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LASER IRIDOTOMY: FREQUENTLY ASKED QUESTIONS

LASER PERIPHERAL IRIDOTOMY IS THE STANDARD FIRST-LINE TREATMENT IN CLOSED ANGLE GLAUCOMA AND EYES AT RISK FOR THIS CONDITION. IT HAS BEEN USED SINCE 1984 BOTH AS TREATMENT AND PREVENTION OF THE DISEASE.

WHO IS A CANDIDATE FOR LASER IRIDOTOMY?
It is recommended in eyes which have the angle closed for at least half the eye and have high eye pressure or glaucoma. In eyes which have a closed angle but normal eye pressure and no optic nerve damage, laser iridotomy may be recommended as a preventive treatment. (In a recent large prospective study of such eyes, it was shown that there was overall a low risk of developing high eye pressure, but the risk was lower among eyes that received laser iridotomy compared to those that did not).

WHAT SHOULD I EXPECT DURING THE PROCEDURE?
The eye is usually pretreated about half an hour before the procedure with drops that make the pupil small. Just before the procedure, anesthetic drops are placed to numb the surface of the eye, a lens is then placed on the eye to perform the laser. The procedure usually takes 5-10 minutes and some patients may experience minor pain.

WHAT SHOULD I EXPECT AFTER THE PROCEDURE?
There is temporary blurriness of vision. The eye may be a little red, light sensitive, and/or uncomfortable, and there may also be a mild headache due to the eyedrops given before the laser. The eye pressure is usually assessed within 30 minutes to 2 hours after the laser and anti-inflammatory eyedrops are usually prescribed for a few days.

WHAT ARE THE RISKS?
Possible risks include rise in eye pressure, bleeding at the laser site, and inflammation; these are usually temporary. Closure of the iridotomy may occur, requiring retreatment. Extra visual images including bright lights or flashes, or double vision in the treated eye, may rarely occur.

WHAT HAPPENS IF IT DOESN’T WORK?
In about 25% of cases, the angle may not open. Depending on the situation, some patients might need further laser procedures, medical treatment, or surgery. It may be possible that your ophthalmologist suggests close follow up.

IF I HAVE GLAUCOMA, WILL I STILL NEED TO USE MY GLAUCOMA MEDICATIONS?
Yes. Laser iridotomy is not a substitute for glaucoma eye drops in most cases if the patient is already on medication prior to the procedure.

HOW LONG DOES THE EFFECT LAST?
Although the angle widens in most cases after laser, normal age-related changes may subsequently alter the angle region. Cataract formation could close the angle again and cataract extraction may be required.

Shan Lin, MD, is a glaucoma specialist at the Glaucoma Center of San Francisco. Dr. Lin specializes in glaucoma and cataract surgery, and in his research, he studies new medications for the treatment of progressive glaucoma and ocular hypertension.
Catalyst for a Cure Research Progress Report

Glaucoma is a disease in which the nerve cells that connect the eye to the brain degenerate over time. There are about a million of these nerve cells in each eye, and as they’re lost in glaucoma, patients can eventually experience loss of vision. All current glaucoma treatments are aimed at lowering intraocular pressure (IOP) to slow the optic nerve degeneration, but for those patients who have already lost nerve cells and who have already lost vision, there are no treatments to restore sight.

The goal of the Catalyst for a Cure (CFC) Vision Restoration Initiative is to come up with a novel strategy to be able to save or replace those lost nerve cells and reconnect them to the brain. In the central nervous system, including in glaucoma, once nerve cells are lost, they do not grow back, and thus there is no natural ability to reconnect to the brain. Making this connection from the eye to the brain will be one of the most challenging goals that the CFC team will face in its quest to restore vision lost from glaucoma.

The approach that the Catalyst for a Cure team is taking is to try to restore or replenish the nerve cells that are lost due to glaucoma progression. First, they are trying to determine the right type of cell to put back into the retina to replenish lost nerve cells. Second, they need that cell to survive and to make all the appropriate connections in the eye. And third, that cell then needs to grow its fiber all the way back across the optic nerve and connect to the right areas of the brain. All three stages to the challenge are necessary to restore vision, and that is why the CFC team has researchers with diverse expertise to be able to tackle each of these challenges.

In the coming year, the CFC team plans to develop and test regenerative therapies focused on retinal ganglion cell transplantation and axon regeneration, and also to work on developing new neuroprotective and neuroenhancement therapies.

The Catalyst for a Cure principal investigators are Derek Welsbie, MD, PhD, Anna La Torre, PhD, Xin Duan, PhD, and Yang Hu, MD, PhD
Q & A

CHILDHOOD GLAUCOMA: what it is, how to know if your child has it, and what to do if you think your child has it.

Q What are the types of childhood glaucoma?
A Childhood glaucoma resulting from abnormal development of the eye’s aqueous outflow system is often categorized based on the age of onset. Primary Congenital Glaucoma develops from birth to 3 years of age and Juvenile open-angle glaucoma develops after age 3.

Childhood glaucoma may also result from secondary causes such as eye trauma, and inflammation, or may develop following cataract removal, or following treatment with steroids.

Q How do I know if my child has glaucoma?
A Children with Primary Congenital Glaucoma are most often diagnosed within the first year of life. Signs to look for include excessive tearing, large eyes, cloudy corneas, hiding from bright light, and squeezing the eyelids. It is often first noticed when an acquaintance is shown photographs and they comment on very large-appearing eyes.

Older children with Juvenile glaucoma are typically asymptomatic like adults but may be able to describe their ocular discomfort related to an underlying condition causing the glaucoma. Symptoms and signs to look for include sensitivity to light, vision loss, problems adjusting to the dark, head or eye pain, and consistently red eyes.

Q What should I do if I think my child may have glaucoma?
A The key to successful preservation of your child’s vision is early diagnosis and treatment. Parents should take their child to an ophthalmologist (pediatric ophthalmologist if available) if they notice the above symptoms/signs or if there is any reason to suspect that something might be wrong with their child’s eyes. Timely diagnosis and appropriate care offer the best chances of preventing vision loss.

Treatments for childhood glaucoma include medications and surgery. Regular follow-up is essential. With timely and ongoing care, many children go on to live normal lives with good vision.

Robert M. Feldman, MD
Professor, McGovern Medical School, Ruiz Department of Ophthalmology and Visual Sciences, University of Texas Health Sciences Center Houston, Texas.
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; including members of The Catalyst Circle and institutional donors. Please note these are new contributions and pledges received for The Cure is in Sight Campaign between November 1, 2019 and February 29, 2020 and will not reflect a donor’s cumulative giving for the year.

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SPONSORS ($5,000 to $9,999)

PRESIDENT’S CLUB ($1,000 to $4,999)
The annual Glaucoma 360 Gala at the Grand Hyatt San Francisco honored leaders in glaucoma research innovation and visionary glaucoma advocates helping to raise awareness.

From February 6 to 8, 2020, Glaucoma Research Foundation hosted a three-day series of events dedicated to speeding the development of new therapies for glaucoma patients. The gala and live auction raised nearly $700,000 to support Glaucoma Research Foundation’s innovative research and education programs.

During gala ceremonies, the Visionary Award was presented to Paul Sieving, MD, PhD in honor of his exceptional leadership of the National Eye Institute, and GRF honored Vicente Anido, Jr, PhD and Thomas A. Mitro from Aerie Pharmaceuticals, Inc., with the 2020 Catalyst Award. The President’s Award was presented to The Wilmoth Family of Mill Valley, CA. This year’s gala was co-chaired by Michele and Steven Kirsch.

In addition to the Annual Gala on Thursday evening, Glaucoma 360 includes the New Horizons Forum on Friday, and continuing education symposia for ophthalmologists and optometrists on Saturday.

Pictured from left:
The 2020 Catalyst Award was presented to Thomas A. Mitro and Casey Kopczynski, PhD by GRF Board member Adrienne Graves, PhD; Paul Sieving, MD, PhD received the Visionary Award from GRF Board Chair Andrew Iwach, MD.

Pictured from left:
The Wilmoth Family (Catherine, Charles, and Christopher [Cate and Tess not pictured]) received the President’s Award from GRF President and CEO Thomas M. Brunner; The 2020 Shaffer Research Prize was awarded to Dorota Skowronska-Krawczyk, PhD by David J. Calkins, PhD.
**SHAFFER GRANTS**

The 2020 Shaffer Grants for Innovative Glaucoma Research are made possible through generous philanthropic support including leadership gifts from the Frank Stein and Paul S. May Grants for Innovative Glaucoma Research, the Edward Joseph Daly Foundation, the Dr. Henry A. Sutro Family Grant for Research, Dr. James and Elizabeth Wise, and The Dr. Miriam Yelsky Memorial Research Grant. All one-year research grants are in the amount of $50,000. Below are the 2020 recipients.

- **Steven Bassnett, PhD**
  Washington University School of Medicine
  PROJECT: Role of LOXL1 Propeptide Aggregation in Pseudoexfoliation Glaucoma

- **Stewart Bloomfield, PhD**
  State University of New York College of Optometry
  PROJECT: Retinal Gap Junctions Form Novel Targets for Neuroprotective Therapy in Glaucoma

- **Alex Huang, MD, PhD**
  Doheny Eye Institute
  PROJECT: Investigating Subconjuctival Lymphatics for the Treatment of Glaucoma and Eye Disorders

- **Tatjana Jakobs, MD**
  Schepens Eye Research Institute
  PROJECT: The Transcription Factor Runx1 as a Novel Mediator of Astrocyte Reactivity in the Optic Nerve

- **Rachel Kuchtey, MD, PhD**
  Vanderbilt Eye Institute
  PROJECT: Investigation of Ocular Biomechanical Defects in Mice with Microfibril and Elastic Fiber Defects

- **Herbert Lachman, MD**
  Albert Einstein College of Medicine
  PROJECT: Gene Expression Profiling in Trabecular Meshwork Cells derived from Induced Pluripotent Stem Cells made from Patients with Lowe Syndrome, a Genetic Disorder that causes Cataracts and Glaucoma

- **Matthew B. Veldman, PhD**
  Medical College of Wisconsin
  PROJECT: Zebrafish Retinal Ganglion Cell Survival in the Context of Pro-Apoptotic Bax Signaling

- **Trent A. Watkins, PhD**
  Baylor College of Medicine
  PROJECT: Highly Parallel Assessment of RGC Regenerative and Neuroprotective Targets
GLEAMS PATIENT SUMMIT

New Date: November 7, 2020

To ensure the safety of all summit participants and in accordance with CDC guidelines, we are postponing the date of the Patient Summit in Oak Brook, IL until Saturday, November 7, 2020.

Learn more on our website: glaucoma.org/summit

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