

GLAUCOMA
RESEARCH FOUNDATION

GLEAMS

A PUBLICATION FOR THE FRIENDS AND COLLEAGUES OF GLAUCOMA RESEARCH FOUNDATION
JANUARY 2023 • VOLUME 40, NUMBER 2



FEATURE STORY

Low Vision Tips for Living with
Glaucoma
page 2

SPOTLIGHT ON RESEARCH

Update: Catalyst for a Cure Vision
Restoration Initiative
page 3

QUESTIONS & ANSWERS

Is There a Safe Stem-cell Treatment
for Glaucoma in 2023?
page 4

www.glaucoma.org

LOW VISION TIPS FOR LIVING WITH GLAUCOMA GETTING ORGANIZED

AND BEING DILIGENT ABOUT EVERYDAY SAFETY TIPS CAN HELP YOU TO MAINTAIN YOUR INDEPENDENCE WHILE LIVING WITH GLAUCOMA.

Tips to help you adjust to the visual difficulties caused by glaucoma

- **Improve Task Lighting** — Add additional light for specific tasks such as reading. Use directed lighting from behind the shoulder to reduce glare.
- **Increase Contrast** — Pour your coffee into a white cup, and your cereal into a dark bowl. Set white plates on dark place mats. Use a black cutting board for white onions and a white cutting board for dark-colored foods. Use felt tip pens instead of ball point pens.
- **Control Glare** — Wear amber or dark yellow glasses or clip-ons to reduce glare and wear a cap with a brim or a visor outside. Cover shiny surfaces with a cloth.
- **Enlarge Text** — Request large-size checks from your bank. Use large print crossword puzzles and playing cards. Photocopy and enlarge favorite recipes, addresses, and take-out menus. Use the accessibility features on Macintosh and Windows computers and tablets.
- **Install Additional Lighting** — People with glaucoma often have trouble adjusting to darkness or darkened rooms. Install additional lighting to increase illumination in dark closets or hallways. When outdoors at night, carry a strong flashlight.
- **Keep home pathways and work areas free of extra floor coverings** — Area rugs can sometimes pose a hazard for people with low vision.
- **Mark Treads and Handrails** — Loss of peripheral vision and reduced contrast sensitivity can make it challenging to see steps and stairways. Marking treads and handrails with contrasting colored paint or tape can help improve navigation and reduce the risk of falling.
- **Close kitchen and bathroom cabinets**, especially those above countertops. It can also help to make sure doors are either all the way open or shut. These safety techniques can significantly reduce the risk of head injury.
- **Before you reach down to pick up a dropped object, place your hand, palm out**, about 12 inches in front of your face to make sure you don't hit the edges of tables or countertops with your forehead.
- **Mark and label key positions** on your stove, microwave oven, washing machine, and thermostat with dimensional fabric paint or nail polish so you can feel the correct positions.
- **Listen to Audio Books, or books on tape or CD** borrowed from your local library, or from the free Talking Books program sponsored by the National Library Service.

Update from the Catalyst for a Cure Vision Restoration Initiative

The Steven and Michele Kirsch Catalyst for a Cure Vision Restoration research team is exploring and developing novel strategies to protect, repair, and replace lost retinal nerve cells and help them reconnect with the visual brain.

One strategy for vision restoration in patients with advanced glaucoma is to transplant in new optic nerve cells derived from stem cells. In the past, this approach has been hampered by the poor survival of transplanted cells.

The Catalyst for a Cure Vision Restoration team has identified a set of three genes that, when inhibited, improve the survival of optic nerve cells in models of glaucoma. Recently, the team has demonstrated that this same approach (of inhibiting these three genes) can be used to dramatically improve the survival of *transplanted* optic nerve cells.

In addition, using a new screening approach in models of glaucoma, the team identified a set of genes that can promote optic nerve survival and regeneration. They identified potentially harmful genes that need to be “turned off” and protective genes that need to be “turned on.” Combining these two leads might further improve optic nerve regeneration and optic nerve cell transplantation.

Moreover, for those patients who have not completely lost vision, these approaches represent unique opportunities to slow or halt the degenerative process to preserve and maintain vision.



The principal investigators in the Steven and Michele Kirsch Catalyst for a Cure Vision Restoration Initiative are (from left to right): Yang Hu, MD, PhD (*Stanford*), Anna La Torre, PhD (*UC Davis*), Derek Welsbie, MD, PhD (*UC San Diego*), and Xin Duan, PhD (*UC San Francisco*)

Q&A

Stem-cell Therapy

Is there a safe stem-cell treatment for glaucoma in 2023? Jeffrey Goldberg, MD, PhD, reviews recent research progress and explains the potential risks.



Jeffrey L. Goldberg, MD, PhD, is Professor and Chair of Ophthalmology at the Byers Eye Institute at Stanford University School of Medicine and serves as a scientific advisor for the Catalyst for a Cure Vision Restoration Initiative.

Q Are we making progress towards stem cell treatments for glaucoma?

A We’ve made a LOT of progress in the laboratory towards cell therapy for glaucoma. We have largely figured out how to turn human stem cells into human RGCs in the lab dish, and we can characterize their function and anatomy with ultrafine molecular detail. Furthermore, human RGC transplants into preclinical model animals with glaucoma or related eye diseases similar to human disease are making more and more progress, showing more promise—although there is still more science to solve.

One other area worth highlighting is the progress in converting cells in the retina into replacement RGCs using gene therapy. The science on harnessing our so-called “endogenous stem cells” is proceeding rapidly.

Q Are there any safe stem-cell treatments available yet for glaucoma?

A Here I must continue to counsel patients, we’re not ready for safe patient testing yet. A few tentative clinical trials for eye diseases other than glaucoma have started

in the U.S. Because the FDA is not able to oversee and block rogue stem-cell clinics from operating, patients are at significant risk of being duped into trying unsafe products at the hands of questionable practitioners.

Q What are the risks of unapproved stem-cell treatment?

A The risks are significant, and at the worst include blindness (we published a case series of these from a clinic in Florida) or cancer (we just treated a patient with tumors caused by stem cell injections abroad). Rogue clinics generally charge patients exorbitant fees in the thousands of dollars, so patients are at risk of losing their money as well as their eyesight.

Q What questions should I ask if I’m considering stem-cell therapy?

A I would confirm in writing that what a patient is being offered (1) has been published in peer-reviewed articles in reputable journals; (2) is part of a clinical trial found on clinicaltrials.gov; (3) is a registered trial with the FDA (and has an “IND” number assigned); and (4) does not cost them any money.

IN APPRECIATION

We are grateful for the generous and loyal support from all our donors. Following is a listing of recent contributions and pledges at the \$1,000 level and above. Please note these are *new* contributions and pledges received between July 1, 2022 and October 31, 2022 and will not reflect a donor's cumulative giving for the year.

Our President's Circle recognizes annual donors of \$10,000 or more. To learn more about the benefits of this level and the impact your investment can make, please call us at 415-986-3162, ext. 231.

President's Circle

CORNERSTONE (\$1,000,000+)

Mr. and Mrs. F.T. Barr

VISIONARIES (\$200,000 – \$999,999)

The Donald & Renee Gruen Trust

BENEFACTORS (\$100,000 – \$199,999)

Forster Family Foundation, Inc.

FOUNDERS (\$50,000 – \$99,999)

Barry Friedberg and Charlotte Moss

Marjorie O'Rorke Estate

Charles Dale Raver Estate

INNOVATORS (\$25,000 – \$49,999)

Allergan, Inc.

Bausch + Lomb

Molly and David E.I. Pyott

Santen, Inc.

PACESETTERS (\$10,000 – \$24,999)

Marilyn I. Bardelli Revocable Trust

Lori and Allen Bouch

Frederick H. and Cindy Brinkmann

Heidelberg Engineering, Inc.

Elizabeth Heim & Margaret Rigby

Memorial Fund

Icare USA, Inc.

Gail and Fred Kittler

New World Medical, Inc.

Barbara and Emery G. Olcott

Margaret A. Wilson

Catalyst Circle

\$5,000 – \$9,999

Paul J. Balfe

Wallace and Thomas M. Brunner

Rupa D. Dharía

Adrienne L. Graves, PhD

Andrew G. Iwach, MD

Daniel Latner

Medical Research Charities

MyEyes

Nicox S.A.

Nidek, Inc.

John E. Olsen

Ernest and Geraldine Smith

Thea Pharma, Inc.

Israel Trevino

Jane Weston, MD and Jan Horn, MD

Catherine and Charles Wilmoth

The Richard H. Yearick Foundation

\$1,000 – \$4,999

Shirley D. Aughtry

G. Victoria Babish

Bank of America Matching Gifts

Sharon L. Barlow

David L. Belling

Donna and Brad Bosley

Boston Scientific

Ann Moller Caen

Michael and Doreen Cohen

George G. Conner

The Demmy Bowden Charitable Fund

Rupa D. Dharía

Everlake Life Insurance Company

Linda and Bill Hambley

Bruce C. Hermann

Jerry J. Hornstein, in memory of Marie

Dr. and Mrs. J. Kerry Howell

JTZ IV Fund of the Community

Foundation for the Fox Valley Region

Sherryl A. Kumli

Lillian Lessler

Sylvia Z. Levien

Theda M. Lord

John McCormick

Neighbor To Nation

Carol and William North

Ophthalmic Mutual Insurance

Company

Estate of Thomas Parissidi

Julie Pidgeon

Robert L. Pondelicek

Deirdre Porter

Regina M. Purin

Richard and Susan Randolph

Jason Rodrigues

Roberta Rosell

JoEllen and Jim Rudolph

M. Duane Rutledge

H. Anna Sanders

Arthur and Linda Schwartz Family Fund

Jody Smyers

The Wilmoth Family

When Christopher Wilmoth was diagnosed with glaucoma at just six months old, the fight to save his sight became a family affair.

Charlie and Cathy Wilmoth, along with their other two children Tess and Cate, came to understand that someday, glaucoma could steal Christopher's sight. Determined to make a difference, Tess and Cate began saving money from lemonade stands and birthday parties to support GRF's quest for a cure.

Charlie Wilmoth has long served on the Glaucoma Research Foundation Board of Directors and was honored at GRF's 2020 Gala with the President's Award. Charlie and Cathy continue to be generous donors and volunteers, and will host Glaucoma Research Foundation's 2023 Annual Gala.

"When I look at how far we've come, I'm optimistic that there will be a breakthrough during Christopher's lifetime," says Charlie.



Pictured left to right: Cathy, Charlie, and Christopher Wilmoth with Tom Brunner

Screen, Protect, Cure Campaign



In honor of Glaucoma Awareness Month, our friends at Bausch + Lomb have generously partnered with us to help spread glaucoma awareness throughout January.

The Screen, Protect, Cure campaign aims to educate the public about glaucoma, promote annual eye screenings and empower people to join Glaucoma Research Foundation's fight for a cure.

Bausch + Lomb have committed to matching every dollar raised through the Screen, Protect, Cure campaign up to \$20,000 throughout the month of January. Proceeds will support Glaucoma Research Foundation's mission to cure glaucoma and restore vision through our innovative research programs including the Catalyst for a Cure Vision Restoration and Neurodegeneration initiatives.

Be sure to visit the Screen, Protect, Cure website at [glaucoma.org/screen-protect-cure](https://www.glaucoma.org/screen-protect-cure) to find out more about how you can get involved in Glaucoma Awareness Month and join us on our quest for a cure.

Top 3 Pieces of Advice from a Glaucoma Specialist

- **Accept the disease.** When you have been diagnosed from a trusted doctor that you have glaucoma, glaucoma doesn't go away, and it won't go on pause just because you're not ready to accept it. If you can accept the disease, now you can take more control and be your own advocate.
- **Show up and be present.** Don't miss your regular eye exams. Even if your glaucoma seems to be doing fine and you're under good care from an eye doctor, glaucoma can change without warning. There might be a need to adjust your treatment. If you don't show up for your eye exams, things can change, and sometimes in an irreversible way, so it's important to show up.
- **Speak out.** Be present and ask questions. It's your eyes and your vision, so you have a right to know what's going on. It's okay to ask questions. Ask the doctor, "Is my treatment on target or has anything changed?" The more that you understand what's happening with your eyes, the more that you can participate in preserving your vision.

It's also important to speak to your family members. Glaucoma is hereditary, and your family members are also at risk for glaucoma if you have it. If you don't tell them, you're doing them a disservice, because the earlier they find out, the easier it is for them to get treatment. Glaucoma risk in families is 4 to 9 times higher. Anyone who is a blood relative is at increased risk. Let your family members know that you have glaucoma, that they may be at risk, and encourage them to have their eyes screened specifically for glaucoma. You might very well be giving them the gift of sight.

Words of advice in this article are from excerpts from Dr. Okeke's new book, "The Glaucoma Guidebook: Expert Advice on Maintaining Healthy Vision." It's an easy-to-read yet thorough guide to understanding and managing glaucoma and taking action to care for your vision. Link to order from Amazon.com: <https://amzn.to/3z3TPCK>



CONSTANCE OKEKE, MD, MSCE

Constance Okeke, MD, MSCE is an assistant professor of ophthalmology at Eastern Virginia Medical School in Norfolk, VA, and a glaucoma specialist and cataract surgeon at Virginia Eye Consultants.

BOARD OF DIRECTORS

Board Chair

Andrew G. Iwach, MD

President and CEO

Thomas M. Brunner

Vice Chair

Ruth D. Williams, MD

Secretary

Rick Halprin, CPA

Treasurer

Charles R. Wilmoth

Frederick H. Brinkmann

John G. Flanagan, PhD, DSc, FCOptom

Nancy S. Forster

Adrienne L. Graves, PhD

Linda C. Linck

Terri-Diann Pickering, MD

Dennis E. Singleton

Oluwatosin U. Smith, MD

Robert L. Stamper, MD

FOUNDERS

John Hetherington, Jr., MD
(1930 - 2020)

Director Emeritus

H. Dunbar Hoskins, Jr., MD

Robert N. Shaffer, MD
(1912 - 2007)

GLEAMS EDITORIAL BOARD

Editor in Chief

Sunita Radhakrishnan, MD

Science Editors

Tonia S. Rex, PhD

Derek S. Welsbie, MD, PhD

Medical Editors

Amish Doshi, MD

Terri-Diann Pickering, MD

Michael Sakamoto, MD

Robert Stamper, MD

Staff Editor

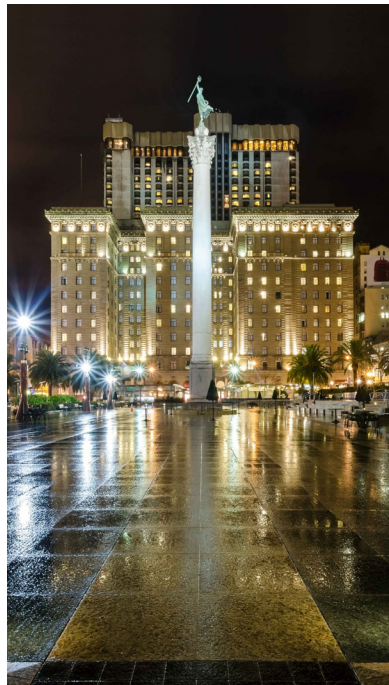
Andrew L. Jackson

GLEAMS

Glaucoma Research Foundation
251 Post Street, Suite 600
San Francisco, CA 94108

NON-PROFIT ORG
US POSTAGE
PAID
PERMIT NO 379
OAKLAND, CA

RETURN SERVICE REQUESTED



2023 GLAUCOMA 360

LEARN MORE AND REGISTER AT
WWW.GLAUCOMA360.ORG

February 2, 2023: Annual Gala
February 3, 2023: New Horizons Forum
February 4, 2023: Glaucoma Symposia

Glams is published three times a year by Glaucoma Research Foundation. 251 Post Street, Suite 600, San Francisco, CA 94108 Web: www.glaucoma.org Telephone: 415-986-3162 Toll Free: 800-826-6693 Email: gleams@glaucoma.org To unsubscribe, call 1-800-826-6693 or email "unsubscribe" to gleams@glaucoma.org.

©2023 by Glaucoma Research Foundation. All rights reserved. No parts of this publication may be reproduced without permission from the publisher. Glams articles are intended to help readers understand glaucoma. Every effort is made to assure the accuracy of this information. This information is not a substitute for the advice and recommendations of a health professional. Always consult a health professional prior to any decision regarding your eyes or other health concerns. ISSN #1072-7906