FLORIDA LIONS
EYE BANK
SINCE 1962
Restoring the Beauty of Sight

Annual Report 2018

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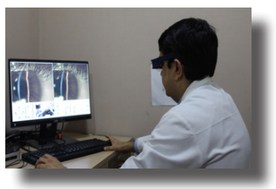
On the cover: Nolan Bourgeois underwent numerous treatments to cure his corneal infection before he was eligible for a corneal transplant. To cope with this struggle, he turned to social media... and changed the lives of thousands of people around the world.

The Remote-Controlled "Drone" Slit Lamp Biomicroscope has changed since we last reported on it in 2010. Now, it's helping patients, and saving sight.



2017-2018 Status Report

	July 1, 2017- June 30, 2018	Since 1962
Total number of eye donors:	**889**	**48,203**
Eyes/ corneas recovered:	1,776	94,262
Recovered for surgical use:	1,356	
Recovered for research use:	420	
Total tissue provided for transplant:	**1,107**	
Eyes/ corneas provided for transplant:	847	46,911
Transplanted in USA:	723	
Transplanted internationally:	124	
Corneas imported and used for International Gratis Program:	57	
Sclera & preserved corneas provided for surgery:	203	16,539
Whole globes/ corneas distributed for research & education:	**638**	**34,957**
Pathology specimens studied:	**4,696**	**110,773**

Medical Director's Report

Sander R. Dubovy, MD

It is with great pleasure that I recount the activities of Florida Lions Eye Bank for the 2017-2018 year. It has been a busy, successful year that has seen advances and growth in the eye bank and in the ocular pathology laboratory.

The transplant laboratory has continued to grow in size and scope. This past year we have seen an increase in the numbers of corneas provided to patients domestically within Florida and surrounding states. We are proud to be able to recover tissue from local donors and provide the gift of sight to patients in our community. It is one of the founding principles upon which Florida Lions Eye Bank and eye banks throughout the United States were founded.

As we continue to serve the needs of our recipients and local surgeons, we have seen a continued shift in the type of tissue provided. There has been a progressive increase in the amount of custom partial-thickness corneal tissue provided for surgery. For the first time, Florida Lions Eye Bank provided partial-thickness DSAEK and DMEK grafts for more than half of its tissue for transplant. This type of partial-thickness tissue allows for more rapid visual rehabilitation and a decreased chance for corneal rejection in select patients. We have worked closely with our corneal transplant surgeons to ensure that we are able to provide the tissues and services necessary to provide the best possible care to their patients.

Additionally, the staff of Florida Lions Eye Bank have organized wet labs for instruction at national ophthalmology meetings as well with doctors in the operating room. This, coupled with in-depth discussions of the Medical Advisory Board, and discussions with surgeons, has allowed us to anticipate and respond to the needs of our surgeons and patients going forward.

Our Executive Director Elizabeth Fout-Caraza has done a fantastic job in coordinating the activities of Florida Lions Eye Bank, and has served as the Chair of the Constitution and Bylaws Committee of the Eye Banking Association of America. Her tireless efforts in collaboration with the staff have been instrumental in the success that we have seen over the past years. I, too have maintained a role in the EBAA as I continue to serve as a member of the Medical Advisory Board, a committee that oversees and sets policy for corneal transplantation throughout the world.

Florida Lions Eye Bank's growth in scope has included the production of Autologous Serum Eye Drops, or ASED, for patients throughout Florida. This treatment is based on the principle that human blood contains nutrients that can help patients with severe dry eye symptoms and persistent epithelial defect, conditions that can be tremendously disabling. To make ASED, the patient's blood is drawn, processed to isolate the serum portion, combined with saline, bottled, and delivered to the patient within 72 hours. Since starting ASED service, we have received positive comments from patients and physicians for providing an additional therapeutic service to patients in need.

The ocular pathology laboratory continues to grow in size and scope, as we provide expertise in the diagnosis and treatment of ocular disease to patients with infectious, developmental, inflammatory and neoplastic disease. As one of a handful of dedicated ophthalmic pathology laboratories in the country, we have seen extraordinary growth. Since my arrival in 2000, the laboratory has doubled in size. This work could not be done without the dedication and expertise of our histotechnologists, coordinator, and administrative staff, as well as the fellows who are vitally important in running the laboratory.

I have been able to further Florida Lions Eye Bank's goal of education through lectures and teaching at universities across the country. In addition, I was honored to be a part of the Working Group that traveled to Lyon, France to help compose and edit the World Health Organization text on Tumors of the Eye, which is a source book for pathologists as well as clinicians throughout the world.

I would like to recognize our eye donors and their families, whose generosity is of utmost importance in our mission. I would like to personally congratulate and thank our outgoing Board President George Letakis. Finally, I would like to thank the Board of Directors, the Medical Advisory Board, the staff and volunteers at Florida Lions Eye Bank for all their hard work, which has allowed us to continue to expand our mission of restoring the beauty of sight to thousands of patients each year.

2017-2018 Florida Lions Eye Bank Officers

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President's Report George Letakis, PDG

For over 55 years, Florida Lions Eye Bank has operated a facility dedicated to the recovery, processing, and distribution of human eye tissue for transplant and research. It also sponsored the only ocular pathology laboratory in South Florida, a resource for patient diagnosis as well as professional medical education. In August of 2017, Florida Lions Eye Bank embarked on a new endeavor: the production of Autologous Serum Eye Drops, or ASED. ASED, a type of biological therapy, is made by combining a patient's blood serum with sterile saline. It is prescribed to patients who suffer from severe dry eye or injuries to the outermost layer of the cornea.

Florida Lions Eye Bank's ASED service took off quickly. By the end of the program's first month, Florida Lions Eye Bank had provided 38 patients with Autologous Serum Eye Drops. By the end of 2017, the eye bank had served 303 patients! The fact that this service attracted so many patients in such a short time spoke to an unfulfilled demand in the community. Due to the ever-increasing demand for Autologous Serum Eye Drops, Florida Lions Eye Bank acquired additional laboratory space in the Biological Research Building on the UM medical campus. This facility is used to produce ASED outside of the eye bank's Bascom Palmer laboratory, allowing more ASED to be processed for patients. As of June 2018, Florida Lions Eye Bank has provided nearly 1000 patients with ASED, and new patients call every day. We serve patients throughout the state of Florida, thanks to a collaborative relationship with a mobile phlebotomy company.

Another milestone during my time as president was the creation of the Victor T. Curtin Award. As those involved with the work of Florida Lions Eye Bank know, we are blessed to have been founded by two exceptional leaders. One, of course, is our Founding Lion President, Jimmy Nelson. The other was our founding Medical Director, Dr. Victor T. Curtin, who passed away in 2016. To commemorate the dedication and work of Dr. Curtin, who served Florida Lions Eye Bank for 39 years, the Board of Directors created the Victor T. Curtin Award, an annual award given to a physician or medical professional who has supported or assisted Florida Lions Eye Bank in a meaningful way. The first annual recipient of this award was Sander R. Dubovy, M.D., current medical director of Florida Lions Eye Bank and the Ocular Pathology Laboratory. Dr. Dubovy has given countless hours to Florida Lions Eye Bank, and has helped us evolve into the organization that we are today.

I was honored to serve as president for such an accomplished organization during its 2017-2018 year. I am even prouder now to report the innovations Florida Lions Eye Bank achieved during my time as president.

2017-2018 Financial Report

	FY 2018	FY 2017
Revenues and Gains		
Program Service Fees	$3,129,437	$2,774,727
Contributions		
General Public	$31,905	$18,090
Bequests	$12,729	$18,037
Lions Clubs	$23,717	$31,835
Donated Facilities and Services	$122,318	$115,854
Interest and Dividends	$387,408	$336,502
Net unrealized and realized (loss) gain of long term investments	$713,610	$1,192,270
Total Revenues and Gains	$4,421,124	$4,487,315
Expenses		
Program Services		
Medical Services	$3,111,051	$2,737,199
Research Grants	$292,051	$261,989
Supporting Services		
Management and General	$253,107	$183,787
Development	$207,597	$199,215
Total Expenses	$3,863,806	$3,382,190
Change in Net Assets	$557,318	$1,105,125

Nolan Bourgeois Creates Facebook Group to Help Others Through Corneal Transplant

Florida Lions Eye Bank Transplant Recipient Profile

Nolan Bourgeois, originally from New Orleans, Louisiana, has experienced two major triumphs since 2014. The first one, for which hundreds of people recognize him, was creating a successful Facebook group that connects corneal transplant recipients, and people who struggle with corneal disease, around the world. The second one is more bittersweet and stems from his long, painful battle with an ocular bacterial infection and subsequent fungal infection, and which eventually led to him receiving a corneal transplant that would not only preserve his eye but restore his sight. These two achievements are intimately related and have allowed Nolan to receive support along his own journey while creating a support network for thousands of people around the world facing the same challenges.

Like millions of other Americans, Nolan wore glasses and contact lenses for most of his life. "Everything was fine and dandy," he says of his vision prior to 2014. Then, on the last Friday in May, Nolan noticed that his right eye was itchy. He didn't think much of it at first, but by the following day, Nolan's symptoms had worsened, and he started to wonder if he had pink eye. He was concerned, but didn't think his symptoms were severe enough to seek medical attention, especially on a weekend.

That night, Nolan had trouble falling asleep due to increasing pain in his right eye. He realized that he needed medical treatment, but fell asleep from exhaustion. He awoke just two hours later knowing something was terribly wrong: he was in extreme pain, and unable to open his right eye. When he finally managed to open the eye, he had no vision from it. Nolan had become blind in his right eye on June 1, 2014, less than two days after the onset of symptoms.

Since he still had vision in his left eye, Nolan was able to see that something was visibly wrong with his right cornea. "I was shocked to see that it was semi-opaque, with a white tint," he recalls. He immediately went to a hospital near his home in Fort Lauderdale, where an incredulous doctor asked Nolan why he had waited so long to seek treatment. Nolan emphasized the rapid onset of his symptoms, which led the doctor to believe that this was a severe and unusual infection. Nolan was referred to Bascom Palmer Eye Institute in Miami for further treatment.

At Bascom Palmer, Nolan was examined by Dr. Guillermo Amescua, who gave him his diagnosis: Nolan had a corneal infection due to Pseudomonas bacteria, a fast-spreading organism that can lead to total destruction of the tissue if not treated. Fortunately, Dr. Amescua is a leading specialist in the field of ocular surface disorders, with a particular interest in ocular microbiology. He knew from experience that Nolan's prognosis was uncertain, but he was committed to trying every treatment available. Nolan recalls feeling an immediate sense of partnership with Dr. Amescua as they began fighting the Pseudomonas infection that had robbed him of the vision in his right eye. "This isn't good," Dr. Amescua told Nolan, "But I'll do my best."

Dr. Amescua knew that Nolan would eventually need a corneal transplant to restore his vision, but before that could take place, the infection had to be cured. Dr. Amescua prescribed Nolan several different antibiotic eye drops, but the bacteria proved resistant to medication. Further complicating his case, Nolan developed a fungal infection in his cornea about 6 weeks after beginning treatment for the Pseudomonas bacteria. Dr. Amescua was extremely concerned. Nolan recalls him saying, "We're running out of medications to try." To make matters worse, the severe bacterial and fungal infections gradually caused Nolan's cornea to thin and weaken, leading to pain that Nolan describes as "the worst thing I've experienced in my life."

After battling these painful infections for several months, an examination by Dr. Amescua revealed that Nolan's cornea was on the verge of rupturing. To save Nolan's eye, Dr. Amescua suggested that Nolan undergo corneal cross-linking (CXL), a procedure that uses a combination of riboflavin eye drops and light therapy to strengthen the cornea's collagen tissue. Nolan had CXL done during an afternoon outpatient procedure, and by that evening, the worst of the pain had subsided. "I fought to keep my right eye," remembers Nolan. "That was a turning point."

Strengthened by CXL, Nolan's cornea slowly healed. Nolan still needed a transplant to restore vision to his right eye, but because his cornea was so badly damaged, Dr. Amescua advised that he wait to have surgery. As Nolan waited for his eye to heal— for what turned out to be years— he reached out to the internet for support.

Dr. Guillermo Amescua, at right, examines Nolan's eye with a slit lamp.

Nolan's story, continued

"I had a lot of time to think about the transplant I was going to get," says Nolan, "So I wanted information on what to expect. I had gone through a lot already: I had been told, several times, 'Be prepared to lose your eye.' I could finally focus on getting my vision back, and I wanted to talk to other people who have been through it."

Nolan joined two online support groups for people battling corneal disease, but he found that there wasn't much discussion about the process of corneal transplantation and its recovery. In these groups, he connected with other people awaiting corneal transplants, who were also looking for firsthand information. In 2015, Nolan created Corneal Transplant Support Group. CTSG, as members call it, is a group on Facebook described as "a friendly, worldwide support group offering encouragement, experience, knowledge, compassion, and motivation."
Two online friends who were also corneal disease patients joined, and became the second and third group members.

"Corneal Transplant Support Group: the name is so simple!" Says Nolan. "But it goes to show you that there was nothing like it in existence at the time." A few weeks after its creation, several others joined CTSG, which Nolan recalls feeling like an achievement. Membership gradually— and organically— increased as time went on. Corneal transplant recipients from around the globe searching Facebook for support finally had a place to go. "Support is a big issue," Nolan explains, "And there really isn't much when it comes to corneal transplantation. Family and friends try to help, and mean well, but they don't understand what the patient is going through the way that other patients can. Talking to others who have been through this is necessary. We understand each other."

As CTSG membership increased, first by the dozens and then by the hundreds, conversation became more active. Members shared their experiences, and were able to learn from one another. Nolan cites an important lesson he learned about corneal transplantation from CTSG: "Corneal transplantation is not like changing a light bulb. You don't just switch out the old one, put in a new one and see everything better. It takes time to heal, and it can be a struggle. While some people can have instant results, not everyone does. It's important to have patience, and to define success as having better vision after corneal transplant, eventually."

Nolan knew the challenge he was facing with his upcoming transplant. Dr. Amescua warned him that, due to his complicated history, chances of success were low, and advised him that he might need to undergo multiple transplants over the course of his life. Nolan felt like he had nothing to lose by going ahead with the transplant, and finally, in 2018, Dr. Amescua felt Nolan was ready. The transplant surgery, with tissue provided by Florida Lions Eye Bank, was "a piece of cake," in Nolan's words, "because CTSG had shown me what to expect." As for post-surgical discomfort, Nolan didn't have much: "Compared to the infection I had and the pain it caused, transplant surgery was easy." Even better, Nolan noticed a significant improvement to his vision shortly after surgery. "Within a day, I had about 70% of normal vision for the first time in years. I was in the happiest mood."

2018 also marked the three-year anniversary of CTSG on Facebook. By the end of the year, the group had over 1,600 members from 96 different countries, spanning from the US and Canada to England, Australia, South Africa, Malaysia, Russia, Egypt, and more. Nolan and the group's volunteer staff make a point to keep conversation active and to check in on fellow members who are undergoing transplant surgery or struggling with corneal disease. About 100 new members join every month, and each new member is personally welcomed to the group.

Nolan expects to have another eye surgery soon, this time to remove a cataract that has developed in his right eye. He feels relaxed about the upcoming procedure, thanks to the superb care he has received from Dr. Amescua and his team at Bascom Palmer Eye Institute. "He is the right doctor," Nolan says of Dr. Amescua, "and I trusted him from the beginning."

As for Corneal Transplant Support Group, Nolan is excited for its future and grateful for its success. "The whole reason I started the group was to help myself," says Nolan. "When people say, 'You've helped me tremendously,' I am touched."

Second Generation Remote-Controlled Slit Lamp Saves Sight

News about Ophthalmic Research

In our 2010 Annual Report,

Florida Lions Eye Bank highlighted an innovation in telemedicine created, with our financial support, by the Ophthalmic Biophysics Center at Bascom Palmer Eye Institute. The Remote-Controlled "Drone" Slit Lamp Biomicroscope was invented to improve access to eye care in rural and underserved populations across the globe. This device combines a slit lamp microscope with remote-controlled computer technology, allowing doctors to examine patients' eyes from remote locations.

At the time of our earlier report, the Drone Slit Lamp was still being tested and had not been used in clinical applications. But as of 2018, Drone Slit Lamps have been installed in 10 rural locations in India, allowing individuals in these geographically isolated parts of the country to be examined by ophthalmologists at LV Prasad Eye Institute in Hyderabad. Each of these 10 locations, called secondary eye care centers, is equipped with a Drone Slit Lamp, an internet connection to transmit the images from the slit lamp, a two-way microphone so patient and doctor can speak to one another, and a trained technician to guide the patient through the examination.

Since their installation, the Drone Slit Lamps have been used to examine and diagnose dozens of patients. One such patient is Sravani Marlapati. At the age of 7, Sravani experienced an injury to her eye. As she was recovering, her parents noticed that the exterior of her eye was turning white. They rushed Sravani to the secondary eye care center in Paloncha, the facility nearest to their home in the remote village of Cherla. Dr. Gurcharan Singh in Paloncha diagnosed Sravani with a fungal infection of the cornea. The fungal infection resolved in about a month, but unfortunately, it left behind a scar that obstructed Sravani's vision.

To plan the next steps of Sravani's treatment, Dr. Singh decided to consult a specialist at LV Prasad in Hyderabad, a major eye hospital located about 6 hours away from the secondary center in Paloncha. Using the Drone Slit Lamp, Dr. Mukesh Taneja at LV Prasad performed a detailed slit lamp examination on Sravani for evaluation and management of the scar on her cornea. From his exam room over 200 miles away, Dr. Taneja diagnosed Sravani with damage to the middle layer of her cornea, and recommended a corneal transplant.

Sravani Marlapati after corneal transplant surgery, with her mother.

Bottom left: a patient is seated at the Drone Slit Lamp. In a standard slit lamp examination, a doctor would sit on the other side, facing the patient.

Below, a doctor's view of the patient's eye through the Drone Slit Lamp. This image appears on a screen, and is viewed in 3D using stereoscopic glasses, top left.

Sravani's sight-saving transplant surgery was successfully performed on May 27, 2016. And while Sravani and her family had to travel to Hyderabad for the surgery itself, all post-operative follow-up examinations were performed using the Drone Slit Lamp at the eye care center in Paloncha, much closer to her home. Today, Sravani is thriving, thanks to the Drone Slit Lamp that brought access to world-class eye care to her small village.

Sravani isn't the only patient who has benefited from the Drone Slit Lamp. To date, nearly 20 other patients in rural parts of India have been diagnosed via remote examination with ophthalmic conditions requiring surgery. These procedures have been carried out at surgical centers, with all follow-up care performed successfully by ophthalmologists at LV Prasad Eye Institute via telemedicine using the Drone Slit Lamp.

The demonstrated success of the Drone Slit Lamp in India provides hope to others around the globe. Access to high quality eye care is lacking in many parts of the world. Florida Lions Eye Bank, as supporters of vision care for everyone, everywhere, hopes to see the Drone Slit Lamp continue to serve communities and patients who need it most.

Financial Donations July 1, 2017- June 30, 2018

General Donations

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FLORIDA LIONS EYE BANK
SINCE 1962
Restoring the Beauty of Sight

"Friendship is good medicine." - Nolan