October 2013 Volume 21 No. 2

Searchlight on Glaucoma

The Glaucoma Service Foundation to Prevent Blindness

Message from President

It gives me great pleasure to share with you some of the exciting activities that are underway at the Glaucoma Service Foundation. First and foremost, 2013 marks the 50th Anniversary of the Glaucoma Service at Wills Eye Hospital. For one half century, dedicated physicians and staff have advanced eye care for thousands of people across the United States and around the world suffering from glaucoma. And, in an amazing tribute to recognize this legacy, Dr George Spaeth will be honored by Wills Eye Hospital on October 19th, 2013 and will be joined by many friends, patients, colleagues, current and former fellows and the Glaucoma Service Foundation family. Dr. Spaeth's commitment to medical education and training and research is recognized globally. And, we are pleased to let you know that proceeds from this event will support the Ann and George Spaeth Glaucoma Research Fund at Wills Eye Hospital.

Similarly, 2013 marks the 34th Anniversary of the Glaucoma Service Foundation whose dedication to research, medical training for fellows, patient self-help and community education is as vibrant as ever. Through generous donations from you, we have contributed to the Glaucoma Research Center and made an investment in improving the research facilities at Wills Eye Hospital. Our Board thought it was critical to improve the workspace and upgrade the tools used by the researchers in support of expanded research capability. And, it is important to note, that Mr. James Park, a supporter of the Foundation, responding to our wish list request in our last newsletter provided $17,950 to purchase equipment that will be used in research and promote community initiatives.

Recently, we selected and funded our annual contribution to one fellow, Dr. Sonya B. Shah, who is engaged in medical studies and research. Our funding is critical support for her as she pursues her education. In addition, we support the remaining fellows in other important ways such as providing needed funding for them to present at key conferences and meetings and assisting with overcoming language barriers since many of the fellows are from overseas. We would like to fund more fellows and provide increasing staff assistance to support their development and you can help us do this with your contributions.

Our most exciting new initiative is a communications and outreach program designed to raise awareness amongst populations in general and specifically within populations at high risk of going blind from glaucoma.

(continued on next page)

SAVE THE DATE

7th Annual CARES Conference

The 7th Annual CARES Conference has been moved to April 26, 2014. Stay tuned for more details. We will post updates on the conference on our website at www.willsglaucoma.org

Message from President

(continued from cover page)

We know and you know that glaucoma does not equal blindness if diagnosed and treated appropriately. But, the sad truth is that many do go blind unnecessarily. So, we are embarking on this initiative and it is in its early planning stages and we are seeking seed support. This time next year, if we raise the funding necessary, we will see messaging around the Greater Philadelphia area promoting our desire to eliminate blindness as a result of glaucoma.

Lastly, we had two exciting events scheduled in September and October to raise funds to support our core activities. We hosted a wine tasting event that was held on September 27th and a bowling event on October 10th. Please refer to our website for more details.

Many of you have engaged us in phone conversations or attended one of our events and your feedback is making us stronger. As you will discover in this edition of the newsletter, our contributors are stepping up once again to support our work. I encourage you, if you have not heard from us – to call. We are never to busy to speak with you and if you are going to be at the Glaucoma Service for a visit, please let us know and we can arrange to greet you.

I want to thank you for all that you do!

Sincerely,
Jeremiah J. White, Jr.
President
Glaucoma Service Foundation

Lifestyle and Glaucoma

by Scott Fudemberg, MD

In the age of obesity, it's not surprising that patients, physicians, and researchers direct more attention toward nutrition. As a society, we are ever more aware of the health benefits of diet modification as well as exercise. However, it may be tempting to connect popular trends in diet modification with good health before these have been fully proven. Additionally, that which might be healthy in general may not be specifically useful for improving the outcome of a particular condition. Studies show that lifestyle factors influence the intraocular pressure (IOP), but these changes have not been conclusively shown to affect outcomes in glaucoma. The only well proven strategy to prevent worsening of glaucoma is lowering intraocular pressure with medicines, laser, and surgery.

Some activities that are commonly part of daily life raise IOP. Playing wind instruments, ingesting caffeine, inverted yoga positions like headstands, lifting weights, and even wearing tight neckties cause IOP elevation. In contrast, alcohol lowers IOP and studies demonstrate that IOP may be lower with some forms of exercise.

Does this mean that glaucoma patients should adjust their lifestyle in the hope of treating glaucoma? According to our current information, the answer is no. The IOP changes generated by these activities tend to disappear rapidly. Research shows that these lifestyle modifications don't alter the course of glaucoma. Nonetheless, some lifestyle modifications have been clearly shown to reduce the risk of serious diseases besides glaucoma. For example, smoking cessation does not help to treat glaucoma, but smoking is linked to lung cancer and cardiovascular disease. Therefore, it's important to stop smoking even though quitting won't help with glaucoma.

Marijuana gets particular attention for its potential use in medicine. Although it's widely known that marijuana lowers IOP, this effect is relatively fleeting. Marijuana would need to be smoked every 3 hours to achieve around the clock IOP lowering. Administering the active ingredient in marijuana by mouth and under the tongue failed in studies due to side effects. Eye drop formulations have been unable to deliver sufficient concentrations of the active ingredient into the eye. The American Glaucoma Society produced a position statement on marijuana and glaucoma that concluded it is not recommended in any form as a treatment for glaucoma at this time.

In summary, the only well proven way to treat glaucoma is by lowering intraocular pressure with medicines, laser, and surgery.

Unfortunately, one of the biggest problems with glaucoma treatment is the difficulty in consistently using medicines and maintaining follow-up with eye care providers. Therefore, the best "lifestyle" choices to make for glaucoma are faithfully taking your medications and seeing your doctor on schedule.

Each individual patient's case and lifestyle are different. It's also important to remember that further study of these important issues may lead to new information. It's a good idea to discuss these issues with your eye care provider to get specific information tailored for you. ■

Wish List

In our last issue of Searchlight, we published a "Wish List," which included items suggested by our doctors and fellows to support research and clinical work at the Wills Glaucoma Research Center. We would like to thank Mr. and Mrs. James Park, Jr. for their generous gift to fully purchase the Konan Pupillometer at a cost of $17,950. Please read about James Park, Jr. on page 4.

Please consider funding or partially funding one of the following items:

Icare Rebound Tonometer - $3,000-$4,000 each (two are needed)

The Rebound Tonometer was developed to find a new, easy, and patient-friendly and painless method of measuring intraocular pressure. It is a major breakthrough obtained after a decade of development. The rebound technology is based on the rebound measuring principle, in which a very light-weight probe is used to make momentary contact with the cornea. The Icare rebound tonometers do not require any maintenance calibration or regular service.

Humphrey Matrix Perimeter - $25,000

This is an alternative visual field testing device that is compact, light-weight, and patient friendly. This device may pick up glaucomatous damage earlier in some patients than current methods. It combines early glaucoma detection capability with basic glaucoma management tools.

Operating Microscope (for minor procedure room) -$10,000

An operating microscope would allow patients to have minor procedures done in the office rather than having to go to operating room. This can facilitate patient care, especially for those living at a distance.

Fellows Program -$50,000

This includes salaries, supervision and travel to ophthalmic meetings

CARES Conference-$15,000

Our annual CARES conference is scheduled for April 26, 2014. In addition to lectures by world renowned Wills Eye glaucoma physicians, attendees have the opportunity to speak with those physicians in a relaxed atmosphere and visit vendors to learn about low vision services and patient assistance programs.

Outreach Programs-$75,000

These mini CARES programs are designed to raise awareness among populations in general and specifically within populations at high risk of going blind from glaucoma.

Glaucoma is an eye disease which affects 2.2 million Americans, and is the leading cause of blindness in the United States today. An estimated fifty percent of Americans with glaucoma do not know that they have the disease because it is asymptomatic, does not cause pain, and vision loss progresses slowly. Glaucoma is typically unnoticed until the advanced stages of the disease. Damage from glaucoma is irreversible and left untreated, will ultimately lead to significant vision loss. Risk factors for glaucoma include advancing age, family history of glaucoma, diabetes, and certain ethnicities. Glaucoma is the leading cause of blindness in the Hispanic population in the United States. According to U.S. Census data, Hispanics represent 12.3% of the Philadelphia population. Reaching at-risk populations has been a major educational thrust of our Foundation.

Reiumbursement to Patients Participation in Clinical Research Studies-$100,000

One of the most difficult aspects of performing clinical research is getting patients to be participants. One way they can be helped to do this is to cover the costs they incur because of having to travel for being examined, taking time away from the office, parking, etc. Thus, one of the major limitations in performing clinical research is having funds to reimburse patients for participation If everybody receiving the Searchlight were to send $10 to the Glaucoma Service Foundation, we would have $230,000 to support these research costs.

Coverage of Travel Expenses to Third World Countries-$100,000

Wills' physicians are at the leading edge of teaching. Many countries and facilities worldwide cannot afford to pay the travel costs to get Wills' glaucoma specialists from Philadelphia to, say, Shiraz, Iran, or Hyderabad, India, or Timbuktu, or Mozambique, all of which are desperately in need of having us visit. ■

Get the Red Out

By: Wanda D. Hu, MD & Marlene R. Moster, MD

"These eye drops sting too much and my eyes are bloodshot!" Similar statements are expressed over and over again by patients who may need to use multiple glaucoma eye drops a day for decades. Oftentimes, glaucoma eye drops create intolerable side effects including blurry vision, foreign body sensation, and irritated eyelids. To the patient, these side effects of treatment can seem worse than the disease itself, as the patient frequently does not notice vision loss until the very advanced stages of glaucoma.

It has been reported that up to 60 percent of glaucoma patients experience these symptoms of Dry Eye Syndrome (DES). Why does DES occur so frequently in the glaucoma population? The frequency of glaucoma and the frequency of DES increase with age. As people age, there is often a decrease or change in the amount of glands in the eyelids which are crucial for normal tears.

Elderly people's eyelids often do not cover the eye surface as well due to sagging of the eyelids. There is also less total body water available as one ages, which can dry one's body out. Additionally, patients with glaucoma are committed to using their glaucoma drops for years, which often contain harsh preservatives such as benzalkonium chloride (BAK), or may undergo glaucoma surgery, which can cause irritation from sutures or normal postoperative inflammation.

Treatment Options for Glaucoma Patients with Dry Eye Syndrome

A personalized treatment plan is often needed for a patient with both glaucoma and DES. Treatments include:

- Preservative-free artificial tears and lubricants
- Eyelid scrubs and warm compresses
- Replacing eye makeup every few months as the bacteria may disrupt the tear film
- Fish oil to help the eyelid glands produce tears that are less likely to evaporate
- Doxycycline, which is an antibiotic to help manage the bacteria along the eyelids, or steroid eye drops which can decrease inflammation
- Punctal plugs which are placed with in the tear ducts to increase the duration that normal tears remain in the eye
- Switching to preservative-free glaucoma eye drops
- Laser treatment for glaucoma (Selective Laser Trabeculoplasty (SLT)) to decrease the need for eye drops in patients who are suitable candidates

Although dry eyes in patients with glaucoma can be greatly debilitating, an open discussion and tailored treatment regimen with one's ophthalmologist can often provide significant relief. ■

Interview with James Park, Jr.

By: Rita M. Stern

I had the pleasure of interviewing James Park, Jr. Mr. Park is a longtime supporter of the Glaucoma Service Foundation. As a clinical fellow, Dr. Katz assisted with surgery on Mr. Park. In our Spring issue of Searchlight, we featured a "Wish List" asking our readers to help us fund medical equipment for our doctors and fellows. James and Katherine Park's generous grant of $17,950 through the James and Katherine Randall Park Fund at the Vanguard Charitable Endowment

Konan pupillometer

Program allowed us to purchase the Konan Pupillometer, PASCAL Dynamic Contour Tonometer, EndNote Software, and help fund Community Outreach initiatives. Their gift was to honor Dr. Spaeth and Dr. Katz.

The Parks reside in Kentucky but travel approximately twice a year to see Dr. Spaeth and Dr. Katz. In 1980, Mr. Park was diagnosed with glaucoma. At that time, he lost his ability to read in his left eye. His family had a history of blindness and retina issues. With the excellent care of our glaucoma doctors, Mr. Park is able to read, drive, walk his three prized Magyar Vizla pointers, and travel. The Parks are avid readers of our Searchlight. Their favorite article is the excerpts from our on-line Chat. They also enjoy reading how our doctors travel all over the world helping others. ■

Glaukos Trials In Armenia

By: Jonathan Myers MD

This year Dr. L. Jay Katz and I had the opportunity to travel to Yerevan, Armenia, and participate in surgical trials of new glaucoma drainage devices. The trials are run by Glaukos, a California-based company that developed the iStent micro trabecular bypass device for glaucoma surgery. The iStent is a 1 mm titanium snorkel that bypasses the trabecular meshwork, the tissue that causes increased pressure in glaucoma as it becomes less permeable to the flow of fluid within the eye. The Wills Glaucoma Service was part of the multicenter national trial that led to the iStent being approved by the FDA last year to treat glaucoma when combined with cataract surgery.

Dr. Katz and I participated in a series of surgeries testing the safety and performance of the next two generations of Glaukos stents- the G2 and G3. The G2 stent is a new version of the iStent that offers simpler insertion. The G3 stent shunts fluid to the suprachoroidal space, under the retina, which has a large capacity to absorb fluid and lower eye pressure. Early results from these trials have shown good pressure reduction and greater safety than traditional glaucoma surgeries.

Why are these trials being performed outside the United States? There is a trade-off between medical innovation and safety. In America, concern for safety has increased compared to back in the 1980s. This focus on safety is important for the protection of research subjects and patients who might be treated with new devices or drugs. However, this has meant increased regulation, and, unfortunately, also increased litigation. These changes have led to increased costs and delays in medical innovation and product development. In response, healthcare technology companies increasingly have shifted research overseas, and products are now typically available in Europe and Canada before America. So, we have achieved greater safety, but we now get access to new treatments much later in many cases.

We found the people of Armenia that we met to be friendly and gracious. Our hosts were outgoing and generous (especially when pouring Vodka at dinner). We both enjoyed the opportunity to work with and learn from Lilit Voskanyan, MD, PhD, chief of ophthalmology at the S.V. Malayan Ophthalmology Centre. She is a truly outstanding surgeon, with incredible skill and dexterity. It was very impressive to see how much is achieved in a much simpler environment with many fewer resources. In the effort to maximize efficiency and cost savings, patient privacy and surgical precautions, such as disposable drapes and extensive intraoperative monitoring, are greatly reduced.

Dr. Katz and I enjoyed the experience immensely: both the camaraderie with our Armenian colleagues and other participating American physicians, as well as the opportunity helping in the care of local patients. Trials in the United States are just beginning and we hope that these devices may be approved by the FDA in the next 5 years. ■

Figure 1: Dr. Myers performing surgery. On the TV you can see the insertion tool being advanced inside the eye to place a G2 device.

Figure 2: A simpler OR environment: reusable cloth drapes, no anesthesiologist, no oxygen or monitoring for these short procedures.

Getting back on the exercise wagon (… when alas you have fallen off)

By: Myles Jaffe, PhD (GFS Trustee) – Innova Medical Communications, LLC

Getting back into the routine of exercising after you have fallen out of the habit for awhile can be a downright grind. We have our routine and then something comes along to alter it . . . and off the wagon we go. What follows is a trail of bread crumbs for you to follow.

STEP ONE –
Remember your rationale for choosing regular exercise in the first place

Exercise and your overall general health

REGULAR aerobic exercise is required to attain and maintain health benefits - not simply exercise when we feel like it. Remember that there is a direct relationship between exercise, coronary artery disease, and mortality due to heart disease. There also is a dose-response relationship between the amount of regular exercise performed each week and all-cause mortality. Ideally you want to burn 2,000 calories per week doing exercise. To put it in perspective, walking one mile burns about 100 calories depending on the incline so walking 10 miles burns about 1,000 calories (actually you burn even more calories if you walk up and down hills or on an incline – so walk or run on an incline whenever possible).

How exercise can lower the pressure in your eye (intraocular pressure)
In a study conducted in 1991 by Passo et al. (Journal of Glaucoma) nine sedentary glaucoma suspects were evaluated before and then three months after starting an aerobic exercise training program. The average intraocular pressure decreased about 5 mm Hg. Even more telling, when these individuals stopped their exercise program, their intraocular pressure rose to their pre-conditioning level within three weeks. Exercise may represent an effective non-drug treatment for glaucoma suspects.

How exercise can benefit your mood – especially if you exercise regularly

In a study conducted in 2008 by Hoffman et al., (Archives of Physical Medicine and Rehabilitation) three groups of adult subjects were evaluated: non- exercisers, regular moderate exercisers, and ultramarathon runners. Although mood improved in all three groups after exercise, the regular moderate exercisers and the ultramarathon runners showed a mood improvement that was almost double that of the non-exercisers. The modest improvement in mood score among the non-exercisers resulted in a significant improvement in anger, depression, and tension. This means that you will have to persistent through the early stages of the program before you get the full mood enhancing benefit. Can you do it?

How exercise can improve the quality of your sleep

In a study conducted in 2011 by Gebhart et al. (Sleep Disorders), patients were recruited who had difficulties falling asleep, maintaining sleep, or early morning awakening for at least three months. All patients in the test group received six weeks of sleep education and physical exercise. Patients in the control group did not get sleep education or physical exercise. The results showed that six weeks of moderate physical exercise and sleep education improve daytime mood and subjective sleep quality.

STEP TWO
Ask yourself WHEN are you going to do it? What days of the week? What time of day? No one else can do it for you and no one will – trust me on this last point.

STEP THREE
Ask yourself WHO else will do this program of regular exercise with you? A friend? A neighbor? An overweight child or overweight dog?

STEP FOUR
Assemble the plan the same way you plan a holiday dinner. Write it down. Choose a start date!

STEP FIVE
Commit to persist with your plan for six (6) weeks – if you persist, write to tell us how you feel. We want to hear your stories. ■

Committee on Medical Education and Research

By: Leonard Rosenfeld, PhD (GFS Trustee)

The Committee on Medical Education and Research (CMER) is a sub-unit of the Board of Trustees of the Glaucoma Service Foundation at Wills Eye Hospital. It is composed of Trustees of the Foundation as well as community leaders who have experience in academia, science and/or communications.

The Graduate Medical Education program in glaucoma at Wills is exemplary and each year, attracts applications from among the finest young physicians around the globe. The CMER funds one of the Clinical Fellows in glaucoma. This year, Sonya Shah, MD, a John's Hopkins trainee with excellent personal, academic and clinical skills is the Foundation Fellow. Last year, Michael Waisbourd, MD, a graduate of the Tel-Aviv University in Israel served as the Foundation Fellow. Now that he has completed his fellowship, Dr. Waisbourd is remaining at Wills within the Glaucoma Research Center. He also serves as a member of the CMER, providing continuous input from the medical students, residents and fellows within the program to the Committee.

When the Committee became aware that there was need to upgrade the computer hardware and software available to fellows, it was pleased to fund this upgrade. When post-graduate trainees attend national professional meetings and make presentations on their clinical and/or research experiences, CMER supports these efforts. Each week, Glaucoma Rounds are held within the department for medical students, residents and fellows wherein their knowledge base is expanded and clinical skills sharpened. This effort is similarly supported by CMER.

This summer, it became evident that there was a significant need to upgrade the research infrastructure within the department. CMER was pleased, in conjunction with the Wills administration, to support these renovations. The department engages in an array of research activities which seek to better identify the presence of glaucoma and provide more effective treatment. In addition, major efforts are underway to enhance community outreach within the city of Philadelphia so that the presence of glaucoma can be detected at an earlier stage and the chances of blindness developing lessened.

Other ongoing novel initiatives undertaken by the Glaucoma Research Center involve both basic science and clinical science initiatives. Clinical science activities include both medical and surgical treatments for glaucoma.

One ongoing basic science program probes the underlying mechanisms of dry eye disease that may be related to the standard preservatives that are contained in ordinary bottles of eye drops. Note that about half of the patients being treated for glaucoma with eye drops develop dry eye disease. If you are being treated for glaucoma with eye drops and have developed dry eye, you may want to ask your doctor about this research program and what recent progress has been made. If your eyes feel dry, you can ask to be tested to see if you have dry eye.

One example of experimental surgical studies include the testing of an alternative chemical entity used during filtering surgery (trabeculectomy) to keep the new drain in the eye open long after the surgery is complete. A second example involves optimizing the size of tubes surgically implanted in the eye during complex surgical procedures to lower the intraocular pressure; tubes are used to treat patients who have already had multiple types of medical and surgical interventions without sufficient success. Yet another avenue of ongoing research bridges both medical and surgical treatments for glaucoma and this involves investigating the comparative effectiveness of eye drops, laser, and current surgical methods to lower the intraocular pressure. Eye drops, laser, and surgery represent the

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Committee on Medical Education and Research

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three overarching types of treatment for glaucoma. Making the right choice is as much an art as it is a science. The Glaucoma Research Center continuously strives to increase the multiples of choices available to benefit patients by refining the treatment choices. To learn more about ongoing research within the Glaucoma Research Center or to find out if you qualify to be subject for a current or future study, be sure to ask your doctor on your next visit and make a note to do so on your calendar.

The CMER and the Glaucoma Service Foundation are pleased to support the training and research activities within the department. We need your help! Should you wish to directly support any of these activities, please feel free to contact the Foundation at (215) 928 3190 or webmaster@willsglaucoma.org. With your help, we can continue to make significant strides in lessening the incidence of blindness resulting from glaucoma and its associated effects on the family and the economy. ■

Interview with Mrs. Virginia Koehler

By: Katarina Simonetti (GFS Trustee)

Mrs. Koehler's glaucoma story is very different than most glaucoma stories. As a six month old infant, she was diagnosed with a rare condition that required radiation treatment. What followed were three failed corneal transplants, glaucoma and complete loss of vision in the left eye. Worried about her good eye, Mrs. Koehler was determined to maintain her sight. She was diagnosed with glaucoma in her early forties and started seeing Dr. George Spaeth at the Wills Eye Institute. That was thirty five years ago. She likes that Dr. Spaeth was treating her entire person, not just her eyes. It is his caring manner and devotion to his patients that made their relationship truly special. She believes that it is extremely important to raise glaucoma awareness. She would like to see annual eye testing become as routine as annual physicals and mammograms. Although Mrs. Koehler's glaucoma was not genetic, she insisted all three of her children be tested. Mrs. Kohler has been a devoted supporter of the Glaucoma Service Foundation since 1996. She emphasized how important it is for the donors to know that their funds are used appropriately. She was delighted to learn that the Glaucoma Service Foundation is using approximately 80% of all contributions to fund the clinical research, fellowship programs, and community outreach programs. Mrs. Kohler would like for every current and potential donor to know what a great difference their contributions make in promoting the glaucoma awareness and in ensuring that no person goes blind because they did not get an early diagnosis. ■

Bequests are very important to our foundation.

Bequests are very important to our foundation. Please give now and please give generously, and remember us in your will. Bequests cover operational, administrative, and direct research costs. Please contact our office at (215) 928-3190 to speak with our staff.

The Pathway to Health: Good Self-Care

By: George L. Spaeth, M.D.

Good self-care is the pathway to health for individuals and societies. Unfortunately, good self-care is not a skill or attitude taught in American schools. Certain families are magnificent at inculcating attitudes and skills that promote good self-care. Others fail abysmally. Self-care skills are evident in people who 1) bring with them to their doctor's appointment interim notes to be added to their medical records, 2) maintain their own medical records, 3) are appropriately "non-compliant" (that is, know when to disagree with advice they have been given), 4) are neither severely over-weight nor under-weight, 5) integrate the inevitable difficulties of life and living gracefully into their own daily lives, 6) know how to access information, 7) access information and integrate it into their daily lives, 8) are pragmatic realists, 9) are inspiring idealists, 10) are energetic, 11) exude enjoyment from what they are doing, 12) read labels before buying foods, hand creams, toothpaste, etc., 13) are good listeners, and 14) know themselves.

Those obviously not skilled in good self-care are those who 1) are blamers, 2) consider themselves victims, 3) are alcoholics, addicts, or routinely use damaging substances, 4) are consistently angry or morose, 5) are emotionally isolated from other people, other creatures, and things at large, 6) physically or emotionally kill things, including those around them, and 7) believe that their sore knees, and their high blood pressure, are unrelated to what they are eating and how they are living.

In short, good self-care requires a realistic assessment of oneself and what is good for that self, including healthy relationships with others. Poor self-care is characterized by denial and inappropriate fantasy.

It's really not very complicated. Why is it that self-care is so extraordinarily rare? ■

FROM THE "CHAT HIGHLIGHTS" OF THE GLAUCOMA SERVICE WEBSITE

Ex-Press Mini Shunt Update

Chat Highlights – June 5, 2013
Guest Speaker – Dr. Michael Pro
Lorraine Miller, Editor, Chat Topic Researcher

Moderator: Good evening! "Ex-Press Mini Shunt Update" is tonight's topic. We would like to welcome, Dr. Michael Pro, once again as our subject matter expert.

P: What is an Ex-Press mini shunt?

Dr. Pro: The Ex-Press mini shunt is a small, surgical, stainless steel device that was developed to allow more predictable glaucoma surgery results. It is currently being marketed by Alcon.

P: More and more trabeculectomy patients are also having the Ex-Press mini shunt added to their surgical procedure. Why is this shunt becoming so popular?

Dr. Pro: Some glaucoma surgeons believe that the Ex-Press shunt can give a more predictable flow of aqueous humor under a scleral flap. The Ex-Press is a modification of a standard trabeculectomy surgery in which a scleral flap is created. Traditionally, at the base of the scleral flap, a punch of scleral tissue is removed. Aqueous fluid goes from the anterior chamber through an ostium, a hole in the sclera, under the flap and then fills a pocket of fluid under the conjunctiva. The difference with the Ex-Press is that a small stainless steel

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device is placed under the flap. The tip of the Ex-Press goes into the AC (anterior chamber).

P: Are there certain types of glaucoma that respond better to implanting an Ex-Press mini shunt?

Dr. Pro: That is a great question. In my experience, the Ex-Press is particularly suited to surgeons who may have less experience with glaucoma surgery. The device has an internal lumen size of fifty microns, so patients may experience less risk of too much aqueous fluid outflow with very low IOP. I know that doesn't exactly answer your question, but in my opinion, any patient who is a candidate for standard trabeculectomy surgery is also a candidate for an Ex-Press device.

P: Dr. Pro, based on your comment that the Ex-Press shunt may be better for inexperienced surgeons, does that mean it take less surgical skill to implant the Ex-Press shunt than to do a traditional trabeculectomy?

Dr. Pro: Not exactly. But in my opinion, trabeculectomy surgery takes quite some time to master. The most difficult part for many surgeons is titrating the flow under the scleral flap. This is not to trivialize the correct placement of the Ex-Press, but I do think it can help to give a more controlled flow of aqueous under the scleral flap in the early post-operative period.

P: How long is the recovery from Ex-Press mini shunt?

Dr. Pro: The recovery from Ex-Press is no different from a trabeculectomy. I want to be very clear that the surgery is quite similar to a trabeculectomy. In general, I tell my patients that their vision can be blurry after surgery and that the blurriness can last up to one month.

P: Would you say the same to the traditional trabeculectomy patients, that their vision might be blurry up to a month post-surgery?

Dr. Pro: Absolutely. I think it is important for patients to know that this is a very real possibility. Some patients may have close to their pre-operative vision and some more blurred. It is important that patients expect some change in their lifestyle for about a month after glaucoma surgery.

P: How long can the Ex-Press mini shunt provide an adequate reduction in intraocular pressure?

Dr. Pro: The expected length of success for an Ex-Press would be the same as for a trabeculectomy. We really don't know the success rate for the Ex-Press except for the past two years because there aren't any long-term outcome studies.

P: I've read that the Ex-Press has been around for more than ten years. Why haven't there been more studies on its effectiveness?

Dr. Pro: It can be difficult to do long-term studies due to many reasons. Cost may be the largest factor along with other issues such as patient retention. It is difficult to track patients for such a long time. The use of the Ex-Press has really only increased in the last five years.

P: Does the Ex-Press shunt replace or is it in addition to the traditional trabeculectomy surgery?

Dr. Pro: It does not replace a trabeculectomy. As I mentioned before, the Ex-Press is a modification of the trabeculectomy surgery technique. The outcome is the same. A filtering bleb is created by both. Some surgeons prefer to do trabeculectomies and others prefer the Ex-Press.

P: Can an Ex-Press shunt be added during the combination cataract trabeculectomy surgery?

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Ex-Press Mini Shunt Update / Chat Highlights June 5, 2013

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Dr. Pro: Yes. I think there remains some confusion regarding the Ex-Press. Many patients lump it with other tube shunts, but this is not accurate. It is important to stress that the Ex-Press surgery is nearly identical to trabeculectomy, including the use of mitomycin C to prevent post-surgical scarring and including the formation of a bleb.

P: If cataract surgery is needed for a person with a trabeculectomy, is it best to be done by a glaucoma specialist or a cataract surgeon?

Dr. Pro: It depends. I do not think the presence of the bleb complicates cataract surgery in all cases. Individuals with prior glaucoma surgery sometimes have poor dilation or more complex cataracts. Whoever is doing the surgery has to be prepared for a potentially more difficult surgery.

P: What is the rejection rate for the stainless steel Ex-Press device?

Dr. Pro: These devices do not reject. But they can extrude from the eye if improperly placed or if there is ocular trauma.

P: Can the device be malpositioned and a revision required?

Dr. Pro: Yes, I have encountered devices that were malpositioned and sometimes these devices need to be removed but that is uncommon. If the surgery fails, the device is left in the eye and it seems to cause no harm to the eye. Long-term effects over ten years to the eye are unknown as the device has not been on the market that long.

P: Does each physician insert the device in the eye the exact same way? Where and how does a physician learn the process?

Dr. Pro: Just like with a trabeculectomy, techniques from one surgeon to the next may be similar, but not exactly the same. I think younger surgeons learn to perform an Ex-Press procedure in residency training.

P: Do most insurance companies in the USA cover Ex-Press mini shunts?

Dr. Pro: Perhaps one of the most important questions of the night! Yes, unfortunately coverage of the Ex-Press as well as other novel glaucoma devices like the iStent or canaloplasty can vary from one insurance provider to another even if the procedure is covered by Medicare.

P: Have there been any new updates to the procedure or device?

Dr. Pro: There have not been any recent updates. I am aware of two models, the P-50 and the R-50. The devices are very similar in design and I am not aware of any difference in surgical outcomes between the two models. I think most surgeons use the P-50.

P: Could the Ex-Press shunt cause the same double vision problems as the Baerveldt or Ahmed shunt?

Dr. Pro: The rate of misalignment after Ex-Press is not any different from a trabeculectomy. The rate of double vision after a tube shunt is about five percent.

Moderator: It's the bottom of the hour. Thank you once again, Dr. Pro, for sharing your valuable insights and knowledge with us. ■

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1st Wednesday of the month 8:30 pm – 9:30 pm
Hosted by a Wills Glaucoma Specialist

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