




# AMERICAN ACADEMY of OPTOMETRY TIMES

 Exhibitor listing and hall map, p.8

 This year's Academy Awards ceremony, p.10

 Industry presents innovations, p. 13

## In Glaucoma, Mistakes are High Stakes

*These do's and don'ts set attendees on the path to better disease management.*

**N**obody wants to make a mistake, especially not when they are caring for patients with glaucoma. Perhaps that instinct to do no harm is what drove so many optometrists to Thursday morning's presentation, "Mistakes to Avoid in Glaucoma." As both a clinician and an educator, presenter Joseph Sowka, OD, FAAO, has seen the potential pitfalls clinicians may fall into, and his talk was designed to steer ODs clear of them.

### Say 'No' to Neuropathy

If you take nothing else from this lecture, he explained, don't diagnose non-arteritic anterior ischemic optic neuropathy in a glaucoma patient.

"It just doesn't happen," Dr. Sowka said. Glaucoma is a disease of cupping, he explained. Non-arteritic anterior ischemic optic neuropathy is a disease of non-cupping—it's a small, crowded disc-at-risk. "97% of non-arteritic anterior ischemic optic neuropathy patients have a cup-to-disc ratio of 0.2 or less, and 3% have been misdiagnosed," he joked. You should refer these patients for neuroimaging.

### Good Data is Hard to Find

Another error Dr. Sowka said is all too common is overreliance on OCT imaging. Not everything registers on these devices, and they can be wrong. "OCT is not a Silicon



**Dr. Sowka walks attendees through cases demonstrating common errors in glaucoma care.**

Valley Rumpelstilskin: You cannot put in straw and get out gold," he said. "The use and overemphasis of imaging technology to the exclusion

of other clinical findings and assessment of risk factors will put you and your patients in peril." OCT, he said, should support what you think, not change your opinion.

The devices can have flaws, too. Signal quality, blink and saccades and media opacifications all can affect the outcome, not to mention patients with abnormalities who fall outside the normal data range—such as those with very high axial lengths—may appear abnormal but do not have true progressive disease.

Not that OCT scans aren't useful, he told the audience. "OCT is a great technology, but if you think it's measuring the exact tissue

**See GLAUCOMA, Page 14**

## WHAT'S INSIDE

- Today's Scientific Program highlights.... 3
- Spotlights on new research presented on Wednesday ..... 4, 5, 14
- How to combat the diabetes epidemic... 4
- A sit-down with the incoming Academy executive director..... 5
- Two Academies join to battle myopia .... 6
- CEE courses you can attend ..... 6
- Fry and Prentice Award lectures ..... 7
- CET courses for the week..... 7
- Exhibitor list and map..... 8
- The Academy's Awards Ceremony and Winners for 2019 ..... 10
- Catch up with colleagues at an alumni reception..... 12
- Industry takes center stage at press conference..... 13
- Resident's Day details ..... 14

## Caution: Baby on Board

*Attendees learned what to do when they are caring for two.*

**W**ith an estimated 6.5 million pregnancies in the United States each year, 40% of which are unattended, you are bound to have a few patients on your schedule loading up on onesies and pacifiers. That means you need to do a little prepping yourself, according to Caroline Pate, OD, FAAO, who presented yesterday's morning lecture, "Caring for the Pregnant Patient."

Her first order of business was addressing the elephant in the room: Zika. Attendees got a refresher on the disease, how to educate patients and what to look for in babies with congenital Zika syndrome. Focal pigment mottling of the retina, chorioretinal atrophy, optic nerve abnormalities, bilateral iris coloboma and lens subluxation are all recorded complications, she said.

### Monitor and Educate

With that out of the way, she moved on to the physiological and pathological impact pregnancy can have on a mother's ocular health. You should be on the lookout for any signs of ptosis, she said, and you have to rule out any neurological etiologies. But, for the most part, ptosis will be due to fluid retention. "Just like a pregnant woman can get swollen ankles and swollen feet, they can get a swollen eyelid," noted Dr. Pate, a mother of two.

Krukenberg spindle is present in about 3% of pregnant patients, and decreased IOP and visual field changes due to pituitary gland enlargement are all possible, she added.

Pregnancy can exacerbate pre-existing problems as well, such as dry eye. For example, corneal thickness and curvature may increase, while



**Dr. Pate discussed pregnancy's effect on ocular health with a packed audience.**

tear production can decrease, meaning these mammas may have changes in their refraction and might struggle with contact lens intolerance.

"The good news is that most of the time these are transient, but some can be detrimental and permanent," she said. "Be ready to educate your patients on these, because most don't know they are even possible."

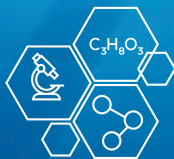
More concerning complications include central serous retinopathy; while this condition is usually linked

**See PREGNANT, Page 3**

THERE'S RELIEF AND THEN THERE'S  
**RELIEVA**<sup>TM</sup>



**THE ONLY FAMILY OF PRODUCTS IN THE U.S. WITH  
CMC, HA<sup>†</sup>, AND HYDROCELL<sup>TM</sup> TECHNOLOGY.**



Welcome to REFRESH<sup>®</sup> RELIEVA<sup>™</sup>—the innovative family of products specially formulated to relieve discomfort due to eye dryness and prevent further irritation. We do it with **HydroCell<sup>™</sup>** technology—our proprietary NaCl-free, glycerin-based solution that enables hydration and maintains the volume of cells on the ocular surface.

<sup>†</sup>HA is an inactive ingredient

*Stop by Allergan booth 909*

[refreshbrand.com/doc](http://refreshbrand.com/doc)

© 2019 Allergan. All rights reserved. All trademarks are the property of their respective owners. REF127449 08/19

Allergan

# Pregnant Patient Pearls

Continued from Page 1

to type-A males, Dr. Pate said it's also associated with pregnancy. Luckily, it usually resolves on its own a month or two after delivery. Other issues that should be on the OD's radar include pregnancy-induced hypertension, or pre-eclampsia, which can cause hypertensive retinopathy in 60% of patients diagnosed with this complication. Unlike other transient changes, pre-eclampsia can have profound long-term effects, as studies show that pre-eclampsia has a high association with retinal detachment, retinal breaks and retinopathy later in life, according to Dr. Pate.

Diabetes is another important condition that can complicate your pregnant patient's ocular health, Dr. Pate told attendees. Diabetic patients with no retinopathy prior to pregnancy have a 10% chance of developing it, while those with moderate nonproliferative retinopathy have a whopping 54.8% chance of progressing to the proliferative form due to pregnancy.

## Pharma Precautions

Next, Dr. Pate answered some of the looming questions most practitioners have when caring for these patients, including when to dilate and what therapies and imaging techniques are safe. She outlined the changes due to the Pregnancy and Lactation Labeling Rule, a guide designed to help the prescriber and the patient be more informed and address the timing of exposure during specific trimesters. In practice, this means clinicians can't rely on FDA categories any more—instead “we have to read the package inserts and make those clinical decisions ourselves,” Dr. Pate said.

Restasis (Allergan), for example, has a historic FDA category C, but newer options such as Xiidra

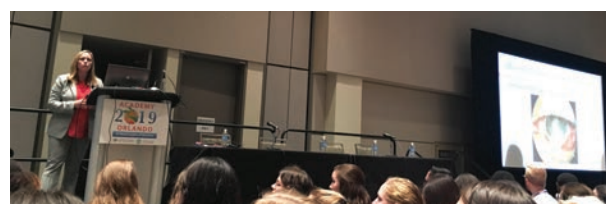
(Novartis) and Cequa (Sun Pharma) came on the market after the 2015 FDA change and have no pregnancy category associated with them.

With that in mind, she touched on everything from dilation and the use of diagnostic agents (such as fluorescein and topical anesthetics) to antibiotics, pain medications, antivirals, steroids and anti-glaucoma agents.

When prescribing, stick with medications with a historic FDA category A or B whenever you can and steer clear of anything in categories D and X, she warned. A few clinical pearls can go a long way, she added: prescribe the shortest treatment course possible, choose topical over oral therapy when you can and, when in doubt, use punctal occlusion.

Punctuated with case examples and clinical images, the session gave attendees a close look at everything that can go wrong with a pregnancy. But Dr. Pate made sure to circle back to one important pearl: the vast majority of severe birth defects are caused by genetic or chromosomal abnormalities—not any medication you might prescribe. Even those linked with environmental factors are more likely due to alcohol, illicit drugs or ineffective teratogens. Luckily for ODs, the risk of birth defects due to topical meds is extremely low, Dr. Pate assured her audience.

She concluded with a few words of wisdom, first reminding attendees to ask about pregnancy during the patient history. This is crucial to ensure you provide the specialized care they need. Finally, every patient's pregnancy is unique, and you never know what might crop up. This session gave conference-goers the knowledge they need to be confident caregivers to both mother and baby. ●



This pregnant patient desperately needed an antibiotic to combat the severe *Pseudomonas* ulcer caused by wearing her rigid lenses for a year.

## SCIENTIFIC PROGRAM SCHEDULE FOR FRIDAY, SATURDAY AND SUNDAY

### Today's poster sessions:

Posters will be displayed from 9am–3pm in WD1. Even-numbered authors will present between 10am–12pm, odd-numbered authors will present between 1–3pm.

### Topics include:

- Optometric Education
- Health Policy/Health Care Delivery
- Cornea/Anterior Segment/External/Dry Eye
- Academy Information Posters
- Optics/Refractive Error/Refractive Surgery
- Contact Lenses – Gas Permeable
- Contact Lenses – Hydrogel
- Posterior Segment

### Sunday's poster sessions:

Posters will be displayed from 8am–5pm in WE2. Even numbered authors will be present at their posters from 11am–1pm, and odd numbered authors will be present at their posters from 12–2pm.

### Topics include:

- Optometric Education
- Health Policy/Health Care Delivery
- Cornea/Anterior Segment/External/Dry Eye
- WCO Information Posters
- Optics/Refractive Error/Refractive Surgery
- Contact Lenses – Gas Permeable
- Contact Lenses – Hydrogel
- Posterior Segment

### Paper Sessions for Friday, October 25:

| Category   | Room     | Time         |
|--|----------|--------------|
| P-13: Papers: Public Health, Vision Screening                      | W224 ABC | 9:15–10:45am |
| P-14: Papers: Binocular Vision                                     | W224 ABC | 1–3:45pm     |
| P-15: Papers: Glaucoma: Update on Treatment and Measurement of IOP | W224 EFG | 1–2pm        |
| P-16: Papers: Visual Function                                      | W224 EFG | 1–2:45pm     |

### Paper Sessions for Saturday, October 26:

| Category   | Room     | Time      |
|--|----------|-----------|
| P-17: Reading and Reading Disorders                            | W224 ABC | 8–10am    |
| P-18: Trauma & Concussion with Keynote by Christina Master, MD | W224 ABC | 10am–12pm |

### Paper Sessions for Sunday, October 27:

| Category   | Room   | Time  |
|--|--------|-------|
| PW-19: The Current and Future State of Optometric Practice | W232 C | 4–5pm |

# AI: Will It Be a Game-changer for Diabetes?

*ODs have to get ahead and gain control of this epidemic.*

The first FDA-approved artificial intelligence (AI)-based system for diabetic retinopathy screening without clinician input—the IDx-DR—was released in the United States more than a year ago. AI matching or outperforming the accuracy of clinical experts is what caused Leonid Skorin, Jr., OD, DO, FAAO, to question what role eye care providers will play in this new era of technological advancements in yesterday morning’s session, “The Diabetes Pandemic: How Do We Fit In?”

## Keep Up, Not Catch Up

“Diabetes is becoming the world’s first non-communicable pandemic,” Dr. Skorin told his audience. He reported that 30 million people have diabetes, 7.2 million are undiagnosed, 84.1 have pre-diabetes and 1.4 million are legally blind from diabetes in the United States. By 2050, he said one billion people worldwide will have developed the disease.

Dr. Skorin emphasized that optometry must expand its horizons and embrace profession-altering changes, such as AI, before it falls further behind the times. Putting the field in a worse position are clinicians who have let their knowledge slip, with a recent study finding that only 6% of primary care providers could identify the 11 risk factors for pre-diabetes. Dr. Skorin added that clinical inertia—failure to initiate and intensify or de-intensify therapy when indicated, to make evidence-

based treatment decisions and to establish appropriate treatment targets—is responsible for more than 200,000 diabetes-related complications each year in the United States. But when clinicians initiate the right treatment, he said, they can make a big difference in their patients’ lives. “Early intensive glucose control effectively prevents vascular complications long-term,” he noted.

Clinician-related factors aren’t the only barriers to diabetes management, he added. One of the first hurdles is getting patients to understand their condition. Many of them are in denial about their disease severity and fail to recognize how diabetes—and glycemic control—affects their eyes. This lack of education and compliance on the patient’s part, as well as costs, resources, coordination and organization also influence diagnosis and proper long-term management.

It helps to know and practice your Cs to avoid the avoidable, Dr. Skorin said. These include:

- Contact
- Coordination
- Collaboration
- Continuity
- Communication
- Comprehensiveness
- Compliance

He concluded the course by recommending simple solutions to move the profession forward and leave diabetes in its wake. Clinicians should educate patients on the importance of a good diet and encourage them to walk for at least

10 minutes after big meals to help lower their glucose. ODs must also welcome new and updated technology into their practices. Today, that’s OCT, electrophysiology and electroretinography. Tomorrow it might be an AI system. ●



Dr. Skorin advises combating the diabetes pandemic with seven Cs.

## RESEARCH SPOTLIGHT

### The Cost-Effectiveness of a School-Based Vision Screening Program to Detect Amblyopia and Refractive Errors in Young Children Compared to Usual Care Screening in Ontario, Canada: An Economic Analysis

*Afua Asare, Daphne Maurer, Natasha Saunders, et al.*

Adding universal vision screening in Canadian public health to usual screening by family practitioners is a more cost-effective option for kindergarteners in Toronto, according to Afua Asare, OD. Together, the public health-organized screenings and the usual pediatric checks for amblyopia, its risk factors and uncorrected refractive errors helped children gain 42.59 quality-adjusted life years (QALYs), compared with 42.57 QALYs in the well-child only program.

According to Dr. Asare, significant differences between vision health systems in Canada and the United States include an increase in the treatment costs and higher productivity losses of caregiver’s fees and the existence of a fee code for screening in the US. Dr. Asare is one of 13 recipients of the 2019 William C. Ezell Fellowship.



### Comparison of the Vestibular/Ocular-Motor Screening (VOMS) and Sport Concussion Assessment Tool-3 (SCAT-3): An NCAA-DoD Concussion Assessment, Research and Education (CARE) Consortium Analysis

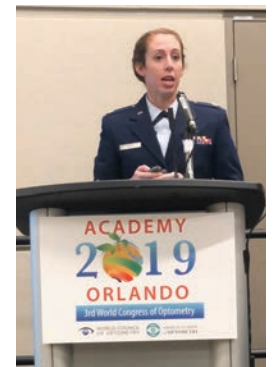
*Lyndsey M. Ferris, Nicholas L. Port, Michael J. Collins, et al.*

A recent study compared the vestibular/ocular-motor screening (VOMS) and sport concussion assessment tool-3 (SCAT-3) concussion evaluation tools to examine the VOMS’s validity among collegiate student-athletes. Currently, the VOMS is the only sideline assessment test that directly assesses the vestibular ocular system, according to Lyndsey M. Ferris, OD, FAAO. The test does this through a symptom provocation method where individuals complete certain vestibular and vestibular-ocular movements to see if it makes their symptoms worse.

The researchers found that total VOMS and SCAT-3 symptom scores demonstrated significant increases and large effect sizes following concussion. By using machine learning to compare the sensitivity and specificity of each tool, predictors suggest that the accuracy, specificity and sensitivity of SCAT-3 would improve with the addition of the VOMS tool. The study analyzed preseason and acute post-injury (six to 48 hours) assessments for 417 student-athletes and military cadets. Machine learning randomly divided data into training (75%) and testing (25%) sets for analysis.

The above summaries were presented at the Academy press conference on Wednesday. Drs. Asare and Ferris will give full presentations of their studies in these sessions:

- **Papers: Public Health, Vision Screening** Friday 10–10:15am, W224 ABC
- **Papers: Trauma & Concussion** Saturday 11:15–11:30am, W224 ABC



# New Academy Director Has His Eye on the Future

*A focus on research, wellness and community will keep the Academy as a premier organization.*

Earlier this year, Peter Scott, APR, CAE, MBA, stepped into the Academy's Executive Director role, after Lois Schoenbrun, CAE, FAAO, retired. Mr. Scott previously served as the Chief



Operating Officer of the North American Veterinary Community.

Along with Academy President Barbara Caffery, OD, PhD, FAAO, Mr. Scott intends to maintain the Academy's high-quality educational offerings while exploring new concepts for conference goers.

"We're really looking to bring more wellness into events like this," he said, envisioning a future where attendees can engage in morning pilates sessions and other community wellness events intended to "make a large conference feel small and intimate."

Mr. Scott is also looking into ways to capitalize on the exceptional research happening within the profession, with a focus on making that research more accessible to the optometric community.

He also wants to find ways to

provide clinicians the tools they need to make room for innovations in their practice.

Another new program the Academy is introducing is a year-round online video portal—Optometry TV—to promote the discipline in general and offer optometrists practice management pearls and clinical education. "We'll be talking to students, researchers, awardees and industry on a conversational level," Mr. Scott explained.

He's hoping some of these initiatives will help welcome student

attendees into the fold of longtime membership. He is also hoping their engagement in community outreach programs, optometric award ceremonies and mentorship programs can help elevate Academy to a year-round commitment, not a once-a-year-event.

But the annual meeting is still of the utmost importance. "We want this to be a must-see event," Mr. Scott explains. "We want to host a meeting where, on the Monday after, people return to their clinics and do things differently." ●

## RESEARCH SPOTLIGHT

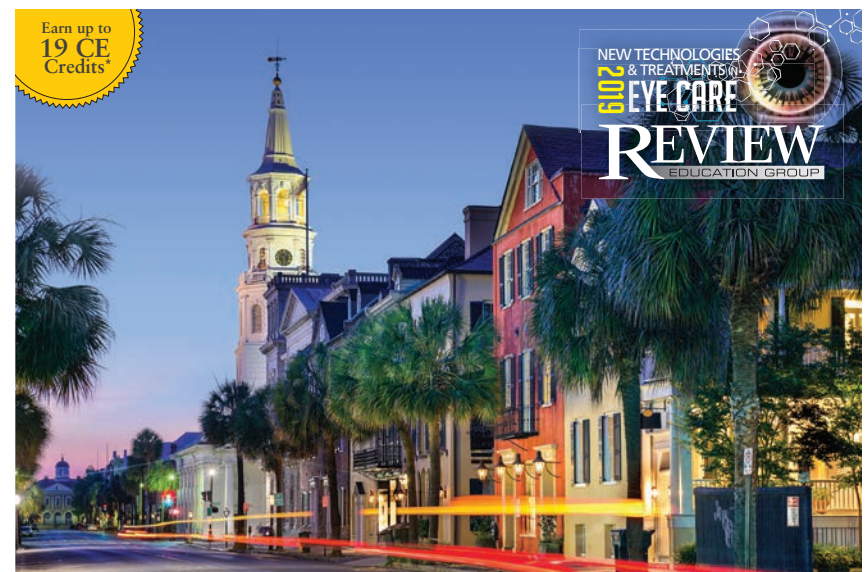
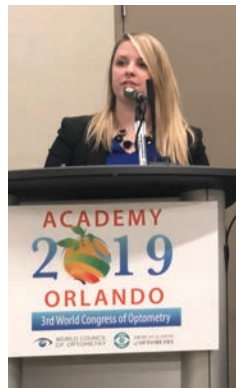
### Rates of Visual Field Progression in Glaucoma: 10-2 versus 24-2 Test Patterns

Nicole D. Charry, Denise Pensyl, Suchitra Katiyar, Michael Sullivan-Mee

The routine use of the 10-2 visual field (VF) testing pattern to assess the rate of progression in early glaucoma offers little overall additional clinical value, according to researchers. Their study, conducted out of the Albuquerque VA Medical Center, compared rates of mean deviation (MD) change on 24-2 and 10-2 VF tests in patients with primary open-angle glaucoma (POAG) or glaucoma suspects to determine if the 10-2 VF test pattern provides advantages for identifying VF progression compared with the 24-2 test pattern.

The researchers assessed a cohort of 133 participants (77 POAG patients at the mild stage, 56 glaucoma suspects) every four to six months and alternated 10-2 and 24-2 VF tests at visits. MD change rates for both 24-2 and 10-2 VF tests were related to each other, diagnosis, baseline age, presence of baseline VF defects and baseline MD. However, when comparing MD rates for 24-2 and 10-2 tests within subjects, no differences were found for either eye both within the total sample and when limiting analyses to POAG subjects only.

"While 10-2 may have value for episodic testing in glaucoma, the study does not support replacement of the 24-2 or frequent regular testing using the 10-2 for monitoring early glaucoma," Dr. Charry concluded.



## CHARLESTON, SOUTH CAROLINA

Date: November 1-3, 2019

Program Chair: Paul M. Karpecki, OD, FAAO

### Location:

Charleston Marriott  
170 Lockwood Boulevard  
Charleston, SC 29403  
Phone: 843-723-3000

### Faculty:

Marc Bloomenstein, OD, FAAO  
Douglas K. Devries, OD  
Jack Schaeffer, OD, FAAO  
Robert P. Wooldridge, OD, FAAO

### THREE WAYS TO REGISTER:

Visit: [www.ReviewsCE.com/Charleston2019](http://www.ReviewsCE.com/Charleston2019)  
Call: 1-866-658-1772 E-mail: [reviewmeetings@jhihealth.com](mailto:reviewmeetings@jhihealth.com)

Administered by:  
**REVIEW**  
EDUCATION GROUP

**COPE**  
\*Approved

**SALUS**  
UNIVERSITY  
Pennsylvania College of Optometry

Partially supported by  
unrestricted educational grants from:  
**Sun Pharmaceuticals**  
**Bausch & Lomb**  
**Carl Zeiss Meditec**  
Alcon

Review Education Group partners with Salus University for those ODs who are licensed in states that require university credit.  
\*This activity, COPE Activity Number 118364, is accredited by COPE for continuing education for optometrists. Approved by the Florida Board of Optometry.

**TODAY 10am–12pm ROOM W331**

# ODs and MDs Partner to Battle Myopia Burden

*The worldwide expansion threatens vision, but eye care providers can offer help.*

Two worlds will come together Friday morning when the American Academy of Optometry invites its identically initialed partners in eye care, the American Academy of Ophthalmology, to jointly address attendees in Orlando. This year, the two Academies will address the global myopia burden.

The summit will be co-chaired by Jeffery J. Walline, OD, PhD, FAAO, who serves as the associate dean for research at The Ohio State University College of Optometry, as well as ophthalmologist Michael X. Repka, MD, MBA, a professor at the Wilmer Eye Institute who specializes in pediatric ophthalmology, strabismus, retinopathy of prematurity and pediatric neuro-ophthalmology.

This joint presentation will address a concern prevalent across the globe and of acute concern to both optometry and ophthalmology: the worldwide surge in rates of myopia.



Photo: Kevin Chan, OD, MS

**Myopia is on the rise among children around the world, but with new techniques, eye doctors hope to slow its progression.**

Specifically, the course will examine how these rates have grown in the developed world.

Addressing this groundswell of myopia requires more than a lens prescription, as the opening discussion will review.

This global burden will have larger societal costs that Donald

O. Mutti, OD, PhD, FAAO, of The Ohio State University College of Optometry, will discuss. Doctors of both disciplines will have to recalibrate their examinations as they consider the comorbidities associated with myopia, a topic to be addressed by the second speaker Judy E. Kim, MD, an ophthalmology professor at the Medical College of Wisconsin.

Presenters Drs. Walline and Repka will then recap Drs. Mutti and Kim's talks as they speculate about the root causes of the myopia expansion, as well as what impact treatments can really have if they merely slow progression.

In addition, David A. Berntsen, OD, PhD, FAAO, of the University of Houston will be on hand

to introduce evidence-based information regarding the slowing of myopia progression through optical methods, such as orthokeratology and soft multifocal contact lenses. Specifically, his presentation will consider which contact lens option is most effective, as well as how the doctor can keep a step ahead of any potential risks.

He'll split the second half of the summit with Dr. Repka, who will present the latest thinking on pharmaceutical methods of myopia control, such as low-concentration atropine eye drops.

The ramifications of myopia are serious to a patient's general ocular health, potentially their systemic health and certainly to their finances. But, working together, eye care providers of both disciplines can offer lifestyle, lens-based and pharmaceutical methods to mitigate its effects. ●

## CONTINUING EDUCATION WITH EXAMINATION (CEE) CREDITS

The courses listed below will be presented with an option to take an exam, administered by the University of Houston College of Optometry. All CEE exams are offered by mail or online. All are welcome to attend the courses without taking the exam. Instructions to request the exams are available at the Education Desk.

| Friday, October 25   |          |  |   |                  |
|----------------------|----------|--|---|------------------|
| Time                 | Course # | Course Title   | Lecturer(s)                                     | Room             |
| 8–10am               | GO-16    | The Use of VEPs, ERGs, and EOGs and Updates in Clinical Practice | Kimberley Poirier-Schmidt, Sherry Bass          | W224 DH          |
| 8–10am               | OP-04    | Complications of Pharmaceuticals Every Optometrist Should Know   | Greg Caldwell, Tracy Offerdahl                  | Tangerine WF2    |
| 9–11am               | SD-13    | Uveitis Associated with Systemic Disease                         | Megan Hunter, Michelle Marciniak                | Tangerine WF1    |
| 10am–12pm            | AS-10    | Microbial Keratitis: Bacterial and Non-Bacterial Update          | Joseph Showlin, Michael DePaolis, Paul Karpecki | Tangerine WF2    |
| 2–4pm                | RS-02    | Unlocking the Potential of Refractive Surgery in Your Practice   | Kyle Sandberg, Roberto Saenz, Michael Shumski   | W230 CD          |
| 2–4pm                | NO-11    | Pathways to a Proper Diagnosis                                   | Kelly Malloy, Lorraine Lombardi                 | Tangerine WF 3/4 |
| 4–6pm                | OP-05    | Pain Management for the OD                                       | Jane Grogg                                      | Tangerine WF 3/4 |
| Saturday, October 26 |          |  |   |                  |
| Time                 | Course # | Course Title   | Lecturer(s)                                     | Room             |
| 8–10am               | SP-02    | Lids and Lashes on the Cutting Edge                              | Spencer Johnson                                 | W231             |
| 8–10am               | NO-12    | Neuro-ophthalmic Disorders Update                                | Joseph Sowka, Greg Caldwell, Jessica Steen      | Tangerine WF2    |
| 1–3pm                | SD-15    | Hypertension: When Things Go Awry Not Only in the Eye            | Kimberley Poirier-Schmidt, Carlo Pelino         | Tangerine WF 3/4 |

TODAY 8–9am ROOM W331

# Vision Experts Dish on New Research

*Two award recipients team up to cover the latest thinking in pediatric eye care and more.*

This year's Glenn A. Fry Award recipient, Susan Cotter, OD, MS, FAAO, a professor at Southern California College of Optometry at Marshall B. Ketchum University, will delve into her focus on treating pediatric eye conditions while Raymond A. Applegate, OD, PhD, FAAO, the Borish Chair of Optometry at the University of Houston and 2019 Charles F. Prentice Award lecturer, will discuss wavefront sensing and wavefront-guided corrections.

## A New Era for Amblyopia

Eye care providers used to think patching was the mainstay of amblyopia treatment, atropine was not very effective and the treatment of older children was a lost cause. But thanks to the landmark Pediatric Eye Disease Investigator Group (PEDIG) trials, none of this holds true any more.

One of the most significant shifts in amblyopia therapy is the discovery that refractive correction alone leads to the resolution of amblyopia in approximately one-third of young children with amblyopia. Another shift is the increased adoption of atropine, according to Dr. Cotter. Eye care providers used to reserve this regimen for young children with moderate amblyopia and prescribe the drops on a daily basis. PEDIG data, however, show none of this is necessary.

Even standard patching regimens are getting an overhaul thanks to PEDIG. Clinicians can start with just two hours a day in most cases and rarely have to resort to full-time patching, Dr. Cotter notes.

This also good news when it comes to the management of childhood intermittent exotropia (IXT). Recent PEDIG studies show that contrary to the popular notion that most cases of early-childhood IXT deteriorate into constant exotropia, the probability of this happening in young children is low.

Dr. Cotter will also briefly discuss clinically relevant findings from the population-based Multi-ethnic Pediatric Eye Disease Study regarding risk factors for esotropia and the utility of fixation preference testing.

## Refractions of the Future

The backbone of optometry—refraction—is about to get an overhaul, thanks to Dr. Applegate and other researchers. During his Charles F. Prentice award lecture he will discuss how the eye's optics define image quality, and everything from photoreceptor sampling to neural process-

ing and visual perception all impact visual image quality.

“Wavefront sensing allows a whole new set of visual image quality metrics to be calculated, which allows for better objective refractions for the normal and abnormal eye and to compare different modes of correction on a level playing field,” he says.

The visual Strehl ratio (VSX), for example, detects six just-noticeable steps in blur before loss of one line of acuity. Additionally, any VSX change significantly correlates with the change in visual acuity, independent of pupil diameter and underlying wavefront error. Not surprising, given these associations, Dr. Applegate's laboratory team of investigators have found that objective

refractions that use VSX are usually equivalent, or even better, than subjective refraction.

As the new technology becomes integrated into clinical practice, clinicians will be better equipped to meet the visual needs of patients with highly aberrated eyes whose needs are currently not well met with scleral lenses, according to Dr. Applegate.

Wavefront sensing and correction will play a significant role in improving refractive surgery as well, he notes.

“I believe that my lecture and the resulting paper will allow ODs to think about visual acuity and visual image quality in a way that will allow them to better serve their patients,” Dr. Applegate says. ●

## CET COURSES FOR FRIDAY, OCTOBER 25 AND SATURDAY, OCTOBER 26

Select courses have been submitted and approved for Continuing Education and Training (CET) points valid for optometry and optical professionals registered in the United Kingdom. Each course will be worth 1 CET point.

| Friday, October 25   |          |   |                                     |                  |
|----------------------|----------|---|-------------------------------------|------------------|
| Time                 | Course # | Course Title  | Lecturer(s)                         | Room             |
| 8–9am                | GO-15    | Disc Drusen – What's New, and a Little Review   | Elizabeth Steele                    | W222             |
| 10–11am              | CL-02    | Overweight and Obesity as an Optometric Concern   | Matthew Pearce                      | W224 DH          |
| 11am–12pm            | BV-09    | Managing Digital Device Use in Young Children   | Glen Steele                         | W230 CD          |
| 3–4pm                | PH-05    | Optometric Care of Transgender Patients   | Paula McDowell, Lillian Kalaczinski | W231             |
| 3–5pm                | GL-10    | What's New and What's Next in Glaucoma  | Murray Fingeret                     | Tangerine WF2    |
| 4–5pm                | PS-12    | AMD: Current Science and Trends in Diagnosis and Treatment                                      | Jeffrey Gerson, A. Paul Chous       | Tangerine WF1    |
| 5–6pm                | GO-20    | Utilizing Prism in the Primary Care Practice  | Sandra Fox                          | W230 CD          |
| Saturday, October 26 |          |   |                                     |                  |
| Time                 | Course # | Course Title  | Lecturer(s)                         | Room             |
| 8–9am                | OP-06    | Painless Shingles and the Zoster of Tomorrow  | A. Mika Moy                         | Tangerine WF 3/4 |
| 1–2pm                | PSW-14   | Interpreting OCT Retina   | Sowmya Srinivas                     | W231             |
| 2–3pm                | GL-13    | Evidence-based Practice in Angle Closure Spectrum Disease: Gonioscopy and Multimodal Imaging    | Jack Phu                            | W224 EFG         |
| 3–4pm                | GO-22    | Future Practice: OD Meet AI   | Barbara Caffery                     | W230 CD          |
| 4–5pm                | SD-18    | Dry Eye Disease: Sjogren's or Non-Sjogren's? Life Saving Differentiation in Optometric Practice | Lee Guo                             | W224 EFG         |

*The Academy 2019 Orlando and 3rd World Congress of Optometry exhibit hall is the perfect place to experience cutting-edge products and services. Badges are required for admission.*

|  |      |
|--|------|
| ABB Optical Group  | 724  |
| AccuLens   | 625  |
| Acuity Pro Software  | 929  |
| Adit   | 226  |
| Air Force Recruiting Service                                   | 222  |
| Alcon  | 916  |
| "Alcon Foundation "Hoop it Up"                                 | 231  |
| Allergan   | 909  |
| American Academy of Optometry                                  | 1527 |
| Fellows Doing Reserch  | 1727 |
| Amer. Acad. of Optometry Foundation                            | 331  |
| Amer. Acad. of Ortho-K and Myopia Control                      | 719  |
| Amer. Board Cert. Medical Optometry                            | 1709 |
| American Board of Opticianry & National Contact Lens Examiners | 1423 |
| American Board of Optometry                                    | 621  |
| Arbor Eyewear  | 830  |
| Armed Forces Optometric Society                                | 1435 |
| Art Optical Contact Lens                                       | 1311 |
| Assn. of Schools and Colleges of Optometry                     | 619  |
| Aventic Group  | 735  |
| Bausch + Lomb  | 801  |
| Benign Essential Blepharospasm Res. Fdn                        | 302  |
| Bernell  | 1601 |
| Bio-Tissue   | 1701 |
| Blanchard Contact Lens   | 716  |
| BlephEx  | 930  |
| Brien Holden Vision Institute                                  | 117  |
| Bruder Healthcare Company                                      | 723  |
| Modern Optometry   | 1310 |
| CareCredit   | 507  |
| CenterVue  | 1034 |
| Int'l Association of Contact Lens Educators                    | 730  |
| Choroideremia Research Foundation                              | 829  |
| Clerio Vision  | 722  |
| Coburn Technologies  | 702  |
| Color My World by Vivid Eyes                                   | 1231 |
| Compulink Healthcare Solutions                                 | 316  |
| Contamac   | 632  |
| CooperVision   | 809  |
| Corporate Optometry  | 225  |
| DemandForce  | 1534 |
| Designer Drugs Pharmacy  | 831  |
| Designs for Vision   | 1503 |
| Deux Mains Designs   | 123  |
| DGH Technology   | 617  |
| Diaton Tonometer   | 127  |
| Digital Health Care Professionals                              | 426  |
| Diopsys  | 1030 |
| Doctible   | 1707 |
| Elektron Eye Technology  | 324  |
| Elsevier   | 518  |
| Eschenbach Optik of America                                    | 808  |
| Espansione Marketing Spa                                       | 535  |
| Essilor  | 1619 |
| Euclid Systems   | 208  |
| Eye Care and Cure  | 300  |
| EyeCare Partners   | 1433 |
| EyeCareLive  | 307  |

**Exhibit Hall Hours:** Wednesday 5–7:30pm • Thursday 10am–6:30pm • Friday 10am–3pm

**Special Events:** Opening Night Welcome Reception ~ Wednesday 5–7:30pm

Student Focus Hours ~ Thursday 10–11:30am

Lunch in the Exhibit Hall ~ Thursday and Friday 11:30am–1:30pm

Attendee Reception ~ Thursday 5–6:30pm

|                                       |   |   |                                      |                                    |                                      |                                      |                                       |                                     |                                    |                                |   |                                  |                                  |  |
|---------------------------------------|---|---|--------------------------------------|------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|------------------------------------|--------------------------------|---|----------------------------------|----------------------------------|--|
| Lounge<br><b>131</b>                  | Alcon Foundation<br>"Hoop it Up"<br><b>231</b>    | American Academy of<br>Optometry Foundation<br><b>331</b> | Espan-<br>sione<br><b>535</b>        | 634<br><b>634</b>                  | Valley<br>Contax<br><b>635</b>       | 734<br><b>734</b>                    | Aventic<br><b>735</b>                 | NuSight<br>Medical                  |                                    |                                |   |                                  |                                  |  |
| Eyes<br>of the<br>World<br><b>116</b> | Diaton<br><b>127</b>                              | Adit<br><b>226</b>  | Horizon<br><b>533</b>                | Contamac<br><b>632</b>             | Tangible<br>Science<br><b>633</b>    | Prudential<br>Advisors<br><b>732</b> | Topcon<br>Medical<br>Systems          | 832<br><b>832</b>                   |                                    |                                |   |                                  |                                  |  |
|                                       | Konan<br>Medical<br><b>125</b>                    | Zilia<br><b>224</b>                                       | Gyroscope<br>Thera.<br><b>227</b>    | Elektron<br>Eye Tech<br><b>324</b> | Virtual<br>Field<br><b>630</b>       | IACLE<br><b>730</b>                  | Arbor<br>Eyewear<br><b>830</b>        | VRmagic<br><b>828</b>               |                                    |                                |   |                                  |                                  |  |
|                                       | Deux<br>Mains<br><b>123</b>                       | Air Force<br>Recruiting<br><b>222</b>                     | Corporate<br>Optometry<br><b>225</b> | Vivid<br>Vision<br><b>327</b>      | Digital<br>Health Care<br><b>426</b> | SEE Int'l<br><b>628</b>              | Zeavision<br><b>728</b>               |                                     | 729                                |                                |   |                                  |                                  |  |
|                                       | Brien Holden<br>Vision<br>Institute<br><b>117</b> | Vision<br>Assoc.<br><b>221</b>                            | Surgenex<br><b>320</b>               | Eyenovia<br><b>323</b>             | Vispero<br><b>422</b>                | Regeneron<br><b>423</b>              | SBH<br><b>525</b>                     | The Dry<br>Eye Dr.<br><b>624</b>    | AccuLens<br><b>625</b>             | ABB<br>Optical<br><b>724</b>   | Bruder<br>Health-<br>care<br><b>723</b> | Oculus<br><b>822</b>             |                                  |  |
| Lounge<br><b>100</b>                  | EyeSpace<br><b>111</b>                            | Euclid<br>Systems<br><b>208</b>                           | Volk Optical<br><b>209</b>           | Sight<br>Sciences<br><b>317</b>    | TruForm<br>Optics<br><b>419</b>      | Elsevier<br><b>518</b>               | Western U.<br>Optometry<br><b>523</b> | VOSH<br><b>622</b>                  | KY Col.<br>of Optom.<br><b>623</b> | Clerio<br>Vision<br><b>722</b> | AOA<br><b>719</b>                       | Reichert<br><b>816</b>           |                                  |  |
|                                       | Rx Loupes<br><b>107</b>                           | Illuminix<br><b>206</b>                                   | Macu-<br>Logix<br><b>203</b>         | PCON &<br>Healio<br><b>304</b>     | BEBRF<br><b>302</b>                  | Invision<br>Magazine<br><b>417</b>   | Marco<br><b>516</b>                   | Ocular<br>Innovations<br><b>521</b> | Lumenis<br><b>618</b>              | ABO<br><b>621</b>              | NOAH<br><b>720</b>                      | AAOMC<br><b>719</b>              | Heidelber<br><b>717</b>          |  |
|                                       | Haag-Streit<br>USA/<br>Reliance<br><b>101</b>     | Heine<br><b>201</b>                                       | Eye Care<br>and Cure<br><b>300</b>   | Quidel<br><b>311</b>               | IDOC<br><b>408</b>                   | Lombart<br><b>519</b>                | Arizona &<br>Chicago<br><b>616</b>    | Icare<br><b>517</b>                 | ASC<br><b>619</b>                  | Paragon<br><b>718</b>          | DGH<br><b>617</b>                       | Blanchard<br><b>716</b>          | AOA<br><b>719</b>                | Reichert<br><b>816</b>                           |
|                                       | EyeCareLive<br><b>307</b>                         | Nova<br>SE<br><b>303</b>                                  | Solution-<br>reach<br><b>402</b>     | PlenOptika<br><b>309</b>           | IDOC<br><b>408</b>                   | TruForm<br>Optics<br><b>419</b>      | Elsevier<br><b>518</b>                | Optometry<br>Times<br><b>509</b>    | Visionary<br><b>608</b>            | CareCredit<br><b>507</b>       | Specsy<br><b>606</b>                    | Menicon<br>America<br><b>609</b> | National<br>Vision<br><b>707</b> | Eschen-<br>bach<br>Optik of<br>USA<br><b>808</b> |

**ENTRANCE**

|                                       |      |                                 |      |   |      |
|---------------------------------------|------|---------------------------------|------|---|------|
| Eyenovia                              | 323  | Horizon Therapeutics            | 533  | Luneau Technology USA   | 1501 |
| EyePromise                            | 728  | Hoya Vision Care & Optikam Tech | 1519 | M&S Technologies  | 1412 |
| Eyeris                                | 1608 | Icare Tonometers                | 517  | MacuHealth  | 1500 |
| EyeSpace                              | 111  | IDOC                            | 408  | MacuLogix   | 203  |
| EyeVance Pharmaceuticals              | 629  | Illuminix Industries            | 206  | Marco   | 516  |
| Florida Optometric Insurance Services | 1239 | iMatrix                         | 1312 | Maxivision  | 301  |
| Fortifeye Vitamins                    | 1604 | Indigo Iris Designs             | 1425 | MedPhoto Manager  | 1700 |
| Frames Data                           | 604  | Innova Systems                  | 1719 | MedTech International Group   | 1028 |
| Vispero                               | 422  | Invision Magazine               | 417  | Menicon America   | 609  |
| Globecek                              | 1702 | Irisvision                      | 1421 | Midwestern U. Arizona College of Optometry & Chicago College of Optometry | 616  |
| Good-Lite Company                     | 1401 | Johnson & Johnson Vision        | 1201 | Myco Industries/AB Max  | 511  |
| Guardion Health Sciences              | 1711 | Kala Pharmaceuticals            | 1227 | National Board of Examiners in Optometry                                  | 305  |
| Gyroscope Therapeutics                | 227  | Keeler Instruments              | 1213 | Nat. Org. for Albinism and Hypopigmentation                               | 720  |
| Haag-Streit USA/Reliance              | 101  | Kentucky College of Optometry   | 623  | National Vision   | 707  |
| Healthy Eyes Advantage                | 1605 | Konan Medical USA               | 1211 | Nidek   | 1338 |
| Heart of America Eye Care Congress    | 934  | Wolters Kluwer Health           | 601  | Norwood Device & Diagnostics  | 529  |
| Heidelberg Engineering                | 717  | Lombart Instrument              | 519  | Nova Southeastern University  | 303  |
| Heine USA                             | 201  | Lumenis                         | 618  |   |      |



|                                       |                                |   |                          |  |   |   |   |  |
|---------------------------------------|--------------------------------|---|--------------------------|--|---|---|---|--|
| Vision Group<br><b>835</b>            | Heart of America<br><b>930</b> | Optovue<br><b>933</b>                   | CenterVue<br><b>1034</b> | Florida Optometric Insurance Services<br><b>1239</b> | Nidek<br><b>1338</b>                    | Vision Theater 1<br><b>1339</b>         | Lounge & Learn<br><b>1539</b>           | Vision Theater 2<br><b>1739</b>                              |
| <b>833</b>                            | <b>932</b>                     | <b>933</b>                              | OptiLanes<br><b>1032</b> | Color My World<br><b>1231</b>                        | Vision Impact<br><b>1330</b>            | Telscreen<br><b>1331</b>                | RightEye<br><b>1430</b>                 | Public Health Section/<br>Vision in Aging SIG<br><b>1733</b> |
| Designer Drugs<br><b>831</b>          | BlephEx<br><b>930</b>          | <b>931</b>                              | Diopsys<br><b>1030</b>   | Kala Pharmaceuticals<br><b>1227</b>                  | Penta-Vision<br><b>1326</b>             | Review of Optometry<br><b>1327</b>      | UMSL Optometry<br><b>1428</b>           | Fellows Doing Research<br><b>1727</b>                        |
| Choroideremia<br><b>829</b>           | NovaSight<br><b>928</b>        | Acuity Pro<br><b>929</b>                | MedTech<br><b>1028</b>   | AFOS<br><b>1435</b>                                  | Demand-Force<br><b>1534</b>             | EyeCare Partners<br><b>1433</b>         | WCO<br><b>1530</b>                      | American Academy of Optometry<br><b>1527</b>                 |
| Restrooms and Show Management Offices |                                |   |                          | Indigo Iris Designs<br><b>1425</b>                   | Vision Service Plan<br><b>1520</b>      | Hoya Vision Care<br><b>1519</b>         | Essilor of USA<br><b>1619</b>           | Scope Health<br><b>1721</b>                                  |
|                                       |                                |   |                          | ABO-NCLE<br><b>1423</b>                              | Irisvision<br><b>1421</b>               | Precision Vision<br><b>1419</b>         | Weave<br><b>1518</b>                    | Innova Systems<br><b>1719</b>                                |
| Alcon<br><b>916</b>                   |                                |   |                          | Keeler Inst.<br><b>1213</b>                          | iMatrix<br><b>1312</b>                  | Sun Ophthalmics<br><b>1409</b>          | Eyeris<br><b>1608</b>                   | Puppies<br><b>1609</b>                                       |
|                                       |                                |   |                          | Novartis Pharmaceuticals<br><b>1219</b>              | Konon Medical<br><b>1211</b>            | Modern Optometry<br><b>1310</b>         | Salus Univ. PCO<br><b>1313</b>          | M&S Tech.<br><b>1412</b>                                     |
| CooperVision<br><b>809</b>            | Allergan<br><b>909</b>         | Johnson & Johnson Vision<br><b>1201</b> |                          | Art Optical<br><b>1311</b>                           | Optometric Arch.<br><b>1410</b>         | Novabay<br><b>1405</b>                  | Spark Thea.<br><b>1504</b>              | American Board Cert.<br><b>1709</b>                          |
| Bausch + Lomb<br><b>801</b>           |                                |   |                          | Novabay<br><b>1405</b>                               | Spark Thea.<br><b>1504</b>              | Ocutech<br><b>1505</b>                  | Fortifeye Vitamins<br><b>1604</b>       | Healthy Eyes<br><b>1605</b>                                  |
|                                       |                                |   |                          | Good-Lite<br><b>1401</b>                             | Macu-Health<br><b>1500</b>              | Designs for Vision<br><b>1503</b>       | Ocusoft<br><b>1600</b>                  | Zoomax<br><b>1603</b>  |
| ENTRANCE                              |                                |   |                          | Luneau<br><b>1501</b>                                | Bernell<br><b>1601</b>                  | MedPhoto<br><b>1700</b>                 | Bio-Tissue<br><b>1701</b>               |  |
|                                       |                                |   |                          | Novartis Pharmaceuticals<br><b>1219</b>              | Novartis Pharmaceuticals<br><b>1219</b> | Novartis Pharmaceuticals<br><b>1219</b> | Novartis Pharmaceuticals<br><b>1219</b> | Novartis Pharmaceuticals<br><b>1219</b>                      |

ENTRANCE

|   |      |   |      |  |      |  |      |
|---|------|---|------|--|------|--|------|
| Novabay Pharmaceuticals.....                  | 1405 | Precision Vision.....   | 1419 | Spark Therapeutics.....                      | 1504 | Vision Service Plan.....                     | 1520 |
| NovaSight.....                                | 928  | Primary Care Optometry News & Healio.....                                 | 304  | Specsy.....                                  | 606  | Visionary.....                               | 608  |
| NuSight Medical.....                          | 832  | Prudential Advisors.....  | 732  | Sun Ophthalmics.....                         | 1409 | Visionary Optics.....                        | 404  |
| Ocular Innovations.....                       | 521  | Public Health & Environmental Vision Section and Vision in Aging SIG..... | 1733 | Surgenex.....                                | 320  | Visioneering Technologies.....               | 600  |
| Oculus.....                                   | 822  | Quantel Medical.....  | 700  | SynergEyes.....                              | 400  | Vital Tears.....                             | 1426 |
| Ocusoft.....                                  | 1600 | Quidel.....   | 311  | Tangible Science.....                        | 633  | Vivid Vision.....                            | 327  |
| Ocutech.....                                  | 1505 | Regeneron Pharmaceuticals.....  | 423  | Telscreen.....                               | 1331 | Vmax Vision.....                             | 605  |
| OptiLanes.....                                | 1032 | Reichert Technologies.....  | 816  | The Dry Eye Doctor.....                      | 624  | Volk Optical.....                            | 209  |
| Opto Multimedia.....                          | 806  | Review of Optometry.....  | 1327 | The Pixel Fund – Puppies.....                | 1609 | VOSH International.....                      | 622  |
| Optometric Architects.....                    | 1410 | RightEye.....   | 1430 | Think About Your Eyes.....                   | 1431 | Vrmagic.....                                 | 828  |
| Optometry Times.....                          | 509  | RxLoupes.....   | 107  | Topcon Medical Systems.....                  | 729  | Weave.....                                   | 610  |
| OptoPrep.....                                 | 704  | ScienceBased Health.....  | 525  | TruForm Optics.....                          | 419  | Weave.....                                   | 1518 |
| Optos.....                                    | 501  | SEE International.....  | 628  | Univ. MO St. Louis College of Optometry..... | 1428 | Western University College of Optometry..... | 523  |
| Optovue.....                                  | 933  | Novartis Pharmaceuticals.....   | 1219 | Valley Contax.....                           | 217  | World Council of Optometry.....              | 1530 |
| Paragon Vision Sciences.....                  | 718  | Sight Sciences.....   | 317  | Virtual Field.....                           | 630  | Younger Optics.....                          | 602  |
| Salus University PA College of Optometry..... | 1313 | Solutionreach.....  | 402  | Vision Associates.....                       | 221  | Zeiss.....                                   | 701  |
| PentaVision.....                              | 1326 |   |      | Vision Group Holdings.....                   | 835  | Zilia.....                                   | 224  |
| PlenOptika.....                               | 309  |   |      | Vision Impact Institute.....                 | 1330 | Zoomax.....                                  | 1603 |

# Academy Presents: 2019 Awards Ceremony

**P**lease join us in honoring the 2019 award recipients at the Joint American Academy of Optometry and World Council of Optometry Recognition Gala and Awards Program. This year's ceremony is scheduled for Saturday, October 26, 7pm to 10pm in the Plaza International Ballroom of the Hyatt Regency in Orlando.

We hope attendees will find inspiration in this year's awardees and their vital contributions to the advancement of optometry and vision science across the globe.

New this year, the Charles F. Prentice and Glenn A. Fry Lectures will be presented together at a separate event this morning from, 8am to 9am in W331 of the Orange County Convention Center.

## Charles F. Prentice Medal and Lecture

*The Charles F. Prentice Medal is the Academy's top award and lecture at the annual meeting and is presented to an individual who has made a significant contribution to the advancement of knowledge through research in the visual sciences.*



**Raymond A. Applegate's, OD, PhD, FAAO** innovative, cutting-edge research in visual optics and the role of optical

aberrations on visual performance earned him global recognition as one of the world's

leading experts in the optical quality of the human eye.

## Glenn A. Fry Award and Lecture

*The Glenn A. Fry Award and Lecture is sponsored by the American Academy of Optometry Foundation and recognizes a distinguished scientist or clinician for his or her current research contributions.*



**Susan A. Cotter's, OD, MS, FAAO,** leadership and work in multiple pivotal large-scale studies has

shaped pediatric vision care in the past few decades. Her most notable achievement is her leadership role in the Pediatric Eye Disease Investigator Group (PEDIG) study, which has evaluated treatment for a range of pediatric eye conditions, shaping treatment patterns for amblyopia, in particular.

## Irvin M. and Beatrice Borish Award

*The Borish Award recognizes an outstanding young researcher who has shown exceptional promise to conduct independent optometric research directly related to etiology, prevention, detection, diagnosis or management of clinical eye disorders.*

**Andrew Pucker, OD, PhD, FAAO,** is a rising star in many areas of vision research, including tear film, ocular sur-

## AAO-Essilor Award for Outstanding International Contributions to Optometry and First Dr. Uduak Udom Distinguished Service Award

*The International Award recognizes an individual or organization whose direct efforts and contributions have resulted in unquestionable significant and extraordinary advances in optometry and eye care internationally.*

**Uduak C. Udom, OD, MPH, FAAO,** was a Nigerian primary care optometrist who made a significant contribution to the development of the profession in Nigeria and globally throughout her professional career. She passed away too soon in January of this year.

In additional remembrance, The World Council of Optometry will bestow an honorary award to the



family of Dr. Udom for the first Dr. Uduak Udom Distinguished Service Award. Dr. Udom was the Immediate Past President of the World Council of Optometry.



face, contact lenses and myopia. He has two other traits that fit within the intent of the award—he

is a practicing optometrist (despite the demands of his research program), and he has always been a leader at his various schools and now within the American Academy of Optometry.

## William Feinbloom Award

*The William Feinbloom Award is presented to an individual who has made a distinguished and significant contribution to clinical excellence and the direct clinical*

*advancement of visual and optometric service and thus the visual enhancement of the public.*



The commitment **Thomas R. Stelmack, OD, FAAO,** has shown to the advancement of medical optometry and the

education of optometry trainees in medical optometry has been integral to the growth of the profession.

## Brien Holden Humanitarian Award

*The Brien Holden Humanitarian Award is presented each*

year to an individual or organization who has made significant contributions to improve eye care in developing communities.



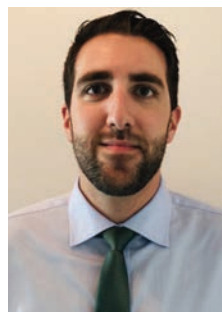
Within VOSH/International, **J. Daniel Twelker, OD, PhD, FAAO**, has worked tirelessly to promote

sustainability in programs, increasing the presence of optometry and supporting the development of optometric education worldwide.

### Julius F. Neumueller Award in Optics

*The American Academy of Optometry Foundation's Julius F. Neumueller Award in Optics is issued to a student pursuing the Doctor of Optometry degree in a school or college of optometry who submits a first-authored original research paper on one of the following topics: Geometrical Optics, Physical Optics, Ophthalmic Optics, Optics of the Eye.*

This year the Awards Committee has selected a research paper titled "Comparison of dynamic retinoscopy and autorefraction for measurement of accommodative amplitude,"



by **Rami Aboumou-rad, OD**, of the Univer-

sity of Houston, College of Optometry.

### Vincent Ellerbrock Clinician Educator Award

*The Vincent Ellerbrock Clinician Educator Award is presented to a distinguished clinician who has made outstanding and sustained contributions to the Academy's Lectures and Workshops program.*



**Thomas G. Quinn, OD, MS, FAAO**, has reflected the character that Dr. Ellerbrock embodied through his

professionalism and excellence as a clinician educator. Dr. Quinn has been an outstanding example of the Academy values of lifelong learning and evidence-based clinical practice.

### Michael G. Harris Award for Excellence in Optometric Education

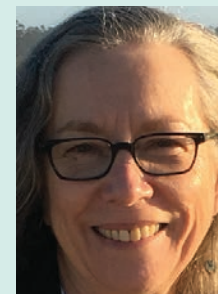
*Presented by the American Academy of Optometry Foundation, the Harris Award recognizes an optometric educator who has demonstrated ongoing and consistent excellence in education of optometry students and/or advancement of optometric education.*

This year, the Harris Award is awarded to two especially deserving recipients: **Heather A. Anderson, OD, PhD, FAAO**, and **Donald O. Mutti, OD, PhD, FAAO**.

### The Garland W. Clay Award

The Garland W. Clay Award is presented to the authors of the manuscript published in *Optometry and Vision Science* that has been most widely cited in world research literature in the preceding five years and has the vote of the *Optometry and Vision Science* Editorial Board.

The 2019 Clay Award paper is "Myopia Control with Bifocal Contact Lenses: A Randomized Clinical Trial" by **Thomas Aller, OD, FBCLA, Maria Liu, OD, PhD, FAAO, Christine F. Wildsoet, DipAppSci(Optom), PhD, FAAO**. The article was published in *Optometry and Vision Science* 2016; 93(4):344-52.



Dr. Anderson is a consummate educator, who through her dedication and commitment to innovative

teaching at the University of Houston College of Optometry and on the national stage, is having an enormous impact on optometric education and student success.



Dr. Mutti is deeply dedicated to teaching visual optics to optometry students at The Ohio State University

College of Optometry. He is also well known for his research contributions and long history of funding in the areas of myopia and pediatrics from the National Institutes of Health.

**Saturday, October 26 | 7—10pm**

### Joint World Council of Optometry and American Academy of Optometry Recognition Gala and Awards Program

Join us for an extravagant evening of camaraderie, celebration and recognition. Bring friends and family as we recognize new Academy Fellows and Diplomates and awards recipients. This event is black tie optional. To celebrate the international flavor of this joint meeting, attendees are encouraged to wear traditional outfits from their country. Gala tickets are not included with registration fees and can be purchased for \$25 each.

**ALUMNI RECEPTIONS—TONIGHT!**

Catch up with colleagues from the old alma mater at one of these evening events.

| Friday, October 25 |   |  |
|--------------------|---|--|
| Time               | Events  | Room   |
| 6:15–8:30pm        | SCCO at MBKU Alumni Reception                                 | Plaza International Ballroom I, Convention Level |
| 6:15–10pm          | New England College of Optometry Alumni and Friends Reception | Florida Ballroom A, Convention Level             |
| 6:30–8pm           | Midwestern University AZCOPT/CCO Alumni & Friends Reception   | Coral Spring I, Lobby Level                      |
| 6:30–8pm           | NSU College of Optometry Alumni & Friends Reception           | Barrel Spring I, Lobby Level                     |
| 6:30–8pm           | UABSO Alumni Reception  | Barrel Spring II, Lobby Level                    |
| 6:30–8:30pm        | Kentucky College of Optometry Reception                       | Coral Spring II, Lobby Level                     |
| 7–8:30pm           | PUCO Alumni Reception   | Plaza International Ballroom K, Convention Level |
| 7–8:30pm           | Southern College of Optometry Alumni & Friends Reception      | Florida Ballroom B, Convention Level             |
| 7–8:30pm           | Illinois College of Optometry Alumni and Friends Reception    | Plaza International Ballroom J, Convention Level |
| 7–9pm              | OSU College of Optometry Alumni Reception                     | Orlando Ballroom L, Convention Level             |
| 7–9pm              | UHCO Alumni & Friends Reception                               | Orlando Ballroom M, Convention Level             |
| 7:15–8:45pm        | UMSL College of Optometry Alumni Reception                    | Manatee Spring I, Lobby Level                    |



**The Australia Party**  
ORLANDO, FLORIDA 2019

**Calling all Academy 2019 Orlando delegates**

You are invited to the 37th Australia Party, hosted by the Brien Holden Vision Institute and the American Academy of Optometry (AAO).

Join us for live music. This year we have a Canadian band! So make sure you come to where the Foster's will be flowing! Your beer tickets are in your registration materials.

**Friday, October 25, 2019, 9pm–1am**

**Hyatt Regency, Orlando**  
9801 International Drive, Orlando Florida



# Industry Ups the Ante in Innovation

*New tools and vision correction options are here to help you better serve your patients.*

The annual Academy meeting is known and loved for its superlative clinical education, and this year's meeting is no exception—but it's also where a number of innovative products debut. On Wednesday morning, several companies gathered to share the latest offerings now on the market and those in the pipeline.

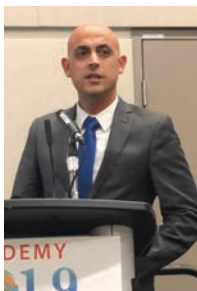
## Drug Delivery Goes Micro



Eyenovia presented on its new microdosing technology designed for optimal drug delivery, Optejet. The technology has the potential to change the treatment paradigm of front and back-of-the-eye diseases, according to Mark Bullimore, OD, FAAO. It enables first-in-class microdosed therapies designed to reduce ocular

and systemic toxicity and improve the risk-benefit profile of both new and existing drugs. Optejet's non-protruding nozzle for no-touch spray application potentially minimizes risk of cross contamination seen with traditional eye droppers.

## Freedom for Amblyopia Therapy



Moshe Barrel, vice president of sales and marketing, discussed Nova Sight's eye tracking-based device, the CureSight amblyopia home treatment device. With CureSight, the patient watches their favorite online content at home for about one hour per day. The system can monitor treatment progress and provide

feedback to parents and caregivers through an innovative telemedicine feature. "Being able to work on any content creates a fun and engaging treatment that allows for anyone to use their favorite content," Mr. Barrel said.

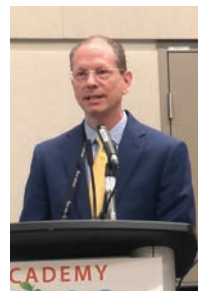
## Harmony at Last



Greg Hicks, OD, director of professional affairs, discussed Hoya's Binocular Harmonization Technology for various lens types. The technology treats the right and left prescription as individual components to define the required binocular lens design and calculate the necessary

corridor length and progressive power distribution. According to Dr. Hicks, the technology really benefits patients with anisometropia, a condition that affects 73% of presbyopes.

## Vision Enhancements Galore



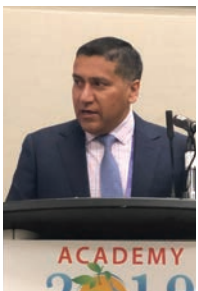
Eschenbach Optik recently released the Vario Digital FHD, FL-41 rose filters and a Vision Binocular line. Timothy Gels, director of marketing, gave attendees an inside look at the portable desktop video magnifier that incorporates a simple user interface and a large screen with different viewing modes. The rose-tinted filters have three frame choices and are designed to block UV and UV light. The company's small, lightweight binoculars provide a 20-inch near focus and are available in two magnifications.

## Finally, An Objective Pupil Test



Pupillary testing today is still performed using a 19th century test, and it's likely the lowest tech in your practice. Konan Medical believes its newest pupillograph, the EyeKinetix, can bring you into the 21st century. EyeKinetix is an update on Konan's RAPDx pupillary testing device, but the new model is smaller, faster and more affordable and, according to Ian McMillan, Konan's VP of sales and marketing, it's even easier to use. It's easy on patients, too, as it doesn't require any response from them and the machine itself automatically reports any asymmetry to the doctor.

## New Lenses, Inside and Out



Mo Merchea, OD, PhD, FAAO, of Alcon, discussed the Precision1 contact lens and the PanOptix trifocal IOL. According to him, Precision1's Smartsurface Technology is a permanent, micro-thin layer of moisture that supports a stable tear film, long-lasting lens surface moisture and dependable comfort. The PanOptix trifocal IOL provides 20/20 near, intermediate and distance vision in spherical and toric designs. Dr. Merchea noted that 99% of PanOptix patients said they would choose the same lens again, 98% would recommend it to others and 92% reported less dependence on glasses after surgery.

## Get Your Shades In

According to John R. Buch, OD, MS, FAAO, of Johnson & Johnson Vision Care, a new study shows new lens wearers using the Acuvue Oasys with



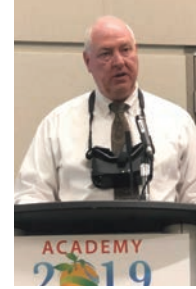
Transitions adaptive contact lenses preferred them over glasses. The study found that 95.3% of patients were successfully fit with the contact lenses and 98.2% were still wearing the lenses four weeks later. Patients reported that the lenses met their active lifestyles and were compatible with sports and exercise. Nine out of 10 new contact lens wearers would prefer to continue wearing the contact lens as a form of vision correction.

## Combo Tool Catches AMD



Jerome Sherman, OD, FAAO, introduced new data showing how Innova Systems' Rabin Cone detected subclinical AMD progression that was otherwise unidentified with dilated fundus exam, fundus photo or OCT. The device's color contrast test measures cone function under mesopic conditions and combines cone isolation technology and contrast sensitivity in a threshold test, not unlike visual field testing. Because color contrast vision is affected by myriad conditions, the combined testing can be useful for screening, diagnosis and disease management, Dr. Sherman noted.

## VR Connects Visually Impaired



Tom Perski, vice president of professional and consumer outreach at IrisVision, walked on stage wearing the company's headset for the visually impaired. He explained the IrisVision can be customized for many ocular conditions and includes new features such as natural language voice control and integration with Amazon's Alexa. The device is designed to help users connect and engage with the world.

## A Camera With a Twist



According to Zilia's Clinical Applications Specialist Joannie Desroches, now's the time to update your fundus camera. The company's new option provides accurate and continuous measurements of oxygenation in the human eye, she said, giving clinicians more accurate, reproducible and actionable data—something beyond their reach before, Ms. Desroches said. ●

## Glaucoma Do's and Don'ts

Continued from Page 1

you're looking for perfectly every time, you're incorrect," said Dr. Sowka, pointing to case examples such as patients whose OCT printouts show epiretinal membranes erroneously measured as internal limiting membranes, posterior vitreous detachment measured as nerve fiber layer. Sometimes data is simply missing; if the NFL ever reads 'zero,' that's missing data, he said.

### Mind Your Colors

"Bad data in means bad clinical outcomes," Dr. Sowka explained. For instance, he said, don't treat based on "red disease." Just because a patient falls outside the norm doesn't mean they aren't normal.

Take the case of a 62-year-old female with normal acuity and pressures of 30mm Hg and 28mm Hg. She had multiple abnormalities well outside the normative data range, such as a poor nerve fiber layer. But she sees well and had no relative afferent pupillary defect. It may appear to be progressive disease in some regards, but in two years of monitoring, she never changed.

Just as insidious is the prevalence of "green disease," in this case meaning a glaucomatous process masquerading as non-disease. Dr.

Sowka recalled a 56-year-old patient whose OCT readings showed a healthy eye. But a traditional retinal exam showed an obvious wedge defect. "There's a lot of anatomic area being averaged in" when OCTs make an assessment. If you want to avoid this mistake, "always look at the photograph."

### A Tale of Two Keiths

Danger, Dr. Sowka explained, lurks in the gray zones. Putting all your trust into a diagnostic device or a particular metric, such as a single bad intraocular pressure reading, is a recipe for failure. "I probably write 'field change' 20% of the time. Doesn't mean 20% of the patients are getting worse and, when I repeat it, that change is rarely sustained," he said.

Glaucoma patients require follow-up over a long period before you can tell whether they're actually "well-controlled." Some patients progress slowly even without treatment, while others progress rapidly with it. You can't always know who's going to respond.

"As I like to say, you might be Keith Richards or you might be Keith Moon. Both had similar risk factors for a very short life; one died young, the other is still on tour." ●

## Residents Day Saturday, October 26

All attendees are invited to Residents Day, where residents have the opportunity to present their interesting grand rounds case reports or the results of their research projects. Papers will be presented from 8am to 12pm in W221.

Posters will be presented from 1:30–3:30pm in WD1. Even poster authors will present from 1:30–2:30pm, and odd poster authors will present from 2:30–3:30pm.

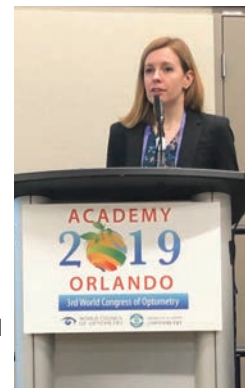
The topics are:

- Binocular Vision, Functional Vision, Behavioral Optometry
- Contact Lenses – Gas Permeable
- Contact Lenses – Hydrogel
- Cornea/Anterior Segment/External/Dry Eye
- Glaucoma
- Neuro-ophthalmic & Orbit
- Optics/Refractive Error/Refractive Surgery
- Pediatric Optometry
- Posterior Segment
- Systemic & Other Disease
- Visual Function/Perception

## RESEARCH SPOTLIGHT

### Intra-day Repeatability of Optic Nerve Optical Coherence Tomography Parameters

Laura P. Pardon, Pratik Chetty, Han Cheng, Nimesh Patel



This study revealed that the optic nerve's minimum rim width is decreased at 7pm relative to 7am. According to Laura P. Pardon, OD, MS, FAAO, it's important to understand changes in the optic nerve and structure throughout the day if practitioners are to differentiate normal individuals from those with disease.

The study analyzed 10 healthy participants (mean age  $29.5 \pm 4.8$  years) who presented for OCT scan sessions at 7am, 7pm and a randomly selected time on the same day. At each session, the researchers acquired 24-line radial and 12-degree circular OCT scans centered on the optic nerve head (ONH); two of each were acquired during the randomly selected time. The team used the radial scans to calculate global values for the optic minimum rim width and Bruch's membrane opening height relative to a 4mm Bruch's membrane reference plane centered on the ONH. They also used circular scans to calculate global retinal nerve fiber layer and choroid thicknesses.

Minimum rim width demonstrated a mean difference of  $-12.2 \pm 16.9 \mu\text{m}$  between the 7am and 7pm sessions and  $-1.5 \pm 5.9 \mu\text{m}$  for scans within the same session; mean minimum rim width was significantly reduced at 7pm relative to 7am ( $362.5 \mu\text{m}$  vs.  $374.7 \mu\text{m}$ ).




ACADEMY 2020  
NASHVILLE

Find your inspiration  
for excellence.

OCTOBER 7-10, 2020 • MUSIC CITY CONVENTION CENTER

Earn up to  
18-28 CE  
Credits\*

NEW TECHNOLOGIES  
& TREATMENTS IN  
**2020 EYE CARE**  
**REVIEW**  
EDUCATION GROUP



Join us for our  
**2020 MEETINGS**



**FEBRUARY 14-17, 2020 - ASPEN, CO**

**Annual Winter Ophthalmic Conference**

Westin Snowmass Conference Center

Program Co-chairs: Murray Fingeret, OD, FAAO and Leo P. Semes, OD, FACMO, FAAO

**REGISTER ONLINE:** [www.skivision.com](http://www.skivision.com)



**APRIL 16-19, 2020 - AUSTIN, TX**

Omni Barton Creek

Joint Meeting with OCCRS\*\*

Program Chair: Paul M. Karpecki, OD, FAAO

**REGISTER ONLINE:** [www.reviewsce.com/austin2020](http://www.reviewsce.com/austin2020)



**MAY 29-31, 2020 - SAN DIEGO, CA**

Manchester Grand Hyatt

Program Chair: Paul M. Karpecki, OD, FAAO

**REGISTER ONLINE:** [www.reviewsce.com/sandiego2020](http://www.reviewsce.com/sandiego2020)



**JUNE 5-7, 2020 - ORLANDO, FL**

Disney Yacht & Beach Club

Program Chair: Paul M. Karpecki, OD, FAAO

**REGISTER ONLINE:** [www.reviewsce.com/orlando2020](http://www.reviewsce.com/orlando2020)



**NOVEMBER 6-8, 2020 - PHILADELPHIA, PA**

Philadelphia Marriott Downtown

Program Chair: Paul M. Karpecki, OD, FAAO

**REGISTER ONLINE:** [www.reviewsce.com/philadelphia2020](http://www.reviewsce.com/philadelphia2020)

Visit our website for the latest information: [www.reviewsce.com/events](http://www.reviewsce.com/events)  
e-mail: [reviewmeetings@jhihealth.com](mailto:reviewmeetings@jhihealth.com) or call: 866-658-1772

Administered by:

**REVIEW**  
EDUCATION GROUP

Medscape  
**LIVE!**

**COSE**<sup>®</sup>

\*Approval pending

**SALUS**  
UNIVERSITY  
Pennsylvania College of Optometry

**OCCRS**  
OPTOMETRIC CORNEA, CATARACT  
AND REFRACTIVE SOCIETY

\*\*17<sup>th</sup> Annual Education Symposium  
Joint Meeting with NT&T in Eye Care

Review Education Group partners with Salus University for those ODs who are licensed in states that require university credit.  
See [www.reviewsce.com/events](http://www.reviewsce.com/events) for any meeting schedule changes or updates.

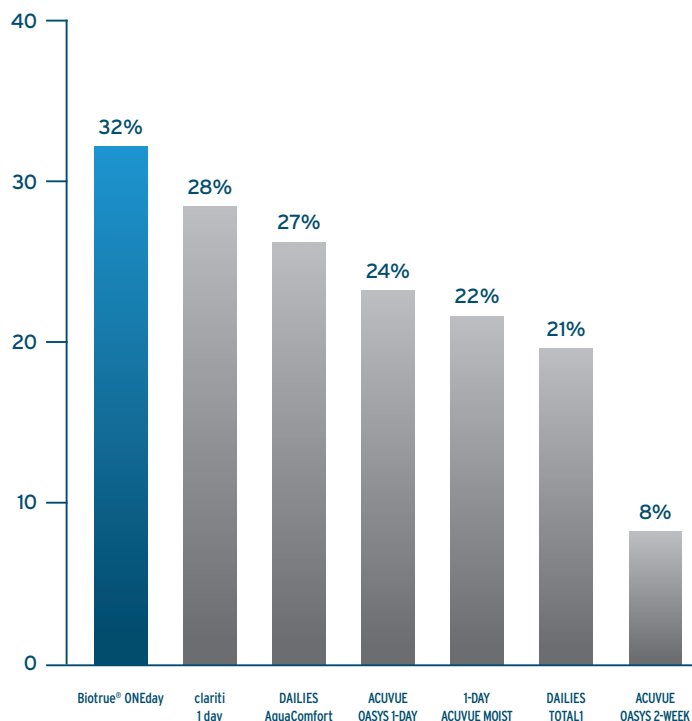


# LOOK NO FURTHER

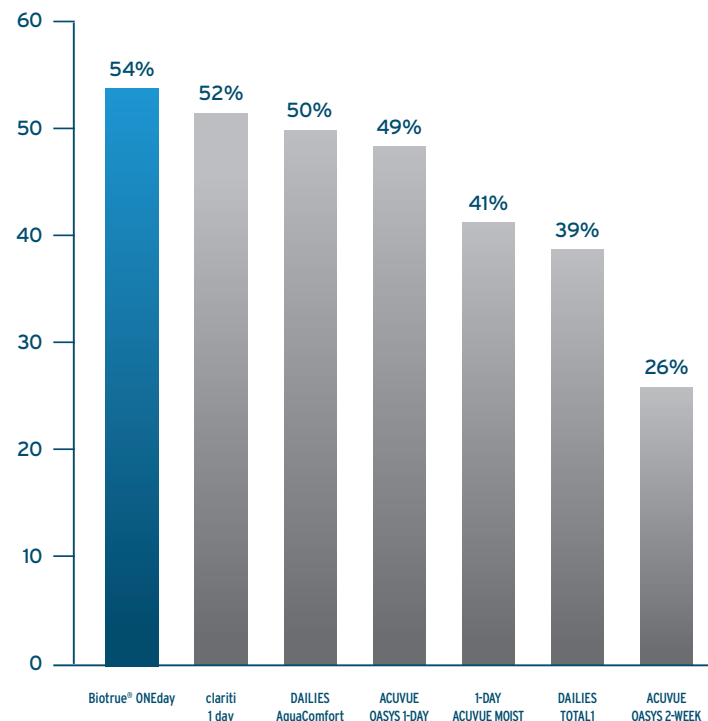
Biotrue® ONEday had the highest annual supply rate and repurchase rate among leading brands.†

From a sampling of over 50,000 patients,  
Biotrue® ONEday was #1 in:

ANNUAL SUPPLY RATE\*



REPURCHASE RATE†



For the leading annual supply sales and patient repurchases,  
look no further than Biotrue® ONEday.

\*Annual supply purchases among leading brands purchased between 1/1/18 and 12/31/18.

†Purchased an annual supply of contact lens brand in 2017 and then repurchased an annual supply of the same brand in 2018.

REFERENCE: 1. Data on file. Bausch & Lomb Incorporated. 3rd Party Industry Report. 2017-2018.

Biotrue and inspired by the biology of your eyes are trademarks of Bausch & Lomb Incorporated or its affiliates.

All other products/brand names and/or logos are trademarks of the respective owners.

©2019 Bausch & Lomb Incorporated or its affiliates. BOD.0310.USA.19

**BAUSCH + LOMB**  
See better. Live better.