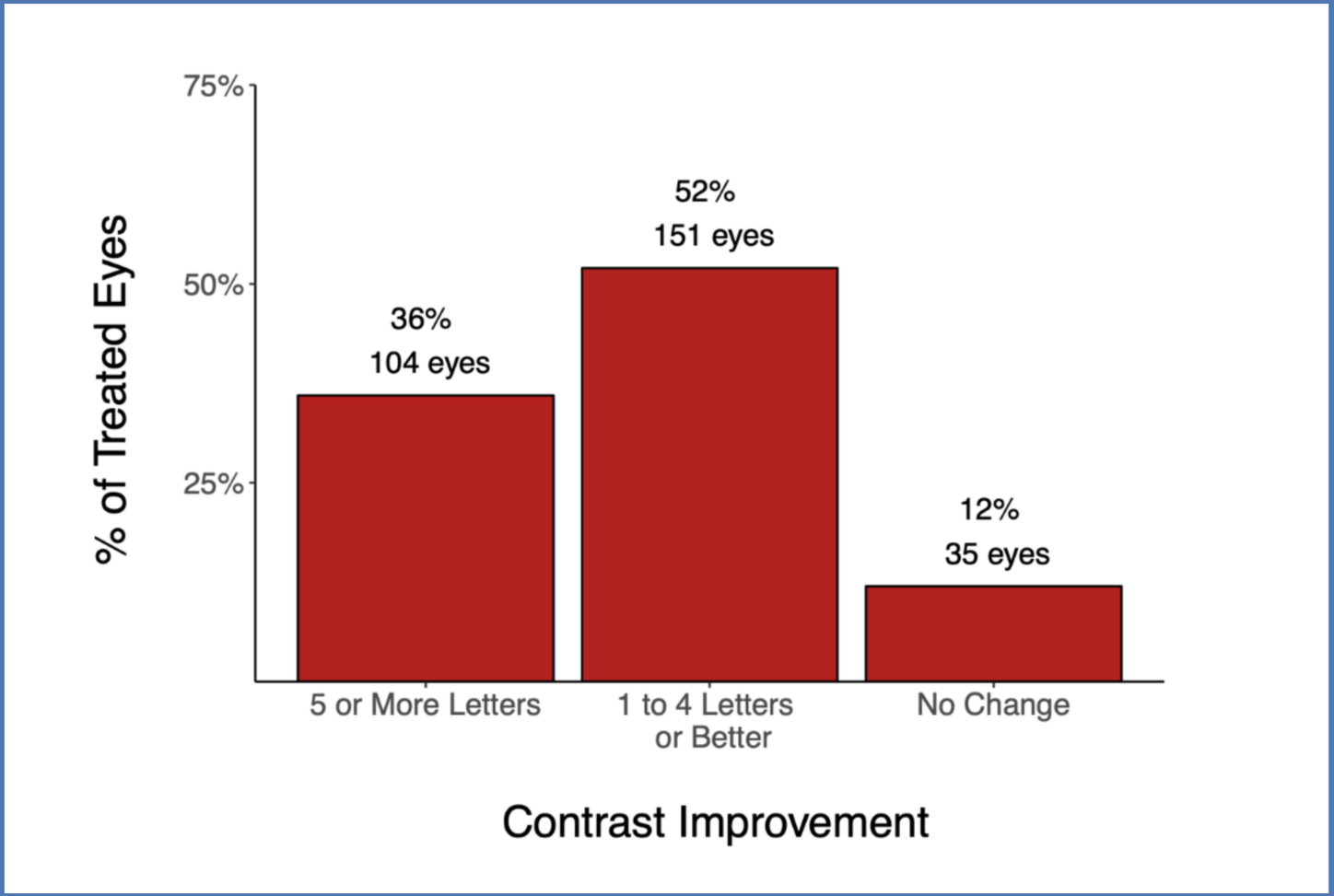
CLINICAL STUDY

Contrast Improvement

Dr. Ed Kondrot 2011/2012



Results of
152 patients
290 treated eyes

- 5 or more letters better 104 eyes 36%
- improvement of contrast is listed in the number of additional letters read

- Minimal – 0 to 5 degrees expansion of the visual field

- Moderate – 5 to 10 degrees

- Marked – greater than 10 degrees

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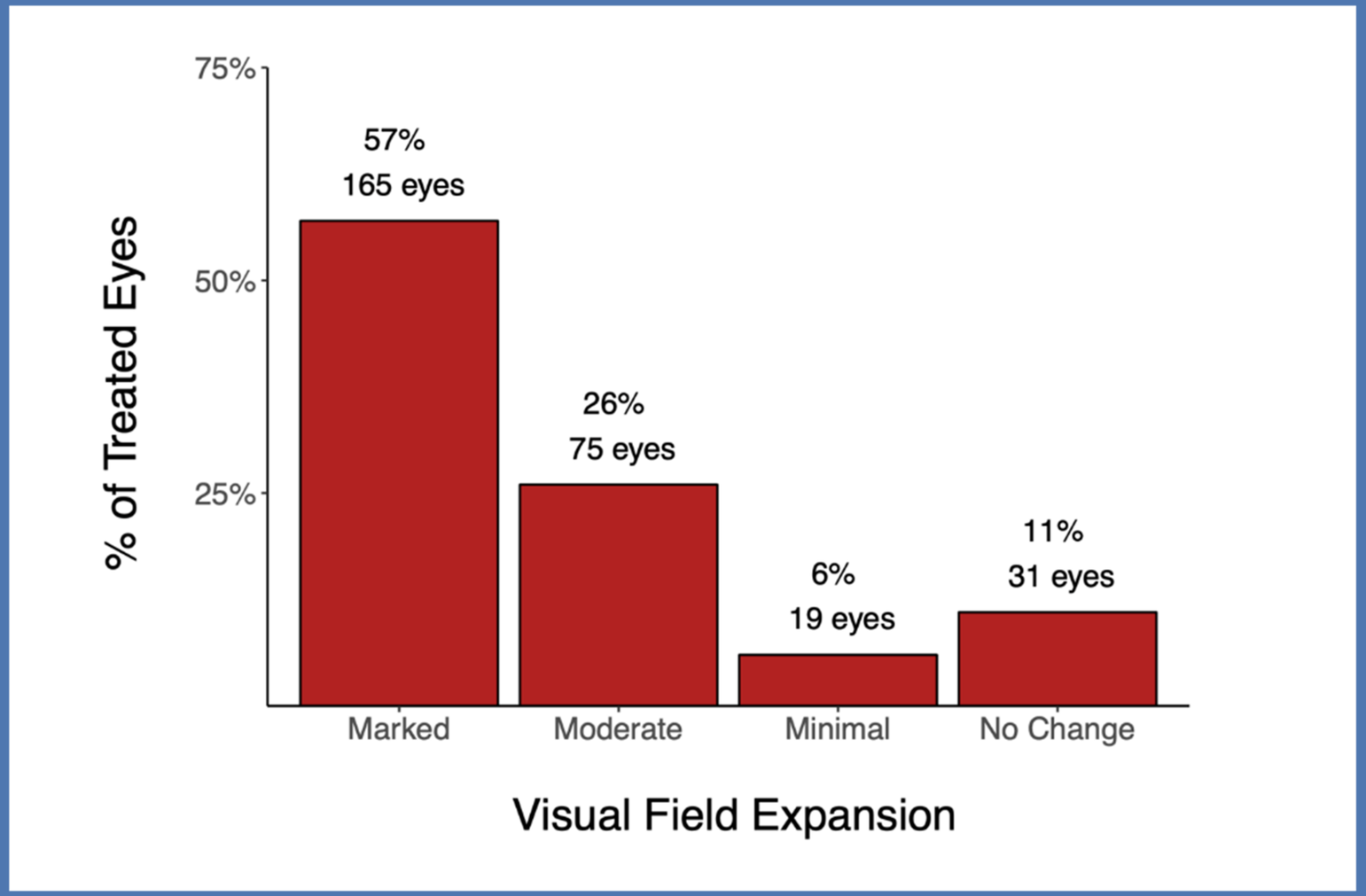
CLINICAL STUDY

Visual field Improvement

Dr. Ed Kondrot 2011/2012



Results of
152 patients
290 treated eyes

Marked 165 eyes 57%

Moderate 75 eyes 26%

Minimal 19 eyes 6%

No change 31 eyes 11%

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BUSINESS MODEL

- Complete safety animal and lab studies
- Complete first-in-human studies for non-invasive EyeCell
- Seek out strategic partner
- Complete pre-clinical safety and first-in-human studies for EyeCell Plus Biologics

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TRACTION

- Completed and published 20 patient microcurrent non-invasive study with Dr. Laurie Chaikin
- In collaboration with researchers that have completed over 100 registry patients
- Landed more than 500 related patent claims including inflammation control, klotho, stem cell homing
- Built and tested numerous non-invasive stimulation eye googles
- Developed hand-held portable stimulator with phone app connectivity

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UPCOMING MILESTONES

1Q 2022	File with IRB to complete new vision recovery non-invasive stimulation clinical study substantially following previously tested signals
2Q/3Q 2022	Complete additional safety animal and lab studies for new candidate signals and protein expressions
4Q 2022	Launch clinical study for EyeCell II with new signals
1Q 2023	Study EyeCell Plus Biologics in animals for safety
1Q 2024	Launch clinical early feasibility study for EyeCell plus biologics
3Q 2024	Secure a strategic partner for commercialization

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