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Spotlight on the 2017 Laureate:
Irene H. Maumenee, MD

AAO 2017
New Orleans



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EyeNet Corporate Events

EyeNet® Magazine helps you make the most of your time at AAO 2017 by bringing you free corporate educational program events* onsite at the Ernest N. Morial Convention Center.

- 2 BREAKFASTS** **Saturday, Nov. 11**
Sunday, Nov. 12
Check-in and Meal Pickup:
6:45-7:00 a.m.
Program:
7:00-8:00 a.m.
- 3 LUNCHES** **Saturday, Nov. 11**
Sunday, Nov. 12
Monday, Nov. 13
Check-in and Meal Pickup:
12:15-12:30 p.m.
Program:
12:30-1:30 p.m.

Ernest N. Morial Convention Center
Room R02-04, 2nd Floor

aao.org/eyenet/corporate-events

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From the Editor Welcome to New Orleans!

The Academy is proud to present its 121st annual meeting, AAO 2017. Today, it kicks off with the Opening Session, featuring the Academy President's address, by Cynthia A. Bradford, MD; the Academy Chief Executive Officer's address, by



David W. Parke II, MD; and presentation of the Academy's highest honors, with the Laureate Recognition Award going to Irene H. Maumenee, MD. In addition, Henry Butler will give the Michael F. Marmor Lecture in Ophthalmology and the Arts, titled "One Man's Vision," followed by the Jackson Memorial Lecture by Daniel F. Martin, MD, "Evolution of Intravitreal Therapy for Retinal Diseases: From CMV to CNV."

This year, the meeting offers 50 symposia on a broad range of topics, from case-based corneal conundrums to physician burnout and wellness. Please note, as well, that 4 new Skills Transfer labs have been added, all of which are definitely worth checking out: Learning the DMEK Procedure—An Introductory Course; Sutureless Scleral Buckling: A Hands-On Practicum; A Typical Day in the Operating Room of a Pediatric Ophthalmologist: Adjustable Sutures for Strabismus Surgery; and No Capsule, No Problem—Intrascleral Haptic Fixation of Intraocular Lenses. Refer to the contents of this *AAO 2017 News* and aao.org/eyenet/daily for more on this year's meeting. We hope that your time in New Orleans is enjoyable and informative.

Ruth D. Williams, MD
Chief Medical Editor, *EyeNet Magazine*



On the Cover Iris Cavernous Hemangioma

Photo by Allan Connor
Princess Margaret Cancer Center

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The 2017 Presidential Guests The Reasons Behind Dr. Bradford's Choices

When selecting the 2017 Guests of Honor, Academy President Cynthia A. Bradford, MD, wanted to recognize 3 individuals who have been influential and important in her personal and professional life over the course of many years. Here, Dr. Bradford details the specific reasons for these selections, as well as those for the Special Recognition Award and the Distinguished Service Award. Today, Sunday, Dr. Bradford will recognize these award recipients at the AAO 2017 Opening Session, which takes place from 8:30 to 10:00 a.m. in the Great Hall.

GUEST OF HONOR *Partner in Life* Reagan Bradford, MD

Who is Reagan Bradford? My husband.

What do you most appreciate about him? He is a giving, supportive person. With my years of volunteer leadership at the Academy that has been important because the Academy

work has impinged on things that we could have done in our own lives. One time, Mike Brennan said, "We need somebody to go to the Middle Eastern Leadership Development

Program." It was the last minute and I wanted to go but was thinking, how can I manage this with everything else going on in our lives? Reagan just looked at me and said, "Well Cindy, I don't think you can *not* go. This is a great opportunity." He made it obvious to me that, yes, I could make it work.

Describe a significant ophthalmology-related memory. There was a time when Reagan did a lot of the trauma call. It was early Friday afternoon. A man came in—a piece of metal went right through the lens of the eye and was buried in the retina. To fix it, Reagan would have to take the lens out, which would mean that the patient would be aphakic and would have to wear a contact lens or have another surgery to have a lens sewn in, which is always more complicated.

I took a look at the patient and said, "Well, I think I could get the lens out and put the implant in before you go in to get the metal out of the retina, and that would give this gentleman the possibility

of a good rehabilitation." So we did that. The patient had uncorrected 20/25 vision, and, fortunately, he didn't have infection in the eye. We see this gentleman year after year and remember that day.

Fun fact? Reagan is a coffee aficionado. You know Blue Bottle in San Francisco—how they have the Japanese coffeemakers? He recently bought the little one that looks like a Bunsen burner. He has coffeemakers of every kind. He grinds the beans just perfectly and he does the pour-overs. He's detail-oriented. He's meticulous in the OR, and he is just as precise with coffee.

GUEST OF HONOR *A Confident Confidante* Amalia Miranda, MD

Who is she? Amalia is a close confidante. She is originally from Seville, Spain, and has been an ophthalmologist in Oklahoma City since the early 1980s.

What do you admire about her? She is courageous. In Oklahoma, because of our scope of practice issues, state society leadership is not what you would call an easy job. In other states, some people might take a leadership position for the honor. But in Oklahoma the question is: "Do you have the courage to do it?" She took on being leader in the state society, did it willingly, and did it for the right reasons. Even more impressive, she is Spanish, and she has a lovely Spanish accent, I certainly couldn't go to Spain, and speak Spanish, and be a leader. But that's not her. Her thinking is, "Well, sure, I can do that."

And she can fundraise. Physicians don't like to fundraise, but it is something that must be done every year. She meets with the lobbyists and is willing to deliver the PAC checks. As a result, she gets to know politicians and they get to know her. She remembers everybody and can remind the lobbyists of the details of past visits. She does her job well.

Fun fact? The governor appointed her State Ambassador to Spain. There's a picture of her on an emblem that she puts next to her door showing that she's the Spanish Ambassador from Oklahoma. If an official from Spain comes here, she is available to meet with them.

GUEST OF HONOR *An Ally in Advocacy* Michael W. Brennan, MD

Who is Mike Brennan?

I call him my mentor.

How did you meet?

So after Oklahoma passed the law [in 1998] that optometrists could do laser, I did a poster so that everybody could learn about what had happened.

It was accepted for the annual meeting, and Mike saw it. One night, I was in bed reading, and the phone rang and it was Mike. And that's what we all call the infamous Mike Brennan call. Because Mike finds out about people, and all of a sudden, he gets your number, and he phones you.

Please talk about your work in State Affairs with Mike. My first year on the State Affairs committee, he said, "I don't know if you realize this, but you and I think differently than many ophthalmologists about issues of scope of practice." I am from Oklahoma, and he is from North Carolina. We had both seen, in our respective states, how scope of practice expansion could be politically achieved, and we understood that it would happen in other states. We would discuss how we could best explain to ophthalmologists that this is going to happen in their state and motivate them to become politically active. Once you've lived through a scope battle, and you see what organized optometry does, you can draw up a game plan based on that knowledge, and we did. I'll never forget my first State Affairs summer committee meeting in Santa Fe. Mike told me, "Keep this a secret, but we have about \$110,000 in the State Legislative Fund" [now the Surgical Scope Fund]. At the time, it seemed like a lot of money, but we quickly learned otherwise.

At that same meeting, the Leadership Development Program was being molded, and Mike was instrumental in creating that pathway to success for future leaders. Along the way, he has mentored many ophthalmologists in many countries.

What do you admire most about him? He is a genuine person and is able to connect with people and learn what they need and motivate them to achieve their goals. Instead of just saying, "Oh well, the world's like that, there's nothing we can do." Mike shows that you don't give up,



Dr. Brennan

you stay positive—he's always smiling that Brennan smile—and do the best you can. Many times, you can make changes.

What sets him apart? He is everywhere! Recently, my friend Sidney Gicheru posted this to Facebook: *Quiz: Decided to call a friend. As we were talking, he mentions, "I may not be too long on the*

phone today." Me: "Interesting ... why?" He: "I'm on the Uzbek-Kazakhstan border having dinner in front of a beautiful lake." For my AAO friends: Who is this mystery man?

The answer, obviously, was Mike!

Fun fact. Mike does not wear a watch. Even if he changes time zones, if you ask him, "What time is it?" he'll be within 5 minutes of the time. I've tested him many times. It is uncanny.

SPECIAL RECOGNITION AWARD "We are honoring the Centers for Disease Control and Prevention (CDC)



for The Vision Health Initiative's 2016 landmark study, 'Making Eye Health a Population Health Imperative: Vision for Tomorrow' as well as the CDC's continued work with the Academy on various vision health initiatives, screening programs and the use of the IRIS Registry. It has helped to raise eye care standards, awareness and access nationwide."

Accepting the award is Jinan Saaddine, MD, MPH.

DISTINGUISHED SERVICE AWARD

"We are honoring The Pan-American Association of Ophthalmology (PAAO)



for working together with the Academy

for many years to foster ophthalmic education, leadership training and cultural exchange in the Western Hemisphere."

Accepting the award are Eduardo C. Alfonso, MD and J. Fernando Arevalo, MD, FACS.

"We are also honoring David A. Karcher, for his contributions to ophthalmology as Executive Director of the American Society for Cataract and Refractive Surgery, a position he has held for 36 years.



Mr. Karcher



Dr. Bradford with friends at Mid-Year Forum



Dr. Miranda and Dr. Bradford

Bringing Genetics to the Forefront

The 2017 Academy Laureate, Irene H. Maumenee, MD

Irene H. Maumenee, MD, is one of the world's leading experts in genetic eye diseases and is unanimously regarded as the founder of genetics as an ophthalmic subspecialty in the United States. "Dr. Maumenee's contributions include the description of the ocular manifestations of numerous inherited disorders, such as Marfan syndrome and others, and the utilization of molecular biology techniques to map and identify the genetic basis of inherited eye disorders," said Elias I. Traboulsi, MD, MEd. "More importantly, she is a compassionate physician and patient advocate who is adored by her patients young and old, and a dedicated educator who has trained many specialists in the field."

Early Life

Dr. Maumenee was born in Germany at the beginning of World War II. Her mother was a general practitioner, and her father was a dentist. Her parents were insistent that their children earn advanced degrees. "The question was whether I would go into medicine, biology, or biochemistry, but my mother was very adamant about me going through medicine first before settling on a field," she said. She believes that her parents' childhood during World War I had a lot to do with their stance on education. "They wanted their children to have a fulfilling career. We learned that the only thing nobody can take away from you is your education."

Genetics captivated her from the very beginning. "It was always genetics, first and foremost. I did not go to school until third grade, given the chaos of the postwar years, but even when we were as young as 5 or 6, my siblings, cousins, and I were involved in studying the plants and animals around us. We looked for lamb's lettuce in the fields; white button mushrooms in the meadows; and birch boletes, porcini, and chanterelles under trees. We saw salamanders shed their tails and take off. We were fascinated by the varied coloring of the shells of the abundant small land snails, which lived in the bushes close to home. We kept colonies on our balcony and fed them religiously, but we did not know how to find the answers to our questions about the development of their coloring. From that age, I knew that I was going to be a geneticist."

Even so, her first area of study concerned languages. "I worked hard to learn French, initially school French, daily

French, French literature, and, later, medical French. My parents organized an exchange with a French family, which was a wonderful opportunity to learn about a different culture."

The transition to medicine soon followed.

After obtaining her MD from Göttingen Medical School in Germany, Dr. Maumenee moved to Switzerland to write a thesis in ophthalmology and genetics at the University of Geneva Medical School. "My knowledge of French had opened the door," she said. It was there that her path to ophthalmic genetics solidified. "There were many cases of genetic blindness in Switzerland, so Professor A. Franceschetti, chair of ophthalmology, had developed the medical genetics program of the University of Geneva—that is how genetics merged with ophthalmology for me." During this time, Newton E. Morton, PhD, a population geneticist from the University of Hawaii (now known as one of the founders of genetic epidemiology), visited Geneva to look at the singular data on genetic blindness that Dr. Maumenee had been accumulating in Switzerland. Switzerland has many geographic isolates with high rates of inbreeding; the higher and narrower the mountain valley, the higher the rate of consanguinity and the higher the frequency of rare diseases. Dr. Morton suggested that she move to Hawaii to analyze the Swiss data in his population genetics laboratory. She stayed for a year; during this time, she also studied genetic eye disease in the Pacific region, which later led to identification of the first gene for achromatopsia, *CNGB3*, among the Pingelapese Islanders.

Buoyed by Curiosity

Before she returned to Germany from Hawaii, Dr. Maumenee decided to visit the genetics clinic at Johns Hopkins Hospital in Baltimore, which had been founded by Victor A. McKusick, MD (now recognized as the father of medical genetics). He had a special interest in inherited disorders of connective tissue,



THE 2017 ACADEMY LAUREATE. Dr. Maumenee receives the Laureate Recognition Award during the Opening Session, which takes place Sunday, 8:30-10:00 a.m., in the Great Hall.

including Marfan syndrome, which led to Dr. Maumenee's lifelong commitment to the ocular features of this disease group. What began as a 2-month visit turned into a postdoctoral fellowship in medical genetics at Johns Hopkins University School of Medicine, then a preceptorship at the Wilmer Eye Institute, and a family and career in Baltimore. "It was a tremendously exciting and productive time in genetic disease—I really loved those years," she said. Dr. Maumenee considers Dr. McKusick to have been her primary mentor during that time. She said, "To him, it didn't matter whether somebody was male or female, where they came from, or who they were—just whether the person had a passion for the field and could move it forward. He was singularly directed in his pursuit and tremendously knowledgeable. He would help you and foster your growth, and he was very generous with his time, input, and teaching. He was an extraordinary mentor."

Catapulting the study of ophthalmic genetics. As the field of molecular genetics evolved in the 1980s, Dr. Maumenee successfully merged clinical studies of genetic eye diseases with lab research, among the first of such efforts. While she was on the Wilmer faculty, she founded and directed the Johns Hopkins Center for Hereditary Eye Diseases, an international referral program that has evaluated, diagnosed, and treated more than

30,000 patients with rare eye diseases. Despite this vast number, she maintains a striking ability to remember individual cases. "Her recall and synthesis of the puzzle of each patient over time as more discoveries are made is unparalleled," said Marilyn Baird Mets, MD.

Dr. Maumenee also served as an active consultant to the John F. Kennedy Institute for Visually and Mentally Handicapped Children since its inception, and she worked extensively with the Maryland School for the Blind. "These experiences were definitely gratifying in a humanitarian respect, but a lot of it was just pure curiosity," she said. "It was to learn about the diseases and all their possible manifestations. I enjoyed seeing patients, and I realize more and more how much I enjoyed the interaction. The motivation lay in increasing the understanding of the underlying pathology, and I did the work primarily to move things forward—there was so much to be done." Dr. Maumenee joined the Faculty of the Illinois Eye and Ear Infirmary in 2008 and is currently the director of ocular genetics as well as a research professor of ophthalmology at the University of Illinois College of Medicine at Chicago.

"We Decided to Get Something Started"

In order to gain momentum toward her goals to spread knowledge, Dr. Maumenee created the Ophthalmic Genetics Study Club in 1976. She invited people who had published articles on genetic eye disease to come to an annual meeting to share cases, give each other feedback, and discuss knowledge gained. The organization still meets annually. In 1978, along with E.F. Cotlier, MD, and N. Ohba, MD, Dr. Maumenee started the International Society for Genetic Eye Diseases and Retinoblastoma (ISGEDR). "Our first meeting was at a restaurant in Tokyo; then I applied to the International Council of Ophthalmology to give the organization legitimacy. We were accepted, and from then on, we had meetings every 2 years worldwide to pass the knowledge around to different countries. These meetings were really very focused on getting people interested in and learning about genetic eye disease." ISGEDR still meets every 2 years internationally. "Dr. Maumenee's leadership in organizations such as the ISGEDR has provided the opportunities needed for fellowship and collaboration between individuals interested in ophthalmic genetics and the education and sharing of information between them," said Dr. Traboulsi.

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A Passion for Training

Dr. Maumenee believes strongly that more people need to be trained in both ophthalmology and genetics. "There are not enough people who can train the present generation and the next generation, so a big effort should be made to educate people in order to facilitate this," she said. "Treatment gets developed when there is understanding of the correlation between the gene and the disease." She has trained more than 60 fellows herself, and "her loyalty to and support of her trainees is unfailing," said Dr. Mets.



FELLOWSHIP AND COLLABORATION IN GENETICS. Monte A. Del Monte, MD, Marilyn B. Mets, MD, Dr. Maumenee, and Mark J. Greenwald, MD, during the 1992 ISGEDR Meeting in Siena, Italy.

Looking Ahead

"The genetic basis of human diseases needs to be recognized—there is no place for taking that component lightheartedly," said Dr. Maumenee. "If somebody has a blind child and they ask if the disease will appear in their next child and you say, 'Oh, no. I have never seen it come back,' that is just irresponsible. There has to be a totally different level of recognition of the significance of the genetic component in blindness and eye diseases in the United States and worldwide than there currently is." To this end, she is taking action toward the following goals.

Dual board certification. Ophthalmologists currently cannot order a DNA analysis through a lab; they have to send patients to a geneticist, who may not know eye diseases. To mitigate this, Dr. Maumenee and her colleagues want to create a pathway for people to become board certified in both genetics and ophthalmology.

Funding gene sequencing. There is still a large gap between identification of genes through the Human Genome Project and determination of their function and impact on disease. Dr. Maumenee would like to see more work on gene sequencing in human eye diseases. "We have an estimated 22,000 genes and we know over 6,000 single gene disorders and complex diseases, but causative mutations have been identified in fewer than 4,000 genes. The complexity of gene function for most genes remains unknown," she said. Much information



GENETIC EYE DISEASE IN THE PACIFIC. Lemwuel Ohri, a Pingelapese teacher, organizing data, drawing blood samples, and establishing the genetic pedigree on Pingelapese in Micronesia. Dr. Maumenee's group was searching for the gene for achromatopsia (present in the woman holding the child in the back row). They later identified the gene as CNGB3.

is needed to establish the correlation between genes and their mutations and a specific genetic disease. She said, "Not all genes may harbor mutations that lead to disease, because many of them may lead to benign variants. We are still unable to identify causative mutations for many patients, even though the technology is available to do so. The manpower is largely missing."

Joining forces. Dr. Maumenee believes that it is key to create collaborations between private practices and universities. "What I want to do is basically help every ophthalmologist who sees an unusual case establish a research project with an institution. This way, patients with

genetic issues will be better positioned to find an investigator who can work toward solving the problem and possibly even develop a treatment. The flow needs to go from the private practice to the universities."

Finding treatment. "I would like to bring at least one disease to treatment," she said. "That is very high up on my list. If you look at genetic eye diseases, they are individually rare. The government's function is not to address diseases that affect maybe 1 in 100,000 people or 1 in 30,000 but rather to take care of the common problems. So there is a tremendous power in organizing patient support groups and foundations that bring patients in the United States and worldwide together to work on a given disease. Patient support groups are very important in the development of treatment."

Women in Ophthalmology

Dr. Maumenee joins Danièle S. Aron Rosa, MD, PhD, as the only women to receive the Academy's Laureate Recognition Award. "The biggest challenge lies in combining family and work life, and that continues to be a large issue for women. Women still get paid less and usually need to hire help to manage responsibilities at home. Men are parents too, but their time is often considered more valuable than a woman's time. It is a difficult position to be in," Dr. Maumenee said. She believes that if she did not have family obligations, she might have pursued more field research in inbred populations in other countries. "It's hard to know if I would have done anything really differently. I certainly would not want to be without a family." She hopes the next generation will do a better job of figuring out a balance.

In any event, those who have worked with her see no deficits. "Dr. Maumenee has embraced and mentored multiple individuals worldwide, and now all are disciples of her lessons and perseverance," said Terri L. Young, MD, MBA. "She truly is a visionary, and her pioneering work has forever changed the landscape of ophthalmic genetics."

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Four Interactive Educational Tools From the Academy

Take the Academy's interactive tools and games below for a spin at the Clinical Education kiosk in the Resource Center (Hall G, Booth 3140) or at the URLs listed below.

Interactivity and a game-based approach can make online educational activities more engaging and assist in improving comprehension and retention of information. The Academy has developed state-of-the-art simulation and interactive learning tools for the ONE Network—and to accompany several of its print publications. Below are a few examples.

1 Cases

Try your hand at interactive cases. Each module provides a case presentation followed by a pretest. Then, read the patient history, see the results of an exam (Fig. 1), decide on the appropriate workup, make the diagnosis, and select a treatment. All subspecialties are represented. Completion yields 1 CME credit. Available on the ONE Network to Academy members at aao.org/education/browse?filter=case.

2 Strabismus Simulator

This interactive simulator is designed to teach and allow practice of basic strabismus evaluation. You can apply 4 unique tests in this simulator:

- **Cover-uncover test.** See which eye is dominant, and determine whether the deviation is manifest/tropic.
- **Alternate cover test.** See the entire potential deviation: tropia and phoria.
- **Alternate cover test with prism.**

Measure the entire potential deviation: tropia and phoria.

- **Simultaneous prism cover test.** Measure only the tropia component.

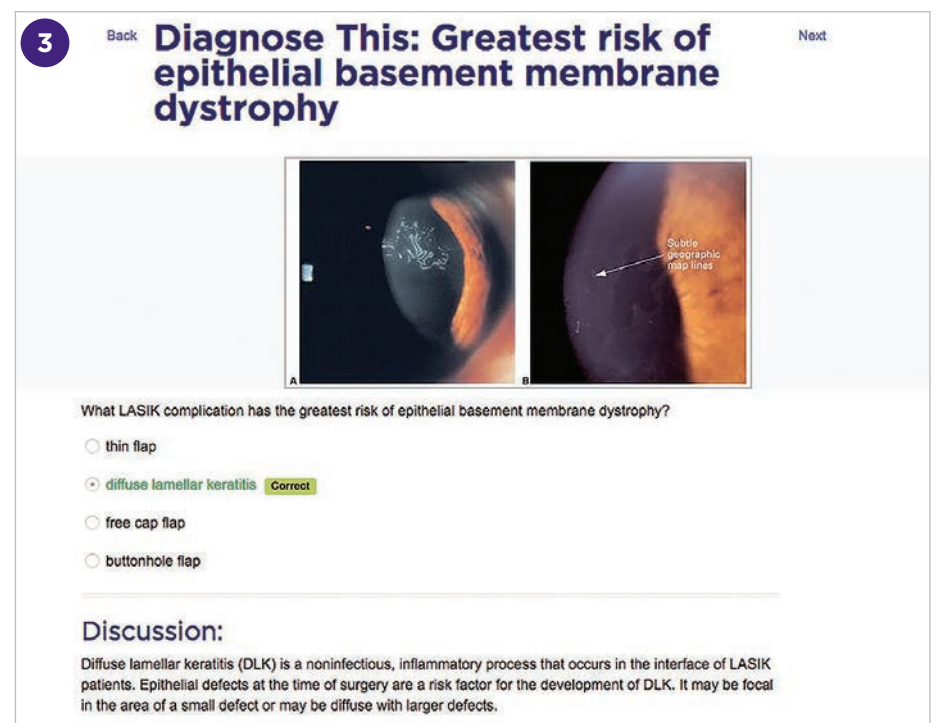
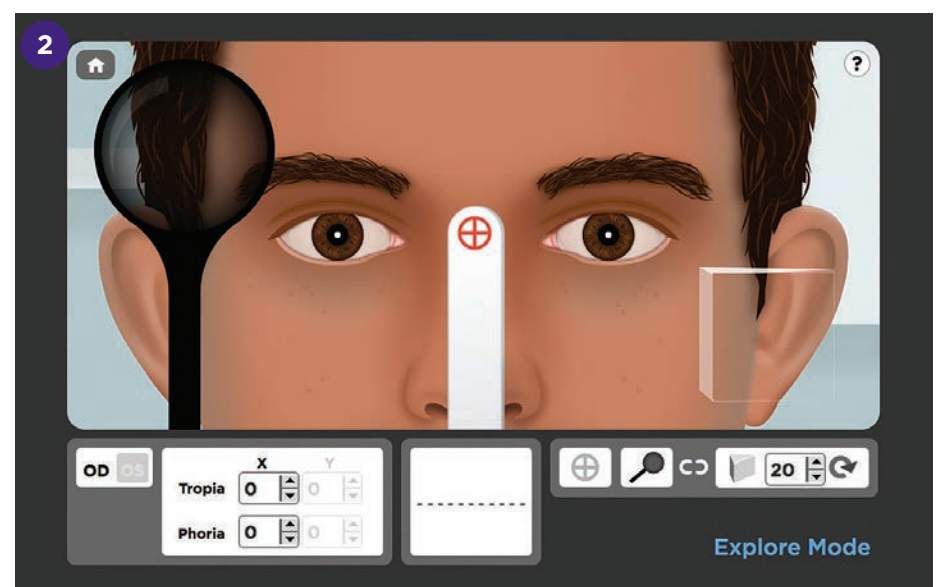
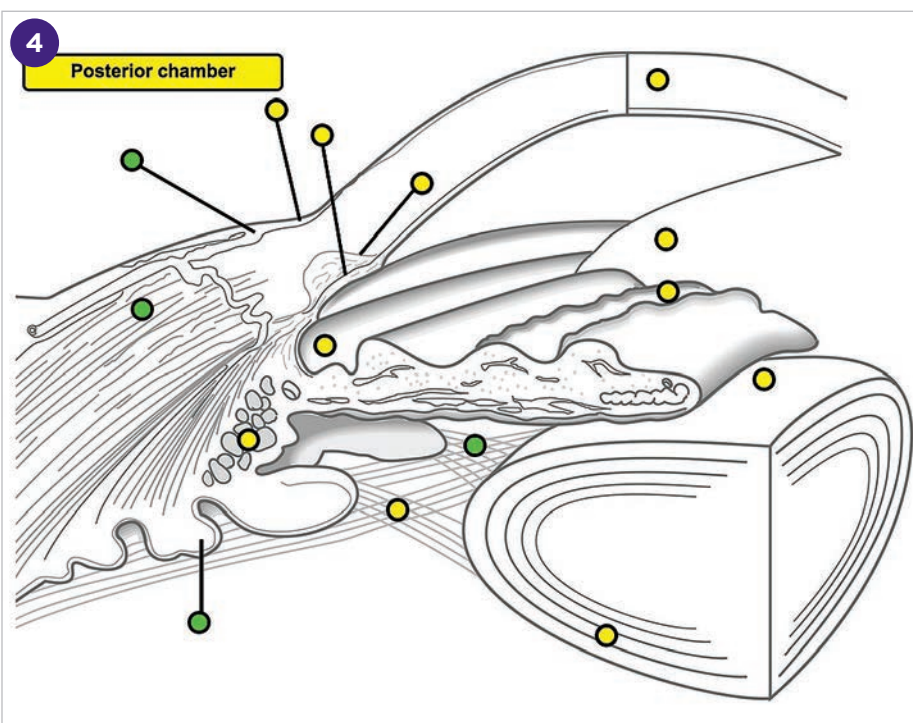
Available at the Pediatric Ophthalmology Education Center on the ONE Network at aao.org/pediatric-center-detail/strabismus-simulator.

3 Diagnose This

Diagnose This is a weekly interactive clinical quiz. It presents a single question on the week's topic. Submit your answer, then view the correct answer along with a short discussion. Subspecialties rotate from week to week. Available on the ONE Network to Academy members at aao.org/education/browse?filter=diagnose-this.

4 Basic Ophthalmology Textbook

Basic Ophthalmology is a key text for medical students and primary care residents and physicians who want to broaden their knowledge of eye disease diagnosis and treatment. To aid readers in learning eye anatomy, a complementary series of interactive tools can be used in study mode or game mode (Fig. 4). Available with purchase of *Basic Ophthalmology*, in the Resource Center, or at <https://store.aao.org/basic-ophthalmology-essentials-for-medical-students-tenth-edition.html>.



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INDICATIONS: The TECNIS Symphony® Extended Range of Vision IOL, model ZXR00, is indicated for primary implantation for the visual correction of aphakia, in adult patients with less than 1 diopter of pre-existing corneal astigmatism, in whom a cataractous lens has been removed. The lens mitigates the effects of presbyopia by providing an extended depth of focus. Compared to an aspheric monofocal IOL, the lens provides improved intermediate and near visual acuity, while maintaining comparable distance visual acuity. The model ZXR00 IOL is intended for capsular bag placement only. The TECNIS Symphony® Toric Extended Range of Vision IOLs, models ZXT150, ZXT225, ZXT300, and ZXT375, are indicated for primary implantation for the visual correction of aphakia and for reduction of residual refractive astigmatism in adult patients with greater than or equal to 1 diopter of preoperative corneal astigmatism, in whom a cataractous lens has been removed. The lens mitigates the effects of presbyopia by providing an extended depth of focus. Compared to an aspheric monofocal IOL, the lens provides improved intermediate and near visual acuity, while maintaining comparable distance visual acuity. The model series ZXT IOLs are intended for capsular bag placement only. **WARNINGS:** May cause a reduction in contrast sensitivity under certain conditions, compared to an aspheric monofocal IOL. Inform patients to exercise special caution when driving at night or in poor visibility conditions. Some visual effects may be expected due to the lens design, including: perception of halos, glare, or starbursts around lights under nighttime conditions. These will be bothersome or very bothersome in some people, particularly in low-illumination conditions, and on rare occasions, may be significant enough that the patient may request removal of the IOL. Rotation of the TECNIS Symphony® Toric IOLs away from their intended axis can reduce their astigmatic correction, and misalignment greater than 30° may increase postoperative refractive cylinder. If necessary, lens repositioning should occur as early as possible prior to lens encapsulation. **ATTENTION:** Reference the Directions for Use for a complete listing of Indications and Important Safety Information.

How Empowering Your Staff Can Transform Your Practice

The 3 practices featured below made dramatic changes that enhanced efficiency, increased profitability, and boosted both patient and staff satisfaction.

These 3 practices used the lean approach to process improvement. This involves 1) identifying what the patient values; 2) reviewing the processes used to provide that value, and breaking each process down into its constituent parts (this is known as value stream mapping); 3) reviewing each step to look for waste (by, for example, conducting a waste walk); and 4) eliminating that waste. In the 3 examples below, the practices believed they were successful because they took a bottom-up approach.

Need help getting started? Use the Academy's step-by-step guide. The Academy's new ebook describes the principles that underpin the lean approach and explains how you and your staff can use lean tools—such as value stream mapping and spaghetti mapping—to transform practices. Visit the Academy Resource Center (Hall G, Booth 3140) to find out more about *The Lean Practice: A Step-by-Step Guide to Running an Efficient and Profitable Ophthalmic Practice*.

Reduce Wait Times By 85%

Dennis P. Han, MD, is the director of the vitreoretinal service at the Medical College of Wisconsin in Milwaukee. About 6 years ago, Dr. Han and his staff went lean under the guidance of Aneesh Suneja, MBA—coauthor of *Lean Doctors* and founder of FlowOne Lean Consulting—and achieved an 85% reduction in patient wait times.

Q. Why the focus on wait times?

Mr. Suneja: Wait times are a highly visible indicator of performance. No other metric tells us the state of our process so clearly.

Dr. Han: Furthermore, long wait times are a primary driver of patient dissatisfaction. Reduce wait times and you'll reduce complaints.

Q. How did you get started?

Dr. Han: To determine what changes should be made, we used value stream mapping. We also did a waste walk: Our entire staff followed a mock patient throughout a clinical encounter and measured wait times between value-added activities.

Q. The waste walk helps to identify the underlying causes for delays—can you give examples?

Dr. Han: In a retina practice, patient flow tends to slow in the photography and image acquisition area. To solve this problem, we moved our optical coherence tomography imaging devices into the examination area. [They had been located in a distant part of the clinic.] This reduced the number of steps that had to be made by both my staff and my patients and improved our patient flow.

Q. The lean approach distinguishes between value-added and changeover processes—can you give an example of how you reduced the amount of time spent on changeover?

Dr. Han: We stopped moving patients in and out of the exam room. This reduced the amount of time that people were going to the waiting room and back to the exam area. Our patients are screened by a technician, their pupils are dilated, and they are seen by the physician—all in one exam room. And while one patient's eyes are being dilated, the team moves to the next exam room and repeats the process, so there is always a patient ready to see a physician. This considerably reduced the amount of time everyone spent walking around needlessly.

Q. How do you monitor wait time performance?

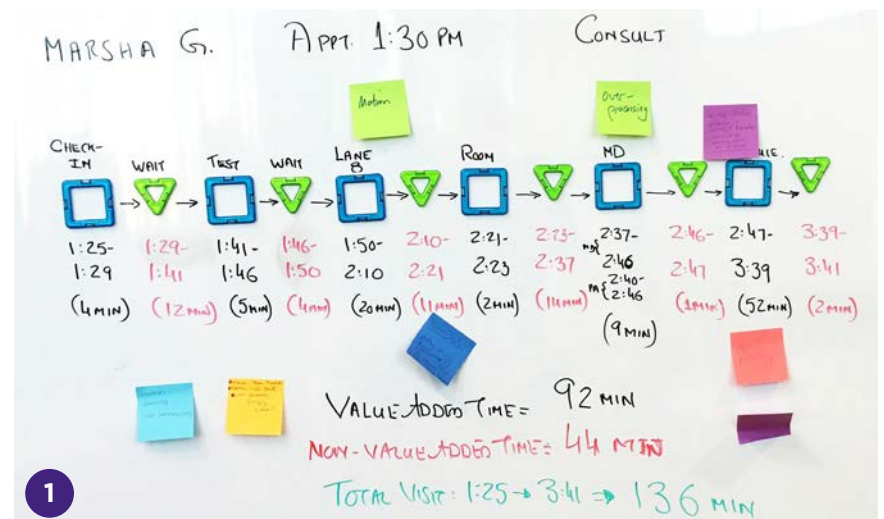
Dr. Han: On a day-to-day basis, we have an easy rule of thumb. We look at how long the last patient is discharged after his or her appointment. For instance, if our last morning clinic appointment is at 11:30 a.m., and the patient is discharged by noon, we have had a successful clinical session. Conversely, if the last patient is not discharged until 1:00 p.m., we have not, and we need to find the cause and make adjustments.

How One Practice Tripled Its Workforce Without New Hires

As clinical operations manager at the Duke Eye Center of Cary, North Carolina, Amanda Mestler, COT, had a problem: Inefficient satellite clinics were causing patients, staff, and physicians to be unhappy. But after she and colleague Heidi Campbell, COT, implemented lean management across the 6 locations, they maximized clinic flow, eliminated

Your Lean Toolkit

You can reap rich dividends by implementing a lean approach to health care, and it doesn't take much of an investment to get started. With flip charts, Post-it notes, and some sustained brainstorming, you and your staff can identify what needs to be done to boost efficiency.

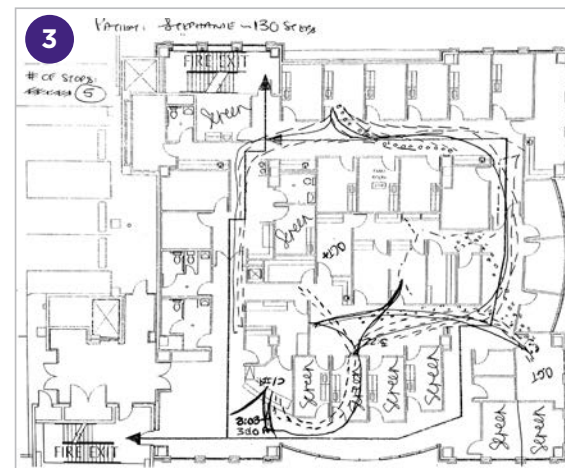


(1) VALUE STREAM MAPPING is a group activity that can be done with Post-it notes, a flip chart, or—in this example—magnets on a whiteboard. Here, it was used to map a patient's visit to a general ophthalmology office, with the square magnets representing process steps (e.g., check-in, test) and the triangle magnets representing wait times.

As part of value stream mapping, you identify what is of value to a patient. Activities that directly contribute to that value are considered value-added activities; those that don't are considered waste, and you should strive to eliminate them.

(2) THE WASTE WALK is used to identify sources of waste, which is defined as use of resources that doesn't add value. Identifying waste "is a key foundational step in the lean process," said Mr. Suneja. "It doesn't take long for the proverbial 'light bulbs' to illuminate your problem areas. This, in turn, causes a catalytic effect among the staff, motivating them to seek further sources of waste and look for ways to improve processes."

To help you get started, The Lean Practice ebook waste walk form provides examples of 8 types of waste.



(3) A SPAGHETTI DIAGRAM is a map that tracks movement of a patient and staff during a single visit. In this example, the excessive movement might be good for your Fitbit step count, but not so good from an efficiency perspective.

See The Lean Practice ebook to learn more about these tools.



Dr. Han



Mr. Suneja

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Reference: 1. OMIDRIA [package insert]. Seattle, WA: Omeros Corporation; 2016.

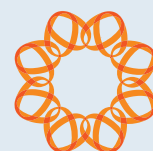
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staff turnover, and boosted everybody's satisfaction.

Q. *What was unique about Duke's implementation of lean?*

Ms. Mestler: We weren't just looking at one office or one clinic. Our implementation involved 6 subspecialty-specific satellite clinics that all functioned in different ways. One of the locations was already very successful, though, so we used that as a model to streamline our processes, standardize our rooms, and cut out the waste.

That's not an easy task, but it was worth it. Before, staff members couldn't pop in and work in other clinics because they simply didn't know how the different locations operated. But once we were able to cross-train our technicians, we realized we could share staffing.

Now our staff can work in any of our clinics with much more ease.



Ms. Mestler

And it essentially tripled our workforce. We can now cover maternity leaves and unpaid medical leaves much more easily. And the staff really enjoys it too because now they get to work in new environments, meet new people, and see new patients.

Q. *How has lean management helped your staff stay motivated?*

Ms. Mestler: Once we empowered our techs and gave them the necessary cross-training, they quickly realized that

they really knew their stuff and that they could further succeed by taking their certification to the next level. By doing so, work became more than just a job for them—it became a career. And we included staff throughout every step of the lean process. For example, our triage process was causing some confusion among the practices, and so we asked them to help revitalize it: "What are your ideas? How would you run it?" We wanted them to do the research, figure out what was going on, and come back to us with fresh ideas.

Q. *Was there a shift in the work culture after these changes?*

Ms. Mestler: Yes! Now our staff isn't hesitant to come up with new ideas because they know if something's not working, we're willing to tweak it or try something new. For example, prior to going lean, our physician templates were underutilized and in need of changes. Because template use was low, our patient volume suffered, especially in our retina clinic. Retina is constantly evolving in terms of the need for more and more in-office treatments, such as intravitreal injections. We started to realize that these templates needed to be tweaked constantly as well. The first thing we did was go to our retina injection team and ask them, "What's working? What's not?" Are too many injections coming in all at once, or are they all coming in too late? The staff had very helpful ideas. And this did promote a culture shift.

Do You Need a Waiting Room?

At Durrie Vision in Overland Park, Kansas, Daniel S. Durrie, MD, and his team provide their patients with a wait-free experience. It is a patient referral-based practice, with patients paying entirely out of pocket.

Q. *Why did you decide to eliminate waiting in your practice?*

Dr. Durrie: About 10 years ago, we started looking at the unmet needs of our patients. Traditionally, when you visit a doctor, you approach the front desk, receive a clipboard, sit down in the waiting room, and remain there until someone calls you back to the exam room. You might wait 15 minutes or an hour before you see the physician. This begged the question, "Why is the physician's time more valuable than the patient's?"

After thinking about how we could maximize our value to the customer, we came up with a new philosophy—no clipboard, no wait. To meet this goal, we made the waiting room unnecessary. When Mrs. Jones arrives at 3:00 p.m. for her appointment, she's met at the front desk by a technician and immediately taken back.

Q. *Once you had the idea, how did you go about putting it into practice?*

Dr. Durrie: Our ophthalmologists and optometrists all knew that a top-down approach wouldn't work. So we gathered the staff and, as a group, asked ourselves, "What's the best way to accomplish our goal?"

The first thing we did was allow our patients to make appointments online and fill out paperwork at home before they get to the office. Then we had to dig a bit deeper and make sure our scheduling templates matched our patient flow. Yes, we were all going to be doing the same jobs, but how could we make sure that our technicians were able to meet the patient on time at the front desk? This is where time-management studies became very helpful.

In our practice, seeing a new refractive surgery candidate involves 4 steps:

1. Taking the patient's history.
2. Testing the patient.
3. Seeing the surgeon.
4. Counseling, if the patient elects for surgery.

To prevent bottlenecks and have everyone ready for the next patient, we realized that each of these 4 steps had to take the same amount of time to perform. There was just no way we could achieve predictable patient flow if history lasted 5 minutes and testing lasted 25 minutes. So we keep each step at around 20 minutes. To accomplish this, we moved tasks from one step to another until we got the correct fit.

Now with our plan in place, each technician knows exactly which patients they are responsible for on any given day,

whether it be the first or last patient who walks in the door. The tech knows the person's name and age and who to look for and then gets the patient through the first 3 steps. The tech is then back out at the front desk ready to rotate to the next patient.

Q. *Once you had the idea, was there any pushback from staff?*

Dr. Durrie: No, everybody was excited about it. Our schedules are now very well defined. Some of our technicians can arrive later than they normally would because their first patient may not arrive until 8:00 a.m., and some are able to leave well before we close for the day.

And again, there was no top-down approach to this. The staff really pulled it off themselves because the physicians weren't the ones greeting patients at the front desk. And they continue to play a huge role: For example, they perform time-management studies as part of our ongoing audit process. A staff member will watch the patient flow, look for bottlenecks, and propose any corrections. This has really helped us adjust when patients show up early or late and in those instances when we have a snow day or a technician calls in sick.

In the end, our process works because our staff members are happy, responsible, and capable of making their own adjustments in order to meet our overall goals. There's an old business adage: "Culture eats strategy for lunch." In other words, people need to buy into a culture before you can implement a strategy. And our entire team buys into our culture. We have very little turnover as a result.

Q. *How do your patients react to a wait-free appointment?*

Dr. Durrie: The usual responses are, "I've never been to an office that doesn't make me wait!" and "Nobody has ever appreciated my time this much!" So they certainly welcome it! We see up to 200 patients a week and try to make every one of them feel special.

Dr. Durrie is founder and president of Durrie Vision, a refractive surgery practice in Overland Park, Kansas, that doesn't accept private insurance or Medicare. *Relevant financial disclosures: None.*

Dr. Han is director of the vitreoretinal service at the Medical College of Wisconsin in Milwaukee. *Relevant financial disclosures: FlowOne: C.*

Ms. Mestler is clinical operations manager at the Duke Eye Center of Cary, N.C. *Relevant financial disclosures: None.*

Mr. Suneja is president of FlowOne Lean Consulting in Milwaukee, Wis. *Relevant financial disclosures: FlowOne: C.*

Note: The interviews were conducted by Leslie Burling-Phillips and Mike Mott. Some of this content previously appeared in *EyeNet* (Practice Perfect, December 2016) and in AAOE Lean Management blog posts (published online at aao.org/practice-management/articles-list on April 3, 2017, and April 28, 2017).

LEAN AT THE MEETING

Visit the Academy Resource Center (Hall G, Booth 3140). Go to the practice management area (look for the AAOE signs) and ask for a walk-through of *The Lean Practice: A Step-by-Step Guide to Running an Efficient and Profitable Ophthalmic Practice* (member: \$150; nonmember: \$250; save 10% if you purchase it at the Resource Center).

SUNDAY

Lean Flow Simulation for Solo and Small Practices: Creating a Differentiated Patient Experience (230).

Snr. instructor: Aneesh Suneja, MBA.

When: 2:00-3:00 p.m.

Where: Room 288.

Access: Academy Plus course pass required.

Lean for Retina Practices (261).

Snr. instructor: Dennis P. Han, MD.

When: 3:15-4:15 p.m.

Where: Room 288.

Access: Academy Plus course pass required.

MONDAY

Going Lean: Eliminating Waste in a Multispecialty Practice (439).

Snr. instructor: Heidi Ann Campbell, COT.

When: 10:15 a.m.-12:30 p.m.

Where: Room 286.

Access: Academy Plus course pass required.

Rethink Your Space: Lean Strategies to Optimize Patient Experience and Physician Efficiency (515).

Snr. instructor: Scott J. Westhouse, DO.

When: 3:15-4:15 p.m.

Where: Room 288.

Access: Academy Plus course pass required.

Changing the Culture of the Practice (533).

Snr. instructor: Stephanie R. Collins, COA.

When: 4:30-5:30 p.m.

Where: Room 288.

Access: Academy Plus Course Pass required.

TUESDAY

Optimizing Patient Flow, Staff Efficiency, and Satisfaction Levels Through Facility Design (656).

Snr. instructor: John A. Marasco.

When: 10:15-11:15 a.m.

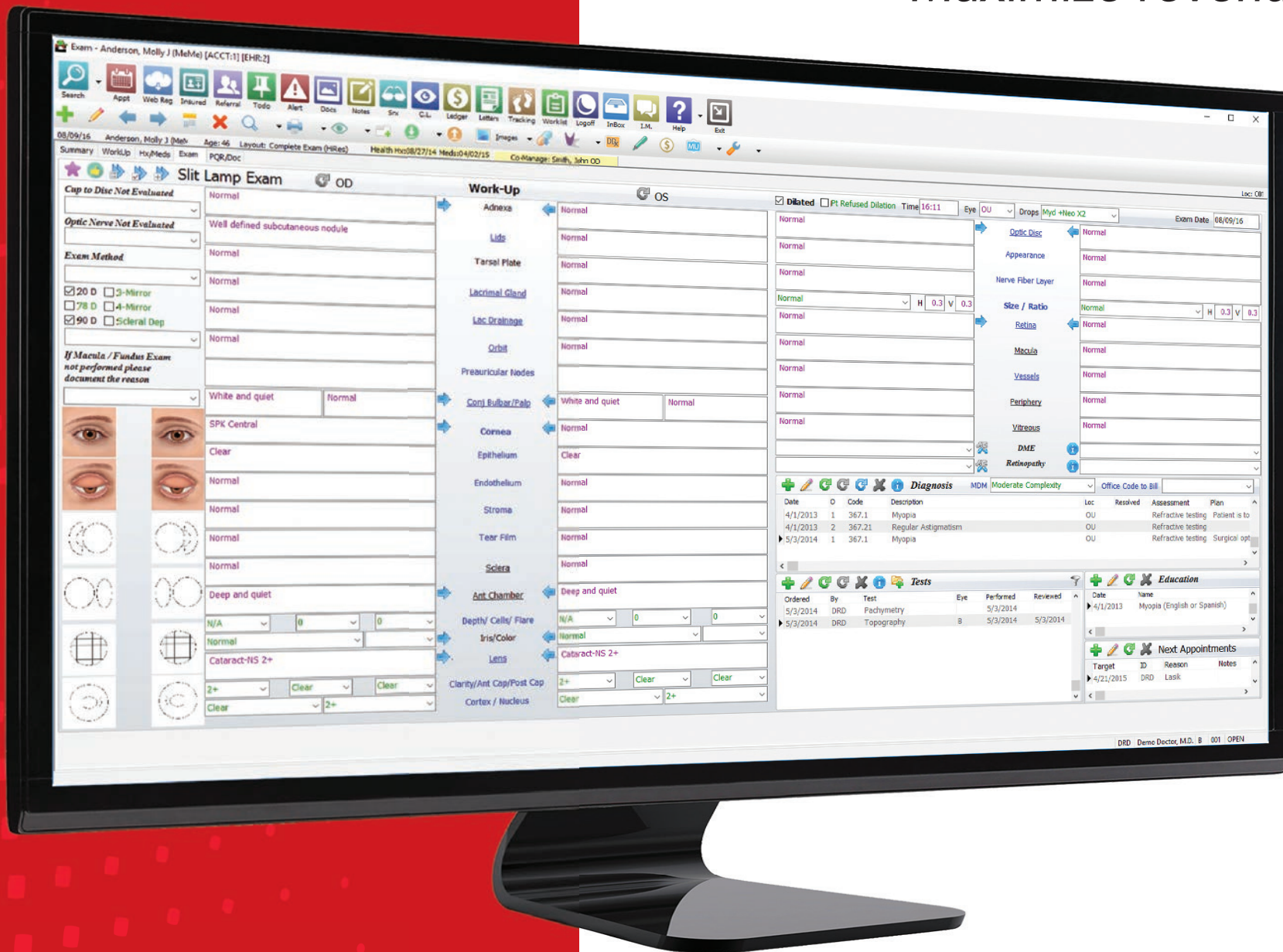
Where: Room 291.

Access: Academy Plus Course Pass required.

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Use the IRIS Registry to Report MIPS' Improvement Activities

While in New Orleans, make sure you get up to speed on the Merit-Based Incentive Payment System (MIPS) and its 3 reportable performance categories (see “Make the Most of AAO 2017,” on page 18). Start by reading this quick primer, which focuses on improvement activities.

For ophthalmology practices, the IRIS Registry is the optimal reporting mechanism for all 3 of MIPS' reportable performance categories:

- *quality*, which replaces the Physician Quality Reporting System;
- *advancing care information (ACI)*, which replaces the meaningful use program for electronic health records (EHRs); and
- *improvement activities*, which is an entirely new performance category.

Report via the IRIS Registry web portal. You can report improvement activities—as well as ACI and quality measures—manually via the IRIS Registry web portal. For quality measures, if you integrated your EHR system with

the IRIS Registry by Aug. 1, you have an alternate option of automated reporting, but improvement activities and ACI measures must be reported manually.

Did you meet the Oct. 31 deadline? In order to report for MIPS via the IRIS Registry web portal, you must have signed up for it by Oct. 31. However, if you had already signed up for IRIS Registry/EHR integration, you don't have to sign up separately to use the web portal. If you missed the Oct. 31 deadline, you can use the CMS attestation web portal to report improvement activities.

Why report MIPS? If you fail to participate in MIPS this year, your 2019 Medicare payments will be subject to a –4% penalty.

Avoid a penalty. CMS has set a low bar for avoiding the penalty this year: You must score at least 3 points, and can do so using any of the 3 performance categories. (See aao.org/zeropenalty2019.)

Choose, Perform, and Document Your Activities

What are improvement activities?

Improvement activities are intended to promote care coordination (e.g., “Practice improvements for bilateral exchange of patient information”), beneficiary engagement (e.g., “Use of tools to assist patient self-management”), and patient safety (e.g., “Implementation of an antibiotic stewardship program”).

Which improvement activities are most relevant to ophthalmology? The IRIS Registry web portal supports reporting of the 21 improvement activities that are most relevant to ophthalmology. You can review descriptions of those measures in the web portal itself (see “(8) Activity descriptor” in “Improvement Activities: A Snapshot of the Portal,” below).

If you use EHR, go for the ACI

bonus by using CEHRT for improvement activities. Certain activities not only contribute to your improvement activities score but also can boost your ACI score if performed using a certified EHR technology (CEHRT).

The minimum performance period is 90 consecutive days. CMS designated Oct. 2 the last day to start performing improvement activities.

Each improvement activity is all or nothing. You won't score points for an improvement activity unless it is performed for 90 days and you satisfy all of its requirements. You do not score partial credit for partially reporting an activity.

To get the maximum score, you must perform and report 1 to 4 improvement activities. The number of activities depends on how they're weighted, and on the size and location of your practice (see “Scoring Summary,” page 18).

In case of a future audit, document performance of your improvement activities. The Academy's detailed improvement-activity listing includes

Improvement Activities: A Snapshot of the Portal

You can use the IRIS Registry web portal to report any of the 21 improvement activities deemed most applicable to ophthalmology practices. Here's a snapshot of the screen that you use to report those activities.

(1) IA Tab. Select the improvement activities tab for a list of the 21 improvement activities that you can report via the IRIS Registry web portal.

(2) Clinician Type. Click on clinician type to indicate whether you are in a rural practice, in a practice that is in a health professional shortage area, or are reporting as a non-patient-facing MIPS participant. Your score will be doubled if you are in any one of those 3 categories or are in a solo practice or a small practice—which, for MIPS, means the practice has fewer than 16 MIPS eligible clinicians. (You indicate practice size during set up.)

(3) Performance period. Indicate the dates that you started and ended your performance period for improvement activities.

(4) Scores. See your estimated improvement activities score (up to 40 points) and how much it will contribute to your MIPS final score (up to 15 points). These scores are based on the activities that you report you performed—see “(7) Attestation.”

(5) Filters. You can shorten the list of improvement activities.

- **Filter by “CEHRT Activity.”** Four of the 21 improvement activities don't just contribute to your improvement activities score—you also can earn a bonus for your ACI score if you use certified EHR technology (CEHRT) to help you perform those activities. Note: If you don't have CEHRT, you can still perform those activities, but you won't get an ACI bonus.

- **Filter by “High Weight Activity.”** See a list of activities that can each earn

you 20 points (40 points if you score double).

- **Filter by “Your Favorite.”** See a list of activities that you have flagged as favorites.

(6) Favorite indicator. Click on a star to flag it as a favorite activity (solid star); click it again to make it a nonfavorite (star outline).

(7) Attestation. Tick a box to attest that you performed an activity.

(8) Activity descriptor. Click the downward arrow to see an activity's description; click an upward arrow to hide the description.

Learn more. For detailed step-by-step instructions, go to aao.org/iris-registry and navigate to the User Guide, where you also will find how-to videos. For a quick demo, visit the IRIS Registry kiosks at the Academy Resource Center (Hall G, Booth 3140).

Visit the Tech Pavilion for a half-hour demonstration. IRIS Registry Dashboard and Analytics Demonstration (Part IV of ABO and MIPS) (Tech17).

When: Monday, 11:30 a.m.–noon. **Where:** Technology Pavilion (Booth 5347).

Access: Free.



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suggested documentation for all 21 improvement activities (aao.org/mips-activities).

Scoring Summary

How many points do you get for an activity? It depends on how the activity is weighted (and whether you're able to double the score). If the activity weight is:

- medium—10 points (double score: 20 points)
- high—20 points (double score: 40 points)

Who scores double? Those who are:

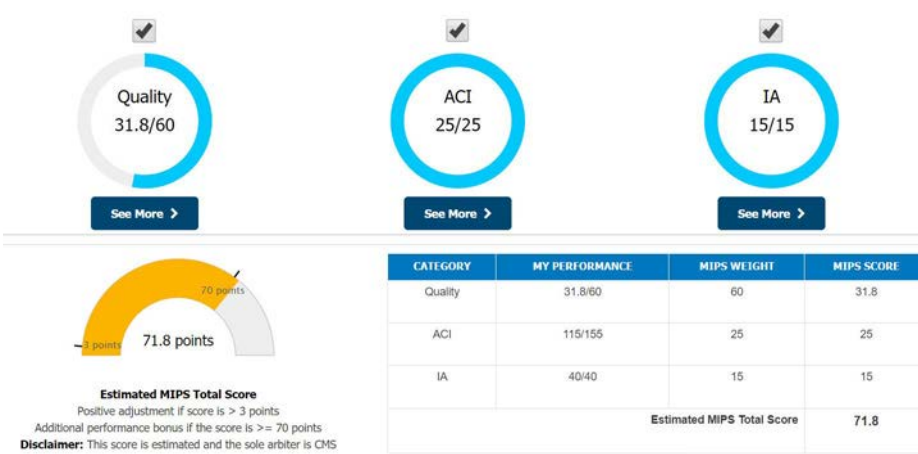
- in small practices (< 16 MIPS eligible clinicians)
- in rural practices
- in practices in geographic health professional shortage areas (HPSAs)
- non-patient-facing MIPS participants

Maximum score is 40 points. So a small practice could max out by reporting 1 high-weighted activity.

Calculating your improvement activities score (0%-100%): CMS divides your total number of points by 40 and turns the resulting fraction into a percentage. For example, if you get 30 points, your ACI score would be 75%. This is your improvement activities score.

Your improvement activities score (0%-100%) contributes up to 15 points to your MIPS final score. For example, if your improvement activities score is 75%, it would contribute 11.25 points to your MIPS final score.

For a more detailed guide to improvement activities, see EyeNet's MIPS Manual 2017 at aao.org/eyenet/mips-manual-2017.



VIEW YOUR PERFORMANCE. After you have entered your information for quality, ACI, and improvement activities, the IRIS Registry web portal will estimate how much each performance category will contribute to your MIPS final score. The yellow “speedometer” gives an estimate for your MIPS final score. (Please note: These are estimated scores; CMS is the sole arbiter of MIPS scoring.)

Make the Most of AAO 2017

Don't leave New Orleans without doing the following:

- Attend this year's MIPS events (see below).
- Visit the Academy Resource Center (see box, below).
- Visit the Electronic Office (Hall G, Booth 3654)—learn how improved interoperability will help you improve your ACI score.

Sunday

Medicare Forum (event code “Spe16”). Academy Medicare experts will discuss a range of topics.
When: 12:15-1:45 p.m.
Where: New Orleans Theater C.
Access: Free.

MIPS in 2018 (224). Senior instructor: Sue Vicchilli, COT, OCS. Learn about changes in the reporting requirements for MIPS in 2018. The categories of quality, improvement activities, and ACI will be presented. Academy experts available to answer questions specific to your practice.
When: 2:00-3:00 p.m.
Where: Room 286.
Access: Academy Plus course pass required.

How the IRIS Registry Helps You Participate in the Merit-Based Incentive Payment System (MIPS) (260). Senior instructor: Rebecca Hancock. The IRIS Registry supports Academy members' participation in MIPS, including the quality reporting, clinical practice improvement, and ACI categories.
When: 3:15-4:15 p.m.
Where: Room 290.
Access: Academy Plus course pass required.

Change Management: Improving EHR Efficiency and Advancing Care Information (ACI) Success (259). Senior instructor: Joy Woodke, COE, OCS. Resistance to change can pose a significant problem when a practice needs to change workflow to accom-

modate the ACI requirements. Review the principles of change management and how personnel may respond during these transitions.
When: 3:15-4:15 p.m.
Where: Room 291.
Access: Academy Plus course pass required.

ACI/FAQs: Let's Clear It Up! (273) Senior instructor: Susan M. Loen, OCS, and Brittney Wachter, CPC, OCS. The instructors will explain key ACI details and review some frequently—and some not so frequently—asked questions that have been submitted to the Academy's MIPS experts.
When: 4:30-5:30 p.m.
Where: Room 288.
Access: Academy Plus course pass required.

Monday

Advancing Care Information Panel: Ask Us! (440) Senior instructor: Jessica Peterson, MD, MPH. This panel discussion and Q&A focuses on how to succeed under the new version of Meaningful Use, ACI. Learn tips and tricks and get answers to questions affecting your practice.
When: 10:15-11:15 a.m.
Where: Room 288.
Access: Academy Plus course pass required.

The Medicare Access and CHIP Reauthorization Act (MACRA): What the New Changes Mean to Your Patients and Your Practice (Sym30) Chairs: Adrienne Williams Scott, MD, and Keith

A. Warren, MD.
When: 10:15-11:45 a.m.
Session I: The Basics of the New Payment System
10:17 a.m.: MACRA: What Is This New Alphabet Soup of Regulations? How Can We Best Implement It Into Practice? (William L. Rich III, MD, FACS)
10:27 a.m.: Physician Quality Reporting: The Utility of the IRIS Registry in Academic and Private Practice (George A. Williams, MD)
10:37 a.m.: Replacement of the Flawed SGR Formula: The Rationale, Intent, and Unintended Consequences of a New Payment System
Session II: Impact of MACRA Implementation
10:55 a.m.: Implementation of MACRA in an Academic Group Practice: The Good, the Bad, and the Ugly (Keith D.

Carter, MD, FACS)
11:03 a.m.: Implementation of MACRA in a Large Subspecialty Practice: Will the New Payment System Work? (Reginald J. Sanders, MD)
Session III: Panel Discussion
Session IV: Closing Perspective
11:31 a.m.: The Role of Advocacy in Shaping the Future of Health Care Policy (George A. Williams, MD)
Where: New Orleans Theater C.
Access: Free.

Advancing Care Information 101 (481). Senior instructor: Brittney Wachter, CPC, OCS. Identify the steps you need to take to successfully report ACI.
When: 4:30-5:30 p.m.
Where: Room 292.
Access: Academy Plus course pass required.

MAKE A QUICK TRIP TO THE ACADEMY RESOURCE CENTER (HALL G, BOOTH 3140). Ask for a demonstration of MIPS reporting at the IRIS Registry kiosk. Got MIPS questions? Bring them to the AAOE Coding desk.

Find Innovative Solutions at the Academy Resource Center

Learn about Academy services and discover the latest products at the Resource Center (Booth 3140). Academy staff members are on hand to answer your questions and help you find the most valuable resources.

AAO 2017 MEETINGS ON DEMAND

View your favorite presentations again or see what you missed with AAO 2017 Meetings on Demand. Own nearly 200 hours of presentations from AAO 2017, Subspecialty Day, or the AAOE Program. This is an online product.

AAOE: CODING

Stop by the Coding desk to speak with the experts about reimbursement, critical coding updates, and answers for all of your coding conundrums.

AAOE: NEW PRODUCTS

Ask about the Academy's practice management and coding products, including:

- *The Lean Practice: A Step-by-Step Guide to Running an Efficient and Profitable Ophthalmic Practice*. Do more with less using this new practice management program developed specifically for ophthalmology. This is an eBook.
- *The Lean Practice: Mastering the Art of Lean On-Demand Class*. This online class and e-course book present innovative lean principles and implementation steps.
- *2018 ICD-10-CM for Ophthalmology*:

The Complete Reference. The ultimate reference for coding ophthalmic diagnoses using the ICD-10-CM code set. Refreshed and updated to better suit your practice's needs, with new and revised codes for 2018. Also available online, so the right code is just a click away.

- *2018 Coding Coach: Complete Ophthalmic Coding Reference*. This bestselling 1-stop coding book consolidates the information you need for a given procedure from nearly a dozen sources. Also available online.
- *2018 Retina Coding: Complete Reference Guide*. This book explains the nuances of coding retinal conditions and procedures and provides best practices to document services and submit claims.
- *2018 CPT: The Complete Pocket Ophthalmic Reference*. Ophthalmic-specific CPT codes and descriptions allow you to quickly find the codes you need.
- *Learn to Code the Essentials and Learn to Code the Subspecialties*. *Essentials* covers topics that every coder, beginner to intermediate, needs to know. *Subspecialties* covers the most commonly performed services unique to each subspecialty. Both publications are excellent study guides for the Ophthalmic Coding



Specialist exam.

- **New 1-Hour Courses.** Learn accurate coding and documentation from the comfort of your home or office. Developed by the Academy's coding experts, each online course is packed with the information you need to maximize reimbursements and avoid audits.
- **New 1-Hour Webinars.** Upcoming live webinars include "Effectively Manage Your Millennial Physicians and Staff" and "2018 Ophthalmology Coding Update."
- **Ophthalmologists Business Summit.** Learn how to run a profitable practice in this in-person summit for physicians.

ACADEMY STORE

All Academy products are available for purchase at the **Academy Store desk**. Many products can be picked up the same day, or you can have your orders shipped to you. During AAO 2017, enjoy 10% off all product purchases.

ADVOCACY

Visit the Advocacy desk to get a summary of legislative issues, send a letter to Congress, and learn about OphthPAC and the Surgical Scope Fund.

CLINICAL EDUCATION: NEW PRODUCTS

View the Academy's latest clinical education products, including:

- **BCSC.** The 13 volumes of the *2017-2018 BCSC* include 3 major revisions: Section 05: Neuro-Ophthalmology, Section 08: External Disease and Cornea, and Section 13: Refractive Surgery. Ten sections include video demonstrations. Available in print or eBook.
- **Focal Points 2018.** This subscription series features practical hands-on modules that are written and reviewed by leading experts. A 1-year subscription gives you access to a new module each

month, plus access to the online archive of more than 100 titles.

- **Clinical Webinar Series.** Get live access to experts on topics that will help you improve patient outcomes and gain insight on important, timely clinical issues. These convenient, interactive seminars are presented by well-known ophthalmic leaders and provide opportunities to ask questions, participate in live polls, interact with other attendees, and earn CME credit. Coming up in December: Patient/Doctor Communication.
- **MOC Exam Review Course on Demand.** Full slide and audio content in an easy-to-use, searchable, online format. Choose from 11 full-day sessions.
- **Ophthalmic Medical Assisting: An Independent Study Course**, 6th ed. This fully updated self-study program for beginning ophthalmic assistants also serves as a prerequisite for the COA exam. Available in print, online, or as an eBook.
- New from the American Society of Ophthalmic Registered Nurses: *Care and Handling of Ophthalmic Microsurgical Instruments and Ophthalmic Procedures in the Operating Room and Ambulatory Surgery Center*.

CME REPORTING

To report your AAO 2017 and Subspecialty Day CME credit at the Resource Center, visit the CME Reporting/Proof of Attendance kiosk.

CONVERSATIONS WITH THE EXPERTS

Need some one-on-one time? Sign up for Conversations With the Experts—free, 20-minute consultations with practice management specialists (appointments are recommended).

eBOOK SUPPORT

The AAO eBooks app is a free e-reader for Apple and Android tablets and smart-

ATTEND RESOURCE CENTER SPECIAL EVENTS

- **ONE Network: Celebrating Innovation in Education.** Join the visionaries of the Academy's ONE Network, including H. Dunbar Hoskins Jr., MD, for a special look at the evolution and impact of the world's largest collection of ophthalmic education. **When:** Saturday, 2:00-3:00 p.m.
- **Academy Foundation Donor Reception.** As a special thank-you, the Academy Foundation invites its donors to meet Academy leaders and enjoy refreshments. **When:** Saturday, 4:00-5:00 p.m.
- **Ophthalmology and Ophthalmology Retina: Meet and Greet the Editors.** Authors and peer reviewers are invited to visit the Resource Center to meet members of the editorial boards. **When:** Sunday, 1:00-3:00 p.m.
- **AAOE Presents: Ophthalmologists Business Summit.** Join the AAOE board and staff for a tasty snack and announcements about valuable new practice management programs you won't want to miss. **When:** Sunday, 2:00-3:00 p.m.
- **EyeCare America Volunteer Reception.** EyeCare America volunteers, join your colleagues as we honor you and your dedication to this vital public service. **When:** Sunday, 3:00-5:00 p.m. **Where:** Museum of Vision, Booth 3047.
- **Ophthalmology Retina Launch Celebration.** Early subscribers and published authors of the new *Ophthalmology Retina* journal are invited to meet editor-in-chief Andrew P. Schachat, MD, and the editorial board over energizing refreshments. **When:** Monday, 10:00-11:00 a.m. **Where:** Museum of Vision, Booth 3047.

EXHIBIT ACADEMY BOOTH

phones. At the Clinical Education eBook Support counter, get help downloading the app and learn how you can access your Academy eBook purchases from your tablet and download them for off-line use.

EYENET, OPHTHALMOLOGY, AND OPHTHALMOLOGY RETINA

Visit the Clinical Education products kiosk to leaf through copies and learn more about the following publications.

- **NEW: *Ophthalmology Retina*.** The Academy's newest scientific journal.
- ***Ophthalmology*.** The Academy's flagship peer-reviewed journal.
- ***EyeNet*.** The Academy's official news-magazine.

EYESMART

Visit the EyeSmart kiosk to get a demonstration of aao.org/eyesmart and the Spanish version, aao.org/ojossanos. Learn how these websites can benefit your practice.

EYEWIKI

Tour the Academy's EyeWiki, an online resource for ophthalmologists and the public. Visit aao.org/eyewiki, or get a demonstration of its features at the Clinical Education Demos kiosk.

FOUNDATION

Visit the Foundation desk to learn how you can support the Academy's educational, quality-of-care, and service programs. You can also enroll as a volunteer for EyeCare America, the award-winning public service program. Plus, current volunteers can order a recognition certificate and pick up a gift.

INFORMATION

Have questions about the Resource Center or AAO 2017? Get answers at the Academy Information desk.

IRIS REGISTRY

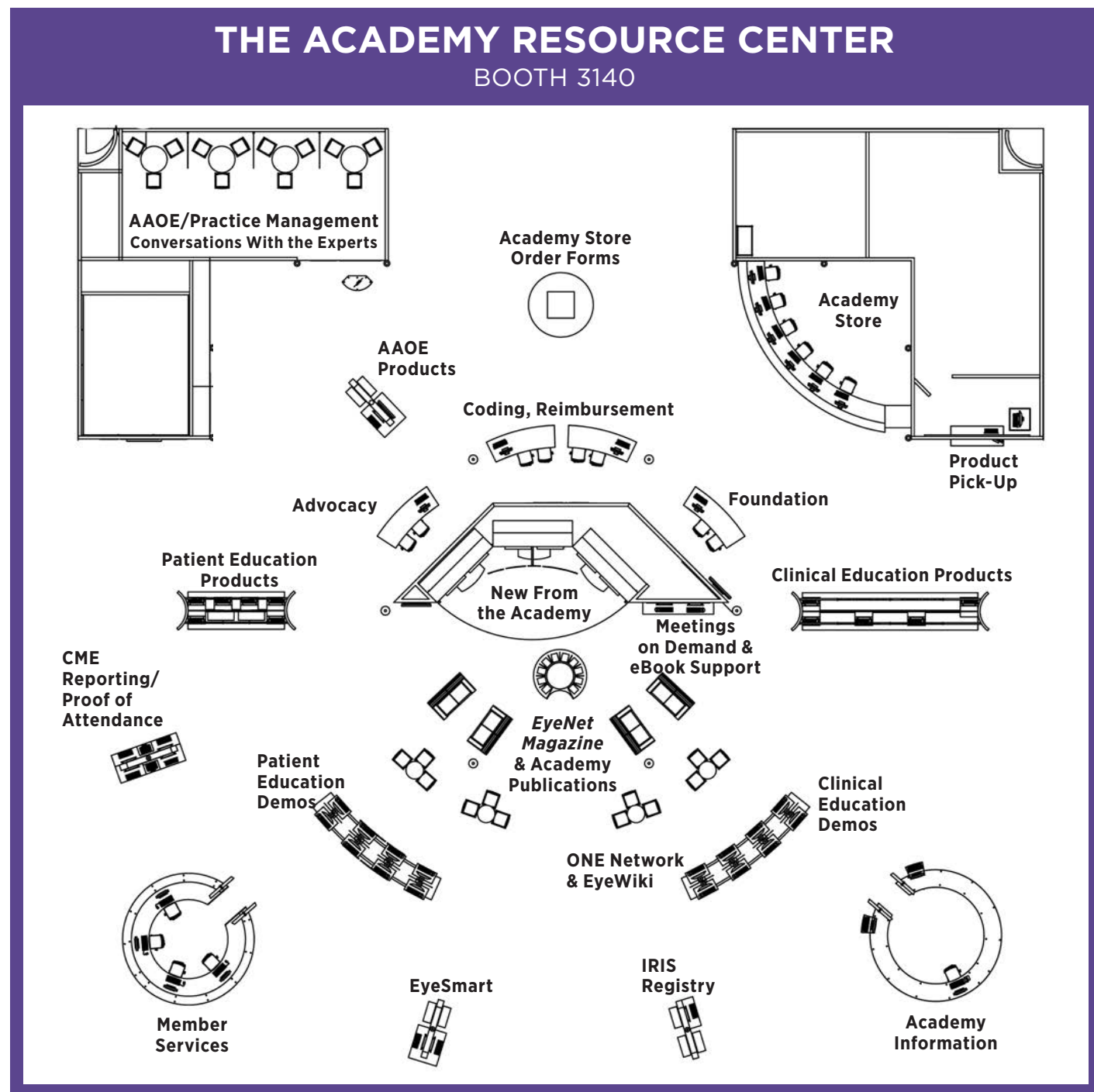
Visit the IRIS Registry kiosk to get a demo of the groundbreaking IRIS Registry (Intelligent Research in Sight), the world's largest eye disease and condition registry.

MEMBER SERVICES

Be sure to check out the Member Services desk to learn more about the Academy, AAOE, or ISRS; pay your dues; or ask questions about your member benefits. Not a member? Apply for Academy membership while you're in New Orleans and save \$100 off the application fee. Save \$50 off the AAOE application fee.

OPHTHALMIC NEWS & EDUCATION (ONE) NETWORK

The ONE Network is the world's largest online source of ophthalmic peer-reviewed news and education. This valuable member benefit includes 500+



interactive online cases and courses; 1,100+ self-assessment questions; 2,200+ clinical videos and podcasts; access to 10 leading journals and *EyeNet*; and the latest news. Learn more at the Clinical Education demos kiosk.

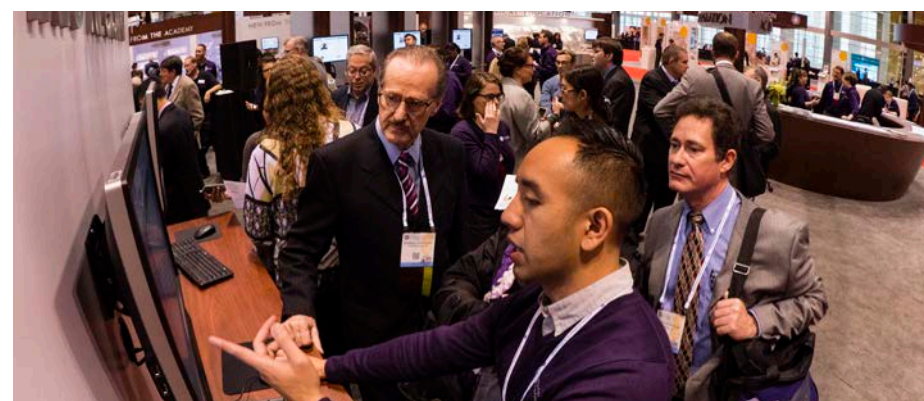
OPHTHALMOLOGY JOB CENTER WEBSITE

Check out the No. 1 job site for ophthalmologists and ophthalmic professionals at the AAOE product kiosk.

PATIENT EDUCATION

Save time, mitigate malpractice risk, and increase patient satisfaction with the No. 1 patient education tools in ophthalmology.

- **Patient Education brochures and booklets.** The printed patient education materials help your patients understand and remember what you tell them.
- **Patient Education Handout Subscription.** Subscribe now and get unlimited access to the most comprehensive library of patient education literature. Includes over 130 print-on-demand handouts covering a wide selection of topics in both English and Spanish.
- **Patient Education Animations Col-**



lection. Make your website, PowerPoint slides, and chair-side education more dynamic with concise animations of eye anatomy, common eye conditions, and treatment options. Includes more than 80 animations.

- **Patient Education Video Collections.** Solve the challenge of educating your patients by using the best video programming in ophthalmology. Available for cataract and refractive surgery, glaucoma, oculoplastics, pediatrics, and retina.
- **Waiting Room Video for the Ophthalmic Practice.** Sixty minutes of HD programming includes the eye health topics your patients care about most.

QUALITY OF CARE

On the ONE Network monitors at the Clinical Education Demos kiosk, you'll find:

- **PPPs.** Browse the Academy's *Preferred Practice Pattern* guidelines, available for free at aao.org/ppp. There are new titles on cataract, retina, pediatrics, refractive, and vision rehabilitation. The PPPs help you ensure that patients receive high quality, evidence-based eye care.
- **OTAs.** See the new *Ophthalmic Technology Assessments* for free from the *Ophthalmology* journal website at aaojournal.org/content/ophthalmictechnologyassessment.

[illegible]

Meeting the need. An increasing aging and diabetic population gives way to an increased number of patients diagnosed with retinal diseases. Regeneron is committed to delivering targeted therapies that can impact your patients' vision.

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03/2016
US-OPH-11013



Diisc

**Proven to treat the signs of inferior corneal staining in 12 weeks
and symptoms of eye dryness in 12, 6, and as little as 2.**

Xiidra helped provide symptom relief from eye dryness in some patients at week 2—and a measurable reduction in signs of inferior corneal staining in just 12 weeks. Consider Xiidra to help your Dry Eye patients find the relief they've been waiting for.

Take it all in at Xiidra-ECP.com

Four randomized, double-masked, 12-week trials evaluated the efficacy and safety of Xiidra versus vehicle as assessed by improvement in the signs (measured by Inferior Corneal Staining Score) and symptoms (measured by Eye Dryness Score) of Dry Eye Disease (N=2133).

OVER

what Dry Eye patients have been waiting for

Indication

Xiidra® (lifitegrast ophthalmic solution) 5% is indicated for the treatment of signs and symptoms of dry eye disease (DED).

Important Safety Information

In clinical trials, the most common adverse reactions reported in 5-25% of patients were instillation site irritation, dysgeusia and reduced visual acuity. Other adverse reactions reported in 1% to 5% of the patients were blurred vision, conjunctival hyperemia, eye irritation, headache, increased lacrimation, eye discharge, eye discomfort, eye pruritus and sinusitis.

To avoid the potential for eye injury or contamination of the solution, patients should not touch the tip of the single-use

container to their eye or to any surface.

Contact lenses should be removed prior to the administration of Xiidra and may be reinserted 15 minutes following administration.

Safety and efficacy in pediatric patients below the age of 17 years have not been established.

For additional safety information, see accompanying Brief Summary of Safety Information and Full Prescribing Information on Xiidra-ECP.com.



BRIEF SUMMARY:

Consult the Full Prescribing Information for complete product information.

INDICATIONS AND USAGE

Xiidra® (lifitegrast ophthalmic solution) 5% is indicated for the treatment of the signs and symptoms of dry eye disease (DED).

DOSAGE AND ADMINISTRATION

Instill one drop of Xiidra twice daily (approximately 12 hours apart) into each eye using a single use container. Discard the single use container immediately after using in each eye. Contact lenses should be removed prior to the administration of Xiidra and may be reinserted 15 minutes following administration.

ADVERSE REACTIONS

Clinical Trials Experience

Because clinical studies are conducted under widely varying conditions, adverse reaction rates observed in clinical studies of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice. In five clinical studies of dry eye disease conducted with lifitegrast ophthalmic solution, 1401 patients received at least 1 dose of lifitegrast (1287 of which received lifitegrast 5%). The majority of patients (84%) had ≤ 3 months of treatment exposure. 170 patients were exposed to lifitegrast for approximately 12 months. The majority of the treated patients were female (77%). The most common adverse reactions reported in 5-25 % of patients were instillation site irritation, dysgeusia and reduced visual acuity. Other adverse reactions reported in 1% to 5% of the patients were blurred vision, conjunctival hyperemia, eye irritation, headache, increased lacrimation, eye discharge, eye discomfort, eye pruritus and sinusitis.

USE IN SPECIFIC POPULATIONS

Pregnancy

There are no available data on Xiidra use in pregnant women to inform any drug associated risks. Intravenous (IV) administration of lifitegrast to pregnant rats, from pre-mating through gestation day 17, did not produce teratogenicity at clinically relevant systemic exposures. Intravenous administration of lifitegrast to pregnant rabbits during organogenesis produced an increased incidence of omphalocele at the lowest dose tested, 3 mg/kg/day (400-fold the human plasma exposure at the recommended human ophthalmic dose [RHOD], based on the area under the curve [AUC] level). Since human systemic exposure to lifitegrast following ocular administration of Xiidra at the RHOD is low, the applicability of animal findings to the risk of Xiidra use in humans during pregnancy is unclear.

Animal Data

Lifitegrast administered daily by intravenous (IV) injection to rats, from pre-mating through gestation day 17, caused an increase in mean preimplantation loss and an increased incidence of several minor skeletal anomalies at 30 mg /kg /day, representing 5,400-fold the human plasma exposure at the RHOD of Xiidra, based on AUC. No teratogenicity was observed in the rat at 10 mg /kg /day (460-fold the human plasma exposure at the RHOD, based on AUC). In the rabbit, an increased incidence of omphalocele was observed at the lowest dose tested, 3 mg /kg /day (400-fold the human plasma exposure at the RHOD, based on AUC), when administered by IV injection daily from gestation days 7 through 19. A fetal No Observed Adverse Effect Level (NOAEL) was not identified in the rabbit.

Lactation

There are no data on the presence of lifitegrast in human milk, the effects on the breastfed infant, or the effects on milk production. However, systemic exposure to lifitegrast from ocular administration is low. The developmental and health benefits of breastfeeding should be considered, along with the mother's clinical need for Xiidra and any potential adverse effects on the breastfed child from Xiidra.

Pediatric Use

Safety and efficacy in pediatric patients below the age of 17 years have not been established.

Geriatric Use

No overall differences in safety or effectiveness have been observed between elderly and younger adult patients.

NONCLINICAL TOXICOLOGY

Carcinogenesis, Mutagenesis, Impairment of Fertility

Carcinogenesis: Animal studies have not been conducted to determine the carcinogenic potential of lifitegrast.

Mutagenesis: Lifitegrast was not mutagenic in the *in vitro* Ames assay. Lifitegrast was not clastogenic in the *in vivo* mouse micronucleus assay. In an *in vitro* chromosomal aberration assay using mammalian cells (Chinese hamster ovary cells), lifitegrast was positive at the highest concentration tested, without metabolic activation.

Impairment of fertility: Lifitegrast administered at intravenous (IV) doses of up to 30 mg/kg/day (5400-fold the human plasma exposure at the recommended human ophthalmic dose (RHOD) of lifitegrast ophthalmic solution, 5%) had no effect on fertility and reproductive performance in male and female treated rats.



Manufactured for: Shire US Inc., 300 Shire Way, Lexington, MA 02421.

For more information, go to www.Xiidra.com or call 1-800-828-2088.

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US Patents: 8367701; 9353088; 7314938; 7745460; 7790743; 7928122; 9216174; 8168655; 8084047; 8592450; 9085553; 8927574; 9447077; 9353088 and pending patent applications.

Last Modified: 12/2016 S26218

The 50th Anniversary of Phacoemulsification

This year's Museum of Vision exhibit celebrates phaco as a milestone in cataract surgery as well as the historical achievements leading up to it.

Visit the Museum of Vision at Booth 3047 to see "Cataract," an exhibit that reviews the history of cataract surgery in honor of phacoemulsification's 50th birthday. This year's exhibit focuses on changes, challenges for the surgeon, and controversies in surgical technique from ancient times (couching) to the present. The exhibit features 7 display cases containing artifacts from all over the world, including the 4 highlighted below.

Couching Needle

Couching was a surgical procedure that consisted of inserting a needle through the sclera to dislocate the opaque lens back and into the vitreous of the eye. There, the lens remained out of the field of vision. The quality of sight after a couching procedure would have been poor, especially before the invention of spectacles. The patient, who endured the surgery without anesthesia, would have done so because limited vision was preferable to blindness. In 600 BCE, Maharshi Sushruta of India published *Sushruta Samhita*. Today, it is the oldest surviving surgical text in the world to discuss cataract surgery, specifically couching. It describes using a couching needle for cataract removal, then soaking the eye in warm butter before bandaging it and allowing it to heal.

These methods for dealing with cataracts were largely unknown in the West until the Silk Road trade routes were established around 130 BCE, bringing medical knowledge from India to

both the West and Far East. Before that, Aristotle and the Greeks (circa 300 BCE) believed the lens (not the retina) to be the seat of vision; thus, they considered cataracts to be incurable. However, the Romans adopted couching from the Far East, and couching remained the most popular method of cataract surgery in the West through the 1800s. This method of removing cataracts was often performed by itinerant surgeons or barbers, much like bone setting and removal of kidney stones.

A Turning Point

Jacques Daviel, MD, a French ophthalmologist, is known for catapulting cataract treatment beyond couching.

On April 8, 1747, he performed the first modern cataract surgery by making a corneal incision to remove the lens. Dr. Daviel's procedure required a corneal knife, forceps or scissors, a blunted needle, a spatula, and a spoon. He recommended using the fingers so that the "cataract is gently pushed into the anterior chamber and from there onto the cheek." After the operation, the eyes were bathed in a mixture of water and wine, then covered by a cotton

dressing. Then, patients were to lay on their backs in a darkened room for approximately 8 days. In 1752, he presented his findings to the French Academy of Surgery in a paper entitled "Sur Une Nouvelle Methode de Guerir la Cataracte Par L'extraction du Cristalin," or "A new Method of Curing Cataract by Removing the Lens."



EXTRACAPSULAR EXTRACTION. These illustrations depict Dr. Daviel's method for lens extraction.



IOL CIRCA 1950. One of Sir Ridley's implants, removed in April 1987. Gift of W. Malcolm Orr, MD, in memory of C.H. Moore, MD.

Sir Ridley's Implant

This Ridley intraocular lens (IOL) consists of a simple plastic disk with a raised edge inside a white plastic container. In 1940, Germany launched the air attack known as the Battle of Britain. Through his role in the medical service, Sir Nicholas Harold Lloyd Ridley, FRS, came into contact with Royal Air Force pilots who suffered from eye injuries. Many of these injuries included fragments of airplane canopies, which were made of polymethyl methacrylate (PMMA; also known as Perspex). In 1949, Sir Ridley took his observations of Perspex to Rayner, a London manufacturer, and together they developed IOLs. The first implant was made Nov. 29, 1949. The ophthalmic community in Europe and the United States rejected his work, branding him a danger to patients. It would be 30 years before IOLs gained widespread approval.

One of the First Phaco Machines

In 1967, Charles Kelman, MD, introduced phacoemulsification, which uses ultrasound to fragment soft lens material, which is then aspirated. Smaller incisions (3 mm) could now be used, and sutures were reduced to 1 or none.

After 2 years of investigating a new method to remove cataracts through a small incision, Dr. Kelman was in the dental chair in 1964 and noticed that the dentist was using a Cavitron high-frequency ultrasonic probe to remove tartar.



This led to an "aha" moment for the invention of the first phaco machine. It took years of modifications and iterating before it was finalized, however. In 1966, a working irrigation and ultrasonic unit was ready for animal trials. It was tested in the first human patient in 1967—and in 1970, the Kelman phacoemulsification unit, manufactured by Cavitron, was ready for market. Although it was initially viewed as radical and risky, it soon became the gold standard for cataract surgery—one of the most common medical procedures performed in the United States.



A REVOLUTIONARY INVENTION. Charles D. Kelman, MD, the inventor of phacoemulsification, wrote that "revolutionary thinking rarely meets with immediate approval."

Attend a Session on Cataract Surgery History

On Monday, check out **Historical Controversies in Cataract Surgery:**

From Couching to Phaco (Sym32). The following topics will be covered:

- The 100 Years War: From Couching to Extraction (Daniel M. Albert, MD, FACS)
- ECCE vs. ICCE: Are the Parts Greater Than the Whole? (Manus C. Kraff, MD)
- Incisions and Sutures: To Close or Not to Close? (Norman B. Medow, MD, FACS)
- Phacoemulsification: The Evolution of Surgical Technique (Robert H. Osher, MD)
- IOLs: Location, Location, Location (Randall J. Olson, MD)
- Phaco at 50: The Man and His Legacy (Jack M. Dodick, MD)

When: Monday, 12:15-1:45 p.m. **Where:** Room 243. **Access:** Free.



BRONZE COUCHING NEEDLE CIRCA 30 BCE-200 CE. This Roman needle likely owes its design to Indian scholars, whose knowledge of medicine was disseminated through trade and travel along the Silk Road established in 130 BCE. The needle has a point at 1 end, and a hole is located 1 inch from the other end. The twisted metal is thought to aid grip.

INSIGHTS COME TO LIGHT

AT ALLERGAN BOOTH 1324

Saturday, November 11, 2017

9:30 AM

Understanding the Signs and Symptoms Disconnect

Richard Adler, MD, FACS

10:00 AM

Multifactorial Approaches to DME and RVO

Brian Chan-Kai, MD

10:30 AM

A Minimally Invasive Approach to IOP Control

Nathan Radcliffe, MD

11:00 AM

IOL Exchange From Mundane to Insane

Brandon Ayres, MD

11:30 AM

Multifactorial Approaches to DME and RVO

Adam Gerstenblith, MD

12:00 PM

Strategies for the Rock-Hard Nucleus

David Chang, MD

12:30 PM

Nasty Cataracts: Prevention and Management of Complications

Robert Osher, MD

1:00 PM

A Minimally Invasive Approach to IOP Control

Arsham Sheybani, MD

1:30 PM

A Minimally Invasive Approach to IOP Control

John Berdahl, MD

2:00 PM

The Key Elements of Effective Intravitreal Injection Reimbursement

William Koch, COA, COE, CPC

2:30 PM

A Minimally Invasive Approach to IOP Control

Jonathan Myers, MD

3:00 PM

Multifactorial Approaches to DME and RVO

Rajiv Shah, MD

3:30 PM

Complicated Case Management

Bonnie Henderson, MD

Sunday, November 12, 2017

9:30 AM

The Key Elements of Effective Intravitreal Injection Reimbursement

William Koch, COA, COE, CPC

10:00 AM

A Minimally Invasive Approach to IOP Control

Davinder Grover, MD

10:30 AM

The Science Behind Neurostimulation and Ophthalmology

Laura Periman, MD

11:00 AM

Multifactorial Approaches to DME and RVO

John Huang, MD, MBA, CPE

11:30 AM

Lowering IOP in the Real World

Ronald Gross, MD

12:00 PM

The Science Behind Neurostimulation and Ophthalmology

John Sheppard, MD, MMSc

12:30 PM

Multifactorial Approaches to DME and RVO

David Callanan, MD

1:00 PM

Lowering IOP in the Real World

Ronald Gross, MD

1:30 PM

Surgical Techniques for the Complex Cataract Patient

Terry Kim, MD

2:00 PM

Multifactorial Approaches to DME and RVO

Jeremy Wolfe, MD

2:30 PM

A Minimally Invasive Approach to IOP Control

Robert Noecker, MD

3:00 PM

Breaking Bad—A Cataract Surgeon's Guide to Unconventional Techniques

Gary Wortz, MD

3:30 PM

Multifactorial Approaches to DME and RVO

Robert Kwun, MD

4:00 PM

Resident Writer Award Ceremony

Monday, November 13, 2017

9:30 AM

Approaches to Tough Cataracts

Eric Mann, MD

10:30 AM

The Science Behind Neurostimulation and Ophthalmology

Preeya Gupta, MD

Booth 1324



6 Must-See Videos: Check Them Out on a Screen Near You

This year's Best of Show winners, listed below, will be featured at an awards ceremony on Tuesday, beginning at 10:45 a.m. in the Learning Lounge, Hall G, Booth 3847.

This year's program consists of 50 videos (see the *Meeting Program*), viewable at the Videos on Demand computer terminals in Hall C. You can also watch them via the Mobile Meeting Guide or by visiting aao.org/programsearch.

CATARACT **Complications of Ophthalmic Anesthesia: A Career Odyssey (V01)**

More than 3 decades of videos were reviewed, providing an abundance of anesthesia complications from which to choose for this video. The complications fell into 3 categories of cause: the needle, the increased orbital volume, or the drug itself. While every cataract surgeon is acutely aware of the intraoperative complications related to the procedure, this video demonstrates the serious nature of ophthalmic anesthesia, to which we often pay little attention. *Senior Producer: Robert H. Osher, MD.*

Fun With Femtosecond Lasers: Episode II—Adjustment of IOL Power (V02)

This video describes in vitro and in vivo (rabbit model) studies using a femtosecond laser to alter the hydrophilicity of targeted areas within an IOL, creating the ability to build a refractive index shaping lens in an existing IOL. Post-operative noninvasive power adjustment of hydrophobic and hydrophilic acrylic lenses by femtosecond laser produces an accurate change in dioptric power while not significantly affecting the quality of the IOL. Consistent and precise power changes can be induced in the optic of the lenses in vivo. The results showed that the laser treatment of the IOLs is biocompatible. *Senior Producer: Liliana Werner, MD, PhD.*

Locked In: Optic Capture Revisited (V04)

This video revisits the technique of optic capture of an IOL. Although optic capture is not a novel technique, its role is being highlighted in pediatric/adult cataracts to lock in epithelial cells and prevent posterior capsule opacification. Moreover, it provides excellent IOL stability and centration by locking

in the IOL, especially in those cases in which the anterior/posterior capsules are discontinuous. *Senior Producer: Abhay Raghukant Vasavada, MBBS, FRCS.*

GENERAL MEDICINE **The Big, Giant Intraocular Cysticercosis (V17)**

This 30-year-old male presented with complete loss of vision in his right eye, which happened 3 weeks before we saw him. His medical history included phacoemulsification with implantation of an IOL in this eye 3 years previously—and a history of neurocysticercosis, which was diagnosed 2 years before that and was treated medically. This time, the slit-lamp examination revealed a large cyst present in the anterior chamber. No view of the posterior segment was possible. B-scan ultrasonography revealed multiple membranes in the vitreous cavity. Ultrasound biomicroscopy revealed a large cyst in the anterior chamber with an extension into the vitreous cavity; the IOL was confirmed to be in the correct location. The patient underwent a clear-corneal excision of the cyst in toto using copious amounts of viscoelastic. The cyst measured 35 mm × 15 mm. The removed cyst was sent for histopathologic examination. On 7-day follow-up, the patient regained 5/60 vision. A vitreoretinal surgeon provided further management. *Senior Producer: Ayan Mohanta. Co-Producers: Samar K. Basak, MD, FRCS, MBBS, Soham Basak, MBBS.*

REFRACTIVE SURGERY **Lenticular Dissection Techniques in Small-Incision Lenticule Extraction (V40)**

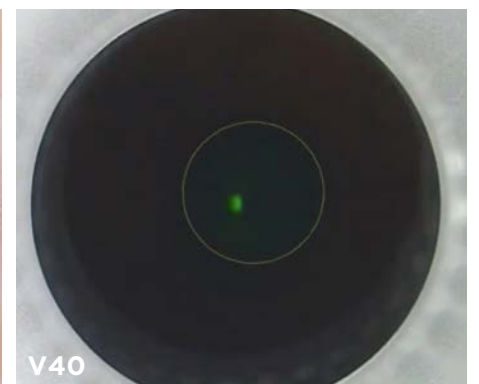
Lenticular dissection is a challenging maneuver in small incision lenticule extraction (SMILE). Most SMILE complications are encountered during this step. In this video, we highlight the approaches to identify the correct lenticular plane and the different approaches to lenticular dissection including the use of dark spots and the opaque bubble layer to predict the pattern of lenticular dissection. We also review the possible complications of lenticular dissection—including cap lenticular adhesion, lenticular rupture, and retained partial lenticular fragment—as well as their management.



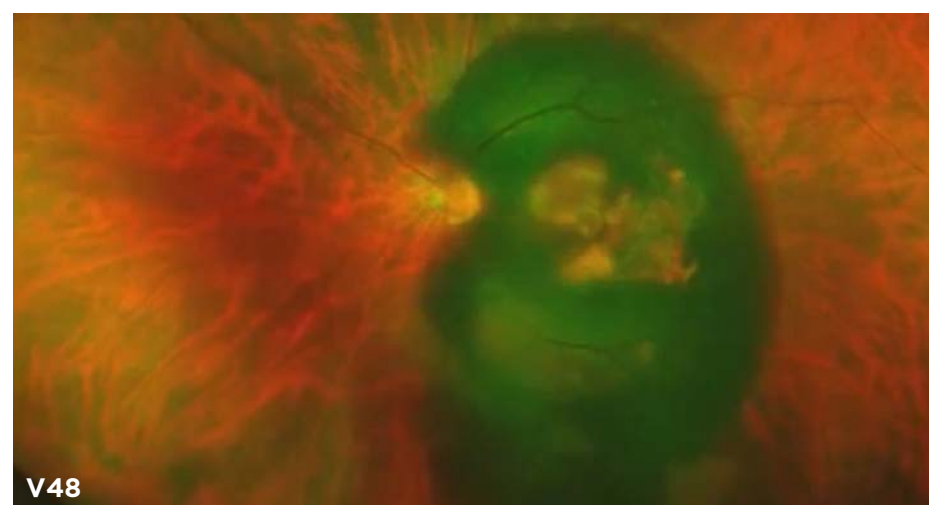
V01



V02



V40



V48

Finally, we demonstrate the use of a novel forceps to aid lenticular dissection and a forceps-free technique for lenticular extraction. *Senior Producer: Sartaj Singh Grewal, MD.*

RETINA / VITREOUS **Subretinal Endoscopic Surgery for a Massive Subretinal Hemorrhage Secondary to Polypoidal Choroidal Vasculopathy (V48)**

The purpose of this video is to report a new surgery for a massive subretinal hemorrhage secondary to polypoidal choroidal vasculopathy (PCV) by ophthalmic endoscopy. This 78-year-old woman had a massive subretinal hemorrhage and 20/400 vision in her left eye. We performed subretinal endoscopic surgery because the hemorrhage was too

large to remove by conventional methods. After core vitrectomy, we created a retinal detachment by injecting air and balanced salt solution (BSS) with 38-gauge cannulas. Then, we inserted 3 trocars under the retina and performed subretinal surgery under endoscopic guidance while perfusing with BSS. After the subretinal hemorrhage was removed, we directly observed and removed a large fibrovascular pigment epithelial detachment. Persistent bleeding from 1 point of Bruch membrane's rupture was treated with intraocular diathermy. We flattened the retina and performed a silicone oil fill. The patient recovered with 20/200 vision 1 month after surgery. We conclude that massive subretinal hemorrhage can be safely removed by subretinal endoscopic surgery. *Senior Producer: Sho Yokoyama, MD.*

From Academia to the Clinic 10 Eminent Speakers Talk About Current Issues

What's the buzz among ophthalmologists? What makes oculoplastics specialists tick? What are refractive surgeons up to? Whether you want a window into your colleagues' subspecialties or quick updates in your own field, consider attending an honorary lecture. These informative presentations are easy to fit into your schedule, as they are usually about 15 to 35 minutes long. Ten of these lectures, as described by the distinguished lecturers themselves, are highlighted below, and 9 more were featured on pages 27-28 of the Friday AAO 2017 News.

MONDAY, Nov. 13

CATARACT

Charles D. Kelman Lecture: Phaco at 50: The Collision of Cataract and Glaucoma (Plus), presented by Alan S. Crandall, MD.

When: Monday, 11:45 a.m.-12:10 p.m., during Spo2, Spotlight on Cataract Complications.

Where: Great Hall.

"This lecture will have 3 main prongs. The first is about teaching of phaco technique during the early years of phacoemulsification. (There were many practicing physicians who did not have any training during their residency years.) The



second is about the use of phaco in glaucoma patients. I feel that the glaucoma surgeon should strive to be the best cataract surgeon possible, and pseudoexfoliation will be part of this discussion. The third is about the introduction of doctors in developing countries to phaco. If local surgeons are able to develop 'centers of excellence' that will allow them to capture paying patients who would normally leave the country (e.g., fly from Ghana to England) for cataract surgery, then they will be able to perform the procedure on 9 or so poor patients for minimal or no cost. The economics of this idea will work in almost every developing country. But the surgeons must do surgery similar to that offered in the developed countries in order to capture these paying patients."

Spotlight on Cataract Complications (8:15 a.m.-12:15 p.m.)

PEDIATRIC OPHTHALMOLOGY

Marshall M. Parks Lecture: Curing Heritable Blindness, presented by Edwin M. Stone, MD, PhD.

When: Monday, 9:38-9:58 a.m., during Sym25, Genetic Disorders in Pediatric Ophthalmology.

Where: Room 243.

"If we are going to sustainably deliver gene- and stem-cell-based treatments to the tens of thousands of people who need them, we will need to be able to do it for well less than \$50,000 per patient. In our current health care environment, the vast majority of people in the United States will not be able to afford treatments at the \$1 million price point that many commercial entities are proposing. This presentation will summarize the science and the strategy behind a nonprofit effort to develop affordable gene- and cell-based treatments for all forms of inherited retinal disease."



Genetic Disorders in Pediatric Ophthalmology (8:30-10:00 a.m.) is cosponsored by the American Association for Pediatric Ophthalmology and Strabismus.

RETINA

Arnall Patz Lecture: DRCR Network: Accomplishments and Vision for the Future, presented by Neil M. Bressler, MD.

When: Monday, 8:35-8:55 a.m., during Sym27, Current Management of Neovascular AMD.

Where: La Nouvelle Orleans AB.

"Americans, across all races and ethnicities, rate losing eyesight as having the greatest impact on their daily lives. When this fact is coupled with the diabetes epidemic in the United States and throughout the world, and recognizing that the



most common complication of diabetes is diabetic retinopathy, the DRCR Network was established in 2003 with the National Institutes of Health to facilitate multicenter clinical research on diabetic retinopathy and associated conditions. By 2017, the Network involved more than 300 clinical sites, over 1,000 retina specialists in North America, and almost 10,000 study participants across 25 protocols, resulting in over 70 publications that have contributed to major improvements in the management of diabetic macular edema and proliferative diabetic retinopathy. Its major novel and clinically relevant accomplishments, to be highlighted during the Arnall Patz Lecture, have been recognized by the U.S. Senate and U.S. House

of Representatives. The NIH has agreed that the Network could change its scope for the future to include such conditions as age-related macular degeneration and related diseases as part of the continued efforts by the Network to contribute to ophthalmology's pursuits to combat vision impairment and blindness."

Current Management of Neovascular AMD (8:30-10:00 a.m.) is cosponsored by the Macula Society.

CORNEA

Castroviejo Lecture: Advances With Randomized Clinical Trials in Corneal Transplantation, presented by Jonathan H. Lass, MD.

When: Monday, 11:55 a.m.-12:15 p.m., during Sym29, Management of Chronic and Recurrent Anterior Segment Disorders.

Where: La Nouvelle Orleans AB.

"Since Castroviejo's work in the 1940s, progress in corneal transplantation has been primarily marked by corneal surgeons/innovators conducting observational studies at their clinical sites. While remarkably few randomized clinical trials (RCTs) in this field have been performed,



they have had a major impact in driving surgical practices and future innovation based on their study design, management of bias, and multicenter/surgeon involvement. Prime examples that will be described are the NEI-sponsored Collaborative Corneal Transplantation Studies (CCTS), the Cornea Donor Study (CDS), and the recent Cornea Preservation Time Study (CPTS). Now that big data is being used to answer important questions in our clinical practice, the continued value of the RCT will be addressed."

Management of Chronic and Recurrent Anterior Segment Disorders (10:15 a.m.-12:15 p.m.) is cosponsored by the Cornea Society.

OCULOPLASTICS

Wendell L. Hughes Lecture: The Forces That Affect Upper Eyelid Movement, Position, and Contour During Ptosis Surgery, presented by Jonathan W. Shore, MD.

When: Monday, 11:17-11:42 a.m., during Sym28, The ABCs of MTAs (Molecularly Targeted Agents) in Oculoplastic Surgery.

Where: Room 243.



"This lecture will cite clinical examples, present evidence, and advance the theory that

results of ptosis correction are improved when the surgeon establishes a balance of the forces during ptosis surgery, paying particular attention to the vertical, horizontal, and posterior force vectors that govern upper eyelid movement, position, and contour."

The ABCs of MTAs (Molecularly Targeted Agents) in Oculoplastic Surgery (10:15-11:45 a.m.) is cosponsored by the American Society of Ophthalmic Plastic & Reconstructive Surgery.

UVEITIS AND IMMUNOLOGY

C. Stephen and Frances Foster Lecture: Idiopathic Ocular Inflammatory Disease: Lessons From Deep DNA Sequencing, presented by Russell N. Van Gelder, MD, PhD.

When: Monday, 12:45-1:15 p.m., followed by a 30-minute Q&A, during Sym33, C. Stephen and Frances Foster Lecture on Uveitis and Immunology.

Where: La Nouvelle Orleans C.

"DNA sequencing technologies are advancing at a phenomenal speed. When they are applied to ocular inflammatory diseases, we can gain insights into the causes of many conditions that we now view as idiopathic. During this lecture, I will discuss these exciting new technologies and share insights that they have provided into conditions ranging from blepharitis to endophthalmitis and all points in between."



C. Stephen and Frances Foster Lecture on Uveitis and Immunology (12:45-1:45 p.m.)

PROFESSIONALISM AND ETHICS

Dr. Allan Jensen & Claire Jensen Lecture: Practical Ethics in Ophthalmology, presented by Thomas S. Harbin, MD, MBA.

When: Monday, 2:30-3:05 p.m., followed by a 20-minute Q&A, during Sym41, Dr. Allan Jensen & Claire Jensen Lecture in Professionalism and Ethics.

Where: New Orleans Theater C.

"I'm ethical—it's the doctor across town I worry about.' So say we all, since none of us thinks we're unethical.




"I think there is room for debate. Maybe there are situations in which we push the ethical boundaries. My lecture will take a look at the day-to-day practical situations in which our decisions bump up against the best interests of the patient, both medical and financial, hence the title—'Practical Ethics in Ophthalmology.'"



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Please see adjacent page for important product information.

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 **Advancing**
CATARACT SURGERY

*Results of prototype testing of Pre-loaded IOL Delivery System (UltraSert) in artificial setting by 42 Ophthalmologists and 20 nurse/technicians (US). (Alcon Market Research, Feb. 2015) 1. UltraSert™ Delivery System Prototype Human Factor Testing, February, 2015. 2. AcrySof® IQ Aspheric IOL with the UltraSert™ Pre-loaded Delivery System Directions for Use. 3. Comparative Assessment of IOL Delivery Systems. Alcon internal technical report: TDOC-0018957. Effective Date 19 May 2015.

“Conflict of interest is pervasive, even at meetings when we aren’t seeing patients. This lecture will stimulate you to consider the ethical dimensions of all that you do.”

Dr. Allan Jensen & Claire Jensen Lecture in Professionalism and Ethics (2:30-3:25 p.m.)

MICROBIOLOGY

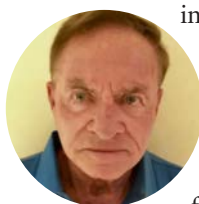
Jones/Smolin Lecture: Converting Concepts Into Cures, presented by Herbert E. Kaufman, MD.

When: Monday, 4:49-5:14 p.m., during Sym44, *Hot Topics for Minimizing Infections in Cataract Surgery*.

Where: La Nouvelle Orleans C.

“Edison said that progress is 1% inspiration and 99% perspiration. I will describe some of the often complicated and devious routes from idea to implementation for antivirals, antifungals, timolol, eye-banking, viscoelastics, bandage lenses, and the excimer laser.”

Hot Topics for Minimizing Infections in Cataract Surgery (3:45-5:15 p.m.) is cosponsored by the Ocular Microbiology and Immunology Group.



TUESDAY, Nov. 14

GLAUCOMA

Robert N. Shaffer Lecture: Glaucoma Genes and New Opportunities for Therapy, presented by Janey Lee Wiggs, MD, PhD.

When: Tuesday, 9:32-9:57 a.m., during Sym47, *Development of New Antiglaucoma Medications and Drug Delivery Systems*.

Where: La Nouvelle Orleans AB.

“Precision medicine is defined as an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle. The discovery of genes that cause or contribute to glaucoma is an important first step toward the development of precision medicine for glaucoma. Therapeutic decisions that account for personal genetic variation could direct therapy to patients most likely to respond as well as allow for the development of novel gene-based therapies that target disease-causing molecular events. Currently, more than 50 genes have been discovered for various



forms of glaucoma, and many of these could be considered as targets for novel therapeutics.”

Development of New Antiglaucoma Medications and Drug Delivery Systems (8:30-10:00 a.m.) is cosponsored by Prevent Blindness.

REFRACTIVE SURGERY

Barraquer Lecture: Refractive Indexing: A Revolutionary Approach to Refractive Surgery, presented by Scott M. MacRae, MD.

When: Tuesday, 11:31-11:51 a.m., during Sym51, *Presbyopia: The Next Frontier in Refractive Surgery*?

Where: La Nouvelle Orleans C.

“Refractive surgery has undergone progressive revolutions in 1) accuracy, 2) safety, and 3) availability, facilitated by innovations in techniques and laser technology. Current laser surgery techniques such as LASIK and SMILE (small

incision lenticule extraction) utilize tissue-subtracting shape changes to treat refractive error.

“A new, minimally invasive, very high-speed femtosecond laser technology that can change refractive error by changing the refractive index of the cornea, IOLs, and contact lenses may revolutionize refractive eye care.

“Uncorrected refractive error is underappreciated as the leading cause of serious visual disability and the second leading cause of blindness in the world. We will explore how less-invasive, miniaturized, mobile laser technologies may attack this worldwide problem.”

Presbyopia: The Next Frontier in Refractive Surgery? (10:15-11:51 a.m.) is cosponsored by the International Society of Refractive Surgery.



FOR THE RECORD

ANNUAL BUSINESS MEETING. Notice is hereby given that the Annual Business Meeting of the American Academy of Ophthalmology will be held Sunday, Nov. 12, in the Great Hall of the Morial Convention Center in New Orleans from 8:30 to 10:30 a.m. Candidates for membership will be approved during this meeting. For the full list of names, visit aao.org/member-services. To see the full order of business, refer to the Opening Session page of the *Meeting Guide*.

ACADEMY ELECTION. The election for open positions on the Board of Trustees begins on Monday, Nov. 13, and closes after 30 days. Election materials will be sent to all voting Academy fellows and members. Results of the election will be posted on the Academy’s website aao.org/about/governance/elections by Dec. 18, 2017.

ETHICS EVENTS

Get an hour of ethics CME by attending the Professionalism and Ethics lecture or either of the thought-provoking ethics instruction courses.

Dr. Allan Jensen & Claire Jensen Lecture in Professionalism and Ethics (Sym41).

When: Monday, 2:30-3:30 p.m. **Where:** New Orleans Theater C. **Access:** Free.

“Practical Ethics in Ophthalmology,” given by Thomas S. Harbin, MD, looks at strains in the ethical fabric of ophthalmology. The lecture will address the day-to-day practical situations in which routine decisions and care of patients bump up against the medical and/or financial interests of the patient.

Ethically Co-managing Ophthalmic Postoperative Care: Understanding the Comprehensive Co-management Guidelines (545). **When:** Monday, 4:30-5:30 p.m. **Where:** Room 333. **Access:** Academy Plus course pass.

This course will provide an analysis of the Academy’s *Comprehensive Guidelines for the Co-management of Ophthalmic Postoperative Care* from the perspective of compliance with the Academy’s Code of Ethics. Presentation of case studies from the Ethics Committee files will illustrate pertinent points in the guidelines and relevant ethical practices. The physician’s responsibilities under state and federal laws and resources available for further education will also be discussed. At the conclusion of the course, attendees will be able to differentiate co-management and transfer of care, circumstances in which co-management may be appropriate, relevant rules of the Code of Ethics, and more.

Expert Witness Survival Skills: Tips and Tools From Ethics Committee Case Reviews (663). **When:** Tuesday, 11:30 a.m.-12:30 p.m. **Where:** Room 239.

Access: Academy Plus course pass.

Expert witnesses are invaluable to the malpractice litigation process, and they protect both patients and physicians. There are ways to offer your services in this cross-professional arena without negative legal, ethical, or professional consequences. Practical concepts such as basing testimony on sound scientific principles, avoiding bias, understanding the standard of care, among others, will be presented. Through an in-depth discussion of expert witness cases investigated by the Ethics Committee, attendees will learn the ins and outs, rules, and guidelines governing the practice of being an ethical expert witness.

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Careful preoperative evaluation and sound clinical judgment should be used by the surgeon to decide the risk/benefit ratio before implanting a lens in a patient with any of the conditions described in the Directions for Use. Caution should be used prior to lens encapsulation to avoid lens decentrations or dislocations.

Studies have shown that color vision discrimination is not adversely affected in individuals with the AcrySof® Natural IOL and normal color vision. The effect on vision of the AcrySof® Natural IOL in subjects with hereditary color vision defects and acquired color vision defects secondary to ocular disease (e.g., glaucoma, diabetic retinopathy, chronic uveitis, and other retinal or optic nerve diseases) has not been studied. Do not resterilize; do not store over 45° C.

ATTENTION: Reference the Directions for Use for Model AU00T0 for a complete listing of indications, warnings and precautions.

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EyeNet Corporate Events

EyeNet® Magazine helps you make the most of your time at AAO 2017 by bringing you free corporate educational program events* onsite at the Ernest N. Morial Convention Center.

- 2 BREAKFASTS** **Saturday, Nov. 11**
Sunday, Nov. 12
Check-in and Meal Pickup:
6:45-7:00 a.m.
Program:
7:00-8:00 a.m.
- 3 LUNCHES** **Saturday, Nov. 11**
Sunday, Nov. 12
Monday, Nov. 13
Check-in and Meal Pickup:
12:15-12:30 p.m.
Program:
12:30-1:30 p.m.

Ernest N. Morial Convention Center
Room R02-04, 2nd Floor

aao.org/eyenet/corporate-events

* These programs are non-CME and are developed independently by industry. They are not affiliated with the official program of AAO 2017 or Subspecialty Day. By attending an event, you may be subject to reporting under the Physician Payment Sunshine Act.

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NOTICE: This publication was printed in advance of Subspecialty Day and AAO 2017. For the most up-to-date information, check the Program Search (aao.org/programsearch) or the Mobile Meeting Guide (aao.org/mobile). American Academy of Ophthalmic Executives®, EyeNet®, EyeSmart™, IRIS® Registry, ONE®, and Preferred Practice Patterns™ are trademarks of the American Academy of Ophthalmology®. All other trademarks are the property of their respective owners. © 2017 American Academy of Ophthalmology.

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The stories behind Dr. Bradford's selections.
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Find fun educational tools on the ONE Network.
- 12-14 Boost Staff & Patient Satisfaction**
Use the lean approach to benefit your practice.
- 16-18 MIPS Tips**
How to use the IRIS Registry to report improvement activities.
- 19-20 Visit the Resource Center**
Visit Booth 3140 for CME, practice solutions, and 10% off Academy products.
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Highlights from this year's Museum of Vision exhibit.
- 28-30 Honorary Lectures, Part 2**
Preview 10 of this year's named lectures.

From the Editor Welcome to New Orleans!

The Academy is proud to present its 121st annual meeting, AAO 2017. Today, it kicks off with the Opening Session, featuring the Academy President's address, by Cynthia A. Bradford, MD; the Academy Chief Executive Officer's address, by



David W. Parke II, MD; and presentation of the Academy's highest honors, with the Laureate Recognition Award going to Irene H. Maumenee, MD. In addition, Henry Butler will give the Michael F. Marmor Lecture in Ophthalmology and the Arts, titled "One Man's Vision," followed by the Jackson Memorial Lecture by Daniel F. Martin, MD, "Evolution of Intravitreal Therapy for Retinal Diseases: From CMV to CNV."

This year, the meeting offers 50 symposia on a broad range of topics, from case-based corneal conundrums to physician burnout and wellness. Please note, as well, that 4 new Skills Transfer labs have been added, all of which are definitely worth checking out: Learning the DMEK Procedure—An Introductory Course; Sutureless Scleral Buckling: A Hands-On Practicum; A Typical Day in the Operating Room of a Pediatric Ophthalmologist: Adjustable Sutures for Strabismus Surgery; and No Capsule, No Problem—Intrascleral Haptic Fixation of Intraocular Lenses. Refer to the contents of this *AAO 2017 News* and aao.org/eyenet/daily for more on this year's meeting. We hope that your time in New Orleans is enjoyable and informative.

Ruth D. Williams, MD
Chief Medical Editor, *EyeNet Magazine*



On the Cover Iris Cavernous Hemangioma

Photo by Allan Connor
Princess Margaret Cancer Center

The 2017 Presidential Guests The Reasons Behind Dr. Bradford's Choices

When selecting the 2017 Guests of Honor, Academy President Cynthia A. Bradford, MD, wanted to recognize 3 individuals who have been influential and important in her personal and professional life over the course of many years. Here, Dr. Bradford details the specific reasons for these selections, as well as those for the Special Recognition Award and the Distinguished Service Award. Today, Sunday, Dr. Bradford will recognize these award recipients at the AAO 2017 Opening Session, which takes place from 8:30 to 10:00 a.m. in the Great Hall.

GUEST OF HONOR *Partner in Life* Reagan Bradford, MD

Who is Reagan Bradford? My husband.

What do you most appreciate about him? He is a giving, supportive person. With my years of volunteer leadership at the Academy that has been important because the Academy

work has impinged on things that we could have done in our own lives. One time, Mike Brennan said, "We need somebody to go to the Middle Eastern Leadership Development

Program." It was the last minute and I wanted to go but was thinking, how can I manage this with everything else going on in our lives? Reagan just looked at me and said, "Well Cindy, I don't think you can *not* go. This is a great opportunity." He made it obvious to me that, yes, I could make it work.

Describe a significant ophthalmology-related memory. There was a time when Reagan did a lot of the trauma call. It was early Friday afternoon. A man came in—a piece of metal went right through the lens of the eye and was buried in the retina. To fix it, Reagan would have to take the lens out, which would mean that the patient would be aphakic and would have to wear a contact lens or have another surgery to have a lens sewn in, which is always more complicated.

I took a look at the patient and said, "Well, I think I could get the lens out and put the implant in before you go in to get the metal out of the retina, and that would give this gentleman the possibility

of a good rehabilitation." So we did that. The patient had uncorrected 20/25 vision, and, fortunately, he didn't have infection in the eye. We see this gentleman year after year and remember that day.

Fun fact? Reagan is a coffee aficionado. You know Blue Bottle in San Francisco—how they have the Japanese coffeemakers? He recently bought the little one that looks like a Bunsen burner. He has coffeemakers of every kind. He grinds the beans just perfectly and he does the pour-overs. He's detail-oriented. He's meticulous in the OR, and he is just as precise with coffee.

GUEST OF HONOR *A Confident Confidante* Amalia Miranda, MD

Who is she? Amalia is a close confidante. She is originally from Seville, Spain, and has been an ophthalmologist in Oklahoma City since the early 1980s.

What do you admire about her? She is courageous. In Oklahoma, because of our scope of practice issues, state society leadership is not what you would call an easy job. In other states, some people might take a leadership position for the honor. But in Oklahoma the question is: "Do you have the courage to do it?" She took on being leader in the state society, did it willingly, and did it for the right reasons. Even more impressive, she is Spanish, and she has a lovely Spanish accent, I certainly couldn't go to Spain, and speak Spanish, and be a leader. But that's not her. Her thinking is, "Well, sure, I can do that."

And she can fundraise. Physicians don't like to fundraise, but it is something that must be done every year. She meets with the lobbyists and is willing to deliver the PAC checks. As a result, she gets to know politicians and they get to know her. She remembers everybody and can remind the lobbyists of the details of past visits. She does her job well.

Fun fact? The governor appointed her State Ambassador to Spain. There's a picture of her on an emblem that she puts next to her door showing that she's the Spanish Ambassador from Oklahoma. If an official from Spain comes here, she is available to meet with them.

GUEST OF HONOR *An Ally in Advocacy* Michael W. Brennan, MD

Who is Mike Brennan?

I call him my mentor.

How did you meet? So after Oklahoma passed the law [in 1998] that optometrists could do laser, I did a poster so that everybody could learn about what had happened.

It was accepted for the annual meeting, and Mike saw it. One night, I was in bed reading, and the phone rang and it was Mike. And that's what we all call the infamous Mike Brennan call. Because Mike finds out about people, and all of a sudden, he gets your number, and he phones you.

Please talk about your work in State Affairs with Mike. My first year on the State Affairs committee, he said, "I don't know if you realize this, but you and I think differently than many ophthalmologists about issues of scope of practice." I am from Oklahoma, and he is from North Carolina. We had both seen, in our respective states, how scope of practice expansion could be politically achieved, and we understood that it would happen in other states. We would discuss how we could best explain to ophthalmologists that this is going to happen in their state and motivate them to become politically active. Once you've lived through a scope battle, and you see what organized optometry does, you can draw up a game plan based on that knowledge, and we did. I'll never forget my first State Affairs summer committee meeting in Santa Fe. Mike told me, "Keep this a secret, but we have about \$110,000 in the State Legislative Fund" [now the Surgical Scope Fund]. At the time, it seemed like a lot of money, but we quickly learned otherwise.

At that same meeting, the Leadership Development Program was being molded, and Mike was instrumental in creating that pathway to success for future leaders. Along the way, he has mentored many ophthalmologists in many countries.

What do you admire most about him? He is a genuine person and is able to connect with people and learn what they need and motivate them to achieve their goals. Instead of just saying, "Oh well, the world's like that, there's nothing we can do." Mike shows that you don't give up,



Dr. Brennan

you stay positive—he's always smiling that Brennan smile—and do the best you can. Many times, you can make changes.

What sets him apart? He is everywhere! Recently, my friend Sidney Gicheru posted this to Facebook: *Quiz: Decided to call a friend. As we were talking, he mentions, "I may not be too long on the phone today." Me: "Interesting ... why?" He: "I'm on the Uzbek-Kazakhstan border having dinner in front of a beautiful lake." For my AAO friends: Who is this mystery man?*

The answer, obviously, was Mike!

Fun fact. Mike does not wear a watch. Even if he changes time zones, if you ask him, "What time is it?" he'll be within 5 minutes of the time. I've tested him many times. It is uncanny.

SPECIAL RECOGNITION AWARD "We are honoring the Centers for Disease Control and Prevention (CDC)



for The Vision Health Initiative's 2016 landmark study, 'Making Eye Health a Population Health Imperative: Vision for Tomorrow' as well as the CDC's continued work with the Academy on various vision health initiatives, screening programs and the use of the IRIS Registry. It has helped to raise eye care standards, awareness and access nationwide."

Accepting the award is Jinan Saaddine, MD, MPH.

DISTINGUISHED SERVICE AWARD

"We are honoring The Pan-American Association of Ophthalmology (PAAO)



for working together with the Academy for many years to foster ophthalmic education, leadership training and cultural exchange in the Western Hemisphere."

Accepting the award are Eduardo C. Alfonso, MD and J. Fernando Arevalo, MD, FACS.

"We are also honoring David A. Karcher, for his contributions to ophthalmology as Executive Director of the American Society for Cataract and Refractive Surgery, a position he has held for 36 years.



Mr. Karcher



Dr. Bradford with friends at Mid-Year Forum



Dr. Miranda and Dr. Bradford

Bringing Genetics to the Forefront

The 2017 Academy Laureate, Irene H. Maumenee, MD

Irene H. Maumenee, MD, is one of the world's leading experts in genetic eye diseases and is unanimously regarded as the founder of genetics as an ophthalmic subspecialty in the United States. "Dr. Maumenee's contributions include the description of the ocular manifestations of numerous inherited disorders, such as Marfan syndrome and others, and the utilization of molecular biology techniques to map and identify the genetic basis of inherited eye disorders," said Elias I. Traboulsi, MD, MEd. "More importantly, she is a compassionate physician and patient advocate who is adored by her patients young and old, and a dedicated educator who has trained many specialists in the field."

Early Life

Dr. Maumenee was born in Germany at the beginning of World War II. Her mother was a general practitioner, and her father was a dentist. Her parents were insistent that their children earn advanced degrees. "The question was whether I would go into medicine, biology, or biochemistry, but my mother was very adamant about me going through medicine first before settling on a field," she said. She believes that her parents' childhood during World War I had a lot to do with their stance on education. "They wanted their children to have a fulfilling career. We learned that the only thing nobody can take away from you is your education."

Genetics captivated her from the very beginning. "It was always genetics, first and foremost. I did not go to school until third grade, given the chaos of the postwar years, but even when we were as young as 5 or 6, my siblings, cousins, and I were involved in studying the plants and animals around us. We looked for lamb's lettuce in the fields; white button mushrooms in the meadows; and birch boletes, porcini, and chanterelles under trees. We saw salamanders shed their tails and take off. We were fascinated by the varied coloring of the shells of the abundant small land snails, which lived in the bushes close to home. We kept colonies on our balcony and fed them religiously, but we did not know how to find the answers to our questions about the development of their coloring. From that age, I knew that I was going to be a geneticist."

Even so, her first area of study concerned languages. "I worked hard to learn French, initially school French, daily

French, French literature, and, later, medical French. My parents organized an exchange with a French family, which was a wonderful opportunity to learn about a different culture."

The transition to medicine soon followed.

After obtaining her MD from Göttingen Medical School in Germany, Dr. Maumenee moved to Switzerland to write a thesis in ophthalmology and genetics at the University of Geneva Medical School. "My knowledge of French had opened the door," she said. It was there that her path to ophthalmic genetics solidified. "There were many cases of genetic blindness in Switzerland, so Professor A. Franceschetti, chair of ophthalmology, had developed the medical genetics program of the University of Geneva—that is how genetics merged with ophthalmology for me." During this time, Newton E. Morton, PhD, a population geneticist from the University of Hawaii (now known as one of the founders of genetic epidemiology), visited Geneva to look at the singular data on genetic blindness that Dr. Maumenee had been accumulating in Switzerland. Switzerland has many geographic isolates with high rates of inbreeding; the higher and narrower the mountain valley, the higher the rate of consanguinity and the higher the frequency of rare diseases. Dr. Morton suggested that she move to Hawaii to analyze the Swiss data in his population genetics laboratory. She stayed for a year; during this time, she also studied genetic eye disease in the Pacific region, which later led to identification of the first gene for achromatopsia, *CNGB3*, among the Pingelapese Islanders.

Buoyed by Curiosity

Before she returned to Germany from Hawaii, Dr. Maumenee decided to visit the genetics clinic at Johns Hopkins Hospital in Baltimore, which had been founded by Victor A. McKusick, MD (now recognized as the father of medical genetics). He had a special interest in inherited disorders of connective tissue,



THE 2017 ACADEMY LAUREATE. Dr. Maumenee receives the Laureate Recognition Award during the Opening Session, which takes place Sunday, 8:30-10:00 a.m., in the Great Hall.

including Marfan syndrome, which led to Dr. Maumenee's lifelong commitment to the ocular features of this disease group. What began as a 2-month visit turned into a postdoctoral fellowship in medical genetics at Johns Hopkins University School of Medicine, then a preceptorship at the Wilmer Eye Institute, and a family and career in Baltimore. "It was a tremendously exciting and productive time in genetic disease—I really loved those years," she said. Dr. Maumenee considers Dr. McKusick to have been her primary mentor during that time. She said, "To him, it didn't matter whether somebody was male or female, where they came from, or who they were—just whether the person had a passion for the field and could move it forward. He was singularly directed in his pursuit and tremendously knowledgeable. He would help you and foster your growth, and he was very generous with his time, input, and teaching. He was an extraordinary mentor."

Catapulting the study of ophthalmic genetics. As the field of molecular genetics evolved in the 1980s, Dr. Maumenee successfully merged clinical studies of genetic eye diseases with lab research, among the first of such efforts. While she was on the Wilmer faculty, she founded and directed the Johns Hopkins Center for Hereditary Eye Diseases, an international referral program that has evaluated, diagnosed, and treated more than

30,000 patients with rare eye diseases. Despite this vast number, she maintains a striking ability to remember individual cases. "Her recall and synthesis of the puzzle of each patient over time as more discoveries are made is unparalleled," said Marilyn Baird Mets, MD.

Dr. Maumenee also served as an active consultant to the John F. Kennedy Institute for Visually and Mentally Handicapped Children since its inception, and she worked extensively with the Maryland School for the Blind. "These experiences were definitely gratifying in a humanitarian respect, but a lot of it was just pure curiosity," she said. "It was to learn about the diseases and all their possible manifestations. I enjoyed seeing patients, and I realize more and more how much I enjoyed the interaction. The motivation lay in increasing the understanding of the underlying pathology, and I did the work primarily to move things forward—there was so much to be done." Dr. Maumenee joined the Faculty of the Illinois Eye and Ear Infirmary in 2008 and is currently the director of ocular genetics as well as a research professor of ophthalmology at the University of Illinois College of Medicine at Chicago.

"We Decided to Get Something Started"

In order to gain momentum toward her goals to spread knowledge, Dr. Maumenee created the Ophthalmic Genetics Study Club in 1976. She invited people who had published articles on genetic eye disease to come to an annual meeting to share cases, give each other feedback, and discuss knowledge gained. The organization still meets annually. In 1978, along with E.F. Cotlier, MD, and N. Ohba, MD, Dr. Maumenee started the International Society for Genetic Eye Diseases and Retinoblastoma (ISGEDR). "Our first meeting was at a restaurant in Tokyo; then I applied to the International Council of Ophthalmology to give the organization legitimacy. We were accepted, and from then on, we had meetings every 2 years worldwide to pass the knowledge around to different countries. These meetings were really very focused on getting people interested in and learning about genetic eye disease." ISGEDR still meets every 2 years internationally. "Dr. Maumenee's leadership in organizations such as the ISGEDR has provided the opportunities needed for fellowship and collaboration between individuals interested in ophthalmic genetics and the education and sharing of information between them," said Dr. Traboulsi.

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A Passion for Training

Dr. Maumenee believes strongly that more people need to be trained in both ophthalmology and genetics. "There are not enough people who can train the present generation and the next generation, so a big effort should be made to educate people in order to facilitate this," she said. "Treatment gets developed when there is understanding of the correlation between the gene and the disease." She has trained more than 60 fellows herself, and "her loyalty to and support of her trainees is unfailing," said Dr. Mets.



FELLOWSHIP AND COLLABORATION IN GENETICS. Monte A. Del Monte, MD, Marilyn B. Mets, MD, Dr. Maumenee, and Mark. J. Greenwald, MD, during the 1992 ISGEDR Meeting in Siena, Italy.

Looking Ahead

"The genetic basis of human diseases needs to be recognized—there is no place for taking that component lightheartedly," said Dr. Maumenee. "If somebody has a blind child and they ask if the disease will appear in their next child and you say, 'Oh, no. I have never seen it come back,' that is just irresponsible. There has to be a totally different level of recognition of the significance of the genetic component in blindness and eye diseases in the United States and worldwide than there currently is." To this end, she is taking action toward the following goals.

Dual board certification. Ophthalmologists currently cannot order a DNA analysis through a lab; they have to send patients to a geneticist, who may not know eye diseases. To mitigate this, Dr. Maumenee and her colleagues want to create a pathway for people to become board certified in both genetics and ophthalmology.

Funding gene sequencing. There is still a large gap between identification of genes through the Human Genome Project and determination of their function and impact on disease. Dr. Maumenee would like to see more work on gene sequencing in human eye diseases. "We have an estimated 22,000 genes and we know over 6,000 single gene disorders and complex diseases, but causative mutations have been identified in fewer than 4,000 genes. The complexity of gene function for most genes remains unknown," she said. Much information



GENETIC EYE DISEASE IN THE PACIFIC. Lemwuel Ohri, a Pingelapese teacher, organizing data, drawing blood samples, and establishing the genetic pedigree on Pingelapese in Micronesia. Dr. Maumenee's group was searching for the gene for achromatopsia (present in the woman holding the child in the back row). They later identified the gene as CNGB3.

is needed to establish the correlation between genes and their mutations and a specific genetic disease. She said, "Not all genes may harbor mutations that lead to disease, because many of them may lead to benign variants. We are still unable to identify causative mutations for many patients, even though the technology is available to do so. The manpower is largely missing."

Joining forces. Dr. Maumenee believes that it is key to create collaborations between private practices and universities. "What I want to do is basically help every ophthalmologist who sees an unusual case establish a research project with an institution. This way, patients with

genetic issues will be better positioned to find an investigator who can work toward solving the problem and possibly even develop a treatment. The flow needs to go from the private practice to the universities."

Finding treatment. "I would like to bring at least one disease to treatment," she said. "That is very high up on my list. If you look at genetic eye diseases, they are individually rare. The government's function is not to address diseases that affect maybe 1 in 100,000 people or 1 in 30,000 but rather to take care of the common problems. So there is a tremendous power in organizing patient support groups and foundations that bring patients in the United States and worldwide together to work on a given disease. Patient support groups are very important in the development of treatment."

Women in Ophthalmology

Dr. Maumenee joins Danièle S. Aron Rosa, MD, PhD, as the only women to receive the Academy's Laureate Recognition Award. "The biggest challenge lies in combining family and work life, and that continues to be a large issue for women. Women still get paid less and usually need to hire help to manage responsibilities at home. Men are parents too, but their time is often considered more valuable than a woman's time. It is a difficult position to be in," Dr. Maumenee said. She believes that if she did not have family obligations, she might have pursued more field research in inbred populations in other countries. "It's hard to know if I would have done anything really differently. I certainly would not want to be without a family." She hopes the next generation will do a better job of figuring out a balance.

In any event, those who have worked with her see no deficits. "Dr. Maumenee has embraced and mentored multiple individuals worldwide, and now all are disciples of her lessons and perseverance," said Terri L. Young, MD, MBA. "She truly is a visionary, and her pioneering work has forever changed the landscape of ophthalmic genetics."

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Four Interactive Educational Tools From the Academy

Take the Academy's interactive tools and games below for a spin at the Clinical Education kiosk in the Resource Center (Hall G, Booth 3140) or at the URLs listed below.

Interactivity and a game-based approach can make online educational activities more engaging and assist in improving comprehension and retention of information. The Academy has developed state-of-the-art simulation and interactive learning tools for the ONE Network—and to accompany several of its print publications. Below are a few examples.

1 Cases

Try your hand at interactive cases. Each module provides a case presentation followed by a pretest. Then, read the patient history, see the results of an exam (Fig. 1), decide on the appropriate workup, make the diagnosis, and select a treatment. All subspecialties are represented. Completion yields 1 CME credit. Available on the ONE Network to Academy members at aao.org/education/browse?filter=case.

2 Strabismus Simulator

This interactive simulator is designed to teach and allow practice of basic strabismus evaluation. You can apply 4 unique tests in this simulator:

- **Cover-uncover test.** See which eye is dominant, and determine whether the deviation is manifest/tropic.
- **Alternate cover test.** See the entire potential deviation: tropia and phoria.
- **Alternate cover test with prism.**

Measure the entire potential deviation: tropia and phoria.

- **Simultaneous prism cover test.** Measure only the tropia component.

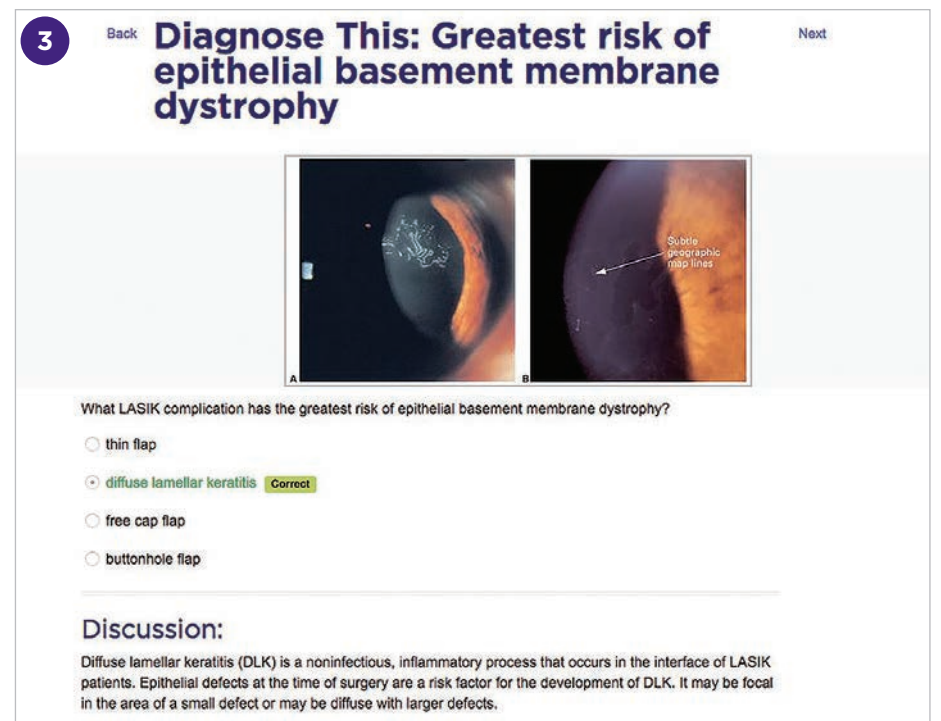
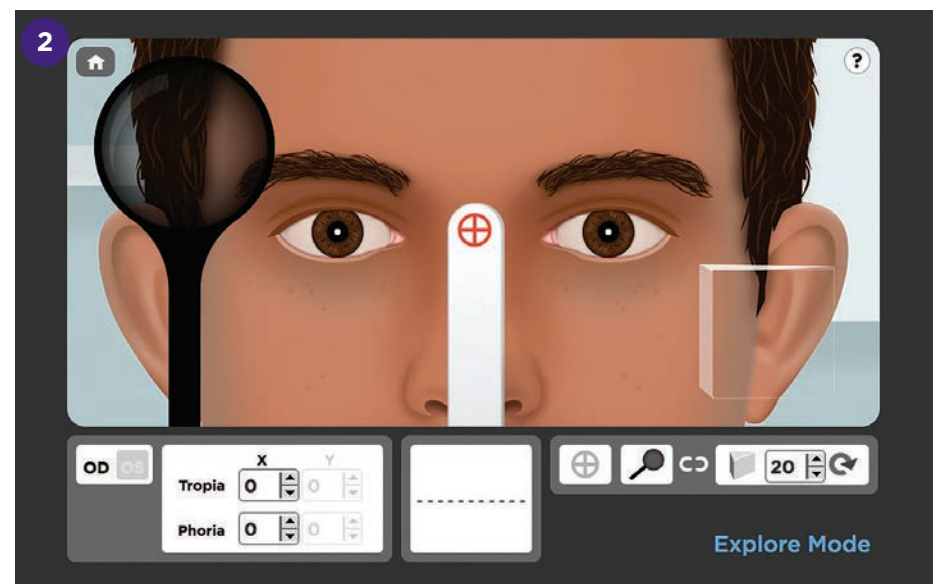
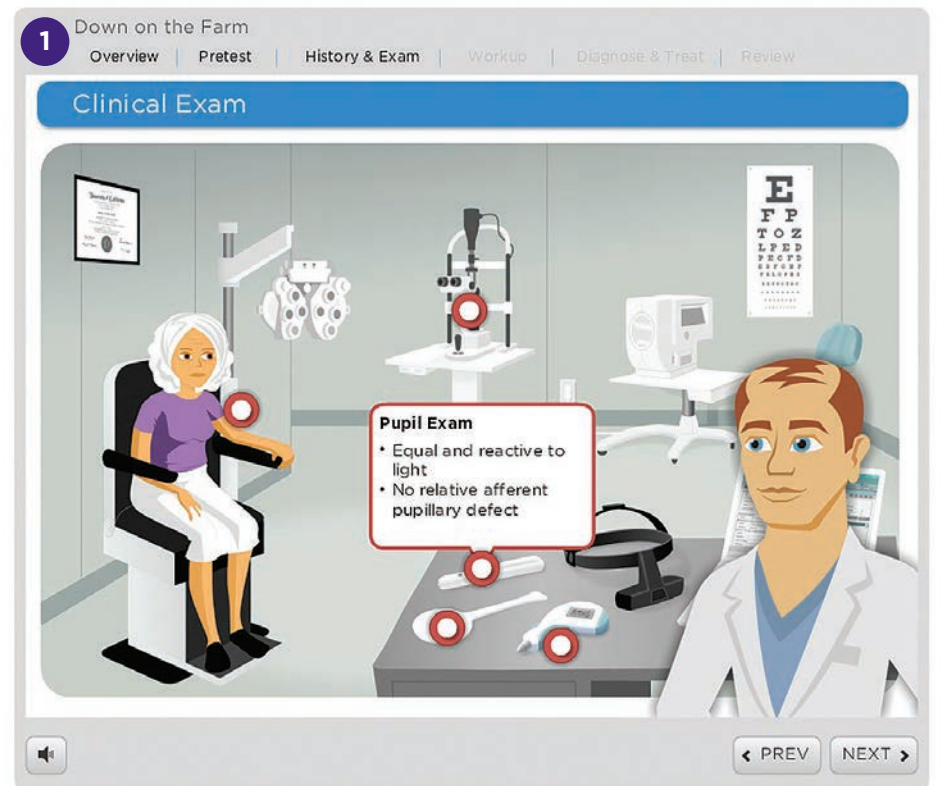
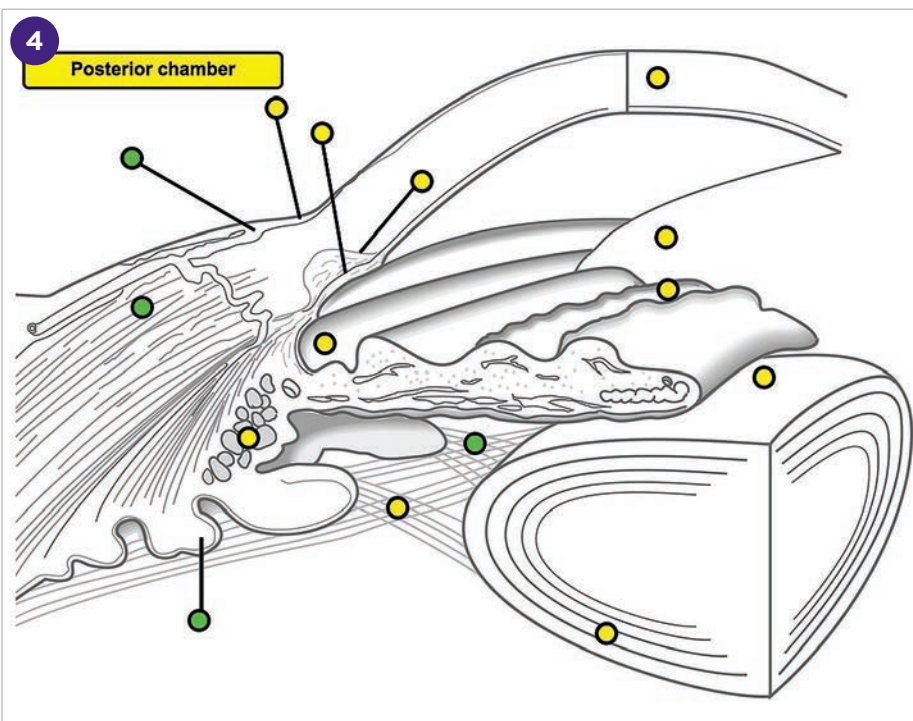
Available at the Pediatric Ophthalmology Education Center on the ONE Network at aao.org/pediatric-center-detail/strabismus-simulator.

3 Diagnose This

Diagnose This is a weekly interactive clinical quiz. It presents a single question on the week's topic. Submit your answer, then view the correct answer along with a short discussion. Subspecialties rotate from week to week. Available on the ONE Network to Academy members at aao.org/education/browse?filter=diagnose-this.

4 Basic Ophthalmology Textbook

Basic Ophthalmology is a key text for medical students and primary care residents and physicians who want to broaden their knowledge of eye disease diagnosis and treatment. To aid readers in learning eye anatomy, a complementary series of interactive tools can be used in study mode or game mode (Fig. 4). Available with purchase of *Basic Ophthalmology*, in the Resource Center, or at <https://store.aao.org/basic-ophthalmology-essentials-for-medical-students-tenth-edition.html>.



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How Empowering Your Staff Can Transform Your Practice

The 3 practices featured below made dramatic changes that enhanced efficiency, increased profitability, and boosted both patient and staff satisfaction.

These 3 practices used the lean approach to process improvement. This involves 1) identifying what the patient values; 2) reviewing the processes used to provide that value, and breaking each process down into its constituent parts (this is known as value stream mapping); 3) reviewing each step to look for waste (by, for example, conducting a waste walk); and 4) eliminating that waste. In the 3 examples below, the practices believed they were successful because they took a bottom-up approach.

Need help getting started? Use the Academy's step-by-step guide. The Academy's new ebook describes the principles that underpin the lean approach and explains how you and your staff can use lean tools—such as value stream mapping and spaghetti mapping—to transform practices. Visit the Academy Resource Center (Hall G, Booth 3140) to find out more about *The Lean Practice: A Step-by-Step Guide to Running an Efficient and Profitable Ophthalmic Practice*.

Reduce Wait Times By 85%

Dennis P. Han, MD, is the director of the vitreoretinal service at the Medical College of Wisconsin in Milwaukee. About 6 years ago, Dr. Han and his staff went lean under the guidance of Aneesh Suneja, MBA—coauthor of *Lean Doctors* and founder of FlowOne Lean Consulting—and achieved an 85% reduction in patient wait times.

Q. Why the focus on wait times?

Mr. Suneja: Wait times are a highly visible indicator of performance. No other metric tells us the state of our process so clearly.

Dr. Han: Furthermore, long wait times are a primary driver of patient dissatisfaction. Reduce wait times and you'll reduce complaints.

Q. How did you get started?

Dr. Han: To determine what changes should be made, we used value stream mapping. We also did a waste walk: Our entire staff followed a mock patient throughout a clinical encounter and measured wait times between value-added activities.

Q. The waste walk helps to identify the underlying causes for delays—can you give examples?

Dr. Han: In a retina practice, patient flow tends to slow in the photography and image acquisition area. To solve this problem, we moved our optical coherence tomography imaging devices into the examination area. [They had been located in a distant part of the clinic.] This reduced the number of steps that had to be made by both my staff and my patients and improved our patient flow.

Q. The lean approach distinguishes between value-added and changeover processes—can you give an example of how you reduced the amount of time spent on changeover?

Dr. Han: We stopped moving patients in and out of the exam room. This reduced the amount of time that people were going to the waiting room and back to the exam area. Our patients are screened by a technician, their pupils are dilated, and they are seen by the physician—all in one exam room. And while one patient's eyes are being dilated, the team moves to the next exam room and repeats the process, so there is always a patient ready to see a physician. This considerably reduced the amount of time everyone spent walking around needlessly.

Q. How do you monitor wait time performance?

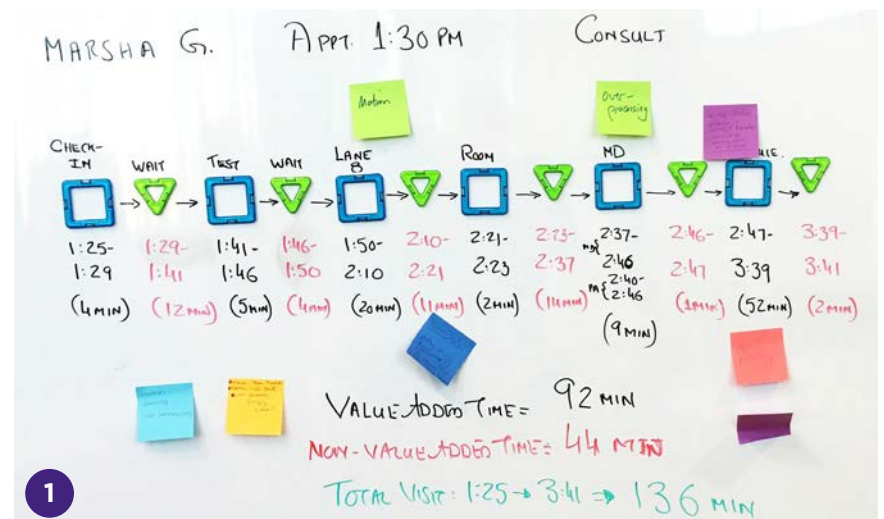
Dr. Han: On a day-to-day basis, we have an easy rule of thumb. We look at how long the last patient is discharged after his or her appointment. For instance, if our last morning clinic appointment is at 11:30 a.m., and the patient is discharged by noon, we have had a successful clinical session. Conversely, if the last patient is not discharged until 1:00 p.m., we have not, and we need to find the cause and make adjustments.

How One Practice Tripled Its Workforce Without New Hires

As clinical operations manager at the Duke Eye Center of Cary, North Carolina, Amanda Mestler, COT, had a problem: Inefficient satellite clinics were causing patients, staff, and physicians to be unhappy. But after she and colleague Heidi Campbell, COT, implemented lean management across the 6 locations, they maximized clinic flow, eliminated

Your Lean Toolkit

You can reap rich dividends by implementing a lean approach to health care, and it doesn't take much of an investment to get started. With flip charts, Post-it notes, and some sustained brainstorming, you and your staff can identify what needs to be done to boost efficiency.

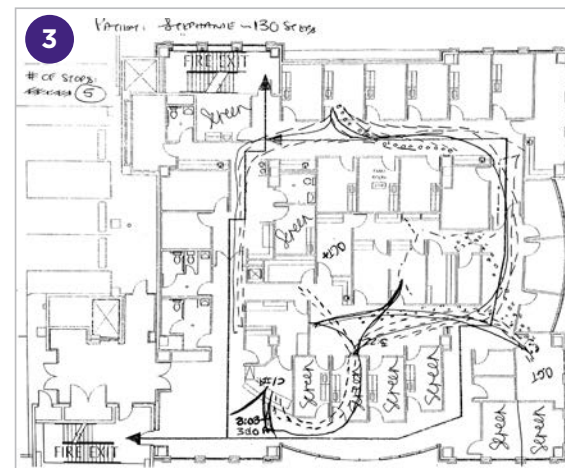


(1) VALUE STREAM MAPPING is a group activity that can be done with Post-it notes, a flip chart, or—in this example—magnets on a whiteboard. Here, it was used to map a patient's visit to a general ophthalmology office, with the square magnets representing process steps (e.g., check-in, test) and the triangle magnets representing wait times.

As part of value stream mapping, you identify what is of value to a patient. Activities that directly contribute to that value are considered value-added activities; those that don't are considered waste, and you should strive to eliminate them.

(2) THE WASTE WALK is used to identify sources of waste, which is defined as use of resources that doesn't add value. Identifying waste "is a key foundational step in the lean process," said Mr. Suneja. "It doesn't take long for the proverbial 'light bulbs' to illuminate your problem areas. This, in turn, causes a catalytic effect among the staff, motivating them to seek further sources of waste and look for ways to improve processes."

To help you get started, The Lean Practice ebook waste walk form provides examples of 8 types of waste.



(3) A SPAGHETTI DIAGRAM is a map that tracks movement of a patient and staff during a single visit. In this example, the excessive movement might be good for your Fitbit step count, but not so good from an efficiency perspective.

See The Lean Practice ebook to learn more about these tools.



Dr. Han



Mr. Suneja

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OMIDRIA (phenylephrine and ketorolac injection) 1% / 0.3% must be added to irrigation solution prior to intraocular use.

OMIDRIA is contraindicated in patients with a known hypersensitivity to any of its ingredients.

Systemic exposure of phenylephrine may cause elevations in blood pressure.

Use OMIDRIA with caution in individuals who have previously exhibited sensitivities to acetylsalicylic acid, phenylacetic acid derivatives, and other nonsteroidal anti-inflammatory drugs (NSAIDs), or have a past medical history of asthma.

The most commonly reported adverse reactions at 2-24% are eye irritation, posterior capsule opacification, increased intraocular pressure, and anterior chamber inflammation.

Use of OMIDRIA in children has not been established.

INDICATIONS AND USAGE

OMIDRIA is added to ophthalmic irrigation solution used during cataract surgery or intraocular lens replacement and is indicated for maintaining pupil size by preventing intraoperative miosis and reducing postoperative ocular pain.

Reference: 1. OMIDRIA [package insert]. Seattle, WA: Omeros Corporation; 2016.

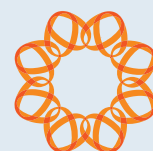
Please see the Full Prescribing Information at www.omidria.com/prescribinginformation.

*Individual insurance coverage and policies may vary, and Omeros does not guarantee insurance coverage or payment. Omeros offers payments under the OMIDRIAssure "We Pay the Difference" program on behalf of qualifying patients. OMIDRIAssure is subject to change without notice.

Visit www.omidria.com



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OMIDRIA®
(phenylephrine and
ketorolac injection) 1% / 0.3%

staff turnover, and boosted everybody's satisfaction.

Q. *What was unique about Duke's implementation of lean?*

Ms. Mestler: We weren't just looking at one office or one clinic. Our implementation involved 6 subspecialty-specific satellite clinics that all functioned in different ways. One of the locations was already very successful, though, so we used that as a model to streamline our processes, standardize our rooms, and cut out the waste.

That's not an easy task, but it was worth it. Before, staff members couldn't pop in and work in other clinics because they simply didn't know how the different locations operated. But once we were able to cross-train our technicians, we realized we could share staffing.

Now our staff can work in any of our clinics with much more ease.



Ms. Mestler

And it essentially tripled our workforce. We can now cover maternity leaves and unpaid medical leaves much more easily. And the staff really enjoys it too because now they get to work in new environments, meet new people, and see new patients.

Q. *How has lean management helped your staff stay motivated?*

Ms. Mestler: Once we empowered our techs and gave them the necessary cross-training, they quickly realized that

they really knew their stuff and that they could further succeed by taking their certification to the next level. By doing so, work became more than just a job for them—it became a career. And we included staff throughout every step of the lean process. For example, our triage process was causing some confusion among the practices, and so we asked them to help revitalize it: "What are your ideas? How would you run it?" We wanted them to do the research, figure out what was going on, and come back to us with fresh ideas.

Q. *Was there a shift in the work culture after these changes?*

Ms. Mestler: Yes! Now our staff isn't hesitant to come up with new ideas because they know if something's not working, we're willing to tweak it or try something new. For example, prior to going lean, our physician templates were underutilized and in need of changes. Because template use was low, our patient volume suffered, especially in our retina clinic. Retina is constantly evolving in terms of the need for more and more in-office treatments, such as intravitreal injections. We started to realize that these templates needed to be tweaked constantly as well. The first thing we did was go to our retina injection team and ask them, "What's working? What's not?" Are too many injections coming in all at once, or are they all coming in too late? The staff had very helpful ideas. And this did promote a culture shift.

Do You Need a Waiting Room?

At Durrie Vision in Overland Park, Kansas, Daniel S. Durrie, MD, and his team provide their patients with a wait-free experience. It is a patient referral-based practice, with patients paying entirely out of pocket.

Q. *Why did you decide to eliminate waiting in your practice?*

Dr. Durrie: About 10 years ago, we started looking at the unmet needs of our patients. Traditionally, when you visit a doctor, you approach the front desk, receive a clipboard, sit down in the waiting room, and remain there until someone calls you back to the exam room. You might wait 15 minutes or an hour before you see the physician. This begged the question, "Why is the physician's time more valuable than the patient's?"

After thinking about how we could maximize our value to the customer, we came up with a new philosophy—no clipboard, no wait. To meet this goal, we made the waiting room unnecessary. When Mrs. Jones arrives at 3:00 p.m. for her appointment, she's met at the front desk by a technician and immediately taken back.

Q. *Once you had the idea, how did you go about putting it into practice?*

Dr. Durrie: Our ophthalmologists and optometrists all knew that a top-down approach wouldn't work. So we gathered the staff and, as a group, asked ourselves, "What's the best way to accomplish our goal?"

The first thing we did was allow our patients to make appointments online and fill out paperwork at home before they get to the office. Then we had to dig a bit deeper and make sure our scheduling templates matched our patient flow. Yes, we were all going to be doing the same jobs, but how could we make sure that our technicians were able to meet the patient on time at the front desk? This is where time-management studies became very helpful.

In our practice, seeing a new refractive surgery candidate involves 4 steps:

1. Taking the patient's history.
2. Testing the patient.
3. Seeing the surgeon.
4. Counseling, if the patient elects for surgery.

To prevent bottlenecks and have everyone ready for the next patient, we realized that each of these 4 steps had to take the same amount of time to perform. There was just no way we could achieve predictable patient flow if history lasted 5 minutes and testing lasted 25 minutes. So we keep each step at around 20 minutes. To accomplish this, we moved tasks from one step to another until we got the correct fit.

Now with our plan in place, each technician knows exactly which patients they are responsible for on any given day,

whether it be the first or last patient who walks in the door. The tech knows the person's name and age and who to look for and then gets the patient through the first 3 steps. The tech is then back out at the front desk ready to rotate to the next patient.

Q. *Once you had the idea, was there any pushback from staff?*

Dr. Durrie: No, everybody was excited about it. Our schedules are now very well defined. Some of our technicians can arrive later than they normally would because their first patient may not arrive until 8:00 a.m., and some are able to leave well before we close for the day.

And again, there was no top-down approach to this. The staff really pulled it off themselves because the physicians weren't the ones greeting patients at the front desk. And they continue to play a huge role: For example, they perform time-management studies as part of our ongoing audit process. A staff member will watch the patient flow, look for bottlenecks, and propose any corrections. This has really helped us adjust when patients show up early or late and in those instances when we have a snow day or a technician calls in sick.

In the end, our process works because our staff members are happy, responsible, and capable of making their own adjustments in order to meet our overall goals. There's an old business adage: "Culture eats strategy for lunch." In other words, people need to buy into a culture before you can implement a strategy. And our entire team buys into our culture. We have very little turnover as a result.

Q. *How do your patients react to a wait-free appointment?*

Dr. Durrie: The usual responses are, "I've never been to an office that doesn't make me wait!" and "Nobody has ever appreciated my time this much!" So they certainly welcome it! We see up to 200 patients a week and try to make every one of them feel special.

Dr. Durrie is founder and president of Durrie Vision, a refractive surgery practice in Overland Park, Kansas, that doesn't accept private insurance or Medicare. *Relevant financial disclosures: None.*

Dr. Han is director of the vitreoretinal service at the Medical College of Wisconsin in Milwaukee. *Relevant financial disclosures: FlowOne: C.*

Ms. Mestler is clinical operations manager at the Duke Eye Center of Cary, N.C. *Relevant financial disclosures: None.*

Mr. Suneja is president of FlowOne Lean Consulting in Milwaukee, Wis. *Relevant financial disclosures: FlowOne: C.*

Note: The interviews were conducted by Leslie Burling-Phillips and Mike Mott. Some of this content previously appeared in *EyeNet* (Practice Perfect, December 2016) and in AAOE Lean Management blog posts (published online at aao.org/practice-management/articles-list on April 3, 2017, and April 28, 2017).

LEAN AT THE MEETING

Visit the Academy Resource Center (Hall G, Booth 3140). Go to the practice management area (look for the AAOE signs) and ask for a walk-through of *The Lean Practice: A Step-by-Step Guide to Running an Efficient and Profitable Ophthalmic Practice* (member: \$150; nonmember: \$250; save 10% if you purchase it at the Resource Center).

SUNDAY

Lean Flow Simulation for Solo and Small Practices: Creating a Differentiated Patient Experience (230).

Snr. instructor: Aneesh Suneja, MBA.

When: 2:00-3:00 p.m.

Where: Room 288.

Access: Academy Plus course pass required.

Lean for Retina Practices (261).

Snr. instructor: Dennis P. Han, MD.

When: 3:15-4:15 p.m.

Where: Room 288.

Access: Academy Plus course pass required.

MONDAY

Going Lean: Eliminating Waste in a Multispecialty Practice (439).

Snr. instructor: Heidi Ann Campbell, COT.

When: 10:15 a.m.-12:30 p.m.

Where: Room 286.

Access: Academy Plus course pass required.

Rethink Your Space: Lean Strategies to Optimize Patient Experience and Physician Efficiency (515).

Snr. instructor: Scott J. Westhouse, DO.

When: 3:15-4:15 p.m.

Where: Room 288.

Access: Academy Plus course pass required.

Changing the Culture of the Practice (533).

Snr. instructor: Stephanie R. Collins, COA.

When: 4:30-5:30 p.m.

Where: Room 288.

Access: Academy Plus Course Pass required.

TUESDAY

Optimizing Patient Flow, Staff Efficiency, and Satisfaction Levels Through Facility Design (656).

Snr. instructor: John A. Marasco.

When: 10:15-11:15 a.m.

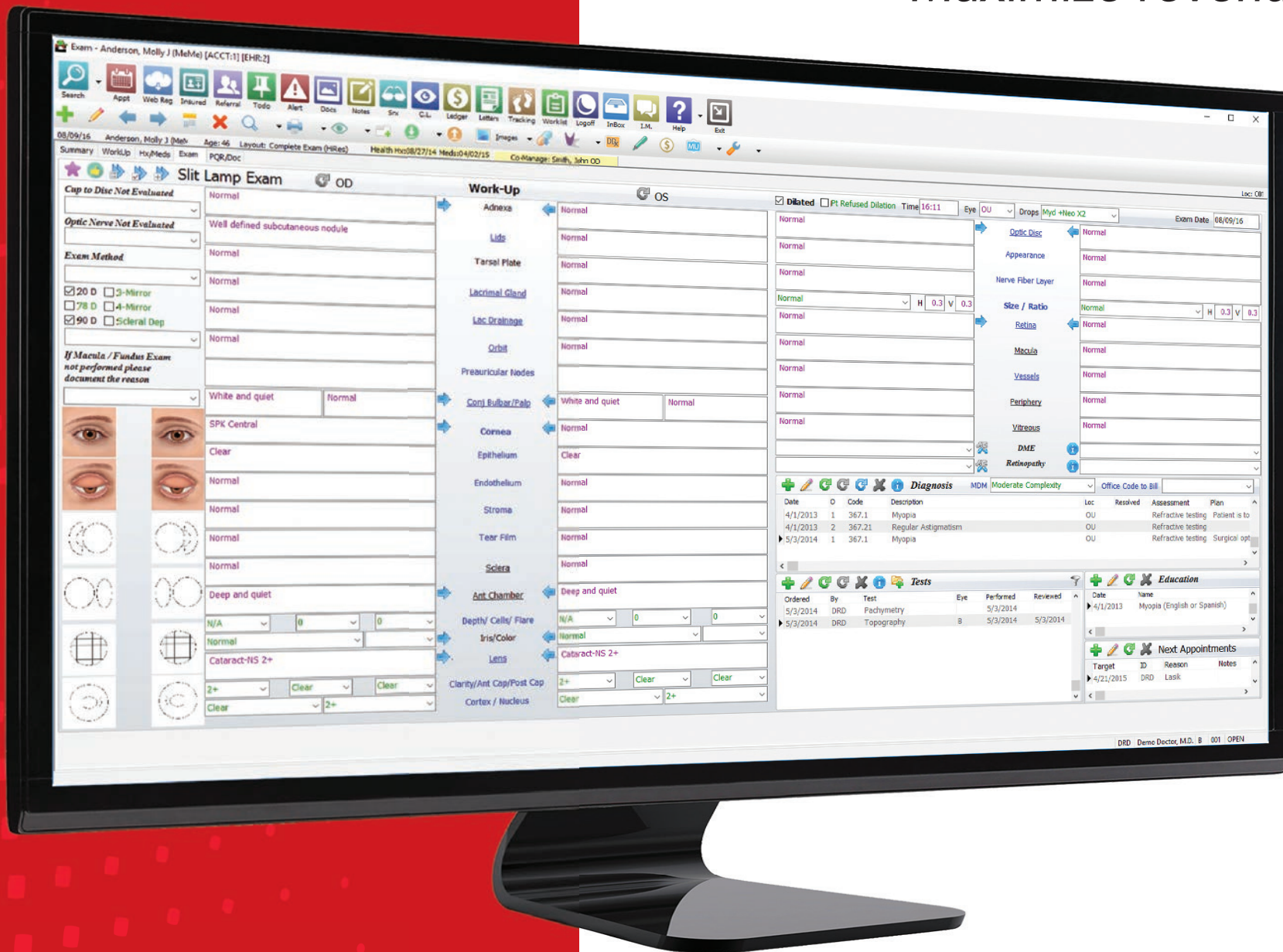
Where: Room 291.

Access: Academy Plus Course Pass required.

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Use the IRIS Registry to Report MIPS' Improvement Activities

While in New Orleans, make sure you get up to speed on the Merit-Based Incentive Payment System (MIPS) and its 3 reportable performance categories (see “Make the Most of AAO 2017,” on page 18). Start by reading this quick primer, which focuses on improvement activities.

For ophthalmology practices, the IRIS Registry is the optimal reporting mechanism for all 3 of MIPS' reportable performance categories:

- *quality*, which replaces the Physician Quality Reporting System;
- *advancing care information (ACI)*, which replaces the meaningful use program for electronic health records (EHRs); and
- *improvement activities*, which is an entirely new performance category.

Report via the IRIS Registry web portal. You can report improvement activities—as well as ACI and quality measures—manually via the IRIS Registry web portal. For quality measures, if you integrated your EHR system with

the IRIS Registry by Aug. 1, you have an alternate option of automated reporting, but improvement activities and ACI measures must be reported manually.

Did you meet the Oct. 31 deadline? In order to report for MIPS via the IRIS Registry web portal, you must have signed up for it by Oct. 31. However, if you had already signed up for IRIS Registry/EHR integration, you don't have to sign up separately to use the web portal. If you missed the Oct. 31 deadline, you can use the CMS attestation web portal to report improvement activities.

Why report MIPS? If you fail to participate in MIPS this year, your 2019 Medicare payments will be subject to a –4% penalty.

Avoid a penalty. CMS has set a low bar for avoiding the penalty this year: You must score at least 3 points, and can do so using any of the 3 performance categories. (See aao.org/zeropenalty2019.)

Choose, Perform, and Document Your Activities

What are improvement activities?

Improvement activities are intended to promote care coordination (e.g., “Practice improvements for bilateral exchange of patient information”), beneficiary engagement (e.g., “Use of tools to assist patient self-management”), and patient safety (e.g., “Implementation of an antibiotic stewardship program”).

Which improvement activities are most relevant to ophthalmology? The IRIS Registry web portal supports reporting of the 21 improvement activities that are most relevant to ophthalmology. You can review descriptions of those measures in the web portal itself (see “(8) Activity descriptor” in “Improvement Activities: A Snapshot of the Portal,” below).

If you use EHR, go for the ACI

bonus by using CEHRT for improvement activities. Certain activities not only contribute to your improvement activities score but also can boost your ACI score if performed using a certified EHR technology (CEHRT).

The minimum performance period is 90 consecutive days. CMS designated Oct. 2 the last day to start performing improvement activities.

Each improvement activity is all or nothing. You won't score points for an improvement activity unless it is performed for 90 days and you satisfy all of its requirements. You do not score partial credit for partially reporting an activity.

To get the maximum score, you must perform and report 1 to 4 improvement activities. The number of activities depends on how they're weighted, and on the size and location of your practice (see “Scoring Summary,” page 18).

In case of a future audit, document performance of your improvement activities. The Academy's detailed improvement-activity listing includes

Improvement Activities: A Snapshot of the Portal

You can use the IRIS Registry web portal to report any of the 21 improvement activities deemed most applicable to ophthalmology practices. Here's a snapshot of the screen that you use to report those activities.

(1) IA Tab. Select the improvement activities tab for a list of the 21 improvement activities that you can report via the IRIS Registry web portal.

(2) Clinician Type. Click on clinician type to indicate whether you are in a rural practice, in a practice that is in a health professional shortage area, or are reporting as a non-patient-facing MIPS participant. Your score will be doubled if you are in any one of those 3 categories or are in a solo practice or a small practice—which, for MIPS, means the practice has fewer than 16 MIPS eligible clinicians. (You indicate practice size during set up.)

(3) Performance period. Indicate the dates that you started and ended your performance period for improvement activities.

(4) Scores. See your estimated improvement activities score (up to 40 points) and how much it will contribute to your MIPS final score (up to 15 points). These scores are based on the activities that you report you performed—see “(7) Attestation.”

(5) Filters. You can shorten the list of improvement activities.

- **Filter by “CEHRT Activity.”** Four of the 21 improvement activities don't just contribute to your improvement activities score—you also can earn a bonus for your ACI score if you use certified EHR technology (CEHRT) to help you perform those activities. Note: If you don't have CEHRT, you can still perform those activities, but you won't get an ACI bonus.

- **Filter by “High Weight Activity.”** See a list of activities that can each earn

Note: If a practice reports quality at the group level, it must report each category, including ACI and IA at the group level. If a practice reports at the individual clinical level, they must do so for all categories.

Quality 1 IA 2

Clinician Type: Patient Facing 3 From: To: Save 4 2 Activities selected 5 IA score: 30/40 Contribution to Total MIPS Score: 11.25/15

Each activity must be performed for 90 consecutive days to get any points.

5 CEHRT ACTIVITY HIGH WEIGHT ACTIVITY YOUR FAVORITE 6

<input type="checkbox"/>	Use of QCDR to promote standard practices, tools and processes in practice for improvement in care coordination	10	☆
<input type="checkbox"/>	Use of QCDR data for quality improvement such as comparative analysis reports across patient populations	10	☆
<input type="checkbox"/>	Use of QCDR for feedback reports that incorporate population health	20	☆
<input type="checkbox"/>	Use of QCDR data for ongoing practice assessment and improvements	10	☆
<input type="checkbox"/>	Use of QCDR data, for ongoing practice assessment and improvements in patient safety.		
	Activity ID: IA_PSPA_7	Activity Weighting: Medium	
<input type="checkbox"/>	Participation in MOC Part IV	10	☆

you 20 points (40 points if you score double).

- **Filter by “Your Favorite.”** See a list of activities that you have flagged as favorites.

(6) Favorite indicator. Click on a star to flag it as a favorite activity (solid star); click it again to make it a nonfavorite (star outline).

(7) Attestation. Tick a box to attest that you performed an activity.

(8) Activity descriptor. Click the downward arrow to see an activity's description; click an upward arrow to hide the description.

Learn more. For detailed step-by-step instructions, go to aao.org/iris-registry and navigate to the User Guide, where you also will find how-to videos. For a quick demo, visit the IRIS Registry kiosks at the Academy Resource Center (Hall G, Booth 3140).

Visit the Tech Pavilion for a half-hour demonstration. IRIS Registry Dashboard and Analytics Demonstration (Part IV of ABO and MIPS) (Tech17).

When: Monday, 11:30 a.m.-noon. **Where:** Technology Pavilion (Booth 5347).

Access: Free.



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suggested documentation for all 21 improvement activities (aao.org/mips-activities).

Scoring Summary

How many points do you get for an activity? It depends on how the activity is weighted (and whether you're able to double the score). If the activity weight is:

- medium—10 points (double score: 20 points)
- high—20 points (double score: 40 points)

Who scores double? Those who are:

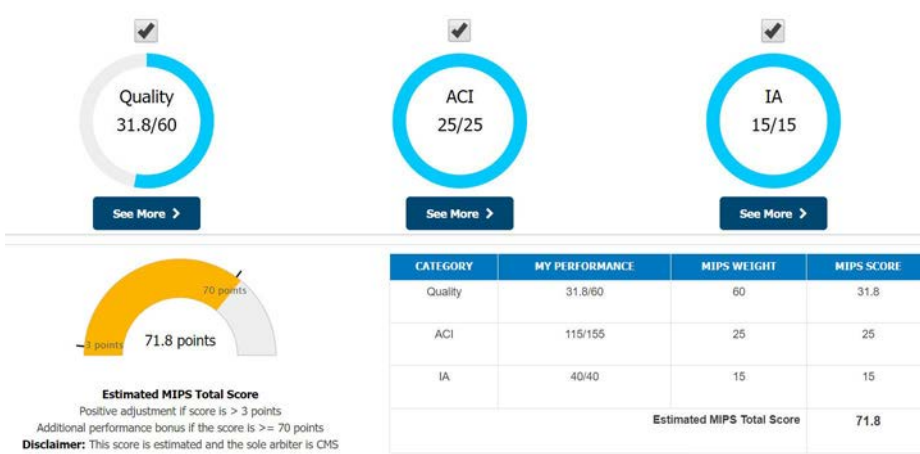
- in small practices (< 16 MIPS eligible clinicians)
- in rural practices
- in practices in geographic health professional shortage areas (HPSAs)
- non-patient-facing MIPS participants

Maximum score is 40 points. So a small practice could max out by reporting 1 high-weighted activity.

Calculating your improvement activities score (0%-100%): CMS divides your total number of points by 40 and turns the resulting fraction into a percentage. For example, if you get 30 points, your ACI score would be 75%. This is your improvement activities score.

Your improvement activities score (0%-100%) contributes up to 15 points to your MIPS final score. For example, if your improvement activities score is 75%, it would contribute 11.25 points to your MIPS final score.

For a more detailed guide to improvement activities, see EyeNet's MIPS Manual 2017 at aao.org/eyenet/mips-manual-2017.



VIEW YOUR PERFORMANCE. After you have entered your information for quality, ACI, and improvement activities, the IRIS Registry web portal will estimate how much each performance category will contribute to your MIPS final score. The yellow “speedometer” gives an estimate for your MIPS final score. (Please note: These are estimated scores; CMS is the sole arbiter of MIPS scoring.)

Make the Most of AAO 2017

Don't leave New Orleans without doing the following:

- Attend this year's MIPS events (see below).
- Visit the Academy Resource Center (see box, below).
- Visit the Electronic Office (Hall G, Booth 3654)—learn how improved interoperability will help you improve your ACI score.

Sunday

Medicare Forum (event code “Spe16”). Academy Medicare experts will discuss a range of topics.
When: 12:15-1:45 p.m.
Where: New Orleans Theater C.
Access: Free.

MIPS in 2018 (224). Senior instructor: Sue Vicchilli, COT, OCS. Learn about changes in the reporting requirements for MIPS in 2018. The categories of quality, improvement activities, and ACI will be presented. Academy experts available to answer questions specific to your practice.
When: 2:00-3:00 p.m.
Where: Room 286.
Access: Academy Plus course pass required.

How the IRIS Registry Helps You Participate in the Merit-Based Incentive Payment System (MIPS) (260). Senior instructor: Rebecca Hancock. The IRIS Registry supports Academy members' participation in MIPS, including the quality reporting, clinical practice improvement, and ACI categories.
When: 3:15-4:15 p.m.
Where: Room 290.
Access: Academy Plus course pass required.

Change Management: Improving EHR Efficiency and Advancing Care Information (ACI) Success (259). Senior instructor: Joy Woodke, COE, OCS. Resistance to change can pose a significant problem when a practice needs to change workflow to accom-

modate the ACI requirements. Review the principles of change management and how personnel may respond during these transitions.
When: 3:15-4:15 p.m.
Where: Room 291.
Access: Academy Plus course pass required.

ACI/FAQs: Let's Clear It Up! (273) Senior instructor: Susan M. Loen, OCS, and Brittney Wachter, CPC, OCS. The instructors will explain key ACI details and review some frequently—and some not so frequently—asked questions that have been submitted to the Academy's MIPS experts.
When: 4:30-5:30 p.m.
Where: Room 288.
Access: Academy Plus course pass required.

Monday

Advancing Care Information Panel: Ask Us! (440) Senior instructor: Jessica Peterson, MD, MPH. This panel discussion and Q&A focuses on how to succeed under the new version of Meaningful Use, ACI. Learn tips and tricks and get answers to questions affecting your practice.
When: 10:15-11:15 a.m.
Where: Room 288.
Access: Academy Plus course pass required.

The Medicare Access and CHIP Reauthorization Act (MACRA): What the New Changes Mean to Your Patients and Your Practice (Sym30) Chairs: Adrienne Williams Scott, MD, and Keith

A. Warren, MD.

When: 10:15-11:45 a.m.

Session I: The Basics of the New Payment System

10:17 a.m.: MACRA: What Is This New Alphabet Soup of Regulations? How Can We Best Implement It Into Practice? (William L. Rich III, MD, FACS)

10:27 a.m.: Physician Quality Reporting: The Utility of the IRIS Registry in Academic and Private Practice (George A. Williams, MD)

10:37 a.m.: Replacement of the Flawed SGR Formula: The Rationale, Intent, and Unintended Consequences of a New Payment System

Session II: Impact of MACRA Implementation

10:55 a.m.: Implementation of MACRA in an Academic Group Practice: The Good, the Bad, and the Ugly (Keith D.

Carter, MD, FACS)

11:03 a.m.: Implementation of MACRA in a Large Subspecialty Practice: Will the New Payment System Work? (Reginald J. Sanders, MD)

Session III: Panel Discussion

Session IV: Closing Perspective

11:31 a.m.: The Role of Advocacy in Shaping the Future of Health Care Policy (George A. Williams, MD)

Where: New Orleans Theater C.

Access: Free.

Advancing Care Information 101 (481). Senior instructor: Brittney Wachter, CPC, OCS. Identify the steps you need to take to successfully report ACI.
When: 4:30-5:30 p.m.
Where: Room 292.
Access: Academy Plus course pass required.

MAKE A QUICK TRIP TO THE ACADEMY RESOURCE CENTER (HALL G, BOOTH 3140). Ask for a demonstration of MIPS reporting at the IRIS Registry kiosk. Got MIPS questions? Bring them to the AAOE Coding desk.

Find Innovative Solutions at the Academy Resource Center

Learn about Academy services and discover the latest products at the Resource Center (Booth 3140). Academy staff members are on hand to answer your questions and help you find the most valuable resources.

AAO 2017 MEETINGS ON DEMAND

View your favorite presentations again or see what you missed with AAO 2017 Meetings on Demand. Own nearly 200 hours of presentations from AAO 2017, Subspecialty Day, or the AAOE Program. This is an online product.

AAOE: CODING

Stop by the Coding desk to speak with the experts about reimbursement, critical coding updates, and answers for all of your coding conundrums.

AAOE: NEW PRODUCTS

Ask about the Academy's practice management and coding products, including:

- *The Lean Practice: A Step-by-Step Guide to Running an Efficient and Profitable Ophthalmic Practice*. Do more with less using this new practice management program developed specifically for ophthalmology. This is an eBook.
- *The Lean Practice: Mastering the Art of Lean On-Demand Class*. This online class and e-course book present innovative lean principles and implementation steps.
- *2018 ICD-10-CM for Ophthalmology*:

The Complete Reference. The ultimate reference for coding ophthalmic diagnoses using the ICD-10-CM code set. Refreshed and updated to better suit your practice's needs, with new and revised codes for 2018. Also available online, so the right code is just a click away.

- *2018 Coding Coach: Complete Ophthalmic Coding Reference*. This bestselling 1-stop coding book consolidates the information you need for a given procedure from nearly a dozen sources. Also available online.
- *2018 Retina Coding: Complete Reference Guide*. This book explains the nuances of coding retinal conditions and procedures and provides best practices to document services and submit claims.
- *2018 CPT: The Complete Pocket Ophthalmic Reference*. Ophthalmic-specific CPT codes and descriptions allow you to quickly find the codes you need.
- *Learn to Code the Essentials and Learn to Code the Subspecialties*. *Essentials* covers topics that every coder, beginner to intermediate, needs to know. *Subspecialties* covers the most commonly performed services unique to each subspecialty. Both publications are excellent study guides for the Ophthalmic Coding



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- **New 1-Hour Courses.** Learn accurate coding and documentation from the comfort of your home or office. Developed by the Academy's coding experts, each online course is packed with the information you need to maximize reimbursements and avoid audits.
- **New 1-Hour Webinars.** Upcoming live webinars include "Effectively Manage Your Millennial Physicians and Staff" and "2018 Ophthalmology Coding Update."
- **Ophthalmologists Business Summit.** Learn how to run a profitable practice in this in-person summit for physicians.

ACADEMY STORE

All Academy products are available for purchase at the **Academy Store desk**. Many products can be picked up the same day, or you can have your orders shipped to you. During AAO 2017, enjoy 10% off all product purchases.

ADVOCACY

Visit the Advocacy desk to get a summary of legislative issues, send a letter to Congress, and learn about OphthPAC and the Surgical Scope Fund.

CLINICAL EDUCATION: NEW PRODUCTS

View the Academy's latest clinical education products, including:

- **BCSC.** The 13 volumes of the *2017-2018 BCSC* include 3 major revisions: Section 05: Neuro-Ophthalmology, Section 08: External Disease and Cornea, and Section 13: Refractive Surgery. Ten sections include video demonstrations. Available in print or eBook.
- **Focal Points 2018.** This subscription series features practical hands-on modules that are written and reviewed by leading experts. A 1-year subscription gives you access to a new module each

month, plus access to the online archive of more than 100 titles.

- **Clinical Webinar Series.** Get live access to experts on topics that will help you improve patient outcomes and gain insight on important, timely clinical issues. These convenient, interactive seminars are presented by well-known ophthalmic leaders and provide opportunities to ask questions, participate in live polls, interact with other attendees, and earn CME credit. Coming up in December: Patient/Doctor Communication.
- **MOC Exam Review Course on Demand.** Full slide and audio content in an easy-to-use, searchable, online format. Choose from 11 full-day sessions.
- **Ophthalmic Medical Assisting: An Independent Study Course**, 6th ed. This fully updated self-study program for beginning ophthalmic assistants also serves as a prerequisite for the COA exam. Available in print, online, or as an eBook.
- New from the American Society of Ophthalmic Registered Nurses: *Care and Handling of Ophthalmic Microsurgical Instruments and Ophthalmic Procedures in the Operating Room and Ambulatory Surgery Center*.

CME REPORTING

To report your AAO 2017 and Subspecialty Day CME credit at the Resource Center, visit the CME Reporting/Proof of Attendance kiosk.

CONVERSATIONS WITH THE EXPERTS

Need some one-on-one time? Sign up for Conversations With the Experts—free, 20-minute consultations with practice management specialists (appointments are recommended).

eBOOK SUPPORT

The AAO eBooks app is a free e-reader for Apple and Android tablets and smart-

ATTEND RESOURCE CENTER SPECIAL EVENTS

- **ONE Network: Celebrating Innovation in Education.** Join the visionaries of the Academy's ONE Network, including H. Dunbar Hoskins Jr., MD, for a special look at the evolution and impact of the world's largest collection of ophthalmic education. **When:** Saturday, 2:00-3:00 p.m.
- **Academy Foundation Donor Reception.** As a special thank-you, the Academy Foundation invites its donors to meet Academy leaders and enjoy refreshments. **When:** Saturday, 4:00-5:00 p.m.
- **Ophthalmology and Ophthalmology Retina: Meet and Greet the Editors.** Authors and peer reviewers are invited to visit the Resource Center to meet members of the editorial boards. **When:** Sunday, 1:00-3:00 p.m.
- **AAOE Presents: Ophthalmologists Business Summit.** Join the AAOE board and staff for a tasty snack and announcements about valuable new practice management programs you won't want to miss. **When:** Sunday, 2:00-3:00 p.m.
- **EyeCare America Volunteer Reception.** EyeCare America volunteers, join your colleagues as we honor you and your dedication to this vital public service. **When:** Sunday, 3:00-5:00 p.m. **Where:** Museum of Vision, Booth 3047.
- **Ophthalmology Retina Launch Celebration.** Early subscribers and published authors of the new *Ophthalmology Retina* journal are invited to meet editor-in-chief Andrew P. Schachat, MD, and the editorial board over energizing refreshments. **When:** Monday, 10:00-11:00 a.m. **Where:** Museum of Vision, Booth 3047.

phones. At the Clinical Education eBook Support counter, get help downloading the app and learn how you can access your Academy eBook purchases from your tablet and download them for off-line use.

EYENET, OPHTHALMOLOGY, AND OPHTHALMOLOGY RETINA

Visit the Clinical Education products kiosk to leaf through copies and learn more about the following publications.

- **NEW: *Ophthalmology Retina*.** The Academy's newest scientific journal.
- ***Ophthalmology*.** The Academy's flagship peer-reviewed journal.
- ***EyeNet*.** The Academy's official news-magazine.

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EYEWIKI

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Visit the Foundation desk to learn how you can support the Academy's educational, quality-of-care, and service programs. You can also enroll as a volunteer for EyeCare America, the award-winning public service program. Plus, current volunteers can order a recognition certificate and pick up a gift.

INFORMATION

Have questions about the Resource Center or AAO 2017? Get answers at the Academy Information desk.

IRIS REGISTRY

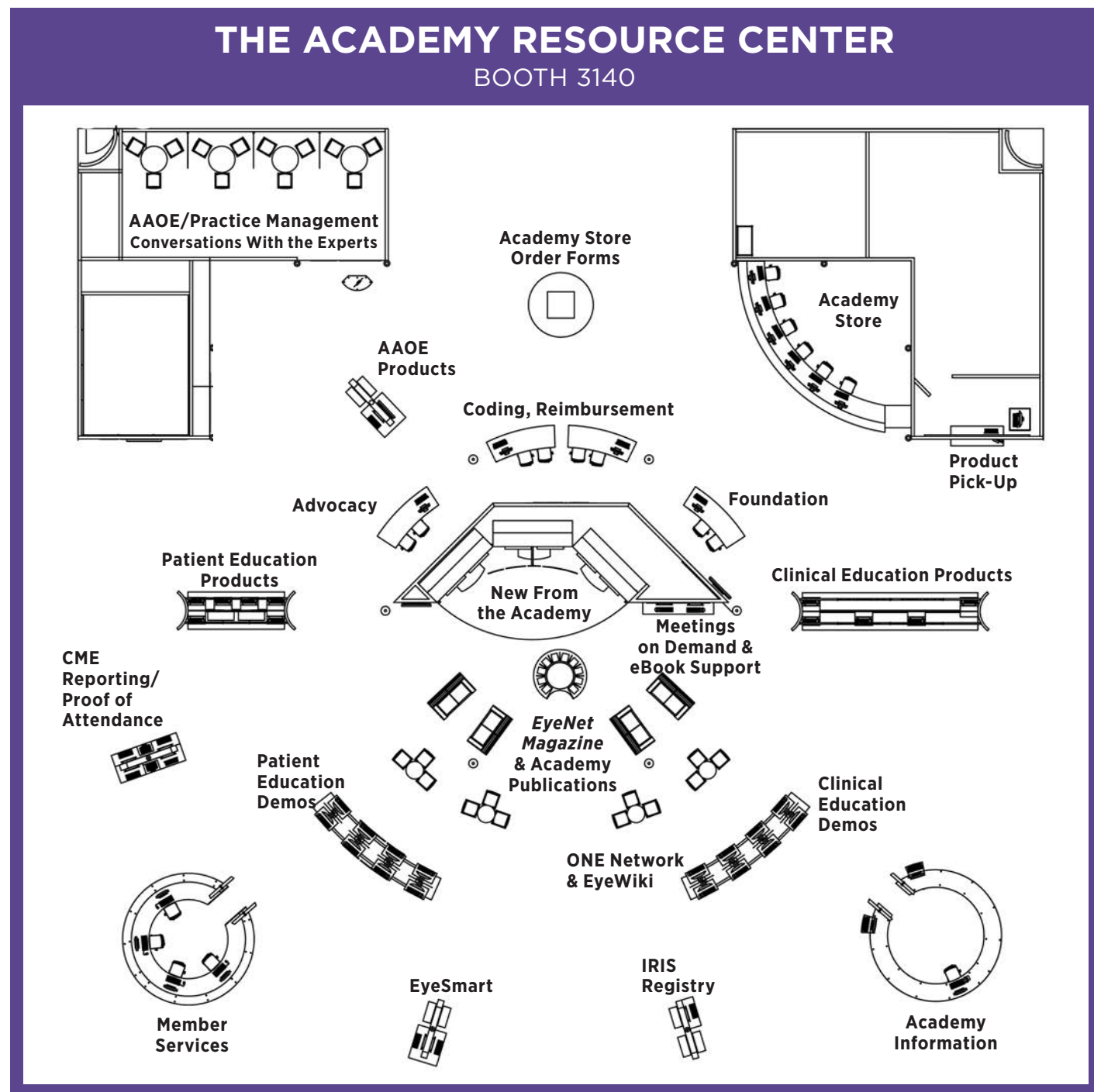
Visit the IRIS Registry kiosk to get a demo of the groundbreaking IRIS Registry (Intelligent Research in Sight), the world's largest eye disease and condition registry.

MEMBER SERVICES

Be sure to check out the Member Services desk to learn more about the Academy, AAOE, or ISRS; pay your dues; or ask questions about your member benefits. Not a member? Apply for Academy membership while you're in New Orleans and save \$100 off the application fee. Save \$50 off the AAOE application fee.

OPHTHALMIC NEWS & EDUCATION (ONE) NETWORK

The ONE Network is the world's largest online source of ophthalmic peer-reviewed news and education. This valuable member benefit includes 500+



interactive online cases and courses; 1,100+ self-assessment questions; 2,200+ clinical videos and podcasts; access to 10 leading journals and *EyeNet*; and the latest news. Learn more at the Clinical Education demos kiosk.

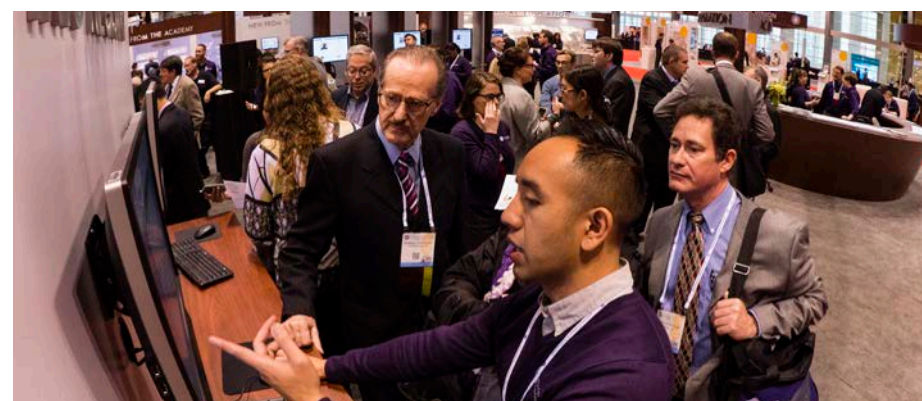
OPHTHALMOLOGY JOB CENTER WEBSITE

Check out the No. 1 job site for ophthalmologists and ophthalmic professionals at the AAOE product kiosk.

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QUALITY OF CARE

On the ONE Network monitors at the Clinical Education Demos kiosk, you'll find:

- **PPPs.** Browse the Academy's *Preferred Practice Pattern* guidelines, available for free at aao.org/ppp. There are new titles on cataract, retina, pediatrics, refractive, and vision rehabilitation. The PPPs help you ensure that patients receive high quality, evidence-based eye care.
- **OTAs.** See the new *Ophthalmic Technology Assessments* for free from the *Ophthalmology* journal website at aaojournal.org/content/ophthalmictechnologyassessment.

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Meeting the need. An increasing aging and diabetic population gives way to an increased number of patients diagnosed with retinal diseases. Regeneron is committed to delivering targeted therapies that can impact your patients' vision.

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03/2016
US-OPH-11013

The 50th Anniversary of Phacoemulsification

This year's Museum of Vision exhibit celebrates phaco as a milestone in cataract surgery as well as the historical achievements leading up to it.

Visit the Museum of Vision at Booth 3047 to see "Cataract," an exhibit that reviews the history of cataract surgery in honor of phacoemulsification's 50th birthday. This year's exhibit focuses on changes, challenges for the surgeon, and controversies in surgical technique from ancient times (couching) to the present. The exhibit features 7 display cases containing artifacts from all over the world, including the 4 highlighted below.

Couching Needle

Couching was a surgical procedure that consisted of inserting a needle through the sclera to dislocate the opaque lens back and into the vitreous of the eye. There, the lens remained out of the field of vision. The quality of sight after a couching procedure would have been poor, especially before the invention of spectacles. The patient, who endured the surgery without anesthesia, would have done so because limited vision was preferable to blindness. In 600 BCE, Maharshi Sushruta of India published *Sushruta Samhita*. Today, it is the oldest surviving surgical text in the world to discuss cataract surgery, specifically couching. It describes using a couching needle for cataract removal, then soaking the eye in warm butter before bandaging it and allowing it to heal.

These methods for dealing with cataracts were largely unknown in the West until the Silk Road trade routes were established around 130 BCE, bringing medical knowledge from India to

both the West and Far East. Before that, Aristotle and the Greeks (circa 300 BCE) believed the lens (not the retina) to be the seat of vision; thus, they considered cataracts to be incurable. However, the Romans adopted couching from the Far East, and couching remained the most popular method of cataract surgery in the West through the 1800s. This method of removing cataracts was often performed by itinerant surgeons or barbers, much like bone setting and removal of kidney stones.

A Turning Point

Jacques Daviel, MD, a French ophthalmologist, is known for catapulting cataract treatment beyond couching.

On April 8, 1747, he performed the first modern cataract surgery by making a corneal incision to remove the lens. Dr. Daviel's procedure required a corneal knife, forceps or scissors, a blunted needle, a spatula, and a spoon. He recommended using the fingers so that the "cataract is gently pushed into the anterior chamber and from there onto the cheek." After the operation, the eyes were bathed in a mixture of water and wine, then covered by a cotton

dressing. Then, patients were to lay on their backs in a darkened room for approximately 8 days. In 1752, he presented his findings to the French Academy of Surgery in a paper entitled "Sur Une Nouvelle Methode de Guerir la Cataracte Par L'extraction du Cristalin," or "A new Method of Curing Cataract by Removing the Lens."



EXTRACAPSULAR EXTRACTION. These illustrations depict Dr. Daviel's method for lens extraction.



IOL CIRCA 1950. One of Sir Ridley's implants, removed in April 1987. Gift of W. Malcolm Orr, MD, in memory of C.H. Moore, MD.

Sir Ridley's Implant

This Ridley intraocular lens (IOL) consists of a simple plastic disk with a raised edge inside a white plastic container. In 1940, Germany launched the air attack known as the Battle of Britain. Through his role in the medical service, Sir Nicholas Harold Lloyd Ridley, FRS, came into contact with Royal Air Force pilots who suffered from eye injuries. Many of these injuries included fragments of airplane canopies, which were made of polymethyl methacrylate (PMMA; also known as Perspex). In 1949, Sir Ridley took his observations of Perspex to Rayner, a London manufacturer, and together they developed IOLs. The first implant was made Nov. 29, 1949. The ophthalmic community in Europe and the United States rejected his work, branding him a danger to patients. It would be 30 years before IOLs gained widespread approval.

One of the First Phaco Machines

In 1967, Charles Kelman, MD, introduced phacoemulsification, which uses ultrasound to fragment soft lens material, which is then aspirated. Smaller incisions (3 mm) could now be used, and sutures were reduced to 1 or none.

After 2 years of investigating a new method to remove cataracts through a small incision, Dr. Kelman was in the dental chair in 1964 and noticed that the dentist was using a Cavitron high-frequency ultrasonic probe to remove tartar.



This led to an "aha" moment for the invention of the first phaco machine. It took years of modifications and iterating before it was finalized, however. In 1966, a working irrigation and ultrasonic unit was ready for animal trials. It was tested in the first human patient in 1967—and in 1970, the Kelman phacoemulsification unit, manufactured by Cavitron, was ready for market. Although it was initially viewed as radical and risky, it soon became the gold standard for cataract surgery—one of the most common medical procedures performed in the United States.



A REVOLUTIONARY INVENTION. Charles D. Kelman, MD, the inventor of phacoemulsification, wrote that "revolutionary thinking rarely meets with immediate approval."

Attend a Session on Cataract Surgery History

On Monday, check out **Historical Controversies in Cataract Surgery:**

From Couching to Phaco (Sym32). The following topics will be covered:

- The 100 Years War: From Couching to Extraction (Daniel M. Albert, MD, FACS)
- ECCE vs. ICCE: Are the Parts Greater Than the Whole? (Manus C. Kraff, MD)
- Incisions and Sutures: To Close or Not to Close? (Norman B. Medow, MD, FACS)
- Phacoemulsification: The Evolution of Surgical Technique (Robert H. Osher, MD)
- IOLs: Location, Location, Location (Randall J. Olson, MD)
- Phaco at 50: The Man and His Legacy (Jack M. Dodick, MD)

When: Monday, 12:15-1:45 p.m. **Where:** Room 243. **Access:** Free.



BRONZE COUCHING NEEDLE CIRCA 30 BCE-200 CE. This Roman needle likely owes its design to Indian scholars, whose knowledge of medicine was disseminated through trade and travel along the Silk Road established in 130 BCE. The needle has a point at 1 end, and a hole is located 1 inch from the other end. The twisted metal is thought to aid grip.

INSIGHTS COME TO LIGHT

AT ALLERGAN BOOTH 1324

Saturday, November 11, 2017

9:30 AM

Understanding the Signs and Symptoms Disconnect

Richard Adler, MD, FACS

10:00 AM

Multifactorial Approaches to DME and RVO

Brian Chan-Kai, MD

10:30 AM

A Minimally Invasive Approach to IOP Control

Nathan Radcliffe, MD

11:00 AM

IOL Exchange From Mundane to Insane

Brandon Ayres, MD

11:30 AM

Multifactorial Approaches to DME and RVO

Adam Gerstenblith, MD

12:00 PM

Strategies for the Rock-Hard Nucleus

David Chang, MD

12:30 PM

Nasty Cataracts: Prevention and Management of Complications

Robert Osher, MD

1:00 PM

A Minimally Invasive Approach to IOP Control

Arsham Sheybani, MD

1:30 PM

A Minimally Invasive Approach to IOP Control

John Berdahl, MD

2:00 PM

The Key Elements of Effective Intravitreal Injection Reimbursement

William Koch, COA, COE, CPC

2:30 PM

A Minimally Invasive Approach to IOP Control

Jonathan Myers, MD

3:00 PM

Multifactorial Approaches to DME and RVO

Rajiv Shah, MD

3:30 PM

Complicated Case Management

Bonnie Henderson, MD

Sunday, November 12, 2017

9:30 AM

The Key Elements of Effective Intravitreal Injection Reimbursement

William Koch, COA, COE, CPC

10:00 AM

A Minimally Invasive Approach to IOP Control

Davinder Grover, MD

10:30 AM

The Science Behind Neurostimulation and Ophthalmology

Laura Periman, MD

11:00 AM

Multifactorial Approaches to DME and RVO

John Huang, MD, MBA, CPE

11:30 AM

Lowering IOP in the Real World

Ronald Gross, MD

12:00 PM

The Science Behind Neurostimulation and Ophthalmology

John Sheppard, MD, MMSc

12:30 PM

Multifactorial Approaches to DME and RVO

David Callanan, MD

1:00 PM

Lowering IOP in the Real World

Ronald Gross, MD

1:30 PM

Surgical Techniques for the Complex Cataract Patient

Terry Kim, MD

2:00 PM

Multifactorial Approaches to DME and RVO

Jeremy Wolfe, MD

2:30 PM

A Minimally Invasive Approach to IOP Control

Robert Noecker, MD

3:00 PM

Breaking Bad—A Cataract Surgeon's Guide to Unconventional Techniques

Gary Wortz, MD

3:30 PM

Multifactorial Approaches to DME and RVO

Robert Kwun, MD

4:00 PM

Resident Writer Award Ceremony

Monday, November 13, 2017

9:30 AM

Approaches to Tough Cataracts

Eric Mann, MD

10:30 AM

The Science Behind Neurostimulation and Ophthalmology

Preeya Gupta, MD

Booth 1324



6 Must-See Videos: Check Them Out on a Screen Near You

This year's Best of Show winners, listed below, will be featured at an awards ceremony on Tuesday, beginning at 10:45 a.m. in the Learning Lounge, Hall G, Booth 3847.

This year's program consists of 50 videos (see the *Meeting Program*), viewable at the Videos on Demand computer terminals in Hall C. You can also watch them via the Mobile Meeting Guide or by visiting aao.org/programsearch.

CATARACT **Complications of Ophthalmic Anesthesia: A Career Odyssey (V01)**

More than 3 decades of videos were reviewed, providing an abundance of anesthesia complications from which to choose for this video. The complications fell into 3 categories of cause: the needle, the increased orbital volume, or the drug itself. While every cataract surgeon is acutely aware of the intraoperative complications related to the procedure, this video demonstrates the serious nature of ophthalmic anesthesia, to which we often pay little attention. *Senior Producer: Robert H. Osher, MD.*

Fun With Femtosecond Lasers: Episode II—Adjustment of IOL Power (V02)

This video describes in vitro and in vivo (rabbit model) studies using a femtosecond laser to alter the hydrophilicity of targeted areas within an IOL, creating the ability to build a refractive index shaping lens in an existing IOL. Post-operative noninvasive power adjustment of hydrophobic and hydrophilic acrylic lenses by femtosecond laser produces an accurate change in dioptric power while not significantly affecting the quality of the IOL. Consistent and precise power changes can be induced in the optic of the lenses in vivo. The results showed that the laser treatment of the IOLs is biocompatible. *Senior Producer: Liliana Werner, MD, PhD.*

Locked In: Optic Capture Revisited (V04)

This video revisits the technique of optic capture of an IOL. Although optic capture is not a novel technique, its role is being highlighted in pediatric/adult cataracts to lock in epithelial cells and prevent posterior capsule opacification. Moreover, it provides excellent IOL stability and centration by locking

in the IOL, especially in those cases in which the anterior/posterior capsules are discontinuous. *Senior Producer: Abhay Raghukant Vasavada, MBBS, FRCS.*

GENERAL MEDICINE **The Big, Giant Intraocular Cysticercosis (V17)**

This 30-year-old male presented with complete loss of vision in his right eye, which happened 3 weeks before we saw him. His medical history included phacoemulsification with implantation of an IOL in this eye 3 years previously—and a history of neurocysticercosis, which was diagnosed 2 years before that and was treated medically. This time, the slit-lamp examination revealed a large cyst present in the anterior chamber. No view of the posterior segment was possible. B-scan ultrasonography revealed multiple membranes in the vitreous cavity. Ultrasound biomicroscopy revealed a large cyst in the anterior chamber with an extension into the vitreous cavity; the IOL was confirmed to be in the correct location. The patient underwent a clear-corneal excision of the cyst in toto using copious amounts of viscoelastic. The cyst measured 35 mm × 15 mm. The removed cyst was sent for histopathologic examination. On 7-day follow-up, the patient regained 5/60 vision. A vitreoretinal surgeon provided further management. *Senior Producer: Ayan Mohanta. Co-Producers: Samar K. Basak, MD, FRCS, MBBS, Soham Basak, MBBS.*

REFRACTIVE SURGERY **Lenticular Dissection Techniques in Small-Incision Lenticule Extraction (V40)**

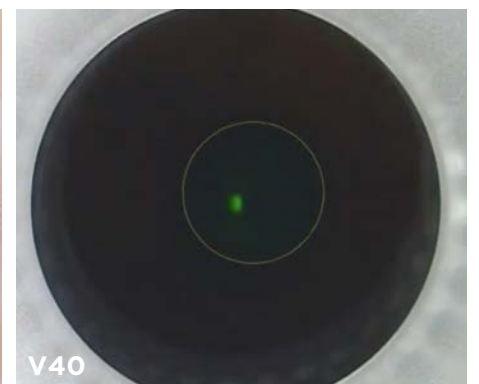
Lenticular dissection is a challenging maneuver in small incision lenticule extraction (SMILE). Most SMILE complications are encountered during this step. In this video, we highlight the approaches to identify the correct lenticular plane and the different approaches to lenticular dissection including the use of dark spots and the opaque bubble layer to predict the pattern of lenticular dissection. We also review the possible complications of lenticular dissection—including capsular lenticular adhesion, lenticular rupture, and retained partial lenticular fragment—as well as their management.



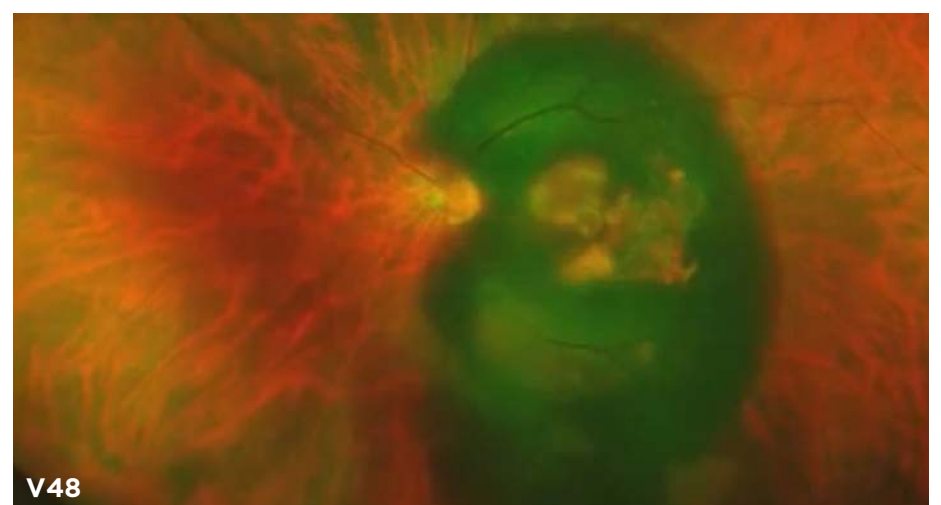
V01



V02



V40



V48

Finally, we demonstrate the use of a novel forceps to aid lenticular dissection and a forceps-free technique for lenticular extraction. *Senior Producer: Sartaj Singh Grewal, MD.*

RETINA / VITREOUS **Subretinal Endoscopic Surgery for a Massive Subretinal Hemorrhage Secondary to Polypoidal Choroidal Vasculopathy (V48)**

The purpose of this video is to report a new surgery for a massive subretinal hemorrhage secondary to polypoidal choroidal vasculopathy (PCV) by ophthalmic endoscopy. This 78-year-old woman had a massive subretinal hemorrhage and 20/400 vision in her left eye. We performed subretinal endoscopic surgery because the hemorrhage was too

large to remove by conventional methods. After core vitrectomy, we created a retinal detachment by injecting air and balanced salt solution (BSS) with 38-gauge cannulas. Then, we inserted 3 trocars under the retina and performed subretinal surgery under endoscopic guidance while perfusing with BSS. After the subretinal hemorrhage was removed, we directly observed and removed a large fibrovascular pigment epithelial detachment. Persistent bleeding from 1 point of Bruch membrane's rupture was treated with intraocular diathermy. We flattened the retina and performed a silicone oil fill. The patient recovered with 20/200 vision 1 month after surgery. We conclude that massive subretinal hemorrhage can be safely removed by subretinal endoscopic surgery. *Senior Producer: Sho Yokoyama, MD.*

From Academia to the Clinic 10 Eminent Speakers Talk About Current Issues

What's the buzz among ophthalmologists? What makes oculoplastics specialists tick? What are refractive surgeons up to? Whether you want a window into your colleagues' subspecialties or quick updates in your own field, consider attending an honorary lecture. These informative presentations are easy to fit into your schedule, as they are usually about 15 to 35 minutes long. Ten of these lectures, as described by the distinguished lecturers themselves, are highlighted below, and 9 more were featured on pages 27-28 of the Friday AAO 2017 News.

MONDAY, Nov. 13

CATARACT

Charles D. Kelman Lecture: Phaco at 50: The Collision of Cataract and Glaucoma (Plus), presented by Alan S. Crandall, MD.

When: Monday, 11:45 a.m.-12:10 p.m., during Spo2, Spotlight on Cataract Complications.

Where: Great Hall.

"This lecture will have 3 main prongs. The first is about teaching of phaco technique during the early years of phacoemulsification. (There were many practicing physicians who did not have any training during their residency years.) The



second is about the use of phaco in glaucoma patients. I feel that the glaucoma surgeon should strive to be the best cataract surgeon possible, and pseudoexfoliation will be part of this discussion. The third is about the introduction of doctors in developing countries to phaco. If local surgeons are able to develop 'centers of excellence' that will allow them to capture paying patients who would normally leave the country (e.g., fly from Ghana to England) for cataract surgery, then they will be able to perform the procedure on 9 or so poor patients for minimal or no cost. The economics of this idea will work in almost every developing country. But the surgeons must do surgery similar to that offered in the developed countries in order to capture these paying patients."

Spotlight on Cataract Complications (8:15 a.m.-12:15 p.m.)

PEDIATRIC OPHTHALMOLOGY

Marshall M. Parks Lecture: Curing Heritable Blindness, presented by Edwin M. Stone, MD, PhD.

When: Monday, 9:38-9:58 a.m., during Sym25, Genetic Disorders in Pediatric Ophthalmology.

Where: Room 243.

"If we are going to sustainably deliver gene- and stem-cell-based treatments to the tens of thousands of people who need them, we will need to be able to do it for well less than \$50,000 per patient. In our current health care environment, the vast majority of people in the United States will not be able to afford treatments at the \$1 million price point that many commercial entities are proposing. This presentation will summarize the science and the strategy behind a nonprofit effort to develop affordable gene- and cell-based treatments for all forms of inherited retinal disease."



Genetic Disorders in Pediatric Ophthalmology (8:30-10:00 a.m.) is cosponsored by the American Association for Pediatric Ophthalmology and Strabismus.

RETINA

Arnall Patz Lecture: DRCR Network: Accomplishments and Vision for the Future, presented by Neil M. Bressler, MD.

When: Monday, 8:35-8:55 a.m., during Sym27, Current Management of Neovascular AMD.

Where: La Nouvelle Orleans AB.

"Americans, across all races and ethnicities, rate losing eyesight as having the greatest impact on their daily lives. When this fact is coupled with the diabetes epidemic in the United States and throughout the world, and recognizing that the



most common complication of diabetes is diabetic retinopathy, the DRCR Network was established in 2003 with the National Institutes of Health to facilitate multicenter clinical research on diabetic retinopathy and associated conditions. By 2017, the Network involved more than 300 clinical sites, over 1,000 retina specialists in North America, and almost 10,000 study participants across 25 protocols, resulting in over 70 publications that have contributed to major improvements in the management of diabetic macular edema and proliferative diabetic retinopathy. Its major novel and clinically relevant accomplishments, to be highlighted during the Arnall Patz Lecture, have been recognized by the U.S. Senate and U.S. House

of Representatives. The NIH has agreed that the Network could change its scope for the future to include such conditions as age-related macular degeneration and related diseases as part of the continued efforts by the Network to contribute to ophthalmology's pursuits to combat vision impairment and blindness."

Current Management of Neovascular AMD (8:30-10:00 a.m.) is cosponsored by the Macula Society.

CORNEA

Castroviejo Lecture: Advances With Randomized Clinical Trials in Corneal Transplantation, presented by Jonathan H. Lass, MD.

When: Monday, 11:55 a.m.-12:15 p.m., during Sym29, Management of Chronic and Recurrent Anterior Segment Disorders.

Where: La Nouvelle Orleans AB.

"Since Castroviejo's work in the 1940s, progress in corneal transplantation has been primarily marked by corneal surgeons/innovators conducting observational studies at their clinical sites. While remarkably few randomized clinical trials (RCTs) in this field have been performed,



they have had a major impact in driving surgical practices and future innovation based on their study design, management of bias, and multicenter/surgeon involvement. Prime examples that will be described are the NEI-sponsored Collaborative Corneal Transplantation Studies (CCTS), the Cornea Donor Study (CDS), and the recent Cornea Preservation Time Study (CPTS). Now that big data is being used to answer important questions in our clinical practice, the continued value of the RCT will be addressed."

Management of Chronic and Recurrent Anterior Segment Disorders (10:15 a.m.-12:15 p.m.) is cosponsored by the Cornea Society.

OCULOPLASTICS

Wendell L. Hughes Lecture: The Forces That Affect Upper Eyelid Movement, Position, and Contour During Ptosis Surgery, presented by Jonathan W. Shore, MD.

When: Monday, 11:17-11:42 a.m., during Sym28, The ABCs of MTAs (Molecularly Targeted Agents) in Oculoplastic Surgery.

Where: Room 243.



"This lecture will cite clinical examples, present evidence, and advance the theory that

results of ptosis correction are improved when the surgeon establishes a balance of the forces during ptosis surgery, paying particular attention to the vertical, horizontal, and posterior force vectors that govern upper eyelid movement, position, and contour."

The ABCs of MTAs (Molecularly Targeted Agents) in Oculoplastic Surgery (10:15-11:45 a.m.) is cosponsored by the American Society of Ophthalmic Plastic & Reconstructive Surgery.

UVEITIS AND IMMUNOLOGY

C. Stephen and Frances Foster Lecture: Idiopathic Ocular Inflammatory Disease: Lessons From Deep DNA Sequencing, presented by Russell N. Van Gelder, MD, PhD.

When: Monday, 12:45-1:15 p.m., followed by a 30-minute Q&A, during Sym33, C. Stephen and Frances Foster Lecture on Uveitis and Immunology.

Where: La Nouvelle Orleans C.

"DNA sequencing technologies are advancing at a phenomenal speed. When they are applied to ocular inflammatory diseases, we can gain insights into the causes of many conditions that we now view as idiopathic. During this lecture, I will discuss these exciting new technologies and share insights that they have provided into conditions ranging from blepharitis to endophthalmitis and all points in between."



C. Stephen and Frances Foster Lecture on Uveitis and Immunology (12:45-1:45 p.m.)

PROFESSIONALISM AND ETHICS

Dr. Allan Jensen & Claire Jensen Lecture: Practical Ethics in Ophthalmology, presented by Thomas S. Harbin, MD, MBA.

When: Monday, 2:30-3:05 p.m., followed by a 20-minute Q&A, during Sym41, Dr. Allan Jensen & Claire Jensen Lecture in Professionalism and Ethics.

Where: New Orleans Theater C.

"I'm ethical—it's the doctor across town I worry about.' So say we all, since none of us thinks we're unethical.



"I think there is room for debate. Maybe there are situations in which we push the ethical boundaries. My lecture will take a look at the day-to-day practical situations in which our decisions bump up against the best interests of the patient, both medical and financial, hence the title—'Practical Ethics in Ophthalmology.'"

“Conflict of interest is pervasive, even at meetings when we aren’t seeing patients. This lecture will stimulate you to consider the ethical dimensions of all that you do.”

Dr. Allan Jensen & Claire Jensen Lecture in Professionalism and Ethics (2:30-3:25 p.m.)

MICROBIOLOGY

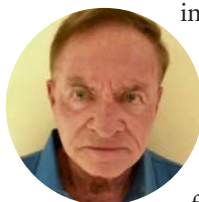
Jones/Smolin Lecture: Converting Concepts Into Cures, presented by Herbert E. Kaufman, MD.

When: Monday, 4:49-5:14 p.m., during Sym44, *Hot Topics for Minimizing Infections in Cataract Surgery*.

Where: La Nouvelle Orleans C.

“Edison said that progress is 1% inspiration and 99% perspiration. I will describe some of the often complicated and devious routes from idea to implementation for antivirals, antifungals, timolol, eye-banking, viscoelastics, bandage lenses, and the excimer laser.”

Hot Topics for Minimizing Infections in Cataract Surgery (3:45-5:15 p.m.) is cosponsored by the Ocular Microbiology and Immunology Group.



TUESDAY, Nov. 14

GLAUCOMA

Robert N. Shaffer Lecture: Glaucoma Genes and New Opportunities for Therapy, presented by Janey Lee Wiggs, MD, PhD.

When: Tuesday, 9:32-9:57 a.m., during Sym47, *Development of New Antiglaucoma Medications and Drug Delivery Systems*.

Where: La Nouvelle Orleans AB.

“Precision medicine is defined as an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle. The discovery of genes that cause or contribute to glaucoma is an important first step toward the development of precision medicine for glaucoma. Therapeutic decisions that account for personal genetic variation could direct therapy to patients most likely to respond as well as allow for the development of novel gene-based therapies that target disease-causing molecular events. Currently, more than 50 genes have been discovered for various



forms of glaucoma, and many of these could be considered as targets for novel therapeutics.”

Development of New Antiglaucoma Medications and Drug Delivery Systems (8:30-10:00 a.m.) is cosponsored by Prevent Blindness.

REFRACTIVE SURGERY

Barraquer Lecture: Refractive Indexing: A Revolutionary Approach to Refractive Surgery, presented by Scott M. MacRae, MD.

When: Tuesday, 11:31-11:51 a.m., during Sym51, *Presbyopia: The Next Frontier in Refractive Surgery*?

Where: La Nouvelle Orleans C.

“Refractive surgery has undergone progressive revolutions in 1) accuracy, 2) safety, and 3) availability, facilitated by innovations in techniques and laser technology. Current laser surgery techniques such as LASIK and SMILE (small

incision lenticule extraction) utilize tissue-subtracting shape changes to treat refractive error.

“A new, minimally invasive, very high-speed femtosecond laser technology that can change refractive error by changing the refractive index of the cornea, IOLs, and contact lenses may revolutionize refractive eye care.

“Uncorrected refractive error is underappreciated as the leading cause of serious visual disability and the second leading cause of blindness in the world. We will explore how less-invasive, miniaturized, mobile laser technologies may attack this worldwide problem.”

Presbyopia: The Next Frontier in Refractive Surgery? (10:15-11:51 a.m.) is cosponsored by the International Society of Refractive Surgery.



FOR THE RECORD

ANNUAL BUSINESS MEETING. Notice is hereby given that the Annual Business Meeting of the American Academy of Ophthalmology will be held Sunday, Nov. 12, in the Great Hall of the Morial Convention Center in New Orleans from 8:30 to 10:30 a.m. Candidates for membership will be approved during this meeting. For the full list of names, visit aao.org/member-services. To see the full order of business, refer to the Opening Session page of the *Meeting Guide*.

ACADEMY ELECTION. The election for open positions on the Board of Trustees begins on Monday, Nov. 13, and closes after 30 days. Election materials will be sent to all voting Academy fellows and members. Results of the election will be posted on the Academy’s website aao.org/about/governance/elections by Dec. 18, 2017.

ETHICS EVENTS

Get an hour of ethics CME by attending the Professionalism and Ethics lecture or either of the thought-provoking ethics instruction courses.

Dr. Allan Jensen & Claire Jensen Lecture in Professionalism and Ethics (Sym41).

When: Monday, 2:30-3:30 p.m. **Where:** New Orleans Theater C. **Access:** Free.

“Practical Ethics in Ophthalmology,” given by Thomas S. Harbin, MD, looks at strains in the ethical fabric of ophthalmology. The lecture will address the day-to-day practical situations in which routine decisions and care of patients bump up against the medical and/or financial interests of the patient.

Ethically Co-managing Ophthalmic Postoperative Care: Understanding the Comprehensive Co-management Guidelines (545). **When:** Monday, 4:30-5:30 p.m. **Where:** Room 333. **Access:** Academy Plus course pass.

This course will provide an analysis of the Academy’s *Comprehensive Guidelines for the Co-management of Ophthalmic Postoperative Care* from the perspective of compliance with the Academy’s Code of Ethics. Presentation of case studies from the Ethics Committee files will illustrate pertinent points in the guidelines and relevant ethical practices. The physician’s responsibilities under state and federal laws and resources available for further education will also be discussed. At the conclusion of the course, attendees will be able to differentiate co-management and transfer of care, circumstances in which co-management may be appropriate, relevant rules of the Code of Ethics, and more.

Expert Witness Survival Skills: Tips and Tools From Ethics Committee Case Reviews (663). **When:** Tuesday, 11:30 a.m.-12:30 p.m. **Where:** Room 239.

Access: Academy Plus course pass.

Expert witnesses are invaluable to the malpractice litigation process, and they protect both patients and physicians. There are ways to offer your services in this cross-professional arena without negative legal, ethical, or professional consequences. Practical concepts such as basing testimony on sound scientific principles, avoiding bias, understanding the standard of care, among others, will be presented. Through an in-depth discussion of expert witness cases investigated by the Ethics Committee, attendees will learn the ins and outs, rules, and guidelines governing the practice of being an ethical expert witness.

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