

Gleams

Glaucoma
Research Foundation

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Update on Alternative Glaucoma Medications

By John Hetherington, MD, Guest Medical Editor

Use of alternative therapies is increasing. A simple definition: non-standard, unconventional therapy for treating glaucoma. In the US, use of alternative medicine has increased 10 to 15 percent in the past ten years. In fact, 72 million adult Americans spend an estimated \$27 billion a year on alternative medications. Reportedly, some 50 percent of glaucoma patients use some form of alternative therapy.

The following summary is derived from an extensive review of the literature and studies, with personal experience of this author. The results seem rather negative. It's important to remember that aspirin is derived from the willow tree, and pilocarpine – the first used drug for glaucoma – was a plant extract. A part of this report is to encourage needed research in this area.

Vitamins — Vitamin A is an antioxidant. Studies have shown it has no effect on intraocular



pressure (IOP) or visual field. Vitamin B1, or Thiamin, also reportedly has no effect on IOP or visual field. Vitamin B12 improved visual field in one 9-month study, but scientists consider the study inadequate. Vitamin C, or ascorbic acid, is found in the aqueous humor that fills the front of the eye. To effectively reduce IOP, massive doses of vitamin C are required, making it impractical due to related complications (diarrhea and dehydration). Topical uses have shown little effect. Vitamin E is an antioxidant, but studies thus

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Patient Assistance Programs

Several manufacturers of glaucoma medications offer programs to provide free glaucoma drugs to patients who cannot afford them. In most cases, you will need to go through your eye doctor's office to participate. Tell your eye doctor about your inability to afford the medication and your lack of prescription coverage.

For more information,
visit our website:

www.glaucoma.org/living/
and click on [Financial Assistance](#).
Or call us at 1-800-826-6693
and we will mail you a fact sheet.
(GRF does not provide direct
financial assistance.)

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Update on Alternative Glaucoma Medications

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far have shown no effect on IOP or visual field.

Marijuana — There are 400 different chemicals in marijuana, some of which may be damaging. Moderately long-term studies have shown that cannabis has no proven effect on glaucoma. When ingested, marijuana does produce a 20 percent decrease in IOP; however, the decrease in pressure is only for a short period of time. In order to be effective as a medication, it would need to be taken many times a day. Side effects of this would be loss of concentration and coordination, and risk of emphysema and lung cancer. Topical use has shown no effect in studies to date, but cannabis derivatives are currently being studied in laboratory tests to determine if they may be effective. Much more work is needed to determine if cannabis derivatives will have a proven effect in glaucoma treatment.

Herbal remedies — Ginkgo biloba is an antioxidant. In one study of patients with chronic open-angle glaucoma, it was reported that ginkgo "appears to improve visual fields in some." However, this study was criticized as poorly controlled. More long-term studies need to be conducted to determine if ginkgo has any proven effect on visual field. Ginkgo biloba increases ocular blood flow and may provide a neuroprotective effect. Bilberry is

supposed to promote optic nerve health, but there is no evidence to support this claim.

Diet — Drinking large quantities of water within a short period of time (one quart within 5 minutes) may increase IOP and may have a negative effect. A person's weight does not affect IOP.

Meditation — Long-term practice of meditation may help reduce IOP, but the reduction would not be significant.

Acupuncture — Many studies have been done, and in most cases there were no changes in IOP or visual field, except for one report indicating a minor change in visual field.

Exercise — Moderate exercise over time can result in a lowering of IOP that can last several months. In addition to helping lower pressure, exercise helps the brain, the heart, and the cardiovascular system. We encourage patients to exercise appropriately.

John Hetherington, MD is Clinical Professor of Ophthalmology at the University of California at San Francisco and is a past president of the International Glaucoma Society. He is one of the founding physicians



of GRF and has served on the GRF Board since 1978.

Spotlight On Research:

Thirty Years Thirty Innovations

▶ 1978 GRF founded to fund pioneering research

▶ 1978 GRF founder, Dr. Shaffer, established Glaucoma Fellowship to encourage the study of glaucoma

▶ 1984 Low Tension Glaucoma Seminar for researchers worldwide

▶ 1986 International Seminar on the Developmental Glaucomas convened

▶ 1993 **Glaucoma Research Catalyst Meetings stimulate research internationally**

▶ 1994 Glaucoma Research & Education Group established to support clinical research

▶ 1995 Research leads to possible new glaucoma medication

▶ 1996 www.glaucoma.org launched

▶ 1997 **First genetic breakthrough, isolation of the TIGR gene, responsible for some forms of glaucoma**

▶ 1997 Optic nerve abnormalities associated with ocular hypertension

▶ 1997 Family History Project studied genetics of POAG

▶ 1998 Study identified gene mutation linked to early-onset glaucoma

▶ 1998 Catalyst Meeting studied retinal ganglion cell death in glaucoma

▶ 1998 **Normal Tension Glaucoma Study was the first collaborative clinical trial to document lowering eye pressure preserves vision**

▶ 1998 GRF survey revealed low public awareness of glaucoma risk factors

▶ 1999 Gene linked to Primary Open-Angle Glaucoma identified

▶ 1999 Autoantibodies that may cause optic nerve head damage found

▶ 1999 Macrophage activation study leads to regeneration of damaged optic nerve

▶ 2001 Vaccination that may protect the optic nerve found

▶ 2001 Induction of heat shock protein 72 protects retinal ganglion cells

▶ 2002 Optimedin gene identified as possible link to retinal disorders

▶ 2002 Catalyst For a Cure (CFC) collaborative research program commenced

▶ 2003 CFC team verified process for isolating genes in glaucoma

▶ 2003 CFC research indicated glaucoma is a central nervous system disease

▶ 2005 CFC researchers reported 3 new hypotheses for initiation of glaucoma

▶ 2005 **CFC scientists found molecular pathways to target for intervention**

▶ 2006 CFC demonstrated microglia may protect against vision loss

▶ 2006 CFC found glaucoma shares characteristics of other neurological disorders

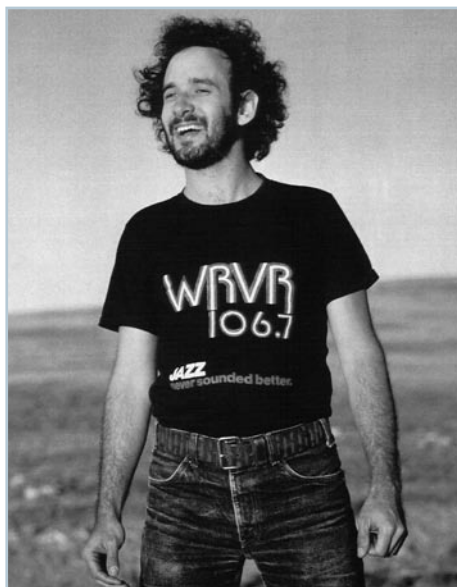
▶ 2007 People with glaucoma found 6-times more likely to be in car accidents

▶ 2007 GRF-funded scientists made 20 presentations at major eye research meeting

People Making A Difference

Pfizer Gift Tops Off Capital Campaign; Daniel Scott Weston Lecture Established

A \$100,000 grant from Pfizer to underwrite educational resources provided by Glaucoma Research Foundation is the closing gift topping off GRF's three-year capital campaign which closed June 30, reports GRF President and CEO **Thomas M. Brunner**. "We set a goal of \$7.5 million," Brunner said, "and the campaign will finish at \$8.6 million. This is a resounding



Daniel Scott Weston

validation of GRF's mission from donors across the country, and we are grateful to every single person and institution who made this success possible. With just last year's investments in research of \$1.4 million," Brunner explained, "GRF is now the leading funder of innovative research in glaucoma" outside of the National Eye Institute, academia and internally-funded corporate research.

"We want to foster innovative efforts to preserve and protect visions of generations while celebrating the life of a beloved son who warmed our hearts with

humor, kindness and compassion," said **George and Gladys Weston**, as they announced their grant to create **The Daniel Scott Weston Glaucoma Research Lecture**. The announcement from the Bay Area couple came at the founding meeting of the Leadership Council of the GRF's new **Silicon Valley chapter** – GRF's first-ever chapter. The Weston Lecture memorializes their son Daniel Scott Weston, who died of a brain tumor at the age of 47 in 1998. The Lecture will be presented annually and showcase a nationally recognized scientist or clinician whose work is significantly advancing our knowledge of glaucoma, particularly in the area of new therapies and progress towards a cure. Selection of the Weston lecturer will be recommended by GRF board member **Andrew Iwach, MD** and President/CEO **Thomas Brunner** together. Other highlights of the meeting, led by founding chair **Art Takahara**, included best wishes from Santa Clara county Supervisor **Liz Kniss**

SAVE THE DATE

The 30th Anniversary Celebration

**Speeding the Cure.
Spreading the Word.**

Wednesday, January 23, 2008
Westin St. Francis Hotel,
San Francisco

2008 National Co-Chairs
Ed Zander, Chairman and CEO
of Motorola, and **Mona Zander**



Committees in formation.
For sponsorship information
contact Craig Palmer at
cpalmer@glaucoma.org or
call 415-986-3162

People Making A Difference

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(District 5), and the announcement of founding members of the chapter's Leadership Council, including **Fred Brinkmann, Dinesh Desai, Patty Fisher, David Kline, Astrid Thompson, John Vidovich, and Jan Zones.**



H. Allen Bouch

H. Allen Bouch, Managing Director of Citigroup Global Markets, **Kuldev Singh, MD, MPH,**

Director of Glaucoma Service at Stanford University, and Art Takahara have been elected to GRF's board of directors. Based in San Francisco, Bouch co-heads



Kuldev Singh, MD

corporate relationships. At Stanford, Singh has served as the Director of the Glaucoma Service for 15 years. Brunner also expressed appreciation to **Ann and Emmett Skinner** in Chico, CA for their generous gift of \$21,000; **Sandra Rubin** for the recent gift of \$15,000 from the **Kate Obstgarten Private Foundation** in Boca Raton, FL;



Art Takahara

Citigroup's West Coast investment banking business, and manages many of Citigroup's most important

to **Warren B. Williamson** from Pasadena, CA for his additional gift of \$10,000; and for a \$2,000 award from the **San Francisco Rotary Foundation.**

Seasoned Bay Area fund-raising executive **Marlene Wizelman** has become GRF's first Major Gifts Officer. As Development Director at the Oakland Zoo, Wizelman designed and led the \$8 million campaign to build the new Children's Zoo, has most recently created the development program for Oak Hill School in Marin (for children with autism), and has served as Assistant Head of Advancement at Marin Academy.



Marlene Wizelman

In Appreciation

Our deepest appreciation for the generosity of our donors at the \$1,000 level and above, including members of **The Catalyst Circle, The Blanche Matthias Society,** and institutional donors. (Contributions March 27 to June 30, 2007)

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Remembering Dr. Shaffer

By H. Dunbar Hoskins, Jr., MD



Dr. Robert N. Shaffer always took the time to get to know his patients, many of whom remained friends

with him throughout his life. He was dedicated to finding better treatments and a cure for glaucoma, but also to seeing each of his patients as a whole person rather than just treating their glaucoma. In his warm and caring way, he did so much to educate others and promote research to help people with glaucoma. As a physician, educator, and mentor, Dr. Shaffer was a pioneer in the true sense of the word.

Born January 18, 1912 in Meadville, Pennsylvania, Dr. Shaffer received his medical degree from Stanford University, and in 1949 he established in San Francisco what would become the leading glaucoma practice west of the Mississippi. Dr. Shaffer taught at U.C. San Francisco School of Medicine for half a century. He lectured extensively in Europe and Asia, and published over 70 articles and publications on glaucoma. He became widely known for his landmark book, *Diagnosis and Therapy of the Glaucomas*, coauthored with Dr. Bernard Becker. First published in

1961, this book is still a primary reference for glaucoma doctors today.

He established the Shaffer Fellowship program to offer promising young doctors a year of personal training in the clinical study, diagnosis, and treatment of glaucoma. More than forty Shaffer fellows received this valuable experiential training. I am honored to have been a co-founder of the Glaucoma Research Foundation, along with Dr. Shaffer and Dr. John Hetherington, almost 30 years ago.

Dr. Robert N. Shaffer died on July 13 at his home in Marin County, CA. He is survived by his wife, Virginia, and their two sons, John and Stuart. Memorial donations may be made to the Glaucoma Research Foundation, 251 Post Street Suite 600, San Francisco, CA, 94108, or online at www.glaucoma.org.



Dr. Hoskins is Executive Vice President of the American

Academy of Ophthalmology, a position he assumed in 1993 after a distinguished career in private practice. He is one of the founders of GRF and has served on the GRF Board since its inception in 1978.

Glaucoma Insights

Gail F. Schwartz, MD

Getting the Most Out of Your Treatment

Q: I know it's important to understand my glaucoma diagnosis and my treatment regimen. What questions should I be prepared to ask my doctor to ensure that I'm



getting the most out of my treatment?
- *Joseph F. Govednik, Orinda, CA*

A: Although your doctor may be busy, he or she wants to provide you with the best possible care. Working with your doctor means voicing your concerns, asking questions to better understand your diagnosis and treatment, and keeping your doctor informed of any changes in your health.

There are several types of glaucoma, and your treatment may depend on your specific diagnosis, so it is important to ask what type of glaucoma you have. Once you know, you should ask your doctor which treatment option or options are the most appropriate for you. If your doctor prescribes a glaucoma medication, he or she may also have tips on how to make sure you take your treatment as prescribed, so be sure to ask. If necessary, ask the doctor

or technician to write directions down for you. You should also ask about potential interactions with other medications or dietary supplements you are taking, possible side effects, and what would happen if you were to go without treatment. Other questions to ask: How will I know if my treatment is working? How long will the treatment last? How often will I need checkups?

Be sure to tell your doctor any issues you may be having with your medication. Many patients have difficulty getting the medication in their eye or remembering to take their eye drops. Patients who have very limited incomes can benefit from patient assistance plans as well – if cost is a problem in getting your medication, tell your doctor. If you are not taking the drops regularly, it is very important to inform your doctor – he or she can discuss other treatment options or help you solve the problems that get in the way of you taking your eye drops daily. It is also extremely important to keep your scheduled follow-up appointments and not get off track.

To help you make sure you get the information you need and that you understand your treatment regimen, you may

want to ask a friend or family member to accompany you to your appointment to remember the doctor's directions or help take notes. It helps to keep writing things down when you get home, too. Take note of any side effects or drug interactions, and write down questions you want to ask at your next appointment.

Preparing in advance for your office visit can help you to feel more comfortable and avoid feelings of confusion when you leave the doctor's office. Even if you have been managing your glaucoma for a while and following the regimen your doctor has prescribed, it's important to continue talking with your doctor about any questions you have about your treatment so you can get the most out of your therapy.



Gail F. Schwartz, MD is a glaucoma specialist in private practice at Greater Baltimore Medical Center,

Baltimore, MD. Dr. Schwartz is an Assistant Professor at the Wilmer Eye Institute and the University of Maryland. She is active in research and teaching, and is the author of many articles on varying aspects of glaucoma therapy.

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www.glaucoma.org/about/board.html

GRF Mission:

To prevent vision loss from glaucoma by investing in innovative research, education, and support with the ultimate goal of finding a cure.

The President's Message



Dear Friends,

On July 13, GRF's beloved founder Dr. Robert Shaffer passed away. He was 95. Dr. Shaffer touched the lives of all those around him in so many ways. He was an enthusiastic educator and mentor, a dedicated father, and a leading glaucoma specialist and author. His proudest professional accomplishment was the Shaffer Fellowship, a program that offered promising young doctors a year of personal training in the diagnosis and treatment of glaucoma. Nearly 30 years ago, Dr. Shaffer founded the Glaucoma Research Foundation along with Dr. H. Dunbar Hoskins, Jr. and Dr. John Hetherington. Dr. Shaffer will be missed by all of us at the Foundation. Our thoughts and prayers continue to be with Virginia, his wife of 67 years, and the Shaffer family.

The small foundation that Dr. Shaffer started in 1978 has grown to be one of the largest funders of innovative glaucoma research. Our small educational glaucoma booklet first published in 1983 is now a comprehensive 32-page guidebook for the newly diagnosed, with over 100,000 copies distributed each year. Our *Glams* newsletter, first published in 1982, now provides timely glaucoma information to 75,000 readers.

GRF's fiscal year 2008 began July 1st, so we are now officially in our 30th year. All of us at GRF feel privileged to continue Dr. Shaffer's legacy of helping those with glaucoma through timely education and research to find a cure.

Thomas M. Brunner, President and CEO

Glaucoma Research Foundation

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