The Annual Wills Eye Hospital Glaucoma Conference and a gala celebrating 40 years of fellowship training on the Glaucoma Service at Wills Eye Hospital/Jefferson Medical College are being planned for September 26–28, 2002. The Conference will take place on Friday and Saturday, followed on Saturday night by a gala celebration at the Perelman Theater of the new Kimmel Performing Arts Center. In addition to a stellar line-up of speakers, a ballet has been commissioned for the occasion, the costs of which are being underwritten by long-time Wills Eye Hospital patient and supporter, Mr. Jack Wolgin. It is expected that those coming to the Glaucoma Conference will come to the gala, but it is anticipated that the gala will draw a much larger group.

Foundation President Dr. George Spaeth explained, “We are proud of our Fellows. Many are leaders: one is the president of a medical school, one is the director of medical affairs at a medical school, many are private practitioners, chairs of departments of ophthalmology, and chiefs of glaucoma units.” Recipient last year of the Wills annual award for teaching, the Golden Apple Award, Dr. Spaeth continued, “We wish to celebrate what we believe is a significant achievement that has changed the way patients with glaucoma around the world receive their care. We believe that we on the Glaucoma Service and those we have trained have played a role in changing the basic concept of what glaucoma is, how it is recognized, and how it is best treated. We would like to think that the mentoring we have done serves as a model for other departments.”

Foundation Board member Bonnie Long, chair of the gala celebration, is in the process of forming the gala committees. Volunteers are needed. Please call Foundation Managing Director Nancy Petrongolo for details (215-503-2986).

The Challenge of Detecting Glaucoma Early

Glaucoma Service staff member Dr. Jeffrey Henderer examines the optic disc of a member of the North City Congress Senior Center at a recent glaucoma screening. Assisting at the screening were Glaucoma Service Clinical Fellow Dr. Tara Uhler and Research Fellows Dr. Atilla Bayer and Dr. Undraa Altangerel. See story on page 2.

Photo by Dr. Atilla Bayer
The Foundation’s screening programs were initiated in 1998 by Foundation Board member Ms. Nettie Taylor in response to the fact that the incidence of glaucoma is seven to eight times higher in the African-American community than in the general population. Working with the Penn Towne Links, an African-American service organization, Executive Director Ken Parker, and a number of Glaucoma Service doctors, 8 screenings were carried out at local, predominantly African-American churches. Dr. Henderer, who worked at some of those screenings while he was still a Clinical Fellow on the Glaucoma Service, is now spearheading the Foundation’s screening programs.

After his Wills Fellowship, while on the staff of the Temple University Department of Ophthalmology, working mainly through the Philadelphia Corporation for Aging (PCA), Dr. Henderer screened 140 persons during the academic year 1999–2000 and identified approximately 6–7 new cases of glaucoma, 2 or 3 cases of poorly controlled glaucoma, and about 10 persons suspicious for glaucoma. Far more patients were referred to an optometrist or ophthalmologist for non-glaucoma eye disease (most often cataract) and glasses.

Appointed to the Wills Glaucoma Service staff in July 2000, Dr. Henderer continued screenings at PCA centers. Through August of 2001, with help from the Borkee-Hagley Foundation in Wilmington, Delaware, Dr. Henderer has performed 18 screenings at approximately 12 different centers, a total of some 327 exams. Five more screenings have been done since then, but the data have not yet been entered into the database. Approximately 56 persons have been diagnosed with either glaucoma, or as glaucoma suspects. Thirty-two were unaware of their status. Many more were found to have cataract or suspected refractive error.

Says Dr. Henderer, “I am pleased with the results of my project so far and I am very excited about the prospects for glaucoma screening in the future. I feel that this past year has been an important one to lay the groundwork for some very important work to come. The most important next step is to gather information on patient follow-up after the screening. This project will be done by one of the clinical glaucoma fellows at Wills and PCA. I sincerely appreciate the support of Ms. Nettie Taylor and the Penn Towne Links, who established the framework for this crucial activity in the battle against glaucoma.”

Pharmacia Corporation has generously agreed to fund Glaucoma Service physician Dr. Douglas Rhee’s molecular pharmacology initiative, “Prostaglandin Cell Signaling and Regulation of Extracellular Matrix in Trabecular Meshwork and Ciliary Body.” The primary goal of this project is to investigate the mechanism of action of the prostaglandin analog, latanoprost (a commonly prescribed drop used to lower eye pressure), at the genetic, biochemical, and cellular level. “In doing so,” says Dr. Rhee, “I hope to further elucidate one of the fundamental questions in glaucoma—what controls intraocular pressure (that is, what causes glaucoma)? By understanding the pathways that drugs use to lower intraocular pressure, we can learn how intraocular pressure is controlled. In turn, this will enable us to develop new and better ways of treating glaucoma. I am quite hopeful that this project has the prospect for further elucidating one of the fundamental and unanswered questions in glaucoma.”

Pharmacia Corporation Funds Dr. Rhee’s Molecular Pharmacology Study

Pharmacia Service physician Dr. Douglas Rhee in his laboratory at Jefferson Medical College, Thomas Jefferson University.

Photo by Jamie Nicholl
Seven Glaucoma Service Studies Presented at American Academy of Ophthalmology Meeting

Seven Glaucoma Service studies were presented at the Annual Meeting of the American Academy of Ophthalmology in New Orleans the second week of November.

1. Patterns of Optic Disc Damage in Patients with Glaucoma And Average Intraocular Pressure: Relation to Risk Factors
   Tarek M. Eid, MD; George L. Spaeth, MD; Augusto Azuara-Blanco, MD; Atilla Bayer, MD; William C. Steinmann, MD, MSc

2. Therapeutic Monocular Trial of Unoprostone 0.12% in Glaucoma Patients on Maximum Tolerated Medical Therapy.
   Leslie S. Jones, MD; Undraa Altangerel, MD; L. Jay Katz, MD

3. Reliability of a New Optic Disc Staging Scale: Inter-Observer Agreement
   Muge Kesen, MD; Jeffrey Henderer, MD; Undraa Altangerel, MD; Atilla Bayer, MD; George L. Spaeth, MD; William C. Steinmann, MD, MSc; Joann Fontanarosa, PhD

4. Long-Term Results of Baerveldt Tube-Shunt Surgery with Mitomycin-C Use
   Inci Irak, MD; Marlene R. Moster, MD

5. RADAAR Detects Glaucoma and its Severity
   Paul Harasymowycz, MD; Gang Xu, PhD; Jonathan Myers, MD; Atilla Bayer, MD; George Spaeth, MD

6. Clinical and HRT Optic Disc Size (ODS) Measurement: Correlation with Glaucoma Severity
   Paul Harasymowycz, MD; Gang Xu, PhD; Jonathan Myers, MD; William Steinmann, MD, MSc; George Spaeth, MD

7. Influence of Patient Data on Cup/Disc Ratio Measurement and Optic Nerve Interpretation
   Muge Kesen, MD; Jeffrey Henderer, MD; Richard Wilson, MD; Marlene Moster, MD; Jonathan Myers, MD; G. H. Davids, MD; Tara Uhler, MD; S. Donnelly, MD; K. Han, MD; Joann Fontanarosa, PhD; William Steinmann, MD, MSc; George Spaeth, MD

Dr. Mary Jude Cox
Dr. Cox, Chief Resident at Wills last year, graduated with a distinguished record and numerous honors and awards from the Medical School of the University of Virginia. She has 17 publications to her credit.

Speaking of her choice to specialize in glaucoma, she explained: “I value the close relationships with patients that being an ophthalmologist allows, as patients trust us with their cherished eyesight. My experience in the glaucoma clinic has reinforced the idea that patients need a friend as well as a doctor. Frightened and confused, uncertain of their condition or what the future holds, patients often do not know where to turn. After spending a few extra minutes with a glaucoma patient and her son explaining the reason for using eye drops, I received a thank you note in the mail, thanking me for making clear something that had been ‘mysterious for so long.’ I continue to see them both every few months, once again feeling that I gain more from these interactions than they.”

Dr. Tara Uhler
Dr. Uhler, Resident at Wills last year, graduated magna cum laude in biology from Harvard College, received an A.M. degree summa cum laude for her thesis on neuroprotection in rat models, and then completed her medical degree at Harvard Medical School, where she was a Harvard Graduate National Scholar. She has performed research at the Tumor Immunology and Biology Laboratory at the National Cancer Institute of the National Institutes of Health. She works with Esperanza, an ophthalmology clinic serving the Hispanic population of North Philadelphia.

She explained her choice to specialize in glaucoma: “My decision to enter ophthalmology was the result of my intense interest in the eye, its challenging diseases, and the opportunity to perform both medical and surgical treatment, as well as my desire to enter into long-term patient-doctor relationships. These same characteristics are the principal reasons I am particularly attracted to the field of glaucoma. Glaucoma demands a long-term relationship with patients, includes surgery which can be complicated and challenging, and promises new advances in both pharmacologic and surgical management. This field is also fertile ground for research topics ranging from basic mechanisms to therapeutic options.”

Dr. Rajesh Shetty
Dr. Shetty received a B.S. in Economics, working in a dual major in Health Care Systems and Finance at the Wharton School of Finance at the University of Pennsylvania. He took his medical degree from the Indiana University School of Medicine, where he received the Special Recognition in Student Program in Academic Medicine award. His ophthalmology residency was at the University of Texas Southwestern Medical Center in Dallas. Most recently Dr. Shetty served the Ben S. Fine Fellowship in Ophthalmic Pathology at the Armed Forces Institute of Pathology in Washington, D.C. His research interests range from a comparison of the fundamental histopathologic changes found in chronic and acute neuropathy of the optic nerve in glaucoma, the surgical results of various glaucoma drainage implants, and the common systemic side effects of glaucoma medications.

He explained his decision to specialize in glaucoma: “My clinical exposure in the public hospital setting of Dallas revealed the chronic devastating impact that glaucoma has on our society, especially on the African American population. The combination of medical and surgical complexity in these difficult cases provides some of the greatest challenges in clinical ophthalmology, particularly in the face of a poorly understood disease.”
Practical Information for the Glaucoma Patient

What to Expect After Trabeculectomy
by Jeffrey Henderer, MD

Glaucma surgery is a complex subject. It can offer very effective treatment for the disease but can also have very serious side-effects. Surgery is not a decision to be taken lightly, and an understanding of some of the symptoms and follow-up care needed can be very helpful to patients.

Although technically laser treatments for glaucoma are a form of surgery, when glaucoma specialists say glaucoma surgery, they are usually referring to a trip to the operating room to essentially manufacture a new drain for the eye. This article deals with one type of glaucoma surgery, trabeculectomy.

What is a Trabeculectomy?

Trabeculectomy is the name of a surgical procedure designed to create a hole in the wall of the eye to allow the aqueous humor in the front of the eye to drain out of the eye and thereby lower pressure. A simple hole in the eye would let too much fluid out and the eye would collapse, so the hole is made in the bottom half of a “trapdoor”-like incision.

This hole is created in the far periphery of the cornea, usually under the upper eyelid. The trapdoor is then replaced back into place in such a way as to allow some aqueous to leave the eye, but not too much. The size of the hole and the tension and number of sutures can regulate this outflow.

The aqueous then collects under the skin of the eye, or conjunctiva, adjacent to the trapdoor (usually located under the upper lid) and forms a cyst, or bleb. This cyst acts as a reservoir for fluid to leave the eye and thereby lower the eye pressure.

Possible Problems

The sensations that can be experienced after trabeculectomy are the direct result of the way this surgery is performed. Obviously, the goal of surgery is to lower the eye pressure. Unfortunately this does not always happen according to plan. In the evening after trabeculectomy, often the eye is sore. I instruct patients to take Tylenol. If the pain is not controlled with Tylenol, then call the office.

Between postoperative day one and many weeks after surgery, defined as the immediate postoperative period, the eye pressure can be very low, can remain the same as before surgery, or can even be higher. If the pressure is very low, the patient may well experience blurred vision. If the low pressure is accompanied by swelling of fluid or blood in the choroid (under the retina), there will likely be feelings ranging from soreness to extreme pain. High pressure is often asymptomatic unless it is very high. Very high pressures can give pain and blurred vision.

Addressing the Problems

Your doctor will take steps to address each of these symptoms by treating their cause. If your pressure is low, drops or an injection of viscoelastic (used commonly in cataract surgery to maintain the shape of the eye) may be indicated. If it is high, you will likely have sutures removed or cut to try and increase flow out through the surgery site. In the late postoperative period, defined as several months after surgery, other sensations can arise as a result of the surgery.

• One of the most common is a dryness of the eye. This is often caused by a large bleb interfering with the upper eyelid function and therefore the even distribution of tears coating the eye.

• Rarely, the bleb can grow so large that it can cover the central cornea and blur the vision.

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**Trabeculectomy**  
(Continued from Page 5)

- Sometimes the bleb can be too effective and cause the pressure to be too low. As in the immediate postoperative period, this can be associated with blurred vision.
- Alternatively, the bleb can grow very large, with a thick wall of scar tissue and an associated high pressure. This is known as encapsulation. Your doctor may want to treat this with medication or a surgery known as bleb needling.

**Despite these symptoms, most persons with functional blebs have no serious side effects.**

Perhaps the most disconcerting problem in the late postoperative period (although it can occur immediately after surgery) is a bleb leak. This typically happens in eyes that have received anti-scarring medicine at the time of surgery to prevent the scarring that often causes the trabeculectomy to fail. Some patients are unaware of the leak, others notice tearing from the eye. Usually there is a low pressure. Such leaks are often treated fairly aggressively as there is a chronic risk of infection.

These are some of the many symptoms that patients can have after trabeculectomy. But if you remember nothing else, I want to give you a mnemonic device to describe symptoms that might indicate trouble after glaucoma surgery. I learned this from Richard K. Parrish II, MD, at the Bascom Palmer Eye Institute in Miami. Although he did not invent it, he has helped to popularize it.

The mnemonic device is RSVP:

- R for Redness
- S for Sensitivity to light
- V for blurred Vision and
- P for Pain.

If you have any of these symptoms, call your doctor.

Because the surgery does not always go according to plan, the follow-up care needed after surgery can vary greatly. You will certainly need to be seen the first day after surgery. From there the visits are tailored to the appearance of the surgery. If things look fine, perhaps the next appointment will be in a week. If things are not quite perfect, you may need to be seen sooner—perhaps even the next day. Subsequent visits are extremely variable depending on the physician and the progress of surgery, but you will likely be closely monitored for the first two months or so. If the surgery goes well, and depending on what type of job you have, you should be able to return to work within a week or so.

You will be asked to use eye drops after the surgery. Almost certainly they will be different than the ones you had been using before surgery. Generally the postoperative medications are a combination of anti-inflammatory and antibiotic drops. Each doctor has his or her own drop regimen to try to prevent infection and reduce the scarring that can occur after surgery. This is one time when high-dose steroid drops can be used. At other times such high doses may be associated with elevated pressure, but after surgery they help keep the pressure low.

Glaucoma surgery requires a significant investment from the doctor and the patient. Often the surgery is only the first step. Frequent visits postoperatively are typically needed to adjust medication, cut sutures, or perform other manipulations to try to maximize the long-term success of the procedure.

Understanding what is entailed can help foster a good doctor-patient relationship in which they work together as partners through this event.

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**Glaucoma Treatment: On the Frontier**

**Alternative Treatments for Glaucoma? Part I**

by Douglas J. Rhee, MD

In the United States, alternative medicine is becoming more and more popular. However, one should use great caution when considering the use of an alternative treatment for any reason. For a select few conditions, there is good scientific evidence that alternative (or non-traditional) treatments are beneficial (for example, *gingko biloba* for improvement in mental function in patients with Alzheimer’s). There are nearly an equal number of alternative treatments that have been shown to be harmful (for example, *Stephania tetrandra, Magnolia officinalis, Aristolochia fangchi* (herbs in some herbal weight loss preparations) causing kidney failure and bladder cancer; *gingko biloba* causing cerebral hemorrhage, etc.)

What about alternative treatments for glaucoma? We have recently written a review of this subject which was published in the ophthalmologic journal *Survey of Ophthalmology* (see Rhee et al 2001:46:43-55). Oftentimes, the articles that are used to support the claims of alternative medicine make conclusions that are not supported by the data in their studies, i.e., bad science. In a multi-part series, I hope to review some of the evidence about various alternative treatments and their possible use for glaucoma.

**Acupuncture**

Those who practice acupuncture believe that health is determined by a balanced flow of vital life energy (called qi or chi) present in all living organisms. This energy

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**Alternative Treatments**  
*(Continued from Page 6)*

circulates in the body along twelve major energy pathways called meridians. Each meridian contains over a thousand acupoints that can be stimulated to alter the flow of qi. With the use of special needles inserted just under the skin at these acupoints, an acupuncturist attempts to correct or rebalance the flow of energy to treat disease.

Acupuncture for glaucoma has been studied in Europe and in China. In all studies, there was no effect on intraocular pressure or visual field. There is no evidence to support the use of acupuncture at this time.

**Diet**

Foods contain vitamins and nutrients important in the prevention or treatment of disease. By altering diet, one could potentially change the balance between beneficial and harmful factors. For example, it has been proven that serum cholesterol levels can be lowered by decreasing the amount of ingested cholesterol.

In some alternative medicine books I have encountered are claims that a dietary change could have a beneficial effect on glaucoma—specifically a high rutin (a compound isolated from cured tobacco and buckwheat) diet or a “rice diet.” I would like to address each of these independently.

In 1948 an ophthalmologist noted that the “rice diet,” a low-salt, low-protein, and high carbohydrate regimen, lowered intraocular pressure in 11 of 12 individuals. However, all of the patients had massively uncontrolled high blood pressure because of end-stage kidney failure (none of these 12 patients had glaucoma). When they started the low-salt diet, their systemic blood pressure decreased as did their intraocular pressure. This was in an era before blood-pressure medications and dialysis were available. Massively elevated blood pressure can increase eye pressure because it increases pressure around the brain. Since the eye is connected to the brain, eye pressure rises.

It is important to note that the blood pressure needed to elevate the pressure around the brain enough to elevate the eye pressure is fatal 100% of the time. We know that a low-salt diet for individuals with kidney failure will help their systemic blood pressure. As I hope was clear from my description, the only reason the low-salt diet worked to lower eye pressure was that it lowered the massively elevated blood pressure and intracranial pressure. In modern times, it is an extremely rare individual who has a blood pressure that high. If they do, an elevated eye pressure is obviously not the most important concern.

A few years later, the same ophthalmologist reported that eating rutin along with the drug pilocarpine lowered intraocular pressure. Again, this ophthalmologist mistakenly concluded that the rutin was responsible for lowering the eye pressure. We now understand that the drug pilocarpine was the reason why his patients had a lower eye pressure.

**Obesity**

What about weight loss? In recent large epidemiologic studies, the investigators looked at the BMI (body mass index)—a method of grading the level of obesity which is more accurate than just looking at the number of pounds) in people with glaucoma or without glaucoma. No difference was found. At this time, there is no evidence that diet or obesity plays a role in the pathogenesis or treatment of glaucoma.

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**Parents of Children with Glaucoma Find Help in Support Group**

Norma Schlossberg works with children with glaucoma and their siblings while their parents attend the first meeting of the new Foundation-sponsored support group for parents of children with glaucoma. Approximately 25 parents heard Glaucoma Service doctor Courtland Schmidt speak on “An Overview of Glaucoma in Children” on September 30 in the Wills auditorium. The second meeting of the season will take place in the auditorium on Sunday January 13th, from 1:30 to 3:00 PM, with Dr. Richard Wilson speaking on “Medical Treatment of Children with Glaucoma.” Mrs. Schlossberg and her husband Jack are long-time members of the Foundation-sponsored adult glaucoma patient support group. Nancy Petrongolo, Managing Director of the Foundation, instrumental in setting up the group for parents, notes she now has 337 people on the mailing list for the group.

*Photo by Jamie Nicholl*
The other day I was impressed with how wonderful one of my patients looked. She has been a diabetic on insulin for many years. She looks 15 years younger than her 74 years. She has no complications of diabetes. She is energetic and attractive. In answer to my query about how she kept herself in such great shape, she responded that she was extremely disciplined with control of her blood sugar. How could she bring herself to do that? I asked. She answered, “I know it’s in my best interest.”

A careful analysis of that deceptively simple statement may be instructive.

“I”

She stated that she herself thought it was in her best interest—not her husband, or her doctor or anybody else. She had come to the conclusion herself—a critically important part of being healthy. Health is the perception of being whole. While things external to the individual affect the individual’s health—things such as bombs and germs and doctors—nothing can make a person healthy except the person himself or herself. The recognition that I am primarily responsible for whether or not I am healthy is the first step towards my being healthy.

“Know”

“Know” is a strong word: “I know that my Redeemer liveth” for the Christian, or “I know that two and two equals four.” There are not a whole lot of things we can say in a declarative sentence in which we use the word “know”! What she was saying was that she was certain that how she lived would affect whether she would be healthy. Many people, in contrast, consider their health to be the consequence of ill fortune or bad karma.

“It’s in my best interest.”

But what is our “best interest”? For some it’s health, for others wealth, or self-indulgence, or comfort, or fame. It behooves us to be careful about what we consider our “best interest,” because it is what we are most likely to be successful in achieving.

It is both wonderful and discouraging to have practiced medicine for 38 years. It is wonderful because I have been able to see with increasing clarity that what a person does with the genes he or she is given is a major determinant in whether that person will be healthy. Somehow, that seems just and fair and wonderful. It is frustrating in that I also have seen with increasing clarity that people who already understand that how they live affects them do not need to have it told to them, and those who need to have it told to them rarely benefit from having it told to them. That may be fair, but it certainly is not wonderful.

The three most important things that determine whether a person with glaucoma maintains good vision and good health are: (1) their genes, (2) uncontrolled things such as war, and (3) how they manage their lives. Though we do not have complete control of our lives, each individual can do a great deal to assure that glaucoma does not decrease his or her quality of life.
Wills Eye Hospital

Genes and Glaucoma

Carla Wolbach of Schnecksville, PA writes:
I am interested in learning more about genes affecting glaucoma. My son was born with congenital glaucoma. His paternal grandmother, her sister and both her brothers have adult onset glaucoma. I'm not sure about all of them, but my mother-in-law has normal tension glaucoma. What can you tell me about their situation? Is there a blood test that family members can take to know if they carry the gene?

Dr. Douglas Rhee, a glaucoma specialist on the Wills Glaucoma Service as well as a molecular biologist who has done extensive work on the genetics of glaucoma, answers:
Based on our current knowledge of genetic markers for glaucoma, it appears that the genes for congenital glaucoma are different than those for the adult onset types. Two genetic loci, that is, places where the genes exist, have been identified. However, the responsible genes have not yet been identified. Therefore, there is no test to see if any other member of a family is a carrier. There are seven loci or places that have been identified for juvenile/adult onset glaucoma, but only one responsible gene has been identified, a gene referred to as the TIGR gene.

At this time there is no commercially available test to see if an individual has the mutation. It may be possible to test for some of the mutations for that gene, if the family has the right genetic linkage. Just because several family members are affected does not mean that they all necessarily carry the gene.

There may be labs that can test for some of the mutations, but it would require a very significant amount of effort to get all this taken care of.

In Memoriam

The Foundation was saddened to learn of the death of Jesse Roffe Wike 2d on Monday September 10th. A long-time patient of Dr. Spaeth, Mr. Wike was a member of the Foundation’s Board of Trustees and one of the Foundation’s major benefactors. Mr. Wike was head of the investment firm Cooke & Bieler, Inc. until his retirement in 1993. Before joining the company in 1965, he taught as an associate professor at the University of Pennsylvania and served as a research associate with the Foreign Policy Research Institute, a nonprofit organization devoted to advanced research and public education on international affairs. In addition to his work on the Glaucoma Service Foundation board, Mr. Wike served on the boards of many cultural and educational institutions, including the Pennsylvania Academy of the Fine Arts, the Curtis Institute of Music, the Philadelphia Museum of Art, and the Southwest Community Enrichment Center.

Annual Fund

You CAN Make a Difference!

By now you should have received our year-end mailing for the Foundation’s 2001 Annual Fund. If you have already made a donation, many thanks for your generous support!
If you haven’t yet, we hope you will take a moment and contribute today.
The Annual Fund this year is particularly important. It will help us staff our new Glaucoma Research Center, and we’re especially excited about the many new research initiatives now underway. It will help us provide information to patients and families through our web site and this newsletter, which now has an international constituency. And it will help us train a new generation of glaucoma specialists, so important for the future.
All these activities are critical in our effort to better understand and eventually eradicate glaucoma, and that’s why we’re asking for your support. Please help us reach our goal of $200,000 before the end of the year. Your gift will truly make a difference.
Chat Support Group
(Continued from Page 3)

P: How about aerobic exercise classes?
Dr. Wilson: Aerobic exercises are good. They usually get your heart rate up for 20 to 30 minutes, and being with a group will help keep you motivated.
P: I am 32 years old, have congenital glaucoma, and I run three miles a day, four to five times a week. That should be okay, right?
Dr. Wilson: That should be terrific. Wow!
Moderator: Do you have any suggestions about how to start an exercise program and stick to it?
Dr. Wilson: Yes. You should work it into a convenient time of the day. However, it always takes will power to do it. I swim at 6:30 in the morning, but in the winter I really have to force myself out into the cold to go to the “Y” and hop in the pool.
P: Is there any difference between exercise that generates sweat, and exercise that doesn’t, besides the obvious?

“THE CHAT ROOM IS EXTRAORDINARILY USEFUL. KEEP UP THE GOOD WORK; IT’S APPRECIATED.”
HENRY GREENSPAN,
ANN ARBOR, MICHIGAN.

P: How about swimming in a pool after you’ve had a trabeculectomy? Is the pool water safe?
Dr. Wilson: Usually, unless your conjunctiva is very thin. Your doctor can tell you whether you should use goggles or not swim at all.
P: What about weight training? I use the weight machines.
Dr. Wilson: Weight training is good for the body, but does little that I know of for glaucoma. It counts toward your general health, muscle tone, weight control, etc., but does not lower IOP or increase circulation much.
P: Can weightlifting raise IOP?
Dr. Wilson: Yes. Holding one’s breath and straining also raises the venous blood pressure. However, most people cannot heave huge weights for very long.