AN EYE TO THE FUTURE

NEWSLETTER AND ACTIVITIES UPDATE FROM THE DEPARTMENT OF OPHTHALMOLOGY
THE UNIVERSITY OF ARIZONA HEALTH SCIENCES CENTER AT TUCSON

Spring 2000

From the Director's Desk

January 24 was a great day for the University of Arizona Department of Ophthalmology. Nearly 200 faculty and staff members, and University of Arizona administrators turned out to formally open the doors of Arizona Lions Eye Care and the Howard A. Shiff Diagnostic Center. Seeing so many of our friends at the event was an honor. It was particularly impressive to hear the comments of former patients. It provided a unique opportunity to reflect on just how many people can be touched by the efforts of a strong team like the one we have assembled with our faculty and staff, as well as our Lions partners.

However, getting Arizona Lions Eye Care and the Shiff Diagnostic Center to their current glory was no easy task. Despite the challenges, the work of many dedicated faculty and staff members has produced something we can all be proud of, and it is fitting now to point out the difficult jobs that were done and the dedicated people who pulled it off.

The process began in March of 1998 when the City of Tucson informed the Department that our home at 1801 N. Campbell would fall victim to a road project. Fortunately, the former Thomas-Davis Women's Center, 707 N. Alvernon Way, was identified as the site for our new facilities later that year. A departmental facilities committee was then formed to assess the space that would be allocated to Ophthalmology and determine how it would best fit our needs. The committee, which included practice administrator Kathy Ostreich, Dr. Robert Neecker, Dr. Joseph Miller, clinic technician April Spross, and front office team leader Leticia Lugo, quickly determined that a major renovation was in order.

While the construction project represented a major undertaking, it provided the opportunity for faculty and staff to make recommendations for the remodeling of the center. Architects met with each of the key groups in the Department to determine their individual needs, pooling that input into a final plan. Once construction was underway, the job was monitored through weekly meetings between Kathy Ostreich and the architects, contractors and interior designers. Construction lasted about 10 months, and cost more than $500,000.

While there were plenty of headaches, the end result was a clinical, surgical and diagnostic facility ideally designed to meet our needs and, most importantly, those of our patients. In short, it is the facility we had always hoped for.

New areas, such as the optical shop, will play a key role in serving our customers. Other areas given new resources to carry out their duties include clinical trials, the diagnostic facility, and the surgery center. In addition, all of the areas were designed to create easy traffic flow, minimizing inconvenience for our patients.

Additional room was created with the move of the administrative offices next door to 655 N. Alvernon Way. While the move was a logistical challenge, it has allowed us to keep the entire Department in suitable facilities while maintaining a close proximity.

Congratulations to all of our faculty and staff who worked tirelessly on this project over many hectic months we can now enjoy the benefits of our hard work and perseverance.

Robert W. Snyder, M.D., Ph.D.
Head, Department of Ophthalmology

Basic Glaucoma Research Laboratory

The University of Arizona Department of Ophthalmology's Basic Glaucoma Research Laboratory is now complete. W. Daniel Stamer, Ph.D., has received the final pieces of equipment for the facility.

An Olympus Inverted Fluorescence Microscope was installed in December, and an Ultraviolet Products Digital Imaging System arrived in February. The two pieces of equipment, the cost of which totaled about $42,000, were purchased through funds donated to the Department last year from the Lions Club International Foundation.

The equipment will be used for Dr. Stamer's research into the regulation of aqueous humor and how it flows out of the eye. The results of Dr. Stamer's work will assist in the design of pharmaceuticals to treat glaucoma. Currently, treatments are only available for the symptoms of glaucoma, not the treatment of the disease itself.
Research Funding For Cornea Research Begins
The generosity of Adele Behar has allowed the University of Arizona Department of Ophthalmology to launch a one-year study into endothelial transplantation.

The endothelium layer of the cornea, comprised of Descemet’s membrane and a layer of endothelial cells, regulates fluid exchange between the anterior chamber of the eye and the cornea, keeping a constant 80 percent water level in the cornea for optical clarity. Endothelial cells also act as pumps so fluid that leaks into the stroma can be pumped back into the anterior chamber of the eye. That pump function, however, is dependent on cell density. If there are not enough endothelial cells, the stroma will not remain optically clear. In some individuals, such as those with Fuchs Endothelial Dystrophy, the number of endothelial cells decreases rapidly. Therefore, they become susceptible to corneal edema and decreased visual acuity as they get older.

Ms. Behar has pledged $17,328 for a study to identify a superior alternative to corneal transplant as a treatment for decreased endothelial cells. Corneal transplant, penetrating keratoplasty, has a high success rate but also significant problems, including astigmatism or other irregularities that can cause long delays in visual recovery. The necessary nerve severance in the host cornea also can lead to increased instances of trauma or ulceration. Graft rejection is also a risk.

Recent studies have examined the transplantation of the posterior of the cornea, including Descemet’s membrane and the endothelial cells. The process, however, appears technically cumbersome.

Robert Snyder, M.D., Ph.D., head of the Department of Ophthalmology, and Robert M. Tyszko, O.D., FAAO, will examine a new alternative. The laboratory experiments will be conducted by Michael Berman, Ph.D.

Descemet’s membrane can be removed in total with a precise parallel tearing procedure, allowing for the removal of the posterior layers without damaging the overlying cornea.

The UA doctors will determine if the endothelial cells can be protected with a layer of viscoelastic and the donor’s Descemet’s membrane can be torn free and rolled up with a holder, similar to a sardine can opener. Then they will insert the rolled membrane into the host eye through a small peripheral incision with a specifically designed tool.

Once inside the eye, the membrane is unrolled and brought up against the existing Descemet’s membrane using underlying air bubble and fibrin glue. The transplant will adhere to the back of the cornea because of its pumping action and ultimately scar into permanent position.

The study’s first stage will include refining the technique for harvesting and mounting Descemet’s membrane and the endothelial cells, as well as testing their viability after transplant.

The second stage will include refining the introducer tool and assuring it protects the endothelium and allows easy introduction of cells. The technique then will then be perfected before a clinical trial begins. The clinical trial should take roughly four months with a six-month follow-up period.

Open House a Hit
Last month, Department members hosted the first annual Optics Open House for representatives of Tucson’s thriving optics industry.

Ten representatives from local firms attended to learn more about ways ophthalmology and optics can be combined in a successful partnership. Technology was demonstrated, the Department outlined a wish list of innovations, and discussions took place to identify joint research opportunities.

Millicent Palmer, M.D., demonstrated the Department’s expanding telemedicine capabilities; Richard Ober, M.D., displayed retina lasers and imaging systems; Robert Snyder, M.D., Ph.D., demonstrated excimer lasers and refractive surgery; and James Schwiegerling, Ph.D., ran corneal topographic measurements.

The event, organized by Dr. Schwiegerling, was created to foster long-term relationships with area optics companies. Tucson recently was dubbed “Optics Valley” by the national media, and the relationships fostered at the open house can help move innovative optics technology into ophthalmic screening and treatment for the benefit of our patients.

Science of Eye Disease Series Begins
W. Daniel Stamer, Ph.D., is organizing a new continuing medical education series designed to bring medical doctors and basic scientists together to examine eye disease.

The initial session of “The Science of Eye Disease Seminar Series” is tentatively scheduled for May, and will include Department representatives and basic scientists from the UA Main Campus. With the Department’s recent move off campus, Dr. Stamer said the new series should help preserve ties with the UA campus and foster potential research ties with other departments.

The event also will take advantage of the Department’s new facilities. “It will be a good opportunity to invite people over to see who we are and where we are,” Dr. Stamer said.

Tucson-area ophthalmologists will also be invited to the event. “We want to get their ideas and involve them intellectually in what we are doing,” Dr. Stamer added.

Once the series is under way, initial plans will be to hold the event every three months and include a social hour prior to the seminar agenda. As the series evolves, outside speakers will be brought in as presenters for the event, Dr. Stamer concluded.
The UA Department of Ophthalmology
A Resource for the Prevention Of Visual Disability Through Research Education and Service
Our Mission is to Benefit People Of Arizona, the Southwest, And Beyond...

Research
The faculty of the UA Department of Ophthalmology conducts research that is of great importance to those who suffer from the most common eye diseases and conditions. These include glaucoma; age-related macular degeneration and other conditions of the retina; laser surgery to rectify cornea problems, including myopia, cataract, and roughness on the surface of the cornea; pediatric ophthalmology, including visual field testing of infants, and screening of children for astigmatism; and use of computers and sophisticated optical programs in preparation for surgery.

Education
The Department's educational mission includes medical students, residents, fellows, continued medical education classes for technical professionals, and providing primary care physicians with the appropriate knowledge to adequately assess ocular and vision-threatening problems. In addition, the results of the department's research are published in major medical and ophthalmic journals.

Service
Our goal is to provide the highest quality care and offer the latest advances in diagnosis and treatment of eye diseases. The department also participates in Lions Club and Lions Foundation programs to assure that patients of all economic status benefit by having highly trained specialists providing state-of-the-art service. Faculty members also volunteer services at Tucson Veterans Medical Center, St. Elizabeth's of Hungary Clinic, and "Operation See," which provides free surgical treatment to children in Nogales, Sonora in cooperation with Lions Clubs.

How VISIONaries Help Us Achieve Our Mission
Members of the VISIONaries contribute $100 a year or more to support the Department's important and continuing research. These funds are used for the purchase of necessary equipment, for "seed" money for new research efforts, and for specialized assistance, as required. VISIONaries receive four newsletters a year, as well as periodic updates on the latest research into eye conditions and diseases. Since individuals do not receive material benefit, the entire amount of donations are tax deductible under the regulations of the U.S. Internal Revenue Service.

TO JOIN THE VISIONaries, simply complete the form below and mail it to the address provided. Your donation helps us help others!

Name

Address

City State Zip Phone

My check for $ _________ is enclosed.

Please charge my Visa or MasterCard in the amount of $____

Credit Card Number Expiration Date

Signature

Please return this form to:

UA Department of Ophthalmology
655 N. Alvernon, Suite 108
Attention: Ken Bacher
Tucson, AZ 85711
520-322-3800, ext. 260
Nearly 200 people jammed the Arizona Lions Eye Care waiting room on January 24, 2000 to hear UA, University Physicians, and UA Foundation administrators officially open the new clinic on the third floor of University Physicians Alvernon Clinics at 707 N. Alvernon Way. The guests enjoyed tours of the new clinical facility, LASIK center, and clinical trials center before the official ceremony. Robert W. Snyder, M.D., Ph.D., served as master of ceremonies, and welcomed patients, Lions, and the general public. After briefly reviewing the history of the department, and its relationship with the Lions, he recognized special guests and introduced dignitaries. Talks summarizing the event were given by Dr. Peter M. Likins, UA President; Dr. James E. Dalen, Vice President of Health Sciences; Norm Botsford, CEO of University Physicians; and Richard F. Inwalle, President of UA Foundation.

The "Five Scissors" ribbon-cutting included, from left: UA President Peter M. Likins; Dr. James E. Dalen, UA Vice President of Health Sciences; Norm Botsford, CEO of University Physicians, Inc.; Richard F. Inwalle, President of UA Foundation; Dan D'Antimo, President of the Department of Ophthalmology Advisory Board, assisted by Dr. Snyder.

The entire staff of Arizona Lions Eye Care and the UA Department of Ophthalmology, which now totals more than 60 professionals, gathered with Advisory Board members and special guests outside 707 N. Alvernon Way.
Articles


WD Stamer: Glaucoma research at the University of Arizona. Canoa Hills Community Center, Green Valley, AZ, October 4, 1999.


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How to Reach Us in our New Location

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