



FLORIDA LIONS
EYE BANK

SINCE 1962
Restoring the Beauty of Sight

Annual Report 2019



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Pictured from left to right are Della Collins, Barbara Chafin, and Deloras Maynard, at Bascom Palmer Eye Institute in Miami.

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Deloras Maynard, her sister Della Collins, and her daughter Barbara Chafin, have all been diagnosed with Schnyder's corneal dystrophy, a rare inherited disorder. This disorder affected women in Deloras's family for generations, but it was never formally diagnosed until Deloras met Bascom Palmer ophthalmologist Anat Galor, MD, MSPH.

Page 12 Ophthalmic Research Story

Graft failure is a rare postoperative complication some corneal transplant recipients face. In 2019, Florida Lions Eye Bank sponsored the research of Alfonso L. Sabater, MD, PhD, who is working on ways to prevent this problem, using the healing power of human blood plasma.

Page 14 Financial Donations

Back Cover



Barbara, Della, and Deloras generously shared pictures of themselves at home, traveling, spending time together, and being treated for Schnyder's corneal dystrophy. Several of Deloras's handmade quilts are pictured as well.

Florida Lions Eye Bank 2018-2019 Status Report

	July 1, 2018- June 30, 2019	Since 1962
Total number of eye donors:	1,097	49,300
Eyes/corneas recovered:	2,188	96,450
For surgical use:	1,489	
For research use:	699	
Total tissue provided for transplant:	1,072	
Corneas provided for transplant:	838	47,749
Transplanted in the US:	718	
Transplanted Internationally:	120	
Sclera & preserved corneas provided for surgery:	234	16,773
Ocular tissues distributed for research & education:	986	35,943
Pathology specimens studied:	4,531	115,304
Serum Tears/ ASED processed:	1,403	2,355

Medical Director's Report: Sander R. Dubovy, MD



As the 2019 year draws to a close, we are able to look back on a successful year at Florida Lions Eye Bank in the areas of eye donation, education, diagnostics, and innovation.

Florida Lions Eye Bank was fortunate to provide over one thousand tissue grafts to patients for surgery during the past year. The majority of these grafts were corneas for transplant surgery: whole corneas for full thickness transplantation (also known as PKP, or penetrating keratoplasty), and partial thickness corneas, which are prepared in our laboratory by specially trained technicians, for DMEK, DSEK and DALK procedures. A smaller number of corneal and scleral grafts were provided for glaucoma filtration and post-enucleation surgeries. These tissues, used for sight-saving procedures in Florida and throughout Central and South America, had a tremendous impact on the lives of many recipients.

The restoration of sight to these one thousand plus recipients would not have been possible without the generosity of our eye donors, whose end-of-life bequests facilitated their donation. In April 2019, we honored our donors and their families with an afternoon celebration and butterfly release at the beautiful and serene Flamingo Gardens. It should be noted that 68% of individuals who donated eyes to Florida Lions Eye Bank in 2019 had registered as organ/ eye/ tissue donors, the highest percentage of registered donors to date. I urge you to consider becoming a registered donor so as to assist in providing the gift of sight to those in need. Floridians may visit the Donate Life Florida website at donatelifeflorida.org, where you can join the organ/ eye/ tissue donor registry from your phone or computer. Residents of other states may visit Donate Life America at donatelifenet.net.



In addition to providing tissue for transplantation, Florida Lions Eye Bank provided 986 tissue specimens for research and education in 2019. Some of these specimens were used for research conducted in our own laboratories, where we investigated novel methods for transplantation and instrumentation. These efforts have resulted in the filing of two patents for devices used in corneal graft preservation and DMEK surgery. We hope to bring these devices to market in the coming year.

Some tissue specimens were also used in professional education seminars on new techniques in corneal transplantation. Hands-on instruction courses, or wet labs, in DMEK and DALK surgical techniques were sponsored by Florida Lions Eye Bank at the American Academy of Ophthalmology, the XLI Inter-American Course in Clinical Ophthalmology, and at the Bascom Palmer Eye Institute Cornea Meetings. These wet labs have allowed both practicing physicians as well as doctors in training to be updated in the latest techniques in corneal transplantation in both a didactic and surgical setting. Attendees to these educational seminar courses have commented on the tremendous practicality of the surgical sessions.

DMEK tissue was an area of intense focus for us over the past year. I am pleased to report that Florida Lions Eye Bank began providing preloaded DMEK tissue for partial-thickness transplant surgery. This technique allows for a more rapid, efficient surgery which in turn leads to more successful outcomes and more rapid visual rehabilitation.

The Serum Tears, or autologous serum eye drops, program has grown in size and scope over the past year. In 2019, over 1,400 patients from all over the state of Florida have

had blood drawn at their homes and shipped to our eye bank to be processed into Serum Tears, a biological therapy made to order for each patient. Our patients receive their Serum Tears via home delivery within days of their blood draw, so they can quickly begin treatment for the severe symptoms that require this sight-saving treatment. Patients and their physicians have been grateful for these services Florida Lions Eye Bank provides, and we have seen the number of Serum Tears patients steadily increase over the past several years.

Florida Lions Eye Bank's dedicated ocular pathology laboratory provided diagnostic services to over 3,500 patients during the past year. This included patients at Bascom Palmer Eye Institute as well as those elsewhere in the United States and abroad. In many instances, we provided pathologic services to doctors and patients that might otherwise not be possible, given the unique skill set needed to render diagnoses in these tissues. Additionally, we provided professional education lectures in ophthalmic pathology to residents and fellows at Bascom Palmer Eye Institute and at universities throughout the nation. Finally, Florida Lions Eye Bank collaborated with the National Institute of Health in Bogotá, Colombia, studying the effects of Zika virus on the eye.

In conclusion, Florida Lions Eye Bank has made advances in tissue donation and recovery, education and diagnostics, and innovation in 2019. I would like to personally thank all the team members at Florida Lions Eye Bank for their tireless efforts as we strive to restore the beauty of sight.

2018-2019 Florida Lions Eye Bank Officers

President: Lion Norma Callahan, PDG

Vice Presidents:
Lion Ken Engstrom, DG
Lion Jerry Skufe, PDG
Lion Karen Stowers
Lion Geoff Wade, ID

Directors:
Lion Betty Barrera, PDG
Lion Bill Arthur
Lion Antonio Burgos, PDG
Lion Robert Gentilini
Lion Elbio Jose Gimenez, DG
Lion Dean Hess, PCC
Lion Joel Levenston, PVDG
Lion Alfred Santamaria

Treasurer: Lion Luis Olarte, CC

Secretary: Lion James Campbell

Immediate Past President:
Lion George Letakis, PDG



The Florida Lions Eye Bank 2018-2019 Board of Directors. From left to right: PVDG Joel Levenston, Lion Bill Arthur, DG Elbio Gimenez, PDG Norma Callahan, ID Geoff Wade, Lion James Campbell, CC Luis Olarte, PDG Antonio Burgos, and Lion Alfred Santamaria. Not Pictured: PDG Jerry Skufe, Lion Karen Stowers, PDG Betty Barrera, Lion Robert Gentilini, PCC Dean Hess, PDG George Letakis.

President's Report: Norma Callahan, PDG



My term as Board President of Florida Lions Eye Bank, from July 1, 2018 to June 30, 2019, was a busy and productive time, and one that I enjoyed immensely. I am pleased to report that the board of directors and I successfully accomplished a number of tasks that facilitated work processes at Florida Lions Eye Bank.

As the first-ever board president from District O, a region spanning from the Gulf Coast to the Atlantic across central Florida, I was committed to stimulating interest in Florida Lions Eye Bank among Lions throughout the multiple district. I especially wished to reach out to those who don't live locally, and who might not be familiar with our organization and mission. Executive Director Elizabeth Fout, the Board of Directors, and I brainstormed several novel ways to do this.

One such event took place during the 2019 Spring Conference. Florida Lions Eye Bank sponsored the luncheon at the Council of Governors Meeting, which had the biggest turnout of any such meeting. All members of the Florida Lions Eye Bank Board of Directors were present for this new type of event: a working board meeting held during the luncheon. All Lions in attendance were given an inside look at Florida Lions Eye Bank's operations.

Another effort to include Lions from throughout the multiple district was our introduction of teleconferencing and video conferencing during board meetings. In 2019, Florida Lions Eye Bank moved to allow board members to attend meetings remotely in order to promote better attendance and engagement. It is my hope that, going forward, this will encourage Lions who are interested in serving on Florida Lions Eye Bank's board to do so, no matter their place of residence within the Multiple District.

I was happy to see that Lions from all four districts attended the 2019 Open House! For the second year in a row, this Open House Celebration included a group outing in Miami after a presentation, tours of eye bank facilities, and lunch. The event was attended by over 120 guests, most of them Lions, and featured a sightseeing excursion in Biscayne Bay aboard a private yacht.

A successful financial audit during my presidency brought to light the need for an update to Florida Lions Eye Bank's bylaws and mission statement. The board of directors voted to amend the organizational bylaws, and introduced the following new mission statement:

Florida Lions Eye Bank provides ophthalmic services to ophthalmologists and patients to assist with treatment and advances the field of ophthalmology through research and innovation for the betterment of humankind.

This updated mission statement acknowledges Florida Lions Eye Bank's new patient-facing work: producing and distributing Serum Tears and PRGF®.



Indeed, Serum Tears and PRGF® services became a major project during my presidency. To oversee these efforts, we hired William Buras, Director of Business and Project Development, in September 2018. William, the former Executive Director of Southern Eye Bank in Louisiana, manages these programs, and develops new services, products, and technologies to advance Florida Lions Eye Bank's mission and goals. Additionally, William coordinates educational opportunities for surgeons, participates in ophthalmology conferences and events, and provides hands-on training and operating room assistance to surgeons on new transplant techniques.

Our final achievement in this area was the introduction of financial assistance for Serum Tears patients. Many patients who are prescribed Serum Tears are older adults living on a fixed income. Despite efforts to keep prices as low as possible for this treatment, Serum Tears can be difficult for some patients to afford. In August 2018, we introduced a sliding-scale fee structure for qualifying Serum Tears patients, allowing more patients throughout Florida to access this therapy.

I was honored to serve as president during this dynamic period of Florida Lions Eye Bank's long history. I am eager to see what innovations the coming year brings for Florida Lions Eye Bank, an organization that has served tens of thousands of people since 1962.

2018-2019 Financial Report

	FY 2019	FY 2018
Revenues and Gains		
Program Service Fees	\$3,084,932	\$3,129,437
Contributions		
• General Public	\$20,145	\$31,905
• Bequests	\$24,472	\$12,729
• Lions Clubs	\$26,433	\$23,717
Donated Facilities and Services	\$125,738	\$122,318
Interest & Dividends	\$344,231	\$387,408
Net unrealized and realized gain (loss) of long term investments	\$234,938	\$713,610
Total Revenues and Gains	\$3,859,889	\$4,421,124
Expenses		
Program Services		
• Medical Services	\$3,215,759	\$3,111,051
• Research Grants	\$264,556	\$292,051
Supporting Services		
• Management and General	\$277,799	\$253,107
• Development	\$146,332	\$207,597
Total Expenses	\$3,904,446	\$3,863,806
Change in Net Assets	\$(44,557)	\$557,318

Deloras Maynard and her Family:

A Story of Four Generations of Women Living with a Rare Corneal Disorder

Four-time corneal transplant recipient Deloras Maynard grew up in the 1950s in the heart of coal mining country in West Virginia, right across the Tug Fork river from Kentucky. She is the eldest of seven siblings, and among the third generation of women in her family to experience vision problems due a rare genetic corneal disorder called Schnyder's corneal dystrophy. Youngest sister Della Collins (née Maynard), and daughter Barbara Chafin, are also affected by this corneal disorder, as were her mother and grandmother. Although Deloras experienced symptoms for many years, neither she nor any other member of her family knew the name of this eye disease until she

became a patient of Bascom Palmer/VA physician Anat Galor, MD, MSPH.



Deloras recalls that during her childhood in rural West Virginia, in a home with an outhouse, a pot-bellied stove, and a well for drawing water, her mother Avaneil suffered from poor eyesight. In spite of this, Avaneil looked after seven children

and kept their home spotlessly clean. Deloras's maternal grandmother lived nearby: throughout her life, she too had vision problems. Avaneil would go on to have bilateral corneal transplants in the 1980s, restoring much of her vision. Deloras's grandmother lived a long life, but never sought treatment for her low vision, and had near-total vision loss in older age.

In her early teens, Deloras began struggling with schoolwork due to problems with her eyesight. She saw a local ophthalmologist, who wasn't sure what was wrong, and she was referred to a Dr. Wilson across the river in Kentucky. Now retired for many years, Dr. Wilson was the first to recognize the corneal disorder that ran in Deloras's family. He labeled it a corneal dystrophy: a genetic, progressive disorder in which abnormal material accumulates in the cornea, leading to vision loss. However, there are many types of corneal dystrophies, and the exact type that affected Deloras's family remained undiagnosed for another 50 years. "I had just a tiny, tiny white spot on my cornea that Dr. Wilson noticed," says Deloras. "That spot grew over the years until it covered my pupil. Once your pupil is covered, your vision is gone."

Despite her vision problems, Deloras graduated from high school, and joined the US army in 1966. There, she enjoyed an outstanding career, serving in Alabama, Texas, and Georgia, where she specialized in communications and teletype. Upon her discharge in 1968, Deloras worked in the Pentagon, where she held a top-secret security clearance. In 1969 she moved to Ohio, where daughter Barbara was born. In Ohio, Deloras worked in a factory for the next 14 years.

As she got older, Deloras's vision loss progressed. This is the nature of Schnyder's corneal dystrophy, a genetic eye disease in which abnormal deposits of cholesterol and phospholipids gradually accumulate in the cornea, making it appear cloudy. It follows an autosomal dominant pattern of inheritance, meaning that an affected parent has a 50% chance of passing it down to each child. Symptoms often begin early in life and progress slowly, eventually leading to corneal opacification. The disorder is painless, but it usually affects both eyes, and there is no medication that can treat it. Laser therapy can help delay progression, but ultimately, the only way to restore sight to a patient is bilateral corneal transplantation. However,

while transplantation is usually effective, the underlying disease isn't cured by transplantation, so repeat transplants are usually needed 15-20 years later, when cholesterol re-accumulates in the patient's corneas.

Unfortunately, in the early 1980s, Deloras had to retire from working due to her vision loss. She moved back to West Virginia, where her sister Della still lived. Deloras occupied herself with raising her daughter and enjoying her favorite hobbies, including sewing, which she describes as her passion. Her favorite things to sew are quilts, and she also enjoys applique and embroidery.



Around this time, Della and Deloras's mother, Avanel, then in her mid-50s, received bilateral corneal transplants at a hospital in West Virginia. These transplants restored Avanel's vision until her death in 2008.

By the early 90s, Deloras was struggling to read, drive, sew, and get around; her depth perception, distance vision, and low light vision had become extremely limited. "I couldn't see stairs or curbs anymore," Deloras recalls. "I'd have to kick the back of the next step or the curb to know where it was." The time had come for a corneal transplant, performed in West Virginia in 1992, when Deloras was 43 years old. A second transplant in the other eye followed two years later. These procedures dramatically improved not only Deloras's eyesight but her overall quality of life. After her corneal transplants, Deloras became a strong supporter of eye, organ, and tissue donation. She registered as a donor on her driver's license and speaks readily about the importance of donation. "A lot of people aren't aware of eye donation at all," Deloras says. "But once they have

a corneal transplant, they understand the importance of donation, and realize how lucky they are to have that available to them."

In 2000, Deloras relocated to South Florida, where she became an ophthalmology patient at the West Palm Beach VA Medical Center. Her physician there referred her to Dr. Anat Galor, a corneal specialist who sees patients at the Miami VA and Bascom Palmer Eye Institute in Miami. Dr. Galor's expertise in ocular surface disorders, as well as her role as an educator and researcher, enabled her to arrive at an exact diagnosis for Deloras's eye condition, which up until that point had only been identified as a dystrophy.

Although Dr. Galor had treated only one patient with Schnyder's corneal dystrophy before meeting Deloras, she recognized the disorder right away, giving a name to the disease that had affected three generations of women in Deloras's family. Explains Dr. Galor, "Deloras's case of Schnyder's corneal dystrophy is classic, based on inheritance pattern and characteristic appearance." Galor adds, "Genetic confirmation of this disease is possible, but in Deloras's case it wasn't needed due to the clinical picture." Deloras speaks highly of Dr. Galor's dedication to finding a correct diagnosis and researching the best way to treat this rare disorder. "It's not a good thing to have this disease," says Deloras, "But it's a good thing to have a doctor like Anat Galor who wants to find out more about it."

(continued, next page)



Opposite page: Deloras as a young woman.

This page, left: A quilt Deloras created by hand.

This page, right: Deloras, at left, is examined by Dr. Anat Galor.

Deloras Maynard and her Family:

their story, continued

Over the next several years, Deloras's eyesight remained strong enough that she was able to read, write, sew, drive a car, and live a full life. She enjoyed the sunny weather in Florida and took up bicycling for fun and fitness. Deloras and daughter Barbara, now an adult, embarked on many domestic and international trips together, visiting New York City, Alaska, Greece, France, Spain, South Africa, and Egypt. Barbara was not yet experiencing symptoms of Schnyder's corneal dystrophy but knew there was a possibility she would inherit the disorder.

Meanwhile, back in West Virginia, Deloras's youngest sister Della was experiencing progressive vision loss. Della was older than Deloras was when she developed symptoms of Schnyder's corneal dystrophy. Della's vision had remained unaffected until she was in her late 40s, but she had been aware for years that she was at risk of developing the same condition that had affected her sister, mother, and grandmother. For the first 15 years after the onset of symptoms, Della could see reasonably well with glasses. Gradually, she began to have trouble reading and writing, due to advancing corneal clouding. "It was like looking through



a white film," describes Della. "In my early 50s, my vision went from not bad to milky, or cloudy, or foggy." Around the same time, Deloras's daughter Barbara had her eyes examined while visiting her mother in South Florida. Although she had not yet experienced any loss of vision, she learned she too had inherited Schnyder's corneal dystrophy, making her the fifth woman in four generations in her family with this disease.

By the mid-2010s, Dr. Galor noticed that Schnyder's corneal dystrophy had recurred in Deloras's transplanted corneas, which the disease is known to do. Both Deloras and her doctor wished to delay repeat corneal transplants for as long as was practical. To buy some time, Dr. Galor treated Deloras with PTK, or Phototherapeutic Keratectomy. PTK is a minor surgical therapeutic treatment that uses an excimer laser to treat diseases or injuries affecting the surface of the cornea. Dr. Galor explains, "This procedure ablates the superficial cornea, making the cornea thinner, but removing diseased or damaged tissue from its surface. The patient has a less hazy cornea and better vision." PTK returned some clarity to Deloras's corneas for about five years. But in 2019, when Deloras could no longer see well enough sew or make quilts, and she had to stop driving due to vision loss, she knew it was time for a repeat corneal transplant.

At the same time, Della's vision had deteriorated enough that her ophthalmologist agreed she needed a corneal transplant as well. Because of her sister's positive experience with Dr. Galor, Della decided to have her transplant performed at Bascom Palmer Eye Institute with Dr. Guillermo Amescua. In January 2019, Della traveled from West Virginia to Florida to undergo corneal transplantation surgery. Of the procedure itself, Della says, "I thought it would be bad, but when I woke up, I didn't feel a thing except irritation. I didn't feel pain at all." As Della gradually recovered, the sight returned to her eye.

The following year, both Deloras and Della had corneal transplants again, this time in their respective other eyes. Deloras's transplant took place at the Miami VA with Dr. Galor, and Della's at Bascom Palmer with Dr. Amescua. The sisters coordinated their surgeries to take place during the same week, so they'd be able to support one another during their recoveries. Barbara came to Florida as well to see her mother and aunt through their procedures. When the three women come to South Florida together, Dr. Galor likes to introduce them to her resident physicians, who are unlikely to have encountered a patient with Schnyder's corneal dystrophy before. "It is extremely valuable to see Deloras, Della, and Barbara together," says Galor. "I can show my residents the range of this extremely rare disorder. Barbara has early stage Schnyder's, Della has late stage, and Deloras is post-transplant." Dr. Galor continues, "They're unlucky to have this eye disease, but they want to help all of us learn as much as we can. They're a wonderful family."



Della's recovery is progressing well. Due to limited low-light vision, she still doesn't drive at night, but she thinks she might be able to when her corneas heal completely. She lives in West Virginia in the area where she, Deloras, and their five siblings grew up. She has six grandchildren, three of whom live nearby. Della enjoys working on cars with her husband and spending time outdoors. She has a trampoline, swing set, and a pool in her yard where she plays with her grandchildren.

Barbara lives in Kentucky, right across the river from her aunt Della in West Virginia. The two see each other often. Barbara enjoys doing jigsaw puzzles, but she's noticed

that recently she's having trouble seeing well enough to complete them. She sees an ophthalmologist near her home and is confident that he will advise her when it's time for a corneal transplant. She plans to have her transplant performed at Bascom Palmer Eye Institute in Miami.

Deloras started driving, cycling, and sewing again after her most recent corneal transplants. She rides her bike four miles twice a day and sews gifts for friends and loved ones. On a recent visit to Miami, Deloras presented Dr. Galor with a handmade tote bag she'd sewn. About Dr. Galor, Deloras remarks, "Anytime I've had a problem she's been there. She has done so much more than her job has required her to do."



Opposite page, left: Deloras getting her driver's license back after corneal transplant surgery.

This page, left: Della with Dr. Guillermo Amescua.

This page, top right: Barbara enjoying the Florida beach.

This page, bottom right: Dr. Anat Galor examines Deloras.

Ophthalmic Research Development:

Human Blood Plasma May be Key to Avoiding Complications After Corneal Transplantation



Every corneal transplant recipient worries about the risk of rejection and corneal graft failure after transplant. Surgeons and eye bankers worry about this too: as a community, we want to see corneal transplant recipients thrive, experience an end to discomfort, and enjoy

restored vision. Unfortunately, studies have shown that approximately 15% of corneal recipients experience an episode of graft failure within 5 years.

In 2019, Florida Lions Eye Bank sponsored research studies led by Alfonso L. Sabater MD, PhD, aimed at making corneal graft failure a thing of the past. Dr. Sabater is a Bascom Palmer ophthalmologist who treats patients and performs corneal transplants, as well a researcher specializing in cell regeneration and translational biological therapies. He knows, from clinical practice, how distressing graft failure can be to corneal transplant recipients. Remarkably, Dr. Sabater's research shows that the key to overcoming corneal graft failure may not lie in cutting-edge technology or pharmaceutical treatments, but in a transplant recipient's own blood plasma.

To understand how Dr. Sabater's research works, it helps to know a little bit about the condition he is trying to prevent. Graft failure is a clouding of the cornea that happens when the cells of the corneal endothelium die in a transplanted graft. The endothelium is the delicate innermost layer of the cornea, only a single cell layer in thickness. These corneal endothelial cells, or CECs, are responsible for the clarity of the entire cornea. If enough CECs die, the cornea can become cloudy, which is what is referred to as graft failure. Importantly, CECs cannot grow back or regenerate; when these types of cells die, it is permanent. It is also impossible to predict how many CECs will die post-transplant in a donated cornea. Examining

the graft under a microscope, a standard practice, reveals the size, shape, and density of CECs, but not their overall health. The goal of Dr. Sabater's research is to promote the health of CECs in donor corneas, by growing new CECs and protecting the existing ones. This will increase the number of healthy CECs in the graft and decrease the risk of graft failure.



Scientific studies going back decades have shown that human blood plasma, diluted and applied to the eye, can help heal the eye's surface. Indeed, the efficacy of Serum Tears—a biological therapy offered by Florida Lions Eye Bank—is based on this principle. This is because plasma, the liquid component of blood, contains growth factors, which are signaling proteins that stimulate cell growth, survival, and repair. These growth factors activate pathways in CECs that make them regenerate and proliferate, something these cells cannot normally do.

Because of the proven benefits of plasma upon the human eye, Dr. Sabater hypothesized that incubating donor corneas in a recipient's blood plasma prior to transplant would confer a protective and regenerative effect to CECs in the donated graft. To test this theory, Dr. Sabater and his team placed human corneas in specially prepared blood plasma called PRGF, or Plasma Rich in Growth Factors. The corneas used in this study were obtained by Florida Lions Eye Bank from consenting donors. Different incubation periods of 15, 30, and 60 minutes were tested. After incubation in PRGF, the grafts were examined for

genetic markers that indicate growth and repair of CECs. Afterwards, these same grafts were exposed to hydrogen peroxide, causing stress to the CECs and simulating the environment these cells are exposed to during transplantation surgery. Finally, the grafts were evaluated after this exposure to see whether their incubation in PRGF had protected CECs from damage.

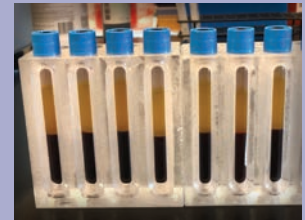
The results of this laboratory study were positive and promising! After only 15 minutes incubating in PRGF, CECs show genetic markers indicating cell regeneration and repair. Incredibly, these incubated grafts showed relatively little damage after exposure to hydrogen peroxide compared to control grafts that were not incubated. CECs exhibited resistance to oxidative stress and a much lower rate of apoptosis, or cell death. The positive effects of incubation in PRGF lasted for up to 48 hours. For patients, Dr. Sabater's breakthrough could mean a greatly decreased risk of graft failure in the future. By incubating donor corneas in the recipient's plasma prior to transplant, CECs in the graft will be better able to withstand the stress of surgery, improving postoperative patient outcomes.

Bringing this process to clinical practice will add only one more step for recipients prior to corneal transplantation: a simple blood draw, performed at the patient's convenience. This blood would be used to create PRGF, which, like donated blood, can be safely stored until it is needed. Shortly before corneal transplant surgery, the recipient's PRGF would be used to incubate the donor cornea he or she would receive.

The next step to bringing this innovation to patients at Bascom Palmer Eye Institute and beyond are human trials, which Dr. Sabater and his team are planning to begin in the near future. Florida Lions Eye Bank is looking forward to future collaborations with Dr. Sabater, and we are honored to be involved with the work of this incredible physician and researcher so dedicated to *restoring the beauty of sight*.

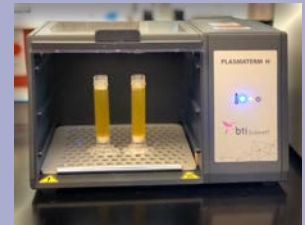
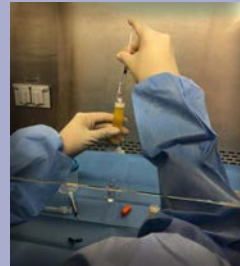
Opposite page, left: Alfonso L. Sabater, MD, PhD.

Opposite page, right: Healthy corneal endothelial cells, as seen under a microscope.



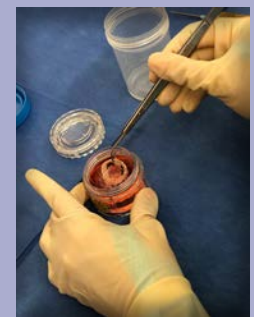
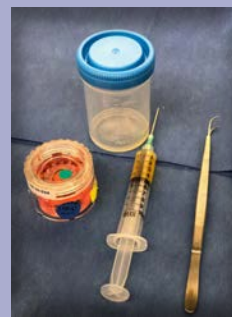
Above left: Human blood immediately after being drawn from a patient.

Above right: Blood after being separated via centrifuge. The yellow liquid portion is plasma, used to create PRGF.



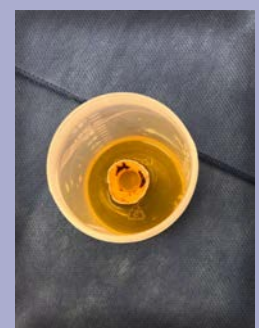
Above left: Plasma activation, a step in PRGF processing.

Above right: After activation, the plasma is warmed.



Above left: Materials and instruments used in Dr. Sabater's study: a human cornea stored in a viewing chamber and preserved in Optisol, a sterile specimen cup, PRGF in a syringe, and forceps.

Above right: Removing the cornea from viewing chamber to be placed in PRGF for incubation prior to transplant.



Above left: Cornea is placed into specimen cup and PRGF is added.

Above right: Human cornea incubating in PRGF.

Financial Donations July 1, 2018- June 30, 2019

General Donations

Georgette Alexander	John Erskine	Ann Lasnick	Matthew Samuel
Dolores B. Allen	R. E. Farr	Luke Leitz	Carol Sands
Seena R. Amsel	Chester Fields	Virginia Lepper	Fanny Santo
Eva M. Bartolet	Gladys Gallegos	Joyce H. Loaiza	Eduardo D. Scarpello
Gerardo Basail	Udo Garbe	Maricely Lopez	Sherry Schasiepen
Dorothy Bernstein	Blossom Gardner	Charlene Lupke	Bonnie Schiffman
Sandra Borok	Margie L. Giles	Heriberto Martinez	Carrie Scott
Arnold T. Butkus	Matthew Gissen	Barbara McNinney	Iluminada Segura
James Campbell	Esperanza Gomez	Andrew Moos	Alan M. Silbert, MD
Hedia D. Cantor	Celedonia Gonzalez	Roslyn Morris	Marie Silva
Shirley Christian	Judy & Christopher	Peter O. Muller	Alberto Sisso
Jose R. Cojulun	Gruchacz	Ofelia M. Nibot	Elizabeth & Walter
Paula T. Companioni	Maria E. Guas	Dave Niemuth	Smith
Juan Constante	Brenda S. Harmelin	Edith Olito	Elaine Solas
Elio Cruz	Margaret Hinely	Leslie & John Palmer	Leona Spector
Edith E. Davidson	Marilyn Jacobs	Maria D. Perez	Timothy Strachan
William E. Davis	Marlene James	Colleen Pinkerton	Robert K. Sutton
Phyllis Delizza	L.E Jones	Gloria Plastow	Marjorie Taylor
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