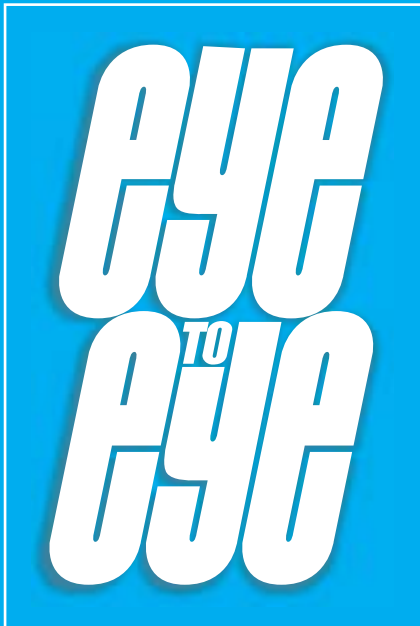


# THE NEWSLETTER OF THE GLAUCOMA FOUNDATION

FALL 2000, VOLUME 11, NUMBER 2



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## CELEBRITY PUBLIC SERVICE CAMPAIGN MAKES NEWS

Charlie Badalamenti was visiting New York City with his wife and parents on May 31 when he exited a matinee performance on 42nd Street, looked at a marquee across the street, and knew it was a special day.

Emblazoned in bright lights on the banner encircling the theater was an invitation from AMC Theaters and The Glaucoma Foundation to come in, learn about glaucoma, get a risk assessment, and meet Kirby Puckett, the former All-Star center fielder for the Minnesota Twins. Puckett had led his team to two World Series titles in 1987 and 1991, before having to retire from baseball in 1996 due to vision loss associated with glaucoma.

*[continued on page 3]*

*EYE TO EYE* is published quarterly by The Glaucoma Foundation to help our readers better understand glaucoma, its causes and treatments. While every effort is made to ensure the accuracy of this information, please consult your eye doctor for treatment and care of your eyesight.

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## From the Desk of the Executive Director

By John W. Corwin



This issue of *EYE TO EYE* is filled with vital information about effectively managing glaucoma. Many of the articles stem from activities of The Glaucoma Foundation over the past several months. They range from a public service campaign urging early detection of the disease, to the first New York public symposium uniting both glaucoma patients and health professionals, to our Seventh Annual Optic Nerve Rescue and Restoration Think Tank, which is bringing new treatments and eventually a cure for glaucoma closer.

This Spring I had the pleasure of sharing microphones with former Minnesota Twins all-star Kirby Puckett as we teamed up to launch "Know Your Eye Pressure," our national campaign with Pharmacia Corporation to educate the public about glaucoma. Kirby has a wonderful sense of humor and an extremely positive outlook, even as he copes with the disease that brought his baseball career to a premature close. He is determined to alert others to detect glaucoma early, before it does irreversible damage.

Our Glaucoma 2000 Symposium, also held in New York City this Spring, was a huge success. The roster of experts focused on new medications that not only will be more effective, but also can be taken in smaller doses than older drugs. One panel offered lifestyle tips – ways that nutrition and exercise can complement traditional care. And, speaking in lay language, researchers explained how genetics would revolutionize the detection and treatment of glaucoma. The Symposium wowed the patients attending. But the health professionals benefited too. "Energizing" was the way delighted keynote speaker Julia Richards, Ph.D., described her opportunity to get out of her University of Michigan lab and mix it up with some of the very people she is trying to help.

This year's Think Tank attracted more scientists – 39 – from more countries – 7 – than ever before. The gene hunt was a primary focus, with a major aim of reprogramming abnormal genes. We also heard from Paul Kaufman, MD, from the University of Wisconsin, whose lab is working with others on viruses that will effectively carry the genes, that clinical testing in humans is just around the corner.

Another tantalizing treatment approach is vaccines that can rescue the optic nerve or even protect it from developing glaucoma. The vaccine con-

cept was put forth by Michal Schwartz, Ph.D., of the Weizmann Institute of Science in Israel.

It's important to remember that none of the medicines currently available, or future advances, will do any good unless the patient plays a role in his or her treatment plan. And regrettably, all too often patients don't stick to the program. Instead of taking medications exactly as prescribed, some patients take fewer drops or fail to administer drops on schedule. Sometimes it's because patients can't afford

the medication and try to make it go further. Or patients don't like the side effects that sometimes accompany the drug. These patients wrongly think that skipping a dose or two won't really matter.

Whatever the reason for non-compliance, we at The Glaucoma Foundation want to stress the importance of discussing such problems with your doctor – which is why we have dedicated the feature of this newsletter to "effectively managing glaucoma."

### CELEBRITY PUBLIC SERVICE CAMPAIGN MAKES NEWS — continued from cover

A Colorado resident on vacation in New York, Badalamenti is a long-time loyal fan of Puckett's, well-versed in the athlete's stats and accomplishments and the reason for his early retirement. The coincidences didn't end there. Charlie Badalamenti is also more aware than many about glaucoma, as both his parents have a history of the disease. That means he is at risk as well.

The Badalamentis were among many New Yorkers and out-of-towners who participated in the May 31 launch of "Know Your Eye Pressure," a national public service campaign that teamed Puckett, Pharmacia Corporation, and The Glaucoma Foundation to raise awareness and educate the public about glaucoma.

The campaign was introduced with great fanfare, including the screening of a new TV public service announcement (PSA) featuring Kirby Puckett on the giant Panasonic Astrovision outdoor screen located right in the middle of Times Square. The PSA ran continuously through the day at several New York City locations, with free glaucoma risk assessments available to the public.

The nationwide "Know Your Eye Pressure" campaign included the distribution of television, radio and newspaper PSAs, as well as interviews. The launch resulted in stories on CBS' The Early Show, the ABC Radio Network, ESPN Radio, and more. The campaign was made possible through an educational grant from Pharmacia Corporation.

This effort was designed to encourage everyone to understand the risk factors associated with glaucoma, educate them as to how IOP plays an integral role in managing the disease, and stress the importance of getting comprehensive exams, with an optic nerve evaluation, from an eye care professional.

"I didn't know I was at risk for glaucoma," says Puckett. "So I never was tested nor had my optic nerve checked for damage. Don't let glaucoma strike out your vision," he warns in the PSAs.

That message came through clear to Charlie Badalamenti. When he returned to Colorado, he scheduled a full examination with his ophthalmologist. The news was good: he tested negative for glaucoma. But he knows that given his family history, he and his family are at increased risk and need to get tested regularly.

## EFFECTIVELY MANAGING GLAUCOMA

A SPECIAL FEATURE

# Living with Glaucoma

## A Challenge & A Responsibility

By Annette Golia



### The Shirley Koblner Story

I have been coping with glaucoma, and subsequent vision loss, for nearly twenty years. My regular ophthalmologist discovered it when I mentioned that I had been experiencing some difficulties in reading. The diagnosis was perplexing to me, because I had no family history of the disease, nor was I experiencing any common warning signs. In fact, my intraocular pressure readings were in the normal range. Yet, my sight was diminishing due to progressive damage to the optic nerves in both eyes.

I have what is called normal tension glaucoma. Not only is this type of glaucoma puzzling, it is difficult to treat. Conventional approaches that focus simply on lowering high intraocular pressure do not control normal tension glaucoma. The best strategy seems to be to lower the pressure well below the

standard measure - down to the single digits, if possible. Like most glaucomas, this is accomplished through the use of eye drops, oral medications and, in some cases, surgery.

The glaucoma in my left eye advanced more rapidly than the glaucoma in my right eye. When medications proved ineffectual, I underwent two laser surgeries and, finally, a trabeculectomy to stabilize the pressure. Although the treatment worked, the optic nerve had already been severely damaged, leaving me with poor visual acuity and impaired central vision. Vision in my left eye is 20/200, but the peripheral eyesight is intact.

The optic nerve in my right eye has also sustained some damage as a result of glaucoma, but I am fortunate that its vision remains at 20/50. My efforts are now focused on maintaining this precious

eyesight through a rigorous daily medical regimen that involves a variety of medications.

I know that following this strict treatment program may mean the difference between saving or losing my eyesight, so I take it very seriously and I follow my doctor's instructions down to the last detail. I suppose that this is not that difficult for me, because it is my nature to be exacting and detail-oriented. As a retired chemistry teacher, the discipline I used in my career has enabled me to face my disease as both a challenge and a responsibility.

I believe that it is a patient's duty to actively participate in his or her therapy to the best of their ability. How do I try to do this? Writing down my questions or my concerns about what I am experiencing in the course of my treatment plan; having my husband accompany me on my doctor visits to help me communicate in the most effective way with my doctor; staying on top of new medical research that could, one day, help my eyes. Of course, the role a patient plays in his/her treatment can be a very personal one — but these tools have helped me and maybe by sharing them, they can help others.

Since I was first diagnosed with glaucoma, I have been keeping my own medical history, which is now 18 pages long. It is a detailed log of all my doctor visits, with the date, time of day, pressure readings, the type and time of medications I used that day, the physician's name, the types of tests done and their

results. It has proved helpful not only to me but to my doctors as well. Over the years, I have been treated by several ophthalmologists, including a neuro-ophthalmologist and two glaucoma specialists. I now see one glaucoma specialist every three months. During the interim, I have scheduled appointments with a glaucoma specialist who administers specific tests necessary in my treatment.


I use four types of eye drops that are distinguished by color-coded caps. One must be administered three times a day. Two types of eye drops must be used twice a day. I use the fourth eye drop once a day. In the evening, I apply a gel that lasts eight hours. I also take an oral medication every six hours. To ensure that I never miss a daily dosage of any of my medications, I keep one complete set on my bathroom counter and another in the purse I carry with me. In addition, I use a timer that beeps to remind me to administer eye drops or take a pill at the prescribed times.

I also realize how important it is for me to allow myself a variety of low vision aids, to assist in my daily activities. I keep a magnifying glass in each room of my house

and in my purse. Because my eye drops cause dilation of my pupil, it can be difficult to dial the telephone. My telephone company offers a service that enables me to dial numbers by speaking into the receiver and stating the name of the person I wish to call. For just a few dollars a month, I can store up to 50 telephone numbers for this purpose.

My routine may seem a little extreme to some,

*(continued on next page)*



*I know that following this strict treatment program may mean the difference between saving or losing my eyesight, so I take it very seriously and I follow my doctor's instructions down to the last detail.*

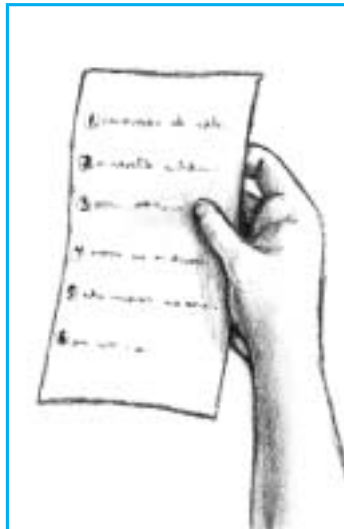
## Living with Glaucoma — continued from page 5

but I want to be as proactive as possible in dealing with my disease. Over the years, I have had the benefit of working with knowledgeable and caring doctors who have guided me through two decades of treatment. I, in turn, have done my part as a patient by complying with their instructions and listening to their recommendations.

If you look around, there are people facing all sorts of disabilities and diseases that have no treatment or cure. I feel that I am lucky. I can actually do something about my glaucoma. And, if I do lose my

sight, there are many things I can do to compensate while still maintaining my independence and lifestyle.

My plight will not consume me as long as I know that I am doing all I can do. That's not to say that the prospect of losing my vision doesn't scare me. It concerns me greatly. That is why I am determined to do everything in my power to ensure that does not happen. I feel that when you empower yourself, the future is a lot less scary.



# All you need to know about COMPLIANCE

By Robert Ritch, M.D.

Robert Ritch, M.D.  
Medical Director  
and  
Founder

**C**ompliance is the term used by the medical profession to describe the ability of a patient to follow the prescribed medication regimen for controlling a condition. Non-compliance is an important cause of visual loss in patients with glaucoma. The latest diagnostic techniques (which attempt to detect glaucoma prior to any visual loss) and treatment advances (which attempt to hold the

disease at its current stage and prevent further optic nerve damage) are to no benefit in medical management if the patient is not compliant.

Compliance is particularly important in the treatment of glaucoma, since it is a chronic (ever-present) disease. And yet, current patient regimens for glaucoma are not simple to follow. Multiple medications often need to be taken several times daily at regular intervals for many years. In addition,



## EFFECTIVELY MANAGING GLAUCOMA

medications have side effects ranging from minor and inconvenient to serious and disabling, requiring constant and effective communication between the patient and the doctor in order to design the best treatment plan for a given patient.

So, how can the glaucoma patient and the doctor work together to develop a treatment plan that encourages compliance? Here are The Foundation's **TOP 10 RECOMMENDATIONS** for a successful treatment program:

1. Understand how your treatment plan works and what the results may be. Patients who understand their disease and the treatment course are more likely to follow the treatment instructions and have more realistic expectations of the doctor and the management strategies.
2. Work with your doctor to simplify your treatment regimen to the extent possible. When possible, a patient should be using the least number of drugs, at the lowest concentrations, the fewest number of times per day as necessary. When treatment is being changed, medications should be prescribed for the same time of the day, if possible. Drugs should be introduced one at a time, to one eye only if the doctor feels it's possible, and pressure changes in both eyes should be measured to evaluate efficacy and side effects.
3. Work with your doctor to fit the dosage regimen to your lifestyle to the extent possible.

Discuss your daily routine (e.g., times of waking, morning break, lunch, return from work, evening meal, bedtime), and link the appropriate milestone to your installation schedule. For example, if pilocarpine precludes driving, it may be acceptable to

your doctor if you instill the drops after getting to work and upon returning back home.

4. If you have difficulty remembering your regimen, ask your doctor to help write out your treatment plan in large, clear letters – identifying the bottles by description as well as by name. If you have low-vision needs, use colored squares on the document to represent the bottle-top color in order to reduce confusion.

5. Ask your doctor about the expected side effects of any new medication or surgery so that nothing takes you by surprise.

6. Remember that allergies to topical medications are often reactions to the preservatives (especially benzalkonium chloride). Knowing this may encourage you to speak to your doctor about preservative-free options that may not produce the same results.

7. Rely upon trained staff in your doctor's office, other than your doctor, to help you manage your disease more effectively and knowledgeably. Many doctors do not have the resources to regularly cover and repeat treatment factors with all of their glaucoma patients. Trained staff can take on

Compliance is particularly important in the treatment of glaucoma, since it is a chronic (ever-present) disease.

*(continued on next page)*

## All you need to know about COMPLIANCE – continued from page 7

many of these responsibilities and provide assistance in many ways.

8. Keep a record of the time each drug should be taken and record the time of each examination. Keep a journal of what you are experiencing in your treatment course so that you remember all of the details on your next visit to the doctor.

9. Bring a relative or close friend with you to your doctor's visit. Patients often do not understand or cannot remember what they have been told, particularly if detailed information is provided immediately after a diagnosis has been made. Such a situation may create a shock-like state during which little, if anything, can be absorbed and digested by the patient. Ask someone else you

trust to document the doctor's instructions in a way you can best understand, and ask questions about anything that is confusing.

10. Work with The Glaucoma Foundation to help manage your disease! Call our toll-free hotline for: free literature about glaucoma, treatment options and a how-to brochure about how best to place eye drops in the eye most effectively, referrals to doctors in your local area, answers to basic medical questions related to glaucoma, and much more. Our number is easy to remember, 1-800-GLAUCOMA and trained staff is available to answer your call 9:00 AM to 5:00 PM (Eastern Standard Time), Monday-Friday.

### *The most common forms of non-compliance are:*

- **Misunderstanding or not remembering the treatment plan that has been designed by the doctor.**
- **Failing to take the prescribed medication (this includes: missed doses, inadequate doses, premature ending of a medication without communication with the prescribing doctor and taking the medication in a way that prevents it from being most effective).**
- **Increasing the number of doses and/or the amount of drug taken per dose, incorrectly assuming that "if some is good, more must be better."**
- **Taking drugs not intended for the particular treatment (this includes drugs remaining from a prior treatment regimen or from relatives and friends).**
  - **Improper timing of drug administration, which is more likely to occur when the treatment plan is complex and involves numerous medications at frequent or unusual times during the day.**
- **Failing to fill the prescription for the intended and planned treatment.**



## EFFECTIVELY MANAGING GLAUCOMA

# GLAUCOMA 2000 SYMPOSIUM

“**G**laucoma 2000 Offers Education and Hope,” read the headline of an article reporting on The Glaucoma Foundation’s first-ever glaucoma symposium, held in New York in April. A packed house filled the auditorium at Beth Israel Medical Center’s Phillips Ambulatory Care Center in downtown Manhattan to hear a panel of leading glaucoma experts speak on a broad range of issues relating to the disease. About two-thirds of the audience were glaucoma patients, while the rest were allied health professionals.

The speaker panel, keynote address and breakout sessions at the all-day symposium addressed the management of glaucoma over a patient’s lifetime. Taking charge of the disease (as a patient or a health liaison to the patient) requires an understanding of the various diagnostic tools, prescription treatments, surgical interventions and complementary options that can help to preserve vision. The symposium also offered suggestions to help foster relationships between patients and professionals, so vital in the fight against this “sneak thief of sight.”

“We were especially pleased that so many allied health professionals were able to participate and to hear the concerns and questions of the patients,” said Ali Hodin, Director of Programs at The Glaucoma Foundation. “Office technicians and medical office staff are the men and women with whom patients most often interact. Clarifying for them what the patients’ needs are can only strengthen the important role they already play in helping the patients manage glaucoma.”



## THE LEGACY SOCIETY

Your Will is just one part of an effective estate plan — but a vitally important part. Once you’ve provided for those you love, we hope you will consider a bequest to The Glaucoma Foundation. If you have already named us in your will, we truly thank you and ask that you let us know so that we can recognize your caring gesture properly.

FOR MORE INFORMATION ON THE LEGACY SOCIETY AND OTHER PLANNED GIVING OPTIONS, PLEASE CONTACT:

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# TREATMENT UPDATE

PLEASE NOTE: IT IS NOT THE GLAUCOMA FOUNDATION'S ROLE TO ENDORSE ANY PRODUCT, TREATMENT OR SURGERY, OR INVOLVEMENT IN A CLINICAL TRIAL, BUT TO HELP YOU IDENTIFY AND UNDERSTAND YOUR OPTIONS. IF YOU ARE INTERESTED IN LEARNING MORE ABOUT ANY DRUG OR PARTICIPATION IN A SPECIFIC TRIAL, PLEASE DISCUSS THIS OPTION WITH YOUR DOCTOR(S) BEFORE MAKING ANY DECISIONS.

## NEW DRUG APPROVED BY FOOD AND DRUG ADMINISTRATION (FDA)

### UNOPROSTONE ISOPROPYL OPHTHALMIC SOLUTION, .15%

Unoprostone Isopropyl Ophthalmic Solution, .15% is a newly FDA-approved drug marketed under the name "Rescula" by CIBA Vision, a Novartis company. According to clinical trial results, this drug increases aqueous fluid outflow in order to lower intraocular pressure (IOP).

Unoprostone differs from other treatments for open-angle glaucoma and ocular hypertension in that it contains a docosanoid (a new class of receptor) and uses a new mechanism of action not found in other glaucoma treatments. A docosanoid is similar to a naturally occurring substance in the eye that is considered an essential compound in the development and functioning of the retina. It is also believed that this drug has the potential to enhance blood flow to the optic nerve — a result that many doctors find promising because of the widespread belief that blood flow plays a role in glaucoma.

According to CIBA Vision, clinical trials involving more than 1,100 patients showed that unoprostone "consistently and safely" lowered IOP when used either by itself or as a part of a combination therapy (with other drugs). Additionally, using unoprostone in combination therapy was found to be as effective as many other combinations, while producing fewer side effects in patients than these combinations.

Unoprostone is generally dosed twice a day. The drug rapidly penetrates the cornea, achieving maximum effects in as soon as 24 hours. Importantly, clinical studies showed that unoprostone shows no loss in effectiveness over 12 months.

The studies also showed that unoprostone has no impact on the cardiovascular system (common with beta blockers) and little effect on the pulmonary functions. The most commonly reported side effects (occurring in 10-25% of patients during clinical studies) include: burning and stinging upon instillation, dry eyes, itching, increased length of eyelashes, and redness. In a small number of cases unoprostone has been reported to increase the amount of brown pigment in the iris, changing the color of the iris slowly and possibly permanently.

*READER'S NOTE: If you are interested in using unoprostone, you should consult your eye doctor.*

## COMING ATTRACTIONS ON THE TREATMENT FRONT

### MEMANTINE

Memantine, a drug already being used to treat Parkinson's and other diseases that involve the early death of nerve cells, is currently in year one of a four-year international clinical trial to examine its effectiveness in treating glaucoma as a non-IOP lowering neuroprotective agent. Pre-study data provided by its manufacturer, Allergan, Inc., suggests that memantine may be effective in increasing the survival of retinal ganglion cells (the cells that send visual impulses to the brain and that die in glaucoma) under elevated intraocular pressure



## EFFECTIVELY MANAGING GLAUCOMA

(IOP) conditions common in glaucoma.

Currently in Phase III of FDA clinical testing, patients with chronic open-angle glaucoma in both eyes are still being accepted into the study. Additional criteria for participation include: being old enough to legally sign an informed consent and less than 80 years of age, having vision of 20/32 or better (with glasses if necessary), having factors that place you at risk for progression of the disease, and living in an area close to a study site.

For every three participants in the study, one will receive the highest dose of memantine, one will receive a lower dose of the drug, and one participant will be given a placebo (sugar pill). This phase will once again evaluate memantine for its effectiveness and safety in humans, as well as determine its appropriate dosage.

Final FDA approval, if it is given based upon Phase III results, could take several years. Accordingly, this drug will not be accessible to anyone outside the clinical trials for some years; and even those individuals who participate in the study are not guaranteed that they will receive a dose of memantine rather than a placebo.

Only you and your doctor can determine whether participation in a clinical trial is appropriate and desirable for you. Please talk to your doctor if you are interested in learning more.

*READER'S NOTE: For more information about this drug, please visit : [www.memantine.com/inhalte/s1.html](http://www.memantine.com/inhalte/s1.html) and access the section entitled "Further Therapeutic Potential: Glaucoma."*

### AGN 192024, .03%

AGN 192024 has recently finished the final phase of FDA clinical testing. Allergan, Inc., the company that plans to market the drug

as "Lumigan," received FDA approval in October for a priority review. This means that the review is expected to move through the process faster than normal —Allergan is hopeful that the approval process will be completed some time in 2001 and available on the market soon after that.

AGN 192024 is a member of a new class of unique intraocular pressure lowering agents called prostamides (naturally occurring substances found in ocular tissues). The drug mimics the IOP-lowering activity of prostamides, increasing aqueous outflow through the trabecular meshwork and also enhancing uveoscleral outflow.

Clinical trial data shows that one daily dose of AGN 192024 significantly lowers IOP over a 24-hour time period when compared with the beta-blocker timolol 0.5%, dosed twice daily. Results also show that patients receiving AGN 192024 (whether once or twice daily) achieved greater IOP reduction throughout the day than those receiving timolol alone, twice a day. According to its manufacturer the once-a-day dosing of AGN 192024 proved to be the most effective, lowering IOP an average of 35% compared with 26% for timolol.

The most commonly reported side effects of AGN 192024 (occurring in more than 5% of patients) during the clinical trials were: conjunctival hyperemia (an excess of blood in the conjunctiva), eyelash growth, and eye pruritus (itching). Overall, trial results indicate that AGN 192024 was "well tolerated," according to a recent Allergan press release.

*READER'S NOTE: For more information about this drug, please visit Allergan's website ([www.allergan.com/corpinfo/index.htm](http://www.allergan.com/corpinfo/index.htm)) to access the October 24, 2000 press release.*

*(continued on page 14)*



7TH ANNUAL GLAUCOMA FOUNDATION OPTIC NERVE RESCUE AND RESTORATION THINK TANK

# Genetics and Immunology: Two New Approaches to Curing Glaucoma

Offering sharp insights as to what causes glaucoma and creative approaches toward treating or perhaps even preventing the disease, 39 scientists from seven countries traded information that inched the glaucoma conundrum closer to more answers at the Seventh Annual Glaucoma Foundation Optic Nerve Rescue and Restoration Think Tank.

The two day September meeting in New York City focused on genetics — “where we are already well down the road,” according to Think Tank Scientific Chair Julia E. Richards, Ph.D. It also offered what she said was “the first peek through the door at a new concept” — glaucoma as a disease where the immune system plays a role, and not necessarily a negative one.

Glaucoma is a group of diseases that can destroy the cells of the eyes optic nerve, which carries visual impulses to the brain. It can lead to

loss of vision. In fact, glaucoma is the leading cause of preventable blindness. At least three million people in the United States, and 67 million worldwide, are afflicted with glaucoma. Half of them don't know they have the disease. There is no cure for glaucoma yet, and right now vision that is lost cannot be restored.

Robert Ritch, M.D., Medical Director of The Glaucoma Foundation and Organizing Chair of the Think Tank, said, “Where once lowering intraocular pressure was the only way to treat these diseases, radically new approaches to protecting the nerve cells by strengthening them to withstand damage or blocking the biological processes which lead to the damage, are being developed.” Dr. Ritch and The Glaucoma Foundation started the Think Tank as a way to

get some of the brightest minds from all scientific disciplines together to brainstorm and come up with breakthrough solutions to the mysteries of glaucoma.

*Glaucoma genetics is moving rapidly, with six genes already identified and several more mapped.*



The 2000 Think Tank Attendees.

The gene hunt is a primary focus for all researchers. “The key to critical points in the disease — the initiating events that start the ball rolling and the later events that cause the damage — is understanding the underlying causes. And a powerful way to go after the causes is to go after the genes,” said Dr. Richards, whose glaucoma research at the University of Michigan has led to glaucoma gene cloning, mapping and mutation screening.

Glaucoma genetics is moving rapidly, with six genes already identified and several more mapped. Once specific genes are understood to be responsible for turning on or off specific processes that contribute to glaucoma, the possibility exists that, in the future, researchers will be able to develop gene therapy, aimed at reprogramming the abnormal genes. This is already in the animal model stage, explained Think Tank participant Paul Kaufman, M.D., of the University of Wisconsin, whose own laboratory is collaborating with others to work on viruses that will effectively carry genes. “We're not ready for clinical testing with humans yet,” he said, “but I predict that in a decade and a half patients will be treated with gene therapy.”

Still, the researchers caution the answers to glaucoma may be different for different people. “This is not surprising since glaucoma is multiple diseases,” said Dr. Richards. “Lots of people think finding glaucoma genes means that developing gene therapy is the next step. But a better understanding of the processes by which the disease begins or progresses might also offer clues to simpler ways to approach glaucoma through medications or perhaps even vaccines.”

The Glaucoma Foundation Salutes the  
2000 Think Tank sponsors:

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**Allergan Pharmaceuticals**  
**Stephen & Madeline Barkin**  
**NOVARTIS Ophthalmics**  
**Merck & Co., Inc.**  
**Pharmacia Corporation**

and American Airlines  
The Official Airline of the Think Tank

[continued on next page]

## Genetics and Immunology: Two New Approaches to Curing Glaucoma — continued from page 13

That's why much of the Think Tank discussion was also focused on the body's immune system, which may hold more clues to the progression of the disease. The scientific jury is still out, but all three approaches to future glaucoma therapy — genetics, pharmacology, and yes, even vaccines — were discussed as ways to treat and perhaps even prevent glaucoma.

"The concept of a vaccine that can rescue or even protect the optic nerve from developing glaucoma is quite tantalizing," said Dr. Richards. That concept, she pointed out, was put forth at the Think Tank by Michal Schwartz, Ph.D., of the Weizmann Institute of Science in Israel, who also served as a

Scientific Chair.

The researchers pointed to gaps that must be overcome with scientific data. Studies that need to be done depend on enough funding from foundations like The Glaucoma Foundation, which in turn depends on contributions to its research fund.

And although the cure is not yet around the corner, scientists see the light with promising developments. Said Dr. Paul Kaufman optimistically and with great confidence when talking about emerging therapies: "Star Wars has landed in the laboratory, and we can envision its transfer to the clinic within a rational time frame."

## Coming Attractions on the Treatment Front — continued from page 11

### LATANOPROST/TIMOLOL MALEATE OPHTHALMIC SOLUTION

Pharmacia Corporation is currently awaiting final clearance from The FDA for a new combination drop marketed under the name "Xalcom." This drop combines latanoprost ophthalmic solution (marketed by Pharmacia as "Xalatan") and timolol maleate (a commonly used beta blocker). The company is seeking an FDA classification indicating that the drug reduces intraocular pressure in patients with open-angle glaucoma or ocular hypertension who do not respond effectively to beta blockers (type of drug that works to decrease the rate at which fluid flows into the eye), prostaglandins (type of drug that increases outflow through the soft tissues in the front of the eye — through the iris and ciliary body), or other IOP lowering medications.

Pharmacia's New Drug Application for latanoprost/timolol maleate solution was based on data from a number of six-month randomized clinical trials involving more than 1,200 patients. These studies compared the IOP-lowering effect and safety of the combination drop with the results of using each drug alone.

Based upon clinical trial results latanoprost/timolol maleate ophthalmic solution appears to be well tolerated by patients. The most commonly reported side-effects were: eye irritation (including stinging, burning, and itching), hyperemia (an excess of blood in the eye), corneal disorder conjunctivitis, blepharitis (inflammation of the eyelids), eye pain, headache, and skin rash.

*READER'S NOTE: For more information about this drug, please visit [www.pharmacia.com/news/NewsDisplay.asp?PR=69](http://www.pharmacia.com/news/NewsDisplay.asp?PR=69) for current press releases.*

**EYE TO EYE will report more on each drug if and when FDA approval has been received.**

# Grant Awards 2000

**Pedro Gonzalez, PhD — Duke University**

**Screening for POAG mutations in candidate genes isolated by cDNA macro-array analysis**

Primary open-angle glaucoma (POAG), the most common form of glaucoma in the United States, progresses slowly and, therefore, is often detected only when irreversible vision damage has already occurred. For this reason, developing early detection methods is of particular importance to researchers. Dr. Gonzalez's work seeks to examine the role three genes play in increasing a person's odds of developing POAG. The identification of genes that may increase the risk of glaucoma could, in the future, lead to a genetic screening test that would give at-risk individuals an advantage against glaucoma, detecting risk and minor damage earlier than the diagnostic devices that are currently used.

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**Ann Logan, PhD — University of Birmingham**

**Protection of retinal ganglion cells in glaucoma: targeted delivery of the anti-apoptotic bcl-2 gene (Renewal)**

Currently, there is virtually nothing that can be done to return vision that has been lost. Dr. Logan's continued research will investigate the growing evidence that certain combinations of anti-apoptotic factors (substances that resist programmed cell death) and neurotrophic factors (compounds that keep nerve cells alive) can not only protect optic neurons from degenerative damage, but may actually promote their regrowth.

Dr. Logan will be using novel gene transfer technology to carry the anti-apoptotic factor bcl-2 to nerve cells damaged by glaucoma. This research could result in the discovery of new ways to limit vision loss by arresting optic nerve degeneration, protecting neurons from death, and stimulating regrowth of nerve cells.

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**Jarema Malicki, PhD — Harvard Medical School**

**Analysis of retinal ganglion cell-specific transcripts in zebrafish**

Dr. Malicki's research concentrates on the genetic factors involved in the development and maintenance of retinal ganglion cells (RGCs), the cells that send visual impulses to the brain and that die in glaucoma. The development of RGCs is still not completely understood. Three genes of particular importance to the retinal area will be examined using well-established cloning and sequencing methods. Zebrafish are useful and unique models for understanding genetic expression for two reasons. First, zebrafish are vertebrates like humans, and they share genetic similarities. Second, zebrafish mature outside of the uterus of the adult fish within a see-through egg, which allows scientists to track development closely. Gaining insight into how the molecular arrangement of the eye develops could lead to new treatments for degenerative diseases such as glaucoma.

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*(continued on next page)*

## Grant Awards 2000 — continued from page 15

**Cynthia Searles Ricard, PhD** —  
*Washington University, St. Louis*

**Pressure-responsive elements in the promoter region of the neural cell adhesion molecule (NCAM): Studies in human optic nerve head astrocytes (Renewal)**

Primary open-angle glaucoma causes cupping of the optic nerve head and remodeling of its tissues. Dr. Ricard will continue research that investigates how and why certain genes express themselves differently in the optic nerve head when exposed to increases in intraocular pressure as found in glaucoma patients. This research will use state-of-the-art molecular methods to examine how the important neural cell adhesion molecule (NCAM) is regulated in glaucomatous optic nerve cells. NCAM facilitates cell interactions and plays an integral role in cell reproduction and migration. Studying the mechanisms of NCAM gene control could be useful in the future development of new therapies to prevent optic nerve degeneration in glaucoma, and may even lead to advances in the field of nerve regeneration.

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**Mansoor Sarfarazi, PhD** —  
*University of Connecticut Health Center*

**Metabolic analysis of potential glaucomatous substrates by wild-type and mutant forms of cytochrome P4501B1 (Renewal)**

Previous Foundation-funded research by Dr. Sarfarazi provides conclusive evidence that certain mutations in the gene CYP1B1 are

responsible for primary congenital glaucoma (PCG), which if not treated by surgery, may lead to blindness. Less understood, however, is how the expression of this gene plays into the normal growth of the eye. Dr. Sarfarazi's renewal grant will allow him to track the development and functions of this gene, paying particular attention to what molecules the gene produces. His research could lead to profound advancements in drug therapy for PCG patients.

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**Gulgun Tezel, MD** —  
*Washington University, St. Louis*

**Heat shock protein 27 in the neuroprotection of retinal ganglion cells (Renewal)**

While it is widely understood that glaucoma causes cells in the optic nerve to die and cause vision loss, researchers are much less certain about the process of nerve degeneration itself. Dr. Tezel's first year's work has found that the heat shock protein 27 (hsp27) can, in some cases, protect nerve cells from glaucomatous damage by stabilizing the cytoskeleton (the substance that controls cell shape and is responsible for organization within the cell). Dr. Tezel's second-year research could lead to a better understanding of how nerve cells react to different death-promoting stimuli and determine whether manipulation of hsp27 could increase cell survival. This research could help define new neuroprotective treatments for glaucoma patients.

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# The 2000 Black and White Ball Gala



PHOTOS BY STEVE FRIEDMAN

Kirby Puckett, former Minnesota Twins all-star, glaucoma prevention spokesperson, and recipient of the Kitty Carlisle Hart Award of Merit for Lifetime Achievement



Honorees and Presenters (from left to right): Martin R. Lewis, current board member; Gregory K. Harmon, M.D., Chairman of the Board; Robert Ritch, M.D., Medical Director; John W. Corwin, Executive Director; Dr. Frank Field; Jolene P. Mirena; Sheldon M. Siegel, CFO; and Joseph M. La Motta, Chairman Emeritus. George Aquila was unable to attend.



On November 9, 2000, the 14th Annual Black and White Ball, *FOR YOUR EYES ONLY*, was held in the Grand Ballroom at the Waldorf=Astoria in New York City. Over 600 guests attended the top-secret gala affair honoring some of the Foundation's dearest and most deserving friends: former board members Jolene Mirena and George Aquila; current board member Sheldon M. Siegel; and glaucoma specialist, board member and founder of The Glaucoma Foundation, Dr. Robert Ritch.

Kirby Puckett, who was forced to retire early

from a Hall-of-Fame-bound professional baseball career due to glaucoma, was given the Kitty Carlisle Hart Award of Merit for Lifetime Achievement for his public education efforts. Mr. Puckett was unable to attend, but graciously accepted the honor via videotape. Dr. Frank Field, celebrated meteorologist, who is personally at risk for glaucoma, and who recently did a special science report on glaucoma on WWOR-TV, UPN 9 News, was the master of ceremonies.

Thanks to our many friends, this year's Ball raised over \$1.2 million, which will go a long way in enabling us to eradicate the "sneak thief of sight."

# Recent Developments

**W**e are pleased and proud to announce that two grants have recently been received to support The Glaucoma Foundation's Community Outreach Screening Program, COSP. The New York Community Trust awarded a grant of \$100,000 for two screenings in sites to be determined in New York City, and The Healthcare Foundation of New Jersey awarded a grant in the amount of \$50,000 for a screening in Newark, New Jersey, scheduled for January 25, 2001.

These grants will enable us to perform three community screenings over the next 18 months in predominantly African-American (at-risk) communities where people have limited access to quality healthcare — especially for preventative eye care. During our one-day screenings, glaucoma specialists, other ophthalmologists and optometrists volunteer their time and talents to screen up to 400 participants. To those with suspicious findings, The Glaucoma Foundation recommends that they seek a follow-up exam at their earliest convenience, and gives out information about low-cost eye clinics in their communities.

Glaucoma is the leading cause of preventable blindness in the United States — and the #1 cause of all blindness among African Americans. It is called the "sneak thief of sight" because there are usually no symptoms. No single population is

more at risk for having glaucoma than people of African descent, among whom it affects one in 13 and requires more aggressive treatment. Only routine, comprehensive eye exams can detect glaucoma, and early detection is the key to starting ongoing treatment that often prevents blindness.

That is why COSP is so important, and why we are so very grateful to The New York Community Trust and The Healthcare Foundation of New Jersey, as well as our other supporters: The Allene Reuss Memorial Trust; The United Way of New York; and American Express Travel Related Services; for making these screenings possible.

## TOGETHER WE CAN CREATE A WORLD WITHOUT BLINDNESS!

**B**esides outright gifts of cash, there are many ways to give to The Glaucoma Foundation that will carry your vision of a world without blindness into the future — and help continue the search for a cure. Careful gift planning can also allow you to receive substantial personal benefits — like minimized taxes, increased spendable income and flexible estate planning.

**A NOTE TO OUR DONORS :** We can't thank you enough for all that your generosity makes possible!! In order to conserve our resources and keep you better informed, the names of contributors will no longer be listed here. (These names will be listed, as always, in our annual report, which is available upon request.) This space will now be used for valuable donor information and important announcements. We truly appreciate your support of this format change and welcome any comments you may have on this, or any other information contained in this issue of *EYE TO EYE*.

## GLAUCOMA LITERATURE ORDER FORM

Free copies of The Glaucoma Foundation's educational literature are available to you or your organization to help everyone, everywhere learn about glaucoma.

Please send the items marked below in the quantities indicated to:

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### EDUCATIONAL MATERIALS FOR THE GENERAL PUBLIC

\_\_\_\_\_ copies of *Glaucoma at a Glance* — a one page statistical overview of the disease and those it affects.

\_\_\_\_\_ copies of *Glaucoma: What You Need to Know* — a brochure outlining risk factors, diagnoses, procedures and treatments.

\_\_\_\_\_ copies of *Creating a World Without Blindness* — a tri-fold brochure documenting The Foundation's programs and free services that anyone worldwide can access.

### INFORMATIVE MATERIALS FOR GLAUCOMA PATIENTS

\_\_\_\_\_ copies of *Doctor, I Have a Question* — a 20-page brochure for patients and their families detailing aspects of the disease, various medications and treatments, and surgical procedures.

\_\_\_\_\_ copies of *You and Your Glaucoma Medication* — a guide to putting glaucoma eye-drops into the eye most effectively, with diagrams and patient tips.

\_\_\_\_\_ copies of *The Patient's Role in the Treatment of Glaucoma* — a series on how to enhance the doctor/patient relationship.

### ANNUAL REPORTS

- 1999 Annual Report
- 1999 Audited Financial Statement

## WE NEED YOUR SUPPORT!!

**YES**, I want to help The Glaucoma Foundation create a world without blindness. Enclosed is my tax-deductible contribution of

- \$25       \$35\*       \$50
- \$100       \$250       \$500
- \$1,000       Other \$ \_\_\_\_\_

\* Your contribution of \$35 or more will entitle you to a full year's subscription to *Eye to Eye*.

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Please send me more information on:

- The Legacy Society
- The Tribute Gift Program

In order to locate additional supporters for The Glaucoma Foundation, we occasionally trade mailing lists with other nonprofit organizations. If you prefer not to receive mailings from other groups, please check the box below. Thank you.

- Please do not share my name with other organizations.

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*We're very proud of the way we manage our funds! The Glaucoma Foundation meets Better Business Bureau Standards for Charitable Solicitation as of Summer 2000, our last review. A copy of our annual report is always available from our office. Please contact us if you would like a copy. In addition, The Glaucoma Foundation is required to file financial information with several states. Nine of those states will provide copies to their residents upon request by contacting the offices listed on the last page of this newsletter.*



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