

## HELEN KELLER FOUNDATION

For Research & Education

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FOR IMMEDIATE RELEASE

# HELEN KELLER FOUNDATION ANNOUNCES NEW RETINAL DETACHMENT PREVENTION BREAKTHROUGH

*Birmingham-based nonprofit publishes first strong proof  
that sight loss from retinal detachments can be prevented with laser treatments*

**Birmingham, Ala. – Jan. 25, 2023** – Following years of intense but inconclusive research by many investigators, the Helen Keller Foundation (HKF) today announced publication of the first strong proof that non-invasive laser treatments can reliably prevent most retinal detachments in eyes known to be at high risk.

The retina is the “film” lining the back eyewall. It receives light and sends nerve impulses to the brain to make vision. Retinal detachment is the leading cause of sudden sight loss in aging eyes, causing blindness if not effectively treated.

The emerging proof was published Dec. 23 in the journal “Clinical Ophthalmology.” HKF President Dr. Robert Morris summarized the results of the organization’s long-term study.

“It took 25 years and many investigators to adequately prove that bonding the entire peripheral retina to the eye wall with lasers could reliably prevent most tears that cause blinding retinal detachments,” said Morris. “We ‘connected the dots,’ showing that this research had finally reached the level of strong evidence. Surprisingly, the breakthrough proof that high risk eyes of older adults could likely be so protected came through the study of retinal detachments in Stickler syndrome, a rare, inherited disease affecting children and teenagers.”

Retinal detachments are most common in adults aged 50 and over, but detachments at all ages frequently share the same origins—peripheral retinal tears, enabling fluid to seep beneath the retina, floating it away from the eyewall. Tears are caused by movements of the vitreous gel that, with age, becomes more mobile inside the eye. In Stickler eyes the vitreous gel is mobile from birth, producing a high detachment rate from infancy onward.

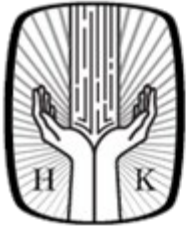
Convincing proof of “cause and effect” from preventively treating high risk eyes in older adults, before they became symptomatic, alluded research physicians for decades. It was difficult to show which eyes were truly at high risk, and to determine the amount of risk they faced. This made it impossible to document a preventive treatment effect to the degree of statistical certainty now required for broad acceptance of new treatments in modern medicine.

But these difficulties were not present in Stickler children and teenagers, since at-risk individuals were easily identified by genetic testing, family medical history, and eye examinations. And their risk of retinal detachment was known to be extremely high. Remarkably, research showed that encircling laser bonding in Stickler eyes reduced retinal detachment up to 10-fold, spanning all reports.

“There is every reason to expect that similar success with encircling laser treatment will be achieved in older adults at high risk, since they share the same cause—peripheral retinal tears,” said Dr. Ferenc Kuhn, HKF Director of Research. “This is especially true because treatment prevented even the giant retinal tears frequently seen in Stickler syndrome eyes, and the retinal tears seen in most adult eyes are smaller, fewer, and generally more peripheral.”

Morris explained how earlier studies also factored in the recent findings.

“We owe a debt of gratitude to the group of physicians from Cambridge, England, who pioneered retinal detachment prevention in Stickler syndrome using cryotherapy, before effective laser treatment was available,” said Morris. “Amazingly, their efforts began 40 years before our publication in Jan. 2021 of the first modern laser delivery technique that prevented detachments in all treated Stickler eyes. Although cryotherapy has been largely superseded by laser treatment, all subsequent reports of equivalent laser treatment continue to draw strength from their meticulous statistical methodology.”



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Three reports from the United States and England during 2022 have since confirmed the safety and efficacy of encircling laser prevention in Stickler syndrome.

The Foundation's December publication analyzes the history of retinal detachment prevention efforts, considering the recent Stickler syndrome success. It then points the way to future retinal detachment prevention for high-risk eyes in all age groups, especially for those who have already lost vision from retinal detachment in one eye and are eager to avoid detachment in the second eye.

"The problem still confronting individual doctors and their adult patients remains identifying which eyes are at sufficiently high risk to require preventive laser treatment," said Morris. "But we now know that safe and effective prevention is possible, and that it is achieved by carefully applying laser light to the peripheral retina, 360 degrees, with no incision needed."

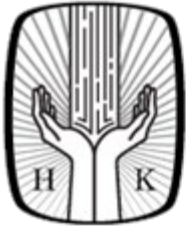
"Our conclusions are subject to continuing medical peer review, starting with this publication," added Morris. "But the ultimate judgement will be made by each appropriately informed patient who faces a high risk of retinal detachment and chooses preventive laser treatment or continued observation. And that's how it should be."

The breakthrough published in December joins a growing list of accomplishments spanning the 33-year history of the Helen Keller Foundation for Research and Education, which include:

- Created a technique (ILM removal) that revolutionized surgery on the macula, the human center of vision, now used worldwide
- Developed the Birmingham Eye Trauma Terminology (BETT) standardizing the language for ocular trauma used worldwide
- Inspired the development of ocular traumatology (eye injury) as a new subspecialty of ophthalmology, resulting in the naming of Dr. Ferenc Kuhn as "the Father of Modern Ocular Traumatology"
- Proved that the recently injured eye with no light perception (NLP) can often be restored to useful vision instead of being abandoned or removed
- Defined the disease of Degenerative Vitreous Syndrome (extensive floaters) describing a safe surgical technique for its treatment and earning the Buckler Award for best video from the American Society of Retina Specialists in 2007 (see [www.FloaterStories.com](http://www.FloaterStories.com))
- Published a new treatment paradigm "Complete and Early Vitrectomy for Endophthalmitis" (CEVE) that improved salvage of reading vision by 50% in eyes suffering severe infection after cataract surgery
- Reported an operation named "Mobilize and Move Vitrectomy" to optimally restore vision to macular degeneration patients who suffer sudden, complete loss of central vision due to sub-macular bleeding
- Created the Helen Keller Prize for Vision Research, for a quarter century arguably the premier honor for vision researchers worldwide

### **About Helen Keller Foundation**

Named for the global icon for courage and hope, and the first blind-deaf person to effectively communicate with the sighted and hearing world, the Helen Keller Foundation for Research and Education was created by her descendants in 1990 in Birmingham, Ala., in her home state. Through modern biomedical research, the Foundation pursues Keller's goal to "Help me hasten the day when there shall be no preventable blindness." The Foundation also teaches character education in approximately 300 schools annually - based on Helen's childhood victory over blindness and deafness, made famous by the play "The Miracle Worker." See the possibilities at [HelenKellerFoundation.org](http://HelenKellerFoundation.org).

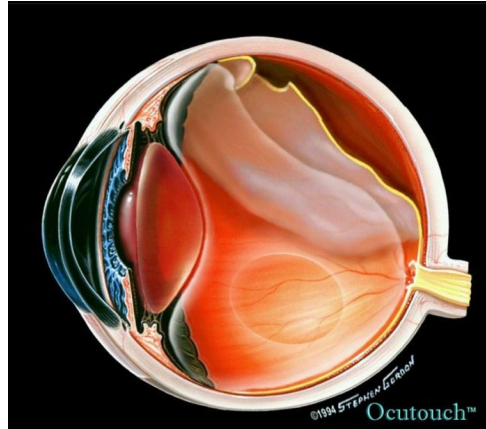


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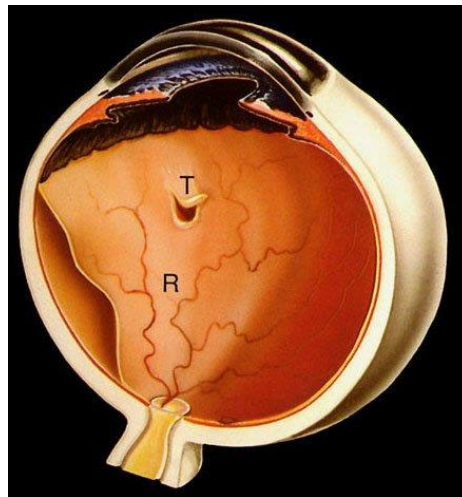
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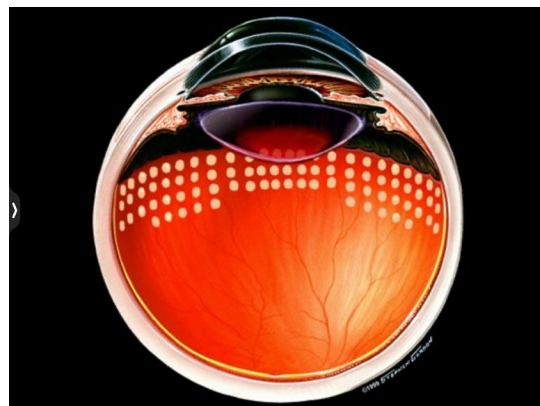
### 1. VITREOUS GEL TRACTION CAUSING RETINAL TEAR AND DETACHMENT



### 2. PERIPHERAL RETINAL TEAR CAUSING RETINAL DETACHMENT



### 3. ENCIRCLING LASER TREATMENT TO PREVENT PERIPHERAL RETINAL TEARS





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## 4 HELEN KELLER “TALKS” WITH PRESIDENT KENNEDY, AIDED BY POLLY THOMPSON



## 5 VIDEO IDO LASER DELIVERY Video 1 (with permission of Retina Specialists of Alabama, LLC)

## 6 VIDEO STICKLER PATIENT Video 2 (with permission of Gene Wyatt)