Bascom Palmer Eye Institute® | University of Miami Health System

Images

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DECEMBER 2014

Advancing Cataract Surgery

Attacking Macular Degeneration

New 3-D Eye

Bascom Palmer Eye Institute's mission is to enhance the quality of life by improving sight, preventing blindness and advancing ophthalmic knowledge through compassionate patient care and innovative vision research.

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FEATURE

Innovation in Cataract Surgery

Femtosecond laser-assisted cataract surgery provides surgeons an exciting new option to potentially improve patient outcomes and safety.

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RESEARCH

BASCOM PALMER EXCELLENCE

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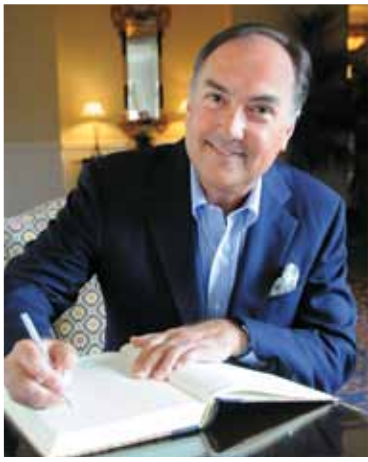
Dear Friends and Colleagues:

With new discoveries and medical advances in ophthalmology, this has been an exciting year for Bascom Palmer. Our physician-scientists are involved in clinical trials using gene therapy, retinal chips, genomics and stem cell therapy, and studying genetic mapping of cancers to better target treatment. Our researchers are also conducting laboratory studies on the molecular basis of degenerative diseases of the eyes that hopefully will lead to new clinical treatments.

This issue of *Images* highlights Bascom Palmer's corneal specialists, who use a powerful array of advanced laser tools as well as traditional surgical techniques to restore vision in complex cataract cases. Our Institute's scientists and clinical researchers – who have been in the forefront of laser technology for decades – continue to push the frontiers of technology, and we continue to improve the surgical treatment of cataracts, retinal detachments, glaucoma and other diseases.

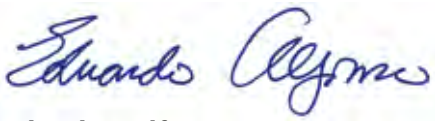


Without question, Bascom Palmer's most important resource is our clinical and research faculty, who are truly exceptional in their fields. Their intelligence and experience, combined with an unyielding commitment to improve sight and prevent blindness, provides the foundation for Bascom Palmer's exceptional patient care, as evidenced by our 11th consecutive #1 U.S. ranking in ophthalmology by U.S. News & World Report.

Rest assured, we will not stand on our laurels. We will continue to grow and improve. For example, we launched ***MyUHealthChart.com***, an electronic medical record system that brings a patient's medical history into one secure online system, empowering our doctors to respond quickly and effectively to the patient's clinical needs.

As we welcome the New Year, I would like to send best wishes for your health and happiness and thank you for your support.

Sincerely,

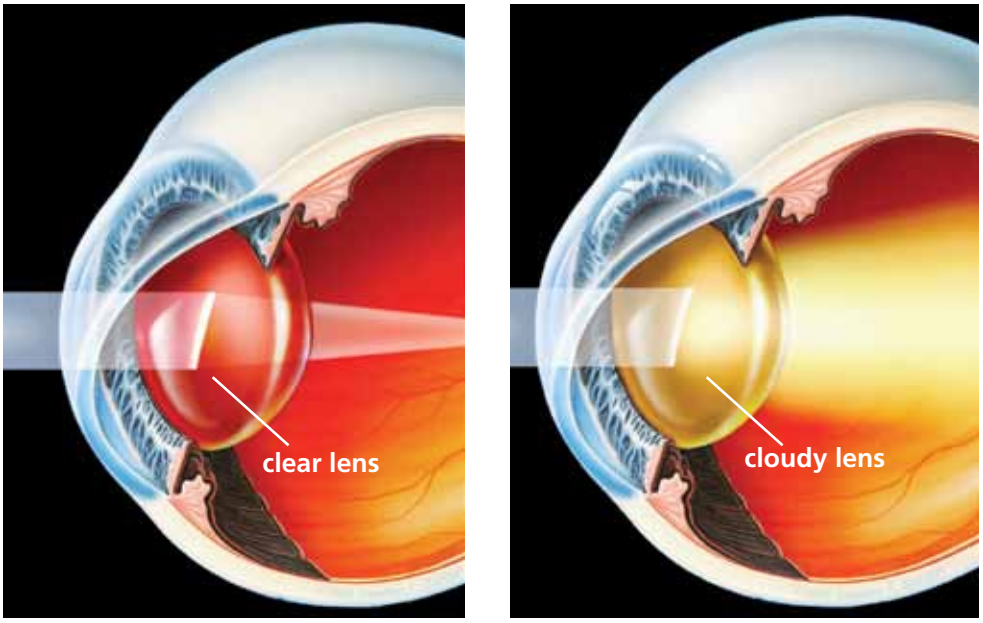


Eduardo C. Alfonso, M.D.
Kathleen and Stanley J. Glaser Chair in Ophthalmology
Chairman, Bascom Palmer Eye Institute

Leadership in Complex Cataract

Femtosecond lasers provide new options for Bascom Palmer ophthalmologists.

The normal, clear lens (left) provides clear, focused vision. Age, injury, or other factors can cause this lens to become a cataract (right) which blurs, dims, discolors, and clouds one's vision.



"We use the laser that is best for the patient, based upon his or her specific eye condition."

– William W. Culbertson, M.D.

Thanks to a remarkable collaboration of Bascom Palmer's faculty and alumni, cataract patients around the world today have new treatment options for impaired vision. The development of laser-assisted procedures – made possible by an innovative team of ophthalmologists with strong ties to Bascom Palmer – may be the most significant advancement in cataract surgery in half a century.

Surgery

Dr. William Culbertson

A decade ago, William W. Culbertson, M.D., professor of ophthalmology, director of the cornea and refractive surgery services, and the Lou Higgins Distinguished Chair in Ophthalmology, recognized the potential capabilities of extending the use of lasers. He knew that the ultrashort pulses of the femtosecond laser were effective for making corneal incisions for Lasik vision-correction surgery, and felt a similar approach would help cataract patients.

Culbertson met with retinal surgeon Mark Blumenkranz, M.D., a member of the Bascom Palmer faculty in the early 1980s and chairman of ophthalmology at Stanford University. "Mark had teamed up with several physicists and scientists at Stanford to automate the placement of laser energy to treat another vision-damaging condition called diabetic retinopathy," said Culbertson. "That work laid the groundwork for applying lasers to cataract surgery."

Culbertson directed the medical advisory board for OptiMedica, Blumenkranz's California company, which developed the Catalys precision laser system. The team conducted clinical trials in the Dominican Republic, where Culbertson spent three years fine-tuning the technology with another Bascom Palmer alumnus, Juan F. Batlle, M.D., chairman of ophthalmology at the Elias Santana Hospital and Medical Director of Centro Laser in Santo Domingo. This pioneering work by Culbertson and his colleagues was published in 2010 in the prestigious journal Science.

OptiMedica received approval from the U.S. Food and Drug Administration and the European Union, and Bascom Palmer purchased its Catalys femtosecond laser in 2012. Since then, Abbott has acquired OptiMedica, while other manufacturers have introduced their own femtosecond lasers. In addition to the Catalys, Bascom Palmer has LenSx (Alcon), Victus (Bausch & Lomb) and LensAR cataract lasers.

"The machines operate somewhat differently from each other," said Culbertson. "That allows our doctors to use the laser that is best for the patient, based upon his or her specific eye condition."

WHAT IS A CATARACT?

A cataract occurs when the lens in the eye becomes cloudy and hard. Cataracts can develop from normal aging, from an eye injury, from previous eye surgery or certain medications. Cataracts may cause blurred or dulled vision, sensitivity to light and glare, or ghost images. If the cataract changes vision so much that it interferes with daily life, the cataract may need to be removed. Surgery is the only way to remove a cataract. Without surgery, vision probably will not improve and may continue to get worse.

EARLY SIGNS OF CATARACTS

- Blurred or cloudy vision
- Things do not look clear and bright
- Frequent changes in eyeglass or contact lens prescriptions
- Night glare and hazy vision
- Colors that seem to fade

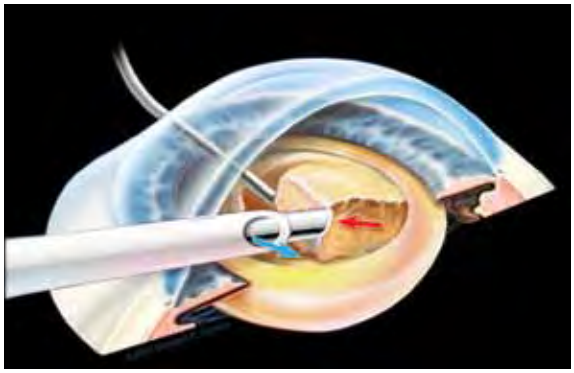
An ophthalmologist must determine if these symptoms are really caused by a cataract or by some other eye problem that may need treatment.

A common form of vision loss

Cataracts develop as part of the aging process, so everyone is at risk eventually. By age 75, about 70 percent of people will have cataracts. Cataracts are the leading cause of blindness in the world, according to Prevent Blindness America, which estimates that 30 million Americans age 40 and older will have cataracts by the year 2020. Children, adolescents and younger adults can also develop cataracts due to injuries, disease or congenital conditions.

But cataracts most often occur in adults in their 50s and 60s, when the lens slowly becomes cloudy and people begin to notice a loss in their vision. In most people, the vision loss is relatively slow and ophthalmologists can monitor the patient's condition until it reaches a point where surgery is necessary.

"Over time, the nucleus of the lens tends to harden and expand in the center," said Terrence P. O'Brien, M.D., professor of ophthalmology, Charlotte Breyer Rodgers Distinguished Chair in Ophthalmology, and director of the refractive surgery service at Bascom Palmer Eye Institute at Palm Beach Gardens. "However, every patient is different. Some types of cataracts remain relatively soft and spongy, while others continue hardening with age. We recently removed cataracts in a 102-year-old patient whose lenses seemed to be as hard as a redwood tree."



Ultrasonic sound waves from a very small probe are used to break up the cataract and remove it from the eye. This is called phacoemulsification.

Traditional procedures

With traditional "phacoemulsification" cataract surgery, an ophthalmologist uses a tiny diamond-tipped or metal blade to open the capsule in the front of the eye that holds the cloudy, scarred or darkened lens. Then the surgeon removes the lens with the blade or inserts a phaco probe that uses ultrasound energy to break up the hardened lens and "vacuums" out the smaller pieces.

Finally, the surgeon implants an artificial intraocular lens (IOL) to restore vision and closes the capsule surrounding the new lens, usually using a "self-seal" method so no stitches are needed. One of the keys to successful surgery is avoiding damage to the thin layer of tissue of the capsule,

Dr. Terrence O'Brien

Dr. Kendall Donaldson

because it must hold the new lens in the proper position for clear vision.

Traditional cataract surgery is a well-established procedure that produces good vision outcomes in most patients, although it does not correct other problems, such as glaucoma or macular degeneration. Many cataract patients still need to wear glasses after surgery for near or distance vision or to correct astigmatism.

Advances in surgery

Today, Bascom Palmer's cataract and corneal specialists use a powerful array of advanced laser tools as well as traditional surgical techniques to restore vision in complex cataract cases. In addition, the Institute's scientists and clinical researchers – who have been in the forefront of laser technology for decades – continue to push the frontiers in laser-assisted surgical procedures.

"Cataract surgery is a life-changing experience," says Carol L. Karp, M.D., professor of ophthalmology. "Being able to remove a cloudy lens and implant a clear lens that can correct other vision problems at the same time brings a huge improvement in a patient's quality of life. While regular cataract surgery works beautifully to improve vision, the ability to use highly precise lasers can take these surgical procedures to a higher level."

For Bascom Palmer cataract patients like Karen Strouse, the availability of laser-assisted procedures has made a big difference in treatment options. For most of her life, Strouse took good vision for granted. But a shadow came into her life around the time she turned 45. "I realized that I could no longer thread a needle and I also began to have trouble reading," said Strouse, a retired management consultant who lives in Broward County. "I had never worn glasses and wanted to find out what was going on with my eyes."

Strouse made an appointment with an optometrist, who told her she had cataracts, a condition that leads to diminished, blurred or distorted vision when the lens of the eye thickens and becomes cloudy or dark. She began wearing a contact lens to compensate, but as her vision became increasingly blurred through the years, she wanted to find a better solution, and contacted Bascom Palmer Eye Institute.

Kendall E. Donaldson, M.D., M.S., associate professor of clinical ophthalmology and medical director of Bascom Palmer at Plantation, recommended cataract surgery using the femtosecond laser to soften the hard natural lens cataract before it is removed and replaced with a new artificial lens designed to restore normal vision.

Dr. Carol Karp

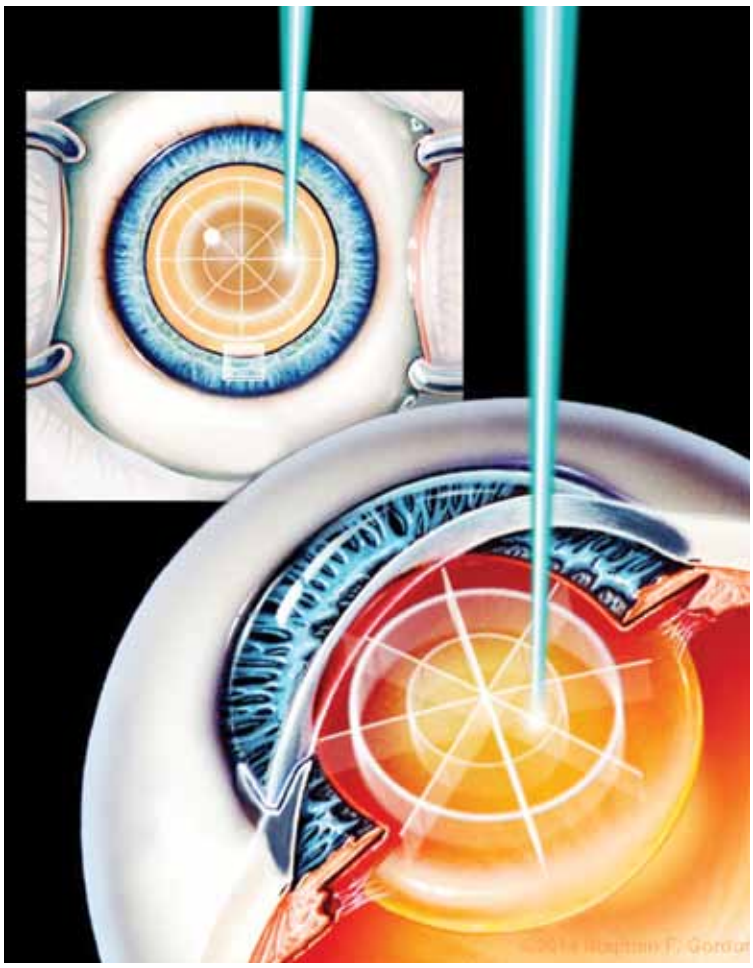
"Cataract surgery is a life-changing experience. Being able to remove a cloudy lens and implant a clear lens that can correct other vision problems at the same time brings a huge improvement in a patient's quality of life."

– Carol L. Karp, M.D.

"She did both eye operations two years ago and it was a very smooth, painless process," Strouse said. "Best of all, the results were terrific. Now I can surf the Web on my tablet and have no problem reading even small, compressed letters. I can clearly see objects that are far away as well."

Using the femtosecond lasers

With laser-assisted cataract surgery, the first step of the process involves creating a three-dimensional diagram of the front of the eye using optical coherence tomography (OCT), a sophisticated imaging system. "Our OCT scans provide very precise results, making it easier to create a customized plan for each eye," said Donaldson. "They help us determine the location, depth and angle of the corneal incisions."



In addition to creating precise incisions, the computer-controlled femtosecond laser assists in fragmenting the cataract, for potentially easier and safer removal by an ultrasonic probe.

Next, the femtosecond laser uses that data to make tiny, precisely configured incisions in the cornea. "This is a relatively quick, comfortable, minimally invasive addition to traditional cataract surgery that provides our patients with increased precision and safety for their cataract surgery, " added Donaldson.

One of the key benefits for patients is that the laser can place those incisions in a pattern to decrease astigmatism more precisely than can be done by hand, according to Karp. "Since the main reason for cataract surgery is to improve vision, being able to minimize the need for glasses after the procedure is the icing on the cake," she said.

Next, pulses of high-energy from the laser are used to soften a hardened cataract, making it easier for the surgeon to remove the internal contents of the lens capsule. "Less ultrasound energy is needed to break up the lens, which is a clear advantage for patients whose corneas have been damaged," Culbertson said. "There is also less inflammation inside the eye, which usually means a faster recovery process."

Because the laser process is less disruptive to the lens capsule, it is easier for the surgeon to insert the new intraocular lens in the ideal position. Culbertson said the placement of the lens is extremely important for long-term positive results.

Finally, the laser can be programmed to make its initial incisions in an interlocking or "zigzag" manner so that the cataract incision can seal itself after surgery for a quicker patient recovery.

"It's like sewing a hem on a pair of pants," said Sonia Yoo, M.D., professor of ophthalmology. "If you have a really good seamstress, you'll probably get a good hem, possibly better than with a sewing machine. But with the machine, it's going to be consistent and will be the same every time."

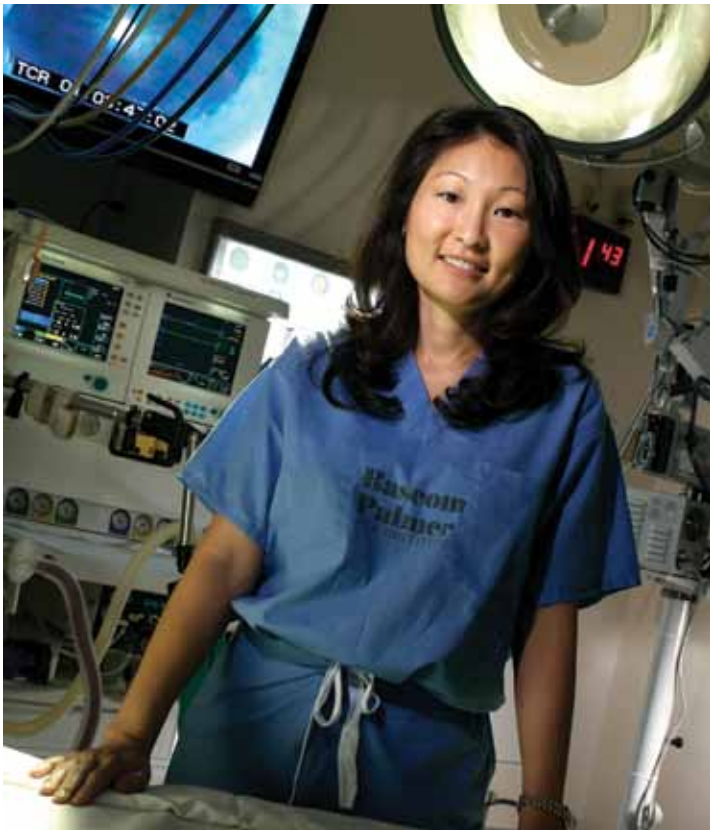
Not all cataract patients need laser-assisted surgery. O'Brien says the procedure is most helpful in patients with hard and thick cataracts that are difficult to soften and extract. "Most cataracts in children and younger adults remain relatively soft," he added. "In these cases, we typically use traditional surgical methods."

Treating traumatic injuries

Cataracts can occur in patients of all ages as a result of disease or traumatic injuries that leave scar tissue on the lens. Because there can also be damage to the eye's underlying structures, surgery can be highly challenging, according to James Banta, M.D., associate professor of clinical ophthalmology.

"There are many variables that come into play when there is damage to the lens, the iris or the natural support system of the lens," says Banta.

Dr. James Banta



Dr. Sonia Yoo

"In these cases a cataract replacement surgery might take much longer than normal."

Banta recently treated a 17-year-old girl who was hit in the eye with a bungee cord, resulting in bleeding, swelling, a torn iris and a severe cataract. "We had to wait until she had recovered from the acute injuries before we could proceed with surgery," he said. "First, we had to break the scar tissue that had formed between the iris and the lens just to access the cataract. After removing the mature cataract, we placed a special ring in the capsule so it would support the artificial lens in a normal position. Finally, we reconstructed her iris with sutures, reshaping her pupil for a more natural look."

Banta also treats patients with non-traumatic conditions that can lead to severe weakness in the support system of the lens, namely pseudoexfoliation and retinitis pigmentosa . "Some of these

patients also have weakened fibers supporting the capsule," he said. "In these patients we might need to suture the lens in place or place the lens in an entirely different position in front of the iris."

Culbertson notes that about 10 percent of cataract patients have a condition called pseudoexfoliation syndrome that doesn't affect vision but results in loose attachments to the cornea. "Being able to do more of the surgical procedure without touching the cornea or moving the lens is a big advantage for these patients," he said.

Laser-assisted cataract surgery is also beneficial for patients with Fuchs' dystrophy or other disorders that damage the cellular layer on the back of the lens. "Being able to break up and remove the cataract with minimal energy helps to avoid damage to that vulnerable cell layer," Culbertson said.

Summing up the advantages in trauma cases, Karp says, "The femtosecond laser offers patients major benefits when the corneal tissues are weak from disease or injury. It's a kinder, gentler form of cataract surgery."

Correcting distance vision

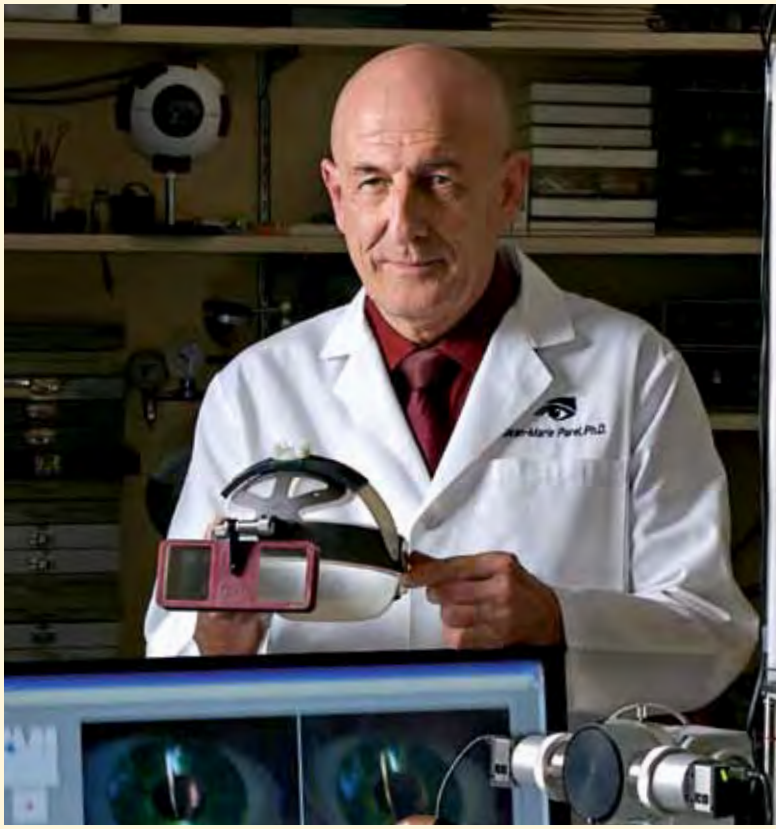
One of the clear benefits of laser-assisted cataract surgery is being able to correct distance vision and some types of astigmatism. "We can get similar outcomes to Lasik surgery, allowing us to achieve two goals – removal of the cataract and improvements to a patient's near and far vision," said Donaldson. "Not all patients achieve 20/20 vision, but the improvements can be dramatic."

To correct astigmatism, a form of distorted vision, the femtosecond laser can be programmed to make incisions that give the cornea a more normal shape. This procedure, called astigmatic keratotomy, can also be done during traditional cataract surgery. "Our laser platform can make a 'flap in the cornea' just as it does in Lasik surgery," said O'Brien. "We have found that the process works very well."

After monitoring patient outcomes, O'Brien said the laser-assisted procedure may be more effective in reducing astigmatism than other approaches. "We have also been able to correct lower amounts of astigmatism than in the past, and our patients are very satisfied with the results."

Addressing the Challenge of Visual Accommodation

For the past 35 years, Bascom Palmer's Jean-Marie Parel has been wrestling with the problem of visual accommodation: the ability of the eye to adjust its focal length and maintain near or distance vision in people whose lenses become more rigid with age.



WHAT IS VISION LIKE WITH CATARACTS?

Normal vision

Dulled or yellowed vision

Blurring or dimming

Distortion or ghost images

Nearsightedness, farsightedness and astigmatism can also be corrected through the artificial lenses placed in the eyes. In the past, a patient typically would be given monofocal lenses that provide clear vision at one distance only. That means glasses or contacts would still be required for reading or for distance vision.

Today, there are multiple options in terms of these intraocular lenses (IOLs), according to Yoo. For example, one eye could be fitted with a lens for distance vision and the other eye with a lens for near vision. After a period of adjustment, many patients are able to coordinate their eyes to focus on objects both near and far. Another option is toric lenses that correct for astigmatism while providing some type of distance vision.

"We discuss these lens options with all our cataract patients to see what they prefer," said Yoo. "Our patients have more choices in IOLs than ever before."

Continued on page 11

"When most people reach the 40s, their eyes start losing the ability to focus on near objects – a condition called presbyopia – and eventually they require reading glasses," said Parel, IngETS-G, Ph.D., FARVO, the Henri and Flore Lesieur Chair in Ophthalmology and director of the Ophthalmic Biophysics Center (OBC) at Bascom Palmer. "The hardening of the crystalline lens with age is thought to be responsible for this loss in reading ability."

In 1979, Parel began studying an approach to cataract surgery called "Phaco-Ersatz" that involved removing the cataract, implanting an artificial lens and refilling the surrounding lens capsule with biocompatible clear gel. He published a landmark paper on this approach, "Phaco-Ersatz: cataract surgery designed to preserve accommodation," with co-author Edward W.D. Norton, M.D., Bascom Palmer's founding chairman,.

"Our team at the OBC was able to show that this technique restored accommodation with results that were later confirmed by other investigators," said Parel.

In 1996, Parel hosted Professor Brien Holden from the University of New South Wales in Sydney, Australia, and the two researchers began their long collaboration on this issue. In 2001, they co-authored a chapter, "Accommodating Intraocular Lenses and Lens Refilling to Restore Accommodation," in the textbook Intraocular Lenses in Cataract and Refractive Surgery. In that chapter, they wrote, "Recent studies have shown that accommodation can be preserved using lens-refilling techniques. New technical developments have greatly improved the success rate of endocapsular surgery."

Since then, Parel and the OBC team have continued to study the dynamic biomechanical and optical properties of young and aged lenses to design advanced polymer implants to replace intraocular lenses, and to further improve the techniques for restoring accommodation in cataract patients.

"Our latest achievements include improvements in the surgery, instrumentation and polymeric substances, as well as using real-time 3-D imaging to measure accommodation in patients," said Parel. "Restoring accommodation is a major challenge but we are continuing to make progress toward that goal."

A 'Miracle' Cataract Surgery

"Dr. Perez is a miracle worker and I would love to shout it from the rooftops! He is a remarkable ophthalmologist, a can-do professional, and a principled courageous healer."

— *Martha Bushore-Fallis, M.D.*

Martha Bushore-Fallis, M.D., never thought she would see again. The retired pediatrician from Clearwater, Florida. had developed dense cataracts in both eyes. But because she was also allergic to silicone – which lines the inside of IV tubes used during surgery – several leading U.S. ophthalmology centers turned her down for cataract surgery as they considered her to be a high-risk patient.

Then, Bushore-Fallis was referred to Victor L. Perez, M.D., professor of ophthalmology, microbiology and immunology, Walter G. Ross Chair in Ophthalmic Research, and director of the ocular surface center at Bascom Palmer. He stepped forward and succeeded in removing her cataracts in a highly complex surgery.

For Bushore-Fallis, the cataract surgery brought a 20-year history of vision problems to a successful conclusion. In the 1990s, she underwent radial keratotomy surgery in Atlanta to correct myopia (nearsightedness) and astigmatism. Over the next 15 years, she gradually developed thick cataracts that took away her ability to see much more than vague patterns of color.

At the same time, she was wrestling with an autoimmune condition called antiphospholipid syndrome, that can lead to inflammation of the arteries and veins, blood clots and other vascular problems. "It's a painful and dangerous condition," she said. "I would receive monthly plasmapheresis treatments to remove the antibodies from the blood, but I still had multiple complications from this disorder."

As if that weren't enough, Bushore-Fallis also developed an allergy to silicone and latex. Because IV tubing is lined with silicone during the manufacturing process, other ophthalmologists and medical centers were wary about her cataract surgery. "They told me that my condition was too complex to be done on an outpatient basis and too much of a risk to do inpatient with an anesthesiologist," she said.

Dr. Victor Perez

With her vision continuing to fail, Bushore-Fallis had almost given up hope. Then a friend in West Palm Beach referred her to Perez, who is widely known for his expertise in treating patients with autoimmune disorders. "When I met with him and gave him a summary of my condition, he took a few minutes to gather his thoughts and told me, 'I can do this.' I was surprised, almost beyond belief," she said.

Perez led a surgical team that performed two surgeries – one for each eye – at Jackson Memorial Hospital in conjunction with the surgical and anesthesiology department from Bascom Palmer. "We took a collaborative approach that included an anesthesia team, the operating room staff, and a rheumatologist," said Perez. "As soon as I explained this special and unique situation to the ophthalmic surgical team at Bascom Palmer, Linda Bourinot, R.N., main charge nurse, and Barbara Hidalgo, senior surgical technician, also said, 'We can do this.' We transported Bascom Palmer's specialized equipment to Jackson, where a critical care unit would be close at hand if needed. We also flushed out all the tubes to remove the silicone."

Bushore-Fallis said, "Dr. Perez was so calm that I was able to relax, and everyone took exceptional

care of me." Now, Bushore-Fallis is able to see her children and grandchildren, and enjoy spending time with her 85-year-old husband Jim Fallis, M.D., a retired pediatric surgeon.

Reflecting on the outcome of this complex case Perez said, "It was a very difficult cataract procedure with a high risk of complications, but we planned meticulously for every aspect of her surgery, including her pre-operative preparation and recovery. Her vision is now 20/20 and she is back to enjoying her life. All this was possible thanks to a great team approach between my clinical team, and the anesthesia and nursing teams from Jackson and Bascom Palmer."

"Dr. Perez is a miracle worker and I would love to shout it from the rooftops!" said Bushore-Fallis. "He is a remarkable ophthalmologist, a can-do professional, and a principled courageous healer."

Another grateful patient, Ruth Kibrick, visited Perez after receiving numerous unsuccessful treatments for corneal disease and inflammation. Perez diagnosed her with a corneal viral infection that included a corneal transplant as part of a broad treatment plan. Attributing the success of her procedures to Perez's extensive research in ocular surface disease, Kibrick and her husband made a gift of $150,000 to establish the **Salomon Minuchin and Ruth Kibrick Ocular Surface Disease Clinical Trial Research Program** that will serve as the think tank for Perez's innovative approach to corneal diseases.

Looking ahead

As laser-assisted cataract surgery evolves, Bascom Palmer's ophthalmologists continue to make important contributions to medical knowledge.

Currently, several comparative studies are underway at the Institute to evaluate the performance of Bascom Palmer's different laser platforms and compare the results with traditional cataract surgery.

"One of the goals is to make the lasers more efficient so there is less energy needed to break up a hardened lens," Donaldson said. "We are also studying the different patterns for fragmenting the lens to see which are most effective."

Donaldson and Yoo were co-authors of a recent study, "Femtosecond Laser–assisted Cataract Surgery" published in the Journal of Cataract & Refractive Surgery by the American Society of Cataract and Refractive Surgery. "Identifying the clinical advantages of femtosecond laser refractive cataract surgery is like shooting at a moving target, as research studies in this hot area of cataract surgery continue to emerge," they said in the article.

Yoo adds that potential advances in laser-assisted surgery may include treating pediatric cataract cases and better correction of astigmatism and presbyopia or blurred reading vision. "We believe lasers are the wave of the future in cataract surgery," she said. "In the next decade, ophthalmologists will take advantage of their evolving capabilities to bring better vision to even the most challenging cataract cases." ■

To schedule an appointment with a Bascom Palmer specialist, please call 1-888-845-0002 or visit bascompalmer.org.

Attacking Macular Degeneration

Philip J. Rosenfeld, M.D., Ph.D., is an international leader in the fight against age-related macular degeneration (AMD), the most common cause of blindness among people over age 55 years in industrialized countries.

Normal vision

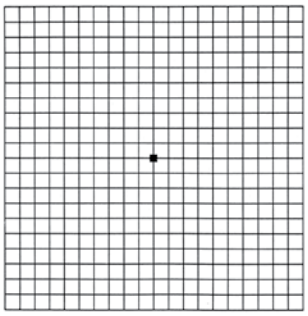
Vision with age-related macular degeneration

A decade ago, Rosenfeld discovered that the cancer-fighting drug Avastin® (the brand name for bevacizumab, developed by Genentech), when injected into the eye of a patient with "wet" AMD, inhibited the growth of abnormal blood vessels in the macula and improved vision. He was also the lead investigator in the clinical trials leading to the approval of Lucentis® (the brand name for ranibizumab, also developed by Genentech), which is related to Avastin and also improves vision when injected into the eyes of "wet" AMD patients.

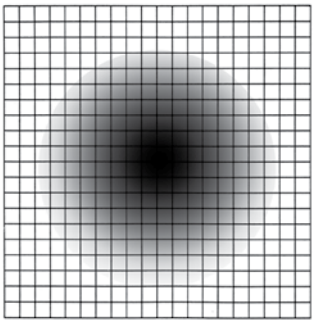
Since then, the professor of ophthalmology at Bascom Palmer has been tracking vision outcomes in those patients, as well as studying the more common "dry" form of AMD. He is also enrolling patients in new clinical trials using medications that could slow the progression of the blinding disorder. One of these new drugs is called Lampalizumab® (developed by Genentech/Roche).

"Data from earlier trials suggested that intraocular injections of Lampalizumab could slow the progression of dry AMD," said Rosenfeld. "This is the first drug for dry AMD that shows promise. It's given us real hope that a treatment could preserve vision in patients. There are no proven therapies that currently slow dry AMD.

Dr. Philip Rosenfeld (seated) with fellow, Dr. John Legarreta, (left), and research associate, Andrew Legarreta



Amsler grid as it appears normally



Amsler grid as seen with advanced dry AMD

THE AMSLER GRID IS A TOOL TO DIAGNOSE MACULAR DEGENERATION

The simple screening test is used to assess central vision. The patient places the grid – a chart with lines and a dot in the center – in a convenient, well-lighted location, such as a bathroom mirror or refrigerator door. Each morning the patient checks one eye at a time. If the patient notices new areas with a black spot or hole in part of the grid, he or she is advised to contact an ophthalmologist immediately.

Rosenfeld said eligible patients with bilateral geographic atrophy may enroll in the Lampalizumab trial at Bascom Palmer's centers in Miami and Palm Beach Gardens. Two out of three patients get the drug while one-third get the placebo. "We understand that everyone who participates in a clinical trial wants to get the experimental drug, and there's a 67 percent chance they will," he said. "However, if they don't participate in the trial, there's a zero percent chance they'll get the drug. If I were a patient with dry AMD, then I would like those odds."

Studying the disease process

A board-certified ophthalmologist and retinal specialist, Rosenfeld began studying macular degeneration in the mid 1990s, drawing on his interest in genetics. In the early 2000s, he had the idea that the anti-cancer drugs that block the growth of blood vessels might help preserve vision in patients with wet AMD – the most advanced form of the disorder.

Rosenfeld found that injections of Avastin were able to block a protein known as vascular endothelial growth factor (VEGF) in the eye and halt the progression of wet AMD in a large majority of patients. Soon afterward, ophthalmologists around the world began using Avastin in their practices as well. Avastin is now the most commonly used drug worldwide for the treatment of wet AMD.

Meanwhile, Rosenfeld began shifting his research to the underlying causes of AMD, seeking to understand the genetic and metabolic factors that drive this progressive disease. AMD typically begins with a loss of central vision in both eyes, and usually affects people age 50 and above. Patients with AMD find it hard to see in dim light situations, and have difficulties driving. The symptoms of AMD can often resemble cataracts, and some patients may have both conditions.

"Fewer than 20 percent of AMD patients develop the wet form of the disease, while more than 80 percent lose vision from the underlying dry form," Rosenfeld said. "While we have been successful in stopping rapid vision loss in the wet form, we can see that the underlying dry form of the disease continues to progress."

Today, Rosenfeld is focusing primarily on dry AMD, including studies of geographic atrophy, where portions of the retina no longer capture visual images – a key consideration in the Lampalizumab trial.

"There is generally a long lead time between noticing a loss of vision due to the dry form of AMD and having an impact on one's quality of life," said Rosenfeld. Fortunately, there are common-sense steps that patients can take to slow that progression, such as exercising regularly and eating a healthy diet that's rich in green leafy vegetables. He adds, "If you smoke, you should stop immediately, because that makes your condition worse."

Tracking the progression

Because early-stage AMD is associated with visual abnormalities of the retina, Rosenfeld is using advanced optical imaging technology to identify the disease in patients and track its progression. Those tools include Bascom Palmer's latest "swept source" and "spectral domain" optical coherence tomography instruments.

"This technology gives us the tools to get an accurate assessment of the disease," said Rosenfeld, who has been senior author on numerous scientific papers and book chapters describing the clinical features and disease progression of AMD. Rosenfeld noted that AMD is characterized by the presence of drusen, which are yellow deposits of lipids and proteins that build up under the retinal pigment epithelium (RPE) cells, which are located under the retina.

Dr. Philip Rosenfeld

"Modern ocular imaging technologies enable ophthalmologists to track the volume of the drusen and follow changes in the RPE cells, as well as the photoreceptors in the retina, as the disease progresses," he said. "Being able to quantitatively assess the volume of drusen and areas of atrophy will be valuable in assessing the effects of drugs and cell-based therapies for patients with AMD."

Studying genetics

Rosenfeld believes a combination of genetic and environmental factors is responsible for the development of AMD. "This is clearly a genetic disease, so if a family member had AMD, your risk is higher than average," he said. "But there are many environmental variables, such as diet and smoking, that can affect the severity of the disease."

Laboratory studies indicate that the development of AMD is associated with a key element of the body's autoimmune system – the complement pathway. "This pathway is part of your immune system that protects you against anything foreign, such as invading bacteria," Rosenfeld said. "But genetic research suggests that AMD occurs when there is an overactivation of the complement pathway and even normal tissue is damaged."

That finding suggests that blocking the complement pathway could slow or stop the progression of dry AMD – provided that goal could be achieved without compromising the body's immune system. In 2009-2011, Rosenfeld led a small clinical trial with 60 patients with dry AMD to evaluate the safety of Soliris® (the brand name for eculizumab, developed by Alexion Pharmaceuticals, Inc.), one of those pathway inhibitors. "This was the first trial looking at complement inhibition as a treatment for dry AMD. While we found that the medication was safe to use, it was not effective in slowing AMD," he said. "However, we learned a great deal from this study about how to design better clinical trials in the future."

In the past three years, Rosenfeld has taken part in other early stage clinical trials of complement pathway inhibitors, and more studies are being planned. "I am optimistic about helping AMD patients," he said. "We will see fewer cases of severe macular degeneration in the future because of better awareness, healthier lifestyles and better therapies." ■

DRY MACULAR DEGENERATION SIGNS AND SYMPTOMS

- **Blurry distance and/or reading vision**
- **Need for increasingly bright light to see up close**
- **Colors appear less vivid or bright**
- **Hazy vision**
- **Difficulty recognizing faces**
- **Difficulty with night driving**
- **Blank or blurred spot in your central vision**

Dry macular degeneration can affect one or both eyes. You may not notice vision changes if only one eye is affected, as your unaffected eye will compensate for vision loss in the other eye.

WET MACULAR DEGENERATION SIGNS AND SYMPTOMS

- **Distorted vision – straight lines will appear bent, crooked or irregular**
- **Dark gray spots or blank spots in your vision**
- **Loss of central vision**
- **Size of objects may appear different for each eye**
- **Colors lose their brightness, colors do not look the same for each eye**

Wet macular degeneration symptoms usually appear and get worse fairly quickly.

– Courtesy of American Academy of Ophthalmology

For more information about Bascom Palmer's clinical trials, please visit our website at bascompalmer.org/research/clinical-trials.

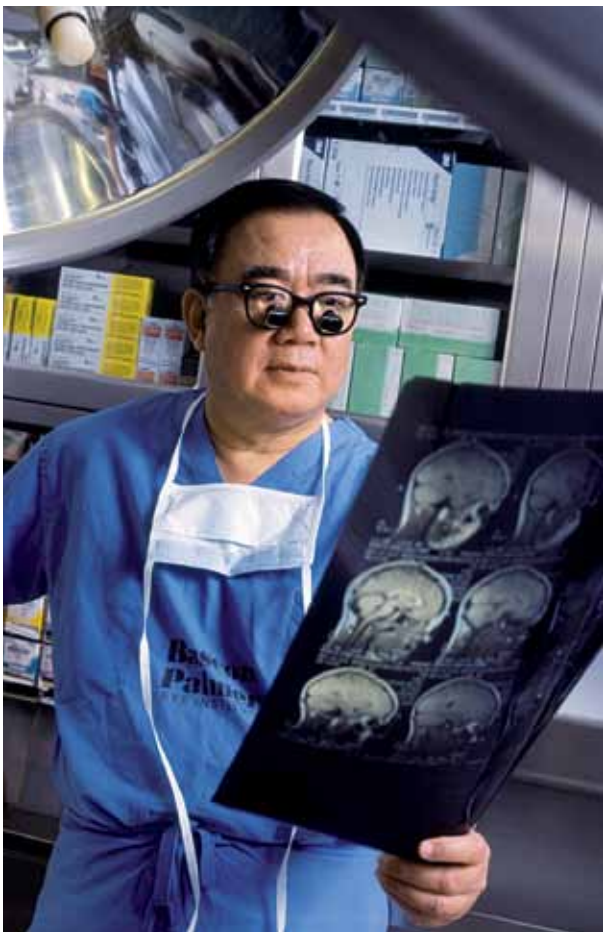
Eye Made By 3-D Printer

A 21-year-old woman received her first eye prosthesis thanks to an innovative project imagined by David T. Tse, M.D., professor of ophthalmology and the Nasser Ibrahim Al-Rashid Chair in Ophthalmic Plastic, Orbital Surgery and Oncology.

Another patient wears a 3-D printer-produced prosthesis on the right eye.

"Hopefully, using this quick and less expensive 3-D printing process, we can make an affordable facial prosthesis for our patient and also help thousands of other people like her."

– David T. Tse, M.D.



Dr. David Tse

Tse, an oculoplastic surgeon, has treated the woman who had her eyelid and eye orbit removed as a result of eye cancer, for more than a decade. At the time, her family was unable to afford an artificial eye which could cost $10,000-$15,000 and Tse offered to raise donations to help pay for her first prosthesis.

In his quest to develop an inexpensive way to make facial prostheses for eye cancer patients using facial scanning software and 3-D printing, Tse assembled a team of University of Miami researchers, including Landon Grace, Ph.D. and Mauro Fittipaldi, M.S. The team hoped to bring these patients relief by providing a more affordable facial prosthesis. According to the American Cancer Society, more than 2,700 new cases of eye cancer are diagnosed each year in the United States, and the mortality rate is high for the disease. Some patients undergo a life-saving surgery known as exenteration that involves removing the contents of the eye socket and other tissue.

Tse released his findings at the 2014 annual meeting of the American Academy of Ophthalmology. Researchers developed a process to manufacture facial prostheses in a matter of hours at a fraction of the cost of a traditional prosthesis using topographical scanning and 3-D printing technology. Patients are scanned on the undamaged side of their face using a mobile scanner. The software then creates a mirror image. Along with a scan of the side of the face with the orbital defect, the program can mesh the two scans together to create a 3-D image of the face. The topographical information then goes to a 3-D printer, which translates the data into a mask formed out of injection-molded rubber suffused with colored pigments matching the patient's skin tone.

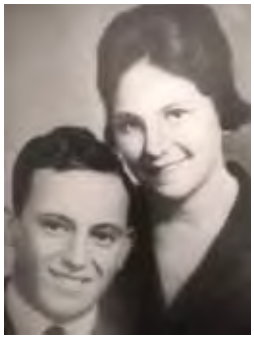
"Hopefully, using this quick and less expensive 3-D printing process, we can make an affordable facial prosthesis for our patient and also help thousands of other people like her," said Tse. ■

Glaucoma Research Update

Bascom Palmer's extramural research portfolio for FY 2014 will be $10.8 million. Currently the Institute has 97 active research grants and contracts. For the eleventh year in a row, Bascom Palmer won a core grant for vision research from the National Eye Institute. This award recognizes the size and scope of the vision research program and supports a number of major instruments and facilities that are important to the research program. To trace the history of Bascom Palmer is to recognize the important role that philanthropy has played. A current focus is in the area of glaucoma.

Donna Mae Balkan Litowitz learned the power of vision and the spirit of charity at a young age in Chicago as she watched her mother help a stranger who had stumbled in the street and broke her glasses. Unable to safely see, Litowitz's mother, Ethel Balkan, went out of her way to walk the distraught woman to a doctor. Upon learning that replacing the glasses would be a hardship for the woman, Balkan volunteered to have the glasses repaired or replaced. Litowitz never forgot the impact of her mother's generosity or the importance of vision. It is in this spirit that Litowitz has given $2 million in honor of her parents, Samuel and Ethel Balkan, to save vision in the most vulnerable: infants and children. Inspired by the work of glaucoma specialist, **Alana Grajewski, M.D.**, the Litowitz gift will fund an integrated care service for children with glaucoma at Bascom Palmer. This international program, to be led by Grajewski, is the first of its kind worldwide. **The Samuel & Ethel Balkan International Pediatric Glaucoma Center** will serve as the hub for treatment and international collaboration on the research and treatment of infants and children with glaucoma.

Dr. Alana Grajewski



Samuel and Ethel Balkan

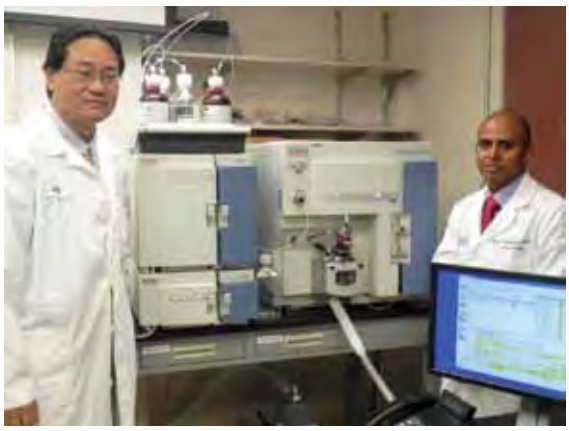
Bascom Palmer Awarded Department of Defense Grant

Bascom Palmer Eye Institute has been awarded a grant from the Department of Defense (DOD) office of the Congressionally Directed Medical Research Programs and the Clinical and Rehabilitative Medicine Research Program.

The 3-year, $999,999 grant will focus on members of the military who may get glaucoma as a result of trauma to the eye. Glaucoma is a group of irreversible blinding diseases that steal the sight slowly and progressively without evidence of pain. A large number of active duty military servicemen and veterans with trauma-induced glaucoma are mostly non-responsive to conventional glaucoma medication. Proposed research aims to provide new therapy and therapeutic molecules to lower intraocular pressure for such patients.

The research and DOD grant is possible due to a long-term collaboration between **Sanjoy Bhattacharya, Ph.D.**, a basic researcher; and **Richard K. Lee, M.D., Ph.D.**, a glaucoma specialist and clinician-scientist. Unbiased data derived from characterized clinical samples from Lee's laboratory was a guiding force toward these discoveries.

In addition, **Dr. Noel Ziebarth** from the University of Miami's Department of Biomedical Engineering will contribute expertise in atomic force microscopy. The inception of this project became possible as a result of the mentorship and facilitation of Bascom Palmer neuro-ophthalmologist, **Byron Lam, M.D.** ■



Drs. Richard Lee and Sanjoy Bhattacharya

FACULTY EXPANSION CONTINUES

Bascom Palmer Eye Institute of the University of Miami Miller School of Medicine is pleased to announce the appointment of seven new faculty members. Bascom Palmer continues its 50-year tradition of having the nation's best and brightest ophthalmologists advancing the practice of ophthalmology through innovation in therapeutics, diagnostics and vision research.

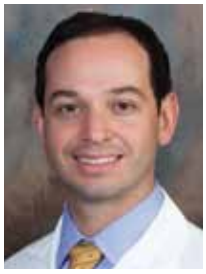
HELEN L. KORNMANN, M.D., PH.D., a glaucoma specialist, joins the faculty as an assistant professor of clinical ophthalmology. Kornmann completed her undergraduate training at the University of California, Los Angeles, summa cum laude, and was awarded a doctor of medicine degree at Loma Linda University. She was selected for the Eye Specialty Training and Advanced Research program at UCLA, where she earned her doctorate in vision neuroscience. She then completed an ophthalmology residency at the Jules Stein Eye Institute in Los Angeles and a glaucoma fellowship at Bascom Palmer. Her research interests include outcomes and surgical innovations in glaucoma. She is available for consultation at Bascom Palmer in Miami.

H. ELLEN KOO, M.D., joins Bascom Palmer as an assistant professor of ophthalmology. A corneal and external disease specialist, Koo received a bachelor of arts degree from Johns Hopkins University and a doctor of medicine degree from Eastern Virginia Medical School. She completed an ophthalmology residency at Brown University and a fellowship in corneal and external diseases, anterior segment surgery and refractive surgery at Wilmer Eye Institute at Johns Hopkins University School of Medicine. Her clinical and research interests include cataract surgery, corneal transplantation, Fuchs' dystrophy and keratoconus. She also has an interest in global ophthalmology and cataract missions in the developing world. Koo is available for consultation on corneal and external disease, cataracts and intraocular lens, LASIK, and laser vision correction at Bascom Palmer at Palm Beach Gardens.

LUIS J. HADDOCK, M.D., a vitreoretinal specialist, joins the faculty as an assistant professor of clinical ophthalmology. Haddock received his bachelor's degree in economics and pre-med, cum laude, from the University of Notre Dame, and was awarded a doctor of medicine degree from the University of Puerto Rico School of Medicine. He completed an ophthalmology residency at Bascom Palmer and a vitreoretinal fellowship at Massachusetts Eye and Ear Infirmary at Harvard Medical School. His clinical practice is focused on age-related macular degeneration, diabetic retinopathy, retinal detachments and other medical and surgical vitreoretinal pathology. His research interests include using available technology, such as an iPhone, to take fundus photos, and developing techniques and drugs that prevent the development of proliferative vitreoretinopathy after retinal detachments. He is available for consultation at Bascom Palmer in Miami and Palm Beach Gardens.

ARINDEL S. MAHARAJ, M.D., PH.D., a glaucoma specialist, joins Bascom Palmer as an assistant professor of clinical ophthalmology. Maharaj received a bachelor of science degree in biochemistry and anthropology, summa cum laude, from the State University of New York, and was awarded a medical degree and a doctorate from Harvard University. He then completed a residency in ophthalmology at Baylor College of Medicine and a fellowship in glaucoma at Bascom Palmer. His research focuses on clinical investigations on the pathology of glaucoma as well as treatment modalities in glaucoma. Maharaj is available for consultation on glaucoma at Bascom Palmer's locations in Miami, Naples and Palm Beach Gardens.

To schedule an appointment with a Bascom Palmer specialist, please call 1-888-845-0002 or visit bascompalmer.org.



LUIS E. VAZQUEZ, M.D., PH.D., joins the faculty as assistant professor of clinical ophthalmology. A glaucoma specialist, Vazquez received a bachelor of science degree in biology, magna cum laude, from the University of Puerto Rico, followed by a doctorate in molecular neurobiology from the California Institute of Technology, where he also completed a postdoctoral research fellowship. He then was awarded his medical degree from Stanford University. Following a residency in ophthalmology at the Doheny Eye Institute at the University of Southern California, Vazquez completed a glaucoma fellowship at Bascom Palmer. His research interests include development of the optic nerve head, neuroprotection of retinal ganglial cells, the role of the immune complement cascade in early glaucomatous damage and regulation of intraocular pressure. Vazquez is available for consultation on glaucoma at Bascom Palmer in Miami.

TRACY M. WRIGHT, M.D., a glaucoma specialist, joins the faculty as an assistant professor of clinical ophthalmology. He received a bachelor of arts degree, cum laude, from Harvard University and was awarded a doctor of medicine degree from Yale University School of Medicine. He completed a residency in ophthalmology at New York University School of Medicine and a fellowship in glaucoma at Bascom Palmer. Wright's clinical specialties include glaucoma, cataracts and intraocular lens. His research interests include the progression of glaucoma, medical and surgical treatments and imaging. He is available for consultation at Bascom Palmer's locations at Palm Beach Gardens, Miami and Naples.

World Class Research

MARCO RUGGERI, PH.D., a biomedical engineer, joins Bascom Palmer as a research assistant professor of ophthalmology. His research at Bascom Palmer's Ophthalmic Biophysics Center includes the development of new ophthalmic imaging technologies, primarily based upon optical coherence tomography (OCT) for in vivo imaging and biometry of the eye. His work supports corneal, cataract, glaucoma and retinal diseases as well as diagnosis of retinal diseases in children. Ruggeri works closely with Bascom Palmer's clinicians to develop advanced imaging technology and applications that can have a direct impact on patient care. He received a master of science degree in electrical engineering from the Università degli Studi di Modena e Reggio Emilia in Italy, and a doctorate of philosophy in biomedical engineering from the University of Miami.

DANIEL PELAEZ, PH.D., joins Bascom Palmer as a research assistant professor of ophthalmology. His research subjects include neurodegenerative diseases, endogenous repair mechanisms and stem cell biology. During his career, he has applied bioengineering principles to the field of stem cells and regenerative medicine in hopes of translating basic science research observations to clinical practice. An expert in stem cell biology, tissue culture, biomaterials and translational studies, his research focuses on injuries to the optic nerve, stem cell therapies for orbital tumors, and limbal cell transplantation for corneal and external diseases. Pelaez was awarded a bachelor of science degree in biomedical/medical engineering from Tulane University. He then received a master of science degree and a doctorate of philosophy degree in biomedical/medical engineering from the University of Miami.

Awards and Honors

Bascom Palmer ranked #1 11years in a row

For the eleventh consecutive year, Bascom Palmer Eye Institute has been ranked the nation's best in ophthalmology by U.S. News & World Report.

OPHTHALMOLOGY

Rank	Hospital	Reputation (%)
1	Bascom Palmer Eye Institute at the University of Miami	67.3
2	Wills Eye Hospital, Philadelphia	58.6
3	Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore	58.2
4	Mass. Eye and Ear Infirmary, Massachusetts Gen. H	29.9
5	Stein and Doheny Eye Institutes, UCLA Medical Ctr.	
6	Duke University Medical Center, Durham, N.C.	
7	Cleveland Clinic	
8	University of Iowa Hospital and Clinic, Iowa City	
9	USC Eye Institute - Keck Medical Center of USC, L	
10	New York Eye and Ear Infirmary	
11	W.K. Kellogg Eye Center, University of Michigan,	
12	Barnes - Jewish Hospital /Washington Universit	

Ranked by *U.S.News & World Report* 2

Bascom Palmer has received the #1 ranking 13 times and has been one of the top-two ranked eye hospitals in the country since the annual rankings began 25 years ago.

"We are honored to be recognized as the leader in the life-changing and dynamic field of ophthalmology. It is our privilege to deliver exceptional patient care, cutting-edge research and the finest medical education possible," says Eduardo C. Alfonso, M.D., Bascom Palmer's chairman.

Bascom Palmer has long been at the forefront of innovation in ophthalmology, advancing the research that leads to better clinical care and improved patient outcomes. The Bascom Palmer team is recognized as an international leader in every subspecialty in ophthalmology. Faculty and staff have made notable contributions in the fields of macular degeneration, retinal surgery, glaucoma, infections and inflammations, corneal surgery, Lasik, cataract surgery, neuro-ophthalmology, plastic surgery, pediatric eye disease and cancers of the eye.

THE MOST INFLUENTIAL PEOPLE IN OPHTHALMOLOGY

Congratulations to:

EDUARDO C. ALFONSO, M.D.

PHILIP J. ROSENFELD, M.D., PH.D.

CARMEN A. PULIAFITO, M.D., M.B.A.

for being named to "The Power List," the world's 100 most influentional people in ophthalmology. The survey was published in The Ophthalmologist.

Dr. Eduardo Alfonso

Dr. Philip Rosenfeld

Dr Carmen Puliafito

PROFESSORS NAMED

Bascom Palmer is pleased to announce that four faculty members were recently promoted to the rank of professors of ophthalmology:

AUDINA M. BERROCAL, M.D.

VICTOR L. PEREZ, M.D.

VALERY I. SHESTAPALOV, PH.D.

SANJOY K. BHATTACHARYA, PH.D.

Bhattacharya was recently inducted into the IRON ARROW SOCIETY, the highest attainable honor at the University of Miami.

FACULTY NAMED NATION'S BEST

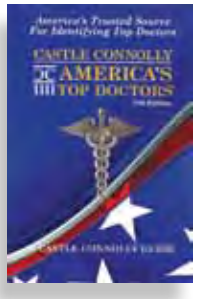
Thirty-six Bascom Palmer Eye Institute physicians are included in America's Top Doctors or Best Doctors in America. Physicians included in these lists are selected by their peers throughout the country for their medical experience and skill. The inclusion of faculty members on these notable lists is another indicator of the extraordinary quality of medical care at Bascom Palmer. The physicians are listed with their practice locations.

Dr. Thomas Johnson

Dr. Hilda Capó

Dr. Audina Berrocal

Dr. John Guy



AMERICA'S TOP DOCTORS®

VITREORETINAL DISEASES
Thomas A. Albini, M.D. *(M, P, PBG)*
Audina M. Berrocal, M.D. *(M)*
Janet L. Davis, M.D., M.A. *(M, P, PBG, N)*
Yale L. Fisher, M.D. *(PBG)*
Harry W. Flynn, Jr. M.D. *(M)*
J. Willliam Harbour, M.D. *(M, PBG)*
Philip J. Rosenfeld, M.D., Ph.D. *(M, PBG)*
Stephen G. Schwartz, M.D., M.B.A. *(N, PBG)*

CORNEAL AND EXTERNAL DISEASES
Eduardo C. Alfonso, M.D. *(M)*
George F. Corrent, M.D., Ph.D. *(N, PBG)*
William W. Culbertson, M.D. *(M)*
Kendall E. Donaldson, M.D., M.S. *(P, M)*
Richard K. Forster, M.D. *(PBG)*
Carol L. Karp, M.D. *(M)*
Terrence P. O'Brien, M.D. *(PBG)*
Victor L. Perez, M.D. *(M, P)*

GLAUCOMA
David S. Greenfield, M.D. *(PBG)*
Paul F. Palmberg, M.D., Ph.D. *(M)*
Richard K. Parrish II, M.D. *(M)*

NEURO-OPHTHALMOLOGY
John R. Guy, M.D. *(M)*
Norman J. Schatz, M.D. *(M)*

OPHTHALMIC PLASTIC AND RECONSTRUCTIVE SURGERY
Thomas E. Johnson, M.D. *(M, PBG)*
David T. Tse, M.D. *(M, PBG)*

PEDIATRIC OPHTHALMOLOGY
Hilda Capó, M.D. *(M)*
Craig A. McKeown, M.D. *(M, PBG, N)*

PEDIATRIC GLAUCOMA
Elizabeth Hodapp, M.D. *(M)*

BEST DOCTORS IN AMERICA 2014

VITREORETINAL DISEASES
Thomas A. Albini, M.D. *(M, P, PBG)*
Audina M. Berrocal, M.D. *(M)*
John G. Clarkson, M.D. *(M)*
Janet L. Davis, M.D., M.A. *(M, P, PBG, N)*
Harry W. Flynn, Jr. M.D. *(M)*
Jorge A. Fortun, M.D. (*PBG)*
Philip J. Rosenfeld, M.D., Ph.D. *(M, PBG)*
William E. Smiddy, M.D. *(M, P, PBG, N))*

CORNEAL AND EXTERNAL DISEASES
Eduardo C. Alfonso, M.D. *(M)*
Richard M. Awdeh, M.D. *(M)*
William W. Culbertson, M.D. *(M)*
Richard K. Forster, M.D. *(PBG)*
Krishna S. Kishor, M.D. *(PBG)*
Carol L. Karp, M.D. *(M)*
Terrence P. O'Brien, M.D. *(PBG)*
Victor L. Perez, M.D. *(M, P)*
Lana Srur, M.D. *(M)*
Sonia Yoo, M.D. *(M)*

GLAUCOMA
Steven J. Gedde, M.D. *(M)*
David S. Greenfield, M.D. *(PBG)*
Elizabeth Hodapp, M.D. (M
Richard K. Parrish II, M.D. *(M)*

OCULAR ONCOLOGY
J. William Harbour, M.D. *(M, PBG)*

NEURO-OPHTHALMOLOGY
John R. Guy, M.D. *(M)*

OPHTHALMIC PLASTIC AND RECONSTRUCTIVE SURGERY
Thomas E. Johnson, M.D. *(M, PBG)*
Wendy W. Lee, M.D., M.S. *(M, PBG, N)*
David T. Tse, M.D. *(M, PBG)*

PEDIATRIC OPHTHALMOLOGY
Hilda Capó, M.D. *(M)*

ANESTHESIOLOGY
Steven I. Gayer, M.D. *(M)*

Miami *M* **Palm Beach Gardens** *PBG*
Plantation *P* **Naples** *N*

To schedule an appointment with a Bascom Palmer specialist, please call 1-888-845-0002 or visit bascompalmer.org.

Awards and Honors

The American Academy of Ophthalmology's annual meeting is the largest and most comprehensive ophthalmic education meeting in the world. Each year, approximately 400 courses, scientific sessions and symposia are presented to 15,000 ophthalmologists in attendance. Bascom Palmer's faculty, residents and fellows offered more than 85 instructional lectures and posters at the 2014 meeting held in Chicago.

RICHARD K. PARRISH II, M.D., received the GUEST OF HONOR SPECIAL AWARD from the Academy. Parrish, a highly respected international authority on glaucoma, was recognized for his decades of dedication to the field of ophthalmology and the Academy. In addition to his glaucoma practice at Bascom Palmer, Parrish serves as associate dean of graduate medical education for the University of Miami Miller School of Medicine and recently served as President of the American Ophthalmology Society. The Academy also honored Bascom Palmer chairman, EDUARDO C. ALFONSO, M.D., with a LIFE ACHIEVEMENT HONOR AWARD; SONIA H. YOO, M.D., with a SENIOR ACHIEVEMENT AWARD; and JAMES T. BANTA, M.D., with an ACHIEVEMENT AWARD. DAVID T. TSE, M.D., received GEORGE B. BARTLEY, M.D., OPHTHALMOLOGY EDITOR honors and the SECRETARIAT AWARD.

Dr. Richard Parrish

To schedule an appointment with a Bascom Palmer specialist, please call 1-888-845-0002 or visit bascompalmer.org.

EDUARDO C. ALFONSO, M.D., has been named PRESIDENT-ELECT OF THE PAN AMERICAN ASSOCIATION OF OPHTHALMOLOGY and PRESIDENT OF THE ASSOCIATION OF UNIVERSITY PROFESSORS OF OPHTHALMOLOGY. In this later position he will represent more than 300 ophthalmology departmental chairs, medical education program directors, and scientific research directors from academic medical centers around the United States.

Dr. J. William Harbour

J. WILLIAM HARBOUR, M.D. is the recipient of THE MACULA SOCIETY 2014 PAUL HENKIND MEMORIAL LECTURE AND AWARD presented for outstanding retinal research. Harbour is also a recipient of a $150,000 SENIOR SCIENTIFIC INVESTIGATOR AWARD from RESEARCH TO PREVENT BLINDNESS.

Dr. Paul Palmberg

At the annual meeting of the American Glaucoma Society, PAUL PALMBERG, M.D., PH.D. presented the Glaucoma Surgery Day keynote lecture. Also at the meeting, assistant clinical professor of ophthalmology, TA CHEN PETER CHANG, M.D., received the society's prestigious MENTORING AWARD FOR ADVANCEMENT OF PHYSICIAN-SCIENTISTS.

Dr. Ta Chen Peter Chang

MARCO RUGGERI, PH.D., has received a 2014 STANLEY J. GLASER FOUNDATION RESEARCH AWARD. The University of Miami Miller School of Medicine's Glaser Awards recognize up-and-coming stars among the research faculty. The Glaser Foundation provided Ruggeri with funds to develop an innovative technology that will facilitate the diagnosis of retinal diseases in the pediatric population. Stanley Glaser, the award's benefactor, was a visionary philanthropist in South Florida, and the founding chairman of Bascom Palmer's Anne Bates Leach Eye Hospital's Board of Governors. Ruggeri also received the prestigious PASCAL ROL AWARD for his significant contributions to the field of ophthalmic technologies at this year's Biomedical Optics SPIE, the annual meeting of the world's largest society for optics and photonics. The award recognized Ruggeri for the introduction of a revolutionary imaging technology for advancing knowledge on the mechanism of presbyopia, the age-related loss of near vision.

Bascom Palmer's success is often focused on the achievements of our physicians and scientists. However, these accomplishments would not be possible without the help of our donors who support the Institute's sight-saving mission.

We honor and thank our many supporters for their generous commitment and philanthropy.

The Bascom Palmer Society

Honoring the Institute's most generous benefactors whose gifts exceed $1 million, the Bascom Palmer Society was created in memory of the Institute's namesake, Dr. Bascom H. Palmer, an ophthalmologist who pioneered eye care in Miami.

Alcon Laboratories

Dr. Nasser Ibrahim Al-Rashid

Carl B. & Iris Apfel

Ms. Adrienne Arsht/
Hope for Vision

*Sadye Barrel

Bascom Palmer Eye Institute/
Alumni Association, Inc.

John E. Blair

Michele R. Bowman & Col.
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EDUCATION FOCAL POINT

Thanks to a $500,000 gift from a long-time friend of Bascom Palmer, the conference center at Bascom Palmer at Palm Beach Gardens has a new name. **The McNulty Charitable Foundation Education & Conference Center** will be the hub of education and programming for the community as well as ophthalmic clinicians and scientists. The McNulty Foundation was established by Patience McNulty Campbell in 1987 and has been a generous Bascom Palmer supporter since its inception. Bascom Palmer thanks the foundation's trustees: Dale McNulty, Kim K. Campbell and Robert D. Harvey, as well as Heather Wyser-Pratte who serves as advisor to the trustees, for their commitment to advance vital sight-saving knowledge.

Marietta and Dale McNulty (standing) with Margarita Muina. Consummate volunteers for numerous organizations, the McNultys chaired Bascom Palmer's 2011 "Evening of Vision" gala and have volunteered to serve as chairs once again in 2016.

The Norton Society

Members of the Norton Society have generously supported Bascom Palmer with gifts of $500,000 - $999,000. This society honors the vision and leadership of Dr. Edward W. D. Norton, the Institute's founding chairman.

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Back row: Dr. John Strobis, Dr. Richard Parrish, Justin Strobis
Front row: University of Miami President Donna Shalala, Mary Perper, Kara Donvito

GLAUCOMA RESEARCH ACCELERATES

John A. Strobis, M.D., FACP, and the Strobis Glaucoma Foundation have funded an endowed chair for glaucoma research at Bascom Palmer. Strobis, a 62-year-old board certified physician specializing in internal medicine, practices in Boca Raton, Florida. As a well-known and respected community physician, he has a large and loyal patient following. For more than thirty years, he has been on staff at Boca Raton Regional Hospital and has received many awards and accolades for his commitment to patient care. Strobis has six children: Justin; Kara, who is a Bascom Palmer major gifts officer; Ryan; Peter; Jacqueline; and Steffen. A generous gift made to the Strobis Glaucoma Foundation by Mary Perper and her late husband, Harold, was instrumental in funding the endowed chair.

When Justin experienced a sudden-onset of blurred vision in his right eye in 2001, the pressure in his eye was found to be dangerously elevated. Richard K. Parrish, II, M.D., diagnosed Justin with a very rare eye disease called Iridocorneal Endothelial Syndrome. Parrish will be the inaugural holder of the **Strobis Glaucoma Foundation Endowed Chair for Glaucoma Research**. Bascom Palmer gratefully acknowledges the friendship, benevolence and caring spirit of the Strobis family, who first experienced Bascom Palmer's dedication to vision care and research more than a decade ago, and have been avid supporters since that time.

The Luminary Society

This society recognizes individuals who are beacons for progress in vision research, clinical care and education. Generous donors have contributed gifts totaling $100,000 - $499,000.

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Dr. Eduardo Alfonso, University of Miami Trustee Frances Wolfson, Jeri Wolfson and University of Miami President Donna Shalala at the groundbreaking for Bascom Palmer's new center at Naples.

Bascom Palmer Eye Institute is grateful for the generosity of the following supporters who recognize the value of vision and have helped underwrite the construction of our new Naples center.

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HONORING PARENTS

Faculty member Richard Lee, M.D., Ph.D. established the **Lee Family Community Service Award** this year to honor the memory of his parents, who believed in service to those in need. The award honors a graduating ophthalmology resident or fellow who has provided exceptional community service. The recipient of the inaugural Lee Family Community Service Award was presented to Bascom Palmer senior resident and now retina fellow at Bascom Palmer, AJAY E. KURIYAN, M.D., M.S., for his leadership in teaching medical students while providing vision screenings to underserved communities throughout South Florida. Kuriyan was provided a monetary award and a plaque during Bascom Palmer's 2014 Residents Day. Lee, a glaucoma and cataract specialist, is director of community ophthalmology for Bascom Palmer. Lee also coordinates the activities of Bascom Palmer's Vision Van, and accompanied the Van to Japan in 2011 so that it could be used by Japanese ophthalmologists and healthcare workers to offer emergency screenings and treatments to those people affected by the Tohoku-Pacific Ocean earthquake.

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This society recognizes donors who invest in healthy vision by helping Bascom Palmer realize an extensive range of sight-saving programs. Donors whose annual gifts of $1,000-$4,999 were received between January 1, 2013 and September 30, 2014 are listed below.

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There are a broad range of philanthropic giving societies available at Bascom Palmer. Please contact the development office at 305-326-6190 for benefits associated with giving societies or for additional information.

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The Society for Encouraging Endowment

This society recognizes those individuals who ensure Bascom Palmer Eye Institute's legacy by making the Institute a beneficiary of their estate or financial plans. Please let us know if you have included Bascom Palmer in your estate plans so we may recognize your investment in our future.


Lillian Urshansky-Light

LIGHT AND SERVICE

Lillian Urshansky-Light's life was about service. In 1943, at the age of 21, she enlisted in the Women's Army Corps (WACs) because she did not have brothers to join the military and fight in World War II. The following year, she crossed the Pacific Ocean in a troop ship and was one of the first ten WACs to land on Leyte Island in the Philippines, where she served under General Douglas MacArthur. When the war was over, she returned to her native New York, graduated from Columbia University, worked for the Brooklyn District Attorney, married, and became a public high school teacher, finding great satisfaction in enriching the lives of her students. She retired to Florida, and passed away at the age of 90. Lillian's service to her country was always important, and she helped fund the Women in Military Service for America Memorial at Arlington National Cemetery. Lillian designated a portion of her estate to support vision research at Bascom Palmer. In recognition of her generosity, the cornea waiting area at Bascom Palmer in Miami will be named in her honor.

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In loving memory

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Palm Beach Medical Forum & Luncheon

January 16, 2015

The Mar-a-Lago Club
Palm Beach, Florida

Fruema Klorfein, Chairman

PRESENTATIONS

Future of Glaucoma Therapy
David S. Greenfield, M.D.

Advances in Treatment of Macular Degeneration
Jorge Fortun, M.D.

Advanced Cataract Surgery and Laser Vision Correction
Terrence P. O'Brien, M.D.

Partners: Bascom Palmer and Miami Lighthouse

Bascom Palmer faculty members, residents and fellows along with the Miami Lighthouse Board of Directors gathered in late summer at the Miami Lighthouse for the Blind and Visually Impaired. Guests toured the facility learning about the variety of vision rehabilitation programs and services that are provided by the Lighthouse's Low Vision Center, including eye examinations and on-site and in-home services. Bascom Palmer chairman, Eduardo C. Alfonso, M.D., welcomed guests with Virginia Jacko, Miami Lighthouse President & CEO. Retinal specialist, Harry W. Flynn, Jr., M.D., presented the keynote lecture which illustrated the rich history of Bascom Palmer Eye Institute and the Miami Lighthouse. The Institute's namesake, Dr. Bascom Headon Palmer was the chairman of the Miami Lighthouse Board of Directors from 1947 to 1952.

Dr. Harry Flynn

Curso 2014

Bascom Palmer celebrated its 36th Annual Inter-American Course in Clinical Ophthalmology (CURSO) at the Trump National Doral Miami. The course was the largest in its history with 745 ophthalmologists from 35 countries in Latin America and the Caribbean in attendance. The legendary TV show host Mario Kreutzberger "Don Francisco" delivered a video presentation focused on the importance of colleagues from different countries working together to exchange ideas and share knowledge in the global effort to prevent and cure blindness.

A highlight of this year's conference was the third annual Francisco E. Fantes M.D. Distinguished Lecture. Delivered by Brazilian ophthalmologist, Dr. Remo Susanna, Jr., the lecture is named in honor of Fantes, a beloved Bascom Palmer professor of clinical ophthalmology, who passed away in 2012. A native of Venezuela, Fantes was a long-time co-director of CURSO. A dedicated physician and educator, he trained hundreds of Latin American physicians so they could treat their own patients in their native countries.

Ari Rifkin, Lois Pope and Hermé de Wyman Miro

Christy and Earl Powell

Walter and Helen Ross

Eyes on Nature

Nearly 250 friends and supporters of Bascom Palmer gathered last spring, to celebrate the 33rd annual "Evening of Vision" gala held at the exquisite Breakers Hotel in Palm Beach. Lois Pope and Ari Rifkin were co-chairs of the "Eyes on Nature" themed event.

The gala corporate sponsor was Elizabeth Arden. Grand gala patrons were The Rhoda and David Chase Family Foundation and Mr. & Mrs. Earl W. Powell. Patrons included Howard & Michele Kessler, The McNulty Family Charitable Foundation, Lois Pope, Ari Rifkin, and Walter & Helen Ross. Society patrons included: Mr. & Mrs. John Castle, Mrs. Hermé de Wyman Miro, Mr. & Mrs. Alfonso Fanjul, Mrs. Tova Leidesdorf, Mr. & Mrs. Milton Maltz, Mr. Irvin Saltzman, and Stearns, Weaver, Miller, Alhadeff & Sitterson.

All gala proceeds support patient care and vision research at Bascom Palmer.

Evening of Vision Gala

March 7, 2015

The Mar-a-Lago Club Palm Beach, Florida

Gala Chairs
Alfonso & Raysa Fanjul

Honorary Chairs
Lois Pope, Ari Rifkin

International Honorary C
Hermé de Wyman Miro

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For more information or to purchase tickets, please contact the development office in Palm Beach Gardens at 561-515-1527

Alfonso and Raysa Fanjul with Molly and Dr. Eduardo Alfonso

1 Watch Us Grow

Bascom Palmer Eye Institute at Naples is growing. Conveniently located near I-75, the new eye center will be close to the downtown business district at the intersection of US-41 and Cypress Woods Drive.

BUILDING THE FUTURE

The building's architectural design was inspired by the spirit of optic science, with an emphasis on transparency and natural light. Construction of the $15 million, 20,000-square-foot, state-of-the-art center is scheduled for completion in June 2015.

To follow progress on the site, watch the live webcam at www.bascompalmer.org/locations/bascom-palmer-naples.

A PERFECT 11

#1 in USA Best in Ophthalmology 2004-2014

Bascom Palmer Ranked #1 in the U.S. for the Eleventh Year in a Row

Seeing is believing. For 50 years, the most important innovations in ophthalmology have come from one place – Bascom Palmer Eye Institute at the University of Miami Miller School of Medicine. Which is why, in an annual survey conducted by *U.S.News & World Report*, Bascom Palmer was once again ranked #1 in ophthalmology in the nation by board-certified ophthalmologists around the U.S., as well as being named the #1 hospital in the Miami-Fort Lauderdale metropolitan area. To us, there's no greater testament to our talented doctors, researchers, educators and dedicated staff. To learn more, call Bascom Palmer at 1.800.329.7000.

Bascom Palmer Eye Institute

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