



# WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

## **INSTRUCTIONAL COURSES**

Available On Demand

Session: 204

**Emergency Neuro-Ophthalmology: Diagnosis and Management**  
Instruction Course

Topic: Neuro-Ophthalmology  
Education Level: Intermediate  
*Senior Instructor:*  
Nicholas J Volpe MD

*Instructor(s):*  
**Mark L Moster MD**

**Synopsis** Emergencies and pseudoemergencies are extremely common in neuro-ophthalmic practice. It is critical to distinguish these two groups of patients and be familiar with the critical first steps that must be taken to ensure preservation of vision or prevent other sequelae. With cases and discussion, we will familiarize the audience with common neuro-ophthalmic emergencies and the necessary approach to these patients. Does the patient have a symptom or sign that is a clue to a life- or brain-threatening catastrophe? Does the patient have a condition causing vision loss that could be reversed with treatment—at the least preventing progression or involvement of the second eye? We will consider the following true neuro-ophthalmic emergencies: temporal arteritis, acute / impending stroke, cranial nerve palsy, carotid dissection, intracranial hemorrhage, apoplexy aneurysm, papilledema / intracranial mass and acute proptosis.

Available On Demand

Session: 207

**Retinoblastoma 2020: They Live and See!**  
Instruction Course

Topic: Retina, Vitreous  
Education Level: Intermediate  
*Senior Instructor:*  
Santosh G Honavar MD

*Instructor(s):*  
**Carol L Shields MD**  
Francis L Munier MD  
**Ralph Eagle, MD**  
Fairooz Puthiyapurayil Manjandavida, MD  
**Jerry A Shields MD**

**Synopsis** Recent advances in the diagnosis and management of retinoblastoma have contributed to much improved outcome. Clinically validated staging and grouping are in use. AJCC 8 classification is being validated. Modern diagnostic and treatment strategies such as wide-field imaging; optical coherence tomography (OCT); OCT angiography; transpupillary thermotherapy; brachytherapy; and intravenous, intra-arterial, periocular, intravitreal and intracameral chemotherapy are effective in improving eye and vision salvage. There is new classification of retinoblastoma seeds and their



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management. Minimal manipulation enucleation has been optimized. Adjuvant therapy for histopathologic risk factors identified following enucleation has reduced the risk of systemic metastasis. A multimodal protocol is effective in orbital retinoblastoma. Genetic studies help in prenatal diagnosis and screening. This course will highlight the practical aspects in the current standard of care for retinoblastoma.

**Objective** To enable the participants to incorporate recent advances in the diagnosis and management of retinoblastoma into their practice, with improved life, eye and vision salvage.

Available On Demand

Session: 230

### **Pearl Jam: High-Impact, No-Nonsense Pearls for the Anterior Segment Surgeon**

Instruction Course

Topic: Cataract

Education Level: Intermediate

*Senior Instructor:*

Joshua C Teichman, MD, MPH

*Instructor(s):*

Iqbal K Ahmed MD

**Brandon Ayres MD**

Minas T Coroneo, MBBS, MS

Dean P Ouano MD

Steven G Safran MD

Joshua C Teichman, MD, MPH

**Synopsis** This course will focus on relaying the most impactful pearls to the audience for a wide range of anterior segment conditions in rapid-fire succession. The presenters will each have seven minutes to emphasize the most important steps, including instrumentation, set-up and execution, so that participants will be able to implement these strategies immediately. The material covered will include complex cataract extraction, IOL repositioning and/or exchange and secondary IOL fixation techniques. Pearls for pars plana vitrectomy, iris suturing, corneal transplantation, and other hot topics will be discussed.

**Objective** At the conclusion of this course, attendees will be able to immediately implement pearls relating to a wide variety of procedures / conditions.

Available On Demand

Session: 243

### **Artificial Iris Implantation in 2020**

Instruction Course

Topic: Cataract

Education Level: Advanced

*Senior Instructor:*

Kevin M Miller MD

*Instructor(s):*

**Brandon Ayres MD**



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Nicole R Fram MD  
David R Hardten MD  
Michael E Snyder MD  
Sathish Srinivasan, MBBS

**Synopsis** This course will provide an overview of artificial iris implantation, including a discussion of iris defects, ocular comorbidities, device availability in different markets, getting started, preoperative and intraoperative considerations and complication management. Didactic discussions will be supplemented by surgical videos.

**Objectives** At the conclusion of the course, attendees will be able to (1) identify artificial iris devices available commercially and discuss their directions for use, (2) describe the various methods of implantation and fixation, (3) explain how ocular comorbidities affect the overall procedure and (4) describe common intraoperative problems and postoperative complications and their management.

Available On Demand  
Session: 252

### **Surgical Management of Iris Defects**

Instruction Course

Topic: Cataract  
Education Level: Intermediate  
*Senior Instructor:*  
Nicole R Fram MD

*Instructor(s):*

**Brandon Ayres MD**  
Kevin M Miller MD  
Michael E Snyder MD

**Synopsis** This video-based course emphasizes surgical management of iris defects, including traumatic, iatrogenic and congenital.

**Objective** This course will demonstrate surgical planning and management of iris defects ranging in etiology from trauma (penetrating, iatrogenic, postresection) to congenital or degenerative disease. These cases will be presented in the setting of complex cataract and IOL management. The attendee will learn specific iris suture techniques, such as McCannel, Siepser, McAhmed, pupillary cerclage and iridodialysis repair. In addition, prosthetic iris devices to manage severe iris trauma will be shown.

**Objective** At the conclusion of this course, the attendee will be able to systematically plan and manage iris defects depending on the size and integrity of the remaining iris. This essential surgical skill set will improve visual outcomes and cosmesis for patients.

Available On Demand  
Session: 411

### **Ocular Surface Squamous Neoplasia: A Masterclass**

Instruction Course

Topic: Ocular Pathology, Oncology  
*Senior Instructor:*  
Anasua Ganguly, MD



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*Instructor(s):*

Carol L Karp MD

James Chodosh MD MPH

**Carol L Shields MD**

Swathi Kaliki, MD

**Synopsis** Ocular surface squamous neoplasia (OSSN) is a broad term encompassing conjunctival intraepithelial neoplasia (CIN) and invasive squamous cell carcinoma (SCC) of cornea and conjunctiva, with the propensity for intraocular, orbital and systemic spread. With the rising HIV pandemic there is a changing trend in the age of presentation, clinical features and prognosis of OSSN. Thus, timely diagnosis and appropriate management are crucial to save the vision, eye and life of a patient suffering from OSSN.

**Objectives** This course aims to (1) highlight the current novel imaging techniques (like anterior segment optical coherence tomography and ultrasound biomicroscopy) to diagnose OSSN early, distinguish it from close mimickers and assess response to topical therapy, (2) demonstrate the pros and cons of current treatment options for OSSN (topical chemotherapy, surgical excision, plaque brachytherapy), with special emphasis on treatment protocol for recurrent tumors and (3) provide a case-based discussion highlighting key features to differentiate OSSN from other clinical masquerades like conjunctival keratoacanthoma, melanoma and papilloma.

Available On Demand

Session: 418

### **Retinal and Choroidal Manifestations of Selected Systemic Diseases 2020**

Instruction Course

Topic: Retina, Vitreous

Education Level: Intermediate

*Senior Instructor:*

J Fernando Arevalo, MD, PHD, FACS

*Instructor(s):*

Rubens Belfort Jr, MD, PHD

**Carol L Shields MD**

Careen Yen Lowder MD PhD

Lihteh Wu, MD

William F Mieler, MD

**Synopsis** This course will discuss the current state of retinal and choroidal manifestations of selected systemic diseases, including systemic lupus erythematosus, gastrointestinal diseases, primary vitreoretinal lymphoma, ocular toxocariasis, mosquito-borne viral disease of the posterior segment of the eye, yellow fever, Coats disease, and tuberculosis, as well as retinal-choroidal toxicity of systemic drugs. Experts from the United States, Asia and South America will discuss the impact that systemic diseases in the posterior pole of the eye have had worldwide. Topics are rotated every year to cover a wider variety of diseases.

**Objective** At the conclusion of this course, participants will appreciate the variety of retinal and choroidal manifestations of selected systemic diseases, both inside and outside the United States.

Available On Demand

Session: 439



# WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

## Cyclodialysis Clefts: From Diagnosis to Treatment, Coming Full Circle

Instruction Course

Topic: Glaucoma

Education Level: Advanced

*Senior Instructor:*

Shikha Gupta, MBBS

*Instructor(s):*

Harathy Selvan Jr MD

**Jonathan S Myers MD**

Iqbal K Ahmed MD

Jonathan E Sears MD

Shikha Gupta, MBBS

**Synopsis** Topics in this course are as follows: (1) Diagnosing a case of cyclodialysis, Dr. Harathy Selvan; (2) Phacoemulsification and IOL power calculation in a hypotonous eye, Jonathan Myers; (3) Phacoemulsification and endocyclohexy: my technique and outcomes, Dr. Iqbal Ike K Ahmed; (4) Indirect external cyclohexy technique, Jonathan E. Sears; (5) Modified sewing machine technique: doing it my way, Dr Shikha Gupta.

**Objective** At the conclusion of this course, the attendee will be able to suspect the presence of a cyclodialysis cleft, diagnose it with available techniques, weigh each management option individualized for their cases, and choose and execute an appropriate surgical management plan. The displayed videos and the surgical tips taught for each surgery will help the attendee to perform the surgeries in a simplified manner. The aim of the course is to build confidence among the dealing glaucoma specialists and enhance their skill in the management of this tricky “behind the iris” lesion.

Available On Demand

Session: 459

## Secondary IOL Techniques for Retinal Specialists

Instruction Course

Topic: Retina, Vitreous

Education Level: Intermediate

*Senior Instructor:*

**Ajay E Kuriyan, MD**

*Instructor(s):*

**Omesh P Gupta MD**

Audina M Berrocal MD

Ashkan M Abbey, MD

**Mohammed Ali Khan, MD**

**Synopsis** Multiple new techniques for secondary IOL placement have recently emerged for retina specialists. This course will review multiple different approaches to secondary lenses, including anterior chamber, scleral tunneled (with trocars or needles), intrascleral-sutured and iris-sutured IOL techniques. Preoperative considerations and intraoperative and postoperative complication management will be discussed.



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**Objective** At the conclusion of this course, the attendee will be able to utilize various secondary IOL techniques. Furthermore, the attendee will be able to describe important preoperative considerations and how to manage intraoperative and postoperative complications associated with these different approaches.

Available On Demand

Session: 605

### **GATT: Basic Technique, Surgical and Postoperative Pearls, and Review of Outcomes Data**

Instruction Course

Topic: Glaucoma

Education Level: Intermediate

*Senior Instructor:*

Davinder S Grover MD

*Instructor(s):*

Craig J Chaya MD

Patrick Gooi, MD

James D N Taylor MD

Zeynep Aktas, MD

Daniel I Bettis, MD

**Marlene R Moster MD**

Oluwatosin U Smith MD

Michelle R Butler MD

Bryce A Ford MD

Ronald Leigh Fellman MD OCS

Luigi Fontana MD PhD

**Synopsis** The gonioscopy-assisted transluminal trabeculotomy (GATT procedure) is a novel, minimally invasive, ab interno approach to a circumferential trabeculotomy. We will review the literature on trabeculotomy in open-angle glaucomas and discuss the need for more effective minimally invasive glaucoma surgeries. The presenters will describe the basic steps of the GATT procedure, as well as pearls and pitfalls of performing the procedure. We will focus on strategies for patient selection, successful surgical outcomes, surgical indications, ways to avoid and minimize surgical complications and management of common and rare complications, and we will discuss our data over the past three to four years. The course will be lecture based with surgical videos and case presentations, while allowing time for questions. GATT is a \$4 cost-effective MIGS surgery that is being performed around the world. AAO 2020 is an ideal venue for teaching this procedure.

**Objectives** To introduce the GATT procedure, report the long-term results, and describe the basic technique, intraoperative challenges and pitfalls, and postoperative management strategies for maximizing success.

Course received an overall course grade within the top 10% of its subject area based on 2019 attendee evaluation data.

Available On Demand

Session: 624

### **Sutureless Scleral Fixation of Posterior Chamber IOL Without Sutures in the**



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## Absence of Capsular Support

Instruction Course

Topic: Cataract

Education Level: Intermediate

*Senior Instructor:*

**Sadeer B Hannush MD**

*Instructor(s):*

Amar Agarwal MD

Mark S Gorovoy MD

**Synopsis** Management of aphakia in the absence of capsular support remains a challenge for the ophthalmic surgeon. Historical options have included anterior chamber IOLs and iris or scleral suture-fixated IOLs. This course introduces two relatively novel approaches for sutureless scleral fixation of a foldable posterior chamber IOL (PC-IOL) by the creation of intrascleral tunnels: (1) the glued IOL and (2) the flanged haptic techniques. The procedures may be offered through a small corneal incision, decreasing intraoperative complications and allowing for quicker visual rehabilitation. Both nicely compartmentalize the eye into anterior and posterior segments.

**Objective** To describe two surgical techniques of implanting a foldable PC-IOL in the absence of capsular support using scleral fixation without sutures.

Available On Demand

Session: 634

## Practice Pearls for Intraocular Tumors

Instruction Course

Topic: Retina, Vitreous

Education Level: Basic

*Senior Instructor:*

Bhavna Chawla, MBBS

*Instructor(s):*

Martine J Jager, MD, PHD

**Carol L Shields MD**

Mary E Aronow, MD

Mandeep S Sagoo MBBChir PhD

Patricia Chevez-Barrios MD

**Synopsis** A wide variety of tumors affect the posterior segment at all ages. While adhering to broad principles, treatment has to be individualized, taking into account several considerations. This course will provide insight into new developments in the management of intraocular malignancies such as retinoblastoma, choroidal melanoma, vitreoretinal lymphoma and metastatic lesions. Clinical, imaging and pathology pearls will be shared, and challenging cases will be presented.

**Objective** At the conclusion of this course, the attendee will be able to discuss the management of posterior segment tumors, with emphasis on a multidisciplinary approach.

Available On Demand

Session: 653



# WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

## Controversies in Ocular Oncology

Instruction Course

Topic: Ocular Pathology, Oncology

Education Level: Intermediate

*Senior Instructor:*

Fairooz Puthiyapurayil Manjandavida, MD

*Instructor(s):*

Hakan Demirci MD

**Carol L Shields MD**

Carol L Karp MD

Bitu Esmali MD FACS

Santosh G Honavar MD

Arun D Singh MD

Timothy G Murray, MD MBA

Fairooz Puthiyapurayil Manjandavida, MD

**Ralph Eagle, MD**

**Synopsis** There has been a paradigm shift in the management of tumors of the eye and adnexa in the recent past. Newer targeted therapies and multimodal protocols are gradually replacing the conventional gold standard management modalities. Amid this rapid revolution in evolution, controversies abound. This course aims to compare conventional strategies with emerging modalities using available evidence and to create ground for common understanding.

**Objective** By the end of the course, audience members will be able to categorize their patients with common tumors of the eye and adnexa for conventional management versus emerging modalities, aiming to optimize life, eye and vision salvage with minimum treatment-related morbidity.

Available On Demand

Session: 679

## Recent Advances in the Diagnosis and Management of Conjunctival Tumors

Instruction Course

Topic: Cornea, External Disease

Education Level: Intermediate

*Senior Instructor:*

Santosh G Honavar MD

*Instructor(s):*

**Carol L Shields MD**

Carol L Karp MD

**Jerry A Shields MD**

Fairooz Puthiyapurayil Manjandavida, MD

**Synopsis** Conjunctival tumors have a varied spectrum of clinical presentation. These are often misdiagnosed as simulating conditions, resulting in inappropriate management and local tumor recurrence. The aim of this course is to provide a systematic overview of clinical manifestations of conjunctival tumors and to discuss recent concepts in diagnosis, management and prognosis. Clinical evaluation of a patient with conjunctival tumor and typical and atypical manifestations will be





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demonstrated with well-documented cases. Systemic associations will be discussed. Benefits of anterior segment imaging techniques such as optical coherence tomography (OCT), OCT angiography and ultrasound biomicroscopy will be highlighted. Evidence-based treatment protocols will be elaborated. Indications for and outcome of newer treatment modalities, such as topical immunotherapy, chemotherapy and plaque brachytherapy, will be discussed. Standard surgical procedures will be demonstrated with videos.

**Objective** This course is designed to enable participants to accurately diagnose and appropriately manage common conjunctival tumors and to achieve optimal outcome.

Available On Demand

Session: 687

### Current Applications of OCT Across the Subspecialties

Instruction Course

Topic: Glaucoma

Education Level: Intermediate

*Senior Instructor:*

**Zeba A Syed, MD**

*Instructor(s):*

**Aakriti Garg Shukla, MD**

**Daniel Lee, MD**

**Brenton D Finklea, MD**

**Zeba A Syed, MD**

Durga S Borkar, MD

Eric Gaier, MD

**Synopsis** This course will provide pearls for comprehensive ophthalmologists and subspecialists to empower them to capitalize on optical coherence tomography (OCT) technology that already exists in their practices. We will explore the practical applications of OCT in the subspecialties of glaucoma, cornea and external diseases, retina, and neuro-ophthalmology. We will review which OCT platforms are designed to perform particular functions. Finally, we will also touch upon more advanced uses of OCT, including OCT angiography (OCT-A), and its applications in various subspecialties.

**Objective** At the conclusion of this course, the attendee will be equipped to maximize the utility of OCT technology in order to gain clinically relevant insight into the health of ocular structures.

Depending on the attendee's background, the information gleaned may be used toward diagnosis, monitoring, treatment and/or referral to an appropriate subspecialist.

## PAPERS

Available On Demand

Session: PA015

### Development of a Risk Calculator to Predict Graft Failure After PK

Paper

Topic: Cornea, External Disease

*Presenting Author:*

**Eric J Shiuey, MS**



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*Co-Author(s):*

**Qiang Zhang, PhD**

**Christopher J Rapuano, MD**

**Zeba A Syed, MD**

Abstract

**Purpose** To develop a risk calculator to predict penetrating keratoplasty (PK) graft failure.

**Methods** Retrospective cohort study of 1029 PKs in 835 patients. Corneal graft failure was defined as irreversible and visually significant graft edema, haze or scarring. Thirty-six variables were assessed by multivariate Cox models accounting for correlated data to create a calculator predicting the probability of graft failure at 5 years after PK.

**Results** Mean age was 57.1 years, and mean follow-up was  $4.22 \pm 3.05$  years; 37.4% of grafts failed. Twelve variables significantly associated with graft failure were identified, including active microbial infection (HR = 5.13), intraocular silicone oil at PK conclusion (HR = 4.29), history of systemic autoimmune disease (HR = 2.77), prior anterior segment surgery (HR = 2.43) and anterior chamber IOL at PK conclusion (HR = 2.34). The risk calculator C-index was 0.76 at 5 years; internal calibration plots showed a strong correlation between nomogram prediction and actual observation.

**Conclusion** PK graft prognosis may be modeled with a relatively high accuracy based on the presence of 12 risk factors.

Available On Demand

Session: PA021

### **Secondary Glaucoma After Treatment for Iris Melanoma: A Study of 432 Patients at a Single Ocular Oncology Center**

Paper

Topic: Glaucoma

*Presenting Author:*

**Aakriti Garg Shukla, MD**

*Co-Author(s):*

**Sarangdev Vaidya, BA**

Maura DiNicola MD

Swathi Kaliki, MD

Carolina Alarcon, MD

Enzo A M Fulco MD

**Jerry A Shields MD**

**Carol L Shields MD**

Abstract

**Purpose** To assess the likelihood of secondary glaucoma after iris melanoma treatment.

**Methods** Retrospective review from 1970 to 2016.

**Results** Of 432 patients with iris melanoma, 389 (90%) underwent treatment. Of 271 eyes that were not enucleated, secondary glaucoma developed in 51 eyes (19%). Comparison (observation [ $n = 43$ , 16%] versus local resection [ $n = 166$ , 61%] versus plaque brachytherapy [ $n = 62$ , 23%]) using Kaplan-Meier survival analysis revealed a difference in 10-year estimated risk of glaucoma after treatment (16% versus 22% versus 50%;  $P < .001$ ). Cox proportional hazards regression analysis



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revealed that the hazard ratio for secondary glaucoma was 1.44 (95% CI, 0.64 to 3.24) for local resection and 3.88 (95% CI, 1.71 to 8.83) for plaque brachytherapy, as compared to observation.

**Conclusion** Plaque brachytherapy for iris melanoma was associated with higher risk of secondary glaucoma development than local resection, although treatment selection was biased by tumor extent and angle involvement.

Available On Demand

Session: PA030

### **Efficacy of Gene Therapy for Leber Hereditary Optic Neuropathy: Final Results of the Phase 3 RESCUE and REVERSE Trials**

Paper

Topic: Neuro-Ophthalmology

*Presenting Author:*

Patrick Yu-Wai-Man, FRCOphth, MBBS, PHD

*Co-Author(s):*

Nancy J Newman MD

Valerie Biousse MD

**Mark L Moster MD**

**Robert C Sergott MD**

Catherine Vignal, FRCOphth

David J Calkins, PhD

Alfredo A Sadun, MD, PHD

Laure Blouin

Magali TAIEL

Barrett Katz MD

Jose A Sahel MD

Abstract

**Purpose** RESCUE and REVERSE are Phase 3, randomized, sham-controlled trials of rAAV2/2-ND4 gene therapy for the treatment of ND4 Leber hereditary optic neuropathy (LHON).

**Methods** Seventy-six LHON subjects with the m.11778 mitochondrial DNA mutation received a single intravitreal injection of rAAV2/2-ND4 in one eye, with the fellow eye receiving a sham injection. Subjects had vision loss for  $\leq 180$  days in RESCUE, and between 181 and 365 days in REVERSE.

**Results** In both trials, mean best corrected visual acuity (BCVA) evolved with similar trajectories in drug- and sham-treated eyes. In RESCUE, mean BCVA worsened to a nadir before significantly improving up to Week 96 (+26 ETDRS letters equivalent in drug-treated eyes). In REVERSE, mean BCVA improved steadily following treatment administration (+28 ETDRS letters equivalent from nadir to Week 96 in drug-treated eyes).

**Conclusion** Final results of RESCUE and REVERSE showed clinically meaningful improvements of visual functions. The unexpected contralateral effect observed in the sham-treated eyes is being investigated.

Available On Demand

Session: PA034

### **Update From an Ongoing Phase 1b/2 Open-Label Trial With IVT AU-011 for CM**



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### and Further Development Plan

Paper

Topic: Ocular Pathology, Oncology

*Presenting Author:*

Ivana K Kim MD

*Co-Author(s):*

Chris S Bergstrom MD

Abdhis R Bhavsar MD

Antonio Capone Jr MD

Hakan Demirci MD

Peter Hovland MD PhD

James G Howard MD

Cameron G Javid MD

Brian P Marr MD

Tara A McCannel MD

Prithvi Mruthyunjaya MD

Amy C Scheffler MD

Michael I Seider, MD

Tony Tsai MD

Cadmus C Rich MD

**Carol L Shields MD**

Abstract

**Purpose** To evaluate safety and efficacy of AU-011, a targeted therapy for the treatment of choroidal melanoma (CM).

**Methods** Subjects with clinically diagnosed CM received intravitreal (IVT) administration of light-activated AU-011 in a dose-escalation and expansion design. The maximum tolerated therapeutic regimen (TR) for a planned Phase 3 (P3) trial consisted of two cycles of three weekly treatments with 80 µg/2 lasers separated by 12 weeks.

**Results** Subsets of enrolled subjects (57) included those with prior documented growth, DG (31) and P3-eligible based on defined P3 criteria (21). Interim analysis shows statistically significant reductions in tumor growth rates in all subsets with documented growth ( $P < .0001$ ). P3-eligible subjects show tumor control rate of 86% and vision preservation of 95% with mean follow-up of 8 months. Intraocular inflammation and IOP elevation were clinically controlled. Two treatment-related serious adverse events of severe vision loss were reported.

**Conclusion** Results support planned randomized Phase 2/3 trials of IVT AU-011 with sham control in documented growth subjects. Suprachoroidal delivery is planned to potentially treat a wider range of tumor sizes with improved safety.

## **SCIENTIFIC POSTERS**

Available On Demand

Session: PO109

**Trends in Female Authorship in *Cornea* from 2007 to 2019**

Scientific Poster

Topic: Cornea, External Disease



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*Presenting Author:*

**Dilru Amarasekera, MD**

*Co-Author(s):*

**Sophia Shinsee Lam, BS**

**Christopher J Rapuano, MD**

**Zeba A Syed, MD**

Abstract

**Purpose** To identify female authorship trends in first author and senior author positions in *Cornea* from 2007 to 2019.

**Methods** First and senior authors of all Clinical Science and Basic Investigation manuscripts in *Cornea* over 13 years were sorted by sex. Sex identification was based on the author's institutional profile or an online database in cases of ambiguous names.

**Results** First and senior author sexes were collected from 1,837 Clinical Science and 476 Basic Investigation manuscripts. A significant upward trend in the proportion of female senior authors of Clinical Science manuscripts occurred over this period ( $r = 0.65$ ;  $P = .016$ ). There was no significant trend in Basic Investigation senior author or first author sex for either publication type. We also identified a strong association between senior author female sex and first author female sex ( $P < .001$ ).

**Conclusion** The proportion of women in senior author positions increased over 13 years in Clinical Science studies but not Basic Investigation studies. There may be further opportunity for female leadership in the latter category. Women may also have a higher likelihood of mentoring other women.

Available On Demand

Session: PO114

### **History of Contralateral PK as a Risk Factor for Second Eye Graft Rejection**

Scientific Poster

Topic: Cornea, External Disease

*Presenting Author:*

**Kalla A Gervasio, MD**

*Co-Author(s):*

**Eric J Shiuuey, MS**

**Qiang Zhang, PhD**

**Christopher J Rapuano, MD**

**Zeba A Syed, MD**

Abstract

**Purpose** To examine whether a history of penetrating keratoplasty (PK) in the contralateral eye is a risk factor for graft rejection after PK in the second eye.

**Methods** Retrospective cohort study of PKs performed at a single institution from May 2007 to September 2018. We excluded cases that had a previous transplant in the eye of interest and collected data on 36 risk factors. Graft rejection was defined as subepithelial infiltrates, anterior chamber inflammation or keratic precipitates with or without graft edema in a previously uninflamed eye.

**Results** A total of 636 PKs were performed in 595 patients. Mean age at PK was 53.6 years, and average follow-up was 4.0 years. Overall, 224 grafts (35.2%) experienced at least one episode of



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rejection. In multivariate analysis, the risk of rejection was significantly higher in cases with a prior PK in the contralateral eye (hazard ratio = 1.5;  $P = .027$ ). Prior PK in the contralateral eye was not found to be significantly associated with eventual graft failure.

**Conclusion** A history of contralateral PK was associated with an increased risk of second eye graft rejection. Priming of the immune system may be a possible mechanism.

Available On Demand

Session: PO119

### Effect of Recipient Diabetes Status on Immune Rejection After DSEK

Scientific Poster

Topic: Cornea, External Disease

*Presenting Author:*

**Rakhi Melvani, MD**

*Co-Author(s):*

**Zeba A Syed, MD**

Abstract

**Purpose** This study seeks to determine whether recipient diabetes status relates to incidence of immune rejection following Descemet-stripping endothelial keratoplasty (DSEK).

**Methods** This is a retrospective cohort study to compare recipient diabetes status in 794 DSEK surgeries at Wills Eye Hospital between January 2008 and July 2019. Kaplan-Meier functions of survival time until first immune rejection was compared between groups. Pearson chi-square test and Wilcoxon test were used to test the null hypothesis.

**Results** During the study period, 146 of 794 DSEK recipients had diabetes. At 1 year, diabetics had a significantly higher risk of immune graft rejection compared to nondiabetics (OR 2.28,  $P = .047$ ). Likewise, there was a reduced rejection-free mean survival time in diabetics (6.9 versus 8.9 years) as well as a significant difference in hazard functions ( $P = .044$ ).

**Conclusion** Recipient diabetes confers a greater risk of immune rejection following DSEK. This may have implications for counseling, monitoring and managing postoperative steroid regimens in this population.

Available On Demand

Session: PO174

### The Relationship Between Falling or Having a Motor Vehicle Accident in Patients With Moderate Glaucoma

Scientific Poster

Topic: Glaucoma

*Presenting Author:*

**Eric J Shiuey, MS**

*Co-Author(s):*

**Carina Sanvicente MD**

**Sheryl S Wizov COA**

**Benjamin Leiby PHD**

**Michael Waisbourd, MD**

**George L Spaeth MD FACS**



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### Abstract

**Purpose** To determine characteristics predisposing to falls or motor vehicle accidents (MVA) in moderate glaucoma patients.

**Methods** Moderate glaucoma was defined as disc damage likelihood scale stages 5-8. Subjects ( $N = 161$ ) had an automated visual field, OCT and contrast sensitivity (CS), Compressed Assessment of Ability Related to Vision, National Eye Institute Visual Function Questionnaire-25 (VFQ-25) and modified Glaucoma Symptom Scale tests annually for 4 years (final  $N = 138$ ). Self-reported falls and at-fault MVA in the preceding year were recorded. Mixed effects logistic regression identified variables for multivariate analysis.

**Results** An average of 22.9% of patients fell annually, and did so with increasing frequency (from 2.5 to 6.2). More than 7% had MVA annually. Clinically significant ( $P < .05$ ) predictors for falling were female sex (OR = 2.06) and VFQ-25-reported difficulty noticing peripheral objects (OR = 1.19).

**Conclusion** Most clinical metrics in moderate glaucoma patients relate poorly to fall or MVA risk. A subset of patients fell with increasing frequency during the study; this could not be related to any particular ocular finding.

Available On Demand

Session: PO189

### One-Year Safety and Effectiveness of Microshunt vs. Trabeculectomy in Sites in the USA and Europe in a Randomized Study

Scientific Poster

Topic: Glaucoma

*Presenting Author:*

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Julian Garcia-Feijoo, MD

Helena J Beckers, MD

### Abstract

**Purpose** Year 1 findings from a randomized study of the microshunt (MS) versus trabeculectomy (Trab) in 24 US and five European (EU) sites.

**Methods** Surgery was performed in primary open-angle glaucoma eyes with uncontrolled IOP (15-40 mmHg) on maximum tolerated therapy (NCT01881425).

**Results** 395 (US, 337; EU, 58) and 132 (US, 113; EU, 19) eyes were randomized to MS or Trab, respectively. Overall, the primary endpoint ( $\geq 20\%$  IOP reduction, no medication increase [95% CI]) was met by 53.9% (49.0, 58.8) and 72.7% (65.1, 80.3) of MS and Trab eyes, respectively. In the USA, mean Year 1 IOP (mmHg) was 14.4 for MS and 11.1 for Trab (least square mean [LSM] difference [95% CI]: 3.25 [2.23, 4.27]) on an average of  $0.6 \pm 1.1$  and  $0.3 \pm 0.8$  medications, respectively. In the EU, Year 1 IOP was 13.5 for MS and 10.8 for Trab (LSM between-group difference [95% CI]: 2.58 [0.34, 4.82]), on an average of  $0.6 \pm 1.1$  medications in both groups. Overall, hypotony (IOP  $< 6$  mmHg) was reported in 26.8% (106/395) of MS versus 45.0% (59/131) of Trab eyes. Needling was reported in 19.0% (75/395) of MS versus 8.3% (11/132) of Trab eyes.

**Conclusion** In this study, the microshunt led to IOP and medication reductions in both regions, with lower rates of hypotony versus Trab.





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Session: PO193

### Safety Outcomes of Microshunt Implantation vs. Trabeculectomy in Patients With POAG

Scientific Poster

Topic: Glaucoma

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Abstract

**Purpose** Safety outcomes of a randomized multicenter study (NCT01881425) of the microshunt (MS) versus trabeculectomy (Trab).

**Methods** Eyes with uncontrolled IOP (15-40 mmHg) on maximum tolerated therapy underwent MS or Trab surgery.

**Results** In 395 MS and 131 Trab eyes, postoperative device / procedure-related adverse event (AE) rates were 80.3% MS versus 86.3% Trab ( $P = .12$ ); most occurred by 1 month (60.8% MS, 78.6% Trab;  $P = .0002$ ). The most common AEs were increased IOP requiring treatment (46.3% versus 49.6%), hypotony (IOP <6 mmHg; 26.8% versus 45.0%) and bleeding / hyphema (mostly mild-moderate; 17.7% versus 14.5%). Incidence of AEs of BCVA loss was 5.6% versus 6.1%; and VF worsening, 8.4% versus 4.6%. Needling rates were 19.0% MS versus 8.4% Trab (3.6% versus 2.3% had  $\geq 2$  needlings); response rate (RR, lower IOP): 45.3% versus 72.7%. Bleb revision rates were 5.8% MS versus 6.9% Trab (one MS eye had two revisions; one Trab eye had four); Relative Risk 56.5%, 44.4%. Other reoperations included Trab (2.8% MS, 0.8% Trab) and glaucoma drainage device insertion (4.8%, 2.3%).

**Conclusion** In this study, device / procedure-related AEs mainly occurred by 1 month in both groups, with significantly fewer AEs for MS. Lower hypotony rates were seen in the MS versus Trab group.

Available On Demand

Session: PO200

### Why Do Some Patients With Tube Shunts for NVG Lose Light Perception? Outcomes of Valved and Nonvalved Tube Shunts

Scientific Poster

Topic: Glaucoma

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### Abstract

**Purpose** To determine outcomes of Ahmed glaucoma valve (AGV) or Baerveldt glaucoma implant (BGI) for neovascular glaucoma (NVG).

**Methods** Retrospective review of NVG patients who underwent AGV or BGI with  $\geq 6$  months of follow-up. Main outcome measures were surgical failure and progression to no light perception (NLP) vision.

**Results** 152 eyes (91 AGV, 61 BGI) matched for baseline characteristics were included, with average follow-up duration of 29.62 months. At Month 6, failure was similar among AGV and BGI eyes (21.6% versus 25.9%;  $P = .552$ ), but medication requirement was lower in BGI eyes ( $P < .001$ ). At the final visit, 18.7% of AGV and 14.8% of BGI eyes were NLP ( $P = .530$ ), and need for medications was lower in BGI eyes ( $P < .0001$ ). Multivariate analysis identified lower preoperative VA ( $P = .001$ ), failure to receive intravitreal anti-VEGF injection or panretinal photocoagulation within 2 weeks of surgery ( $P = .005$ ) and bilateral pathology ( $P = .015$ ) as independent predictors of NLP outcome. IOP, extension of synechial angle closure, presence of hyphema and NVG etiology were not significant.

**Conclusion** AGV and BGI had comparable outcomes in NVG, with more medication reduction with BGI.

Available On Demand

Session: PO230

### Ocular Trauma During COVID-19 Stay-at-Home Orders

Scientific Poster

Topic: Health Policy

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### Abstract

**Purpose** To report the clinical characteristics of patients presenting with serious ocular injuries during the COVID-19 stay-at-home orders.

**Methods** This retrospective, single-center cohort study compared patients who presented with severe ocular trauma to Wills Eye Emergency Room during the stay-at-home order from March 23–April 20, 2020, to March 18–April 15, 2019.

**Results** The mean (SD) number of patients who presented for emergency care decreased from 49.0 (9) to 36.4 (6) during the stay-at-home order ( $P < .001$ ). Sixty-two of 1,058 patients (5.9%) presented with severe ocular trauma in 2020 compared to 87/1,372 (6.3%) in the prior year. During the COVID-19 pandemic, patients were less likely to have health insurance ( $P = .024$ ), more likely to have delayed presentation after injury ( $P < .001$ ) and more likely to travel farther to seek care ( $P < .001$ ). Trauma arising from home improvement projects increased during the stay-at-home order ( $P = .02$ ).



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**Conclusion** The shift in ocular injuries and barriers to ophthalmic care during the stay-at-home orders highlight a need for targeted interventions to optimize the delivery of emergent eye care during a pandemic.

Available On Demand  
Session: PO236

### Accuracy of Diagnoses Made by Referring Medical Professionals and Telephone-Triaging Ophthalmologists for Urgent and Emergent Ocular Conditions

Scientific Poster

Topic: Health Policy

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Abstract

**Purpose** To assess the diagnostic accuracy of referring physicians and triaging ophthalmologists.

**Methods** Health-care providers and their patients referred to a dedicated eye emergency room over a 3-month period were included in this study. Telephone-triaging ophthalmologists collected each patient's clinical data and the referring provider's specialty and diagnosis, which were used to formulate a working diagnosis. The final diagnosis was collected retrospectively. Diagnoses were classified as "no-miss" if they were acutely vision or life threatening.

**Results** 334 referrals were analyzed. Referring providers and triaging ophthalmologists made the correct diagnosis in 64.9% and 77.2% of cases, respectively. Referring providers and triaging ophthalmologists more accurately identified "no-miss" diagnoses (87.1% and 95.7%) compared to other diagnoses (58.4% and 65.9%) ( $P < .001$ ).

**Conclusion** Urgent and emergent ocular conditions are misdiagnosed by referring providers over one-third of the time, although accuracy improves for vision- or life-threatening ocular conditions. We highlight the utility of a telephone-triaging ophthalmologist.

Available On Demand  
Session: PO247

### Retina Care During the 2019-2020 Coronavirus Pandemic

Scientific Poster

Topic: Health Policy

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## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

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### Abstract

**Purpose** To report on trends in retina care during the 2019-2020 coronavirus pandemic.

**Methods** A retrospective chart review was performed at academic and private retina practices throughout the United States, including California, Missouri, Illinois, Pennsylvania, North Carolina and Minnesota. The records of all clinical and surgical encounters were reviewed during the period of government-enforced social distancing for each respective institution. The indications for clinic visits and surgeries, the rates of office procedures and the amount of missed or cancelled visits were analyzed.

**Results** A substantial decrease in clinical and surgical volume occurred across all retina clinics, with some regional variations. The percentage of clinic visits requiring in-office procedures rose. The majority of indications for new referrals and surgeries performed represented urgent or emergent retinal conditions.

**Conclusion** Retina practices across the United States demonstrated substantial changes in their practice patterns as they adapted to the coronavirus pandemic. Priority was placed on providing the essential services of retina care.

Available On Demand

Session: PO249

### **Gender Differences Among Retina Care Physicians in the United States**

Scientific Poster

Topic: Health Policy

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### Abstract

**Purpose** To ascertain retina care physician gender differences and their relationship to retina care delivery in the United States.

**Methods** Physicians providing retina care were identified using billing codes from a 2017 Medicare dataset and linked to their public profile on the America Board of Ophthalmology website. Fisher and Mann-Whitney *U* tests were used to assess difference between categorical and continuous variables, respectively.

**Results** 4,059 physicians providing retina care were identified. Women represented 16.5% of retina care physicians, versus 25.7% of non-retina care physicians ( $P < .001$ ) and were more junior compared to men (11.6 versus 17.4 years since first board certification,  $P < .001$ ). Women practiced



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less surgical versus medical retina (OR 0.33,  $P < .001$ ) and billed fewer office visits (mean 1,071 versus 1733, 10.9% of all office visits billed,  $P < .001$ ) but performed more repair of retinal tears / detachment when adjusting for clinical volume ( $P < .001$ ).

**Conclusion** Further analysis of the retinal care workforce may impact strategic planning to meet current and future health-care needs.

Available On Demand

Session: PO267

### **Long-Term (20-Year) Real-World Outcomes of IVC (Chemoreduction) for Retinoblastoma in 964 Eyes of 554 PATIENTS at a SINGLE CENTER**

Scientific Poster

Topic: Ocular Pathology, Oncology

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Abstract

**Purpose** To analyze long-term outcomes following intravenous chemotherapy (IVC).

**Methods** Retrospective case series of 554 patients.

**Results** Of 994 eyes, comparison by International Classification of Retinoblastoma group (A versus B versus C versus D versus E) revealed more advanced group with greater mean tumor diameter ( $P < .001$ ), mean thickness ( $P < .001$ ) and frequency of vitreous seeds ( $P < .001$ ) and subretinal seeds ( $P < .001$ ). By outcomes, the less advanced group demonstrated greater tumor control (without enucleation or external beam radiotherapy) by Year 2 (96% versus 91% versus 91% versus 71% versus 32%,  $P < .001$ ), and remaining stable up to 20 years. For globe salvage, additional intra-arterial chemotherapy and/or plaque radiotherapy was needed (5% versus 26% versus 28% versus 27% versus 19%,  $P < .001$ ).

**Conclusion** Retinoblastoma control with globe salvage using IVC was achieved in groups A (96%), B (91%), C (91%), D (71%) and E (32%), lasting for up to 20 years.

Available On Demand

Session: PO273

### **Conjunctival Melanoma: Outcomes Based on Fitzpatrick Skin Type in 540 Patients**

Scientific Poster

Topic: Ocular Pathology, Oncology

*Presenting Author:*

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## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

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### Abstract

**Purpose** To determine association of Fitzpatrick skin type (FST) with conjunctival melanoma.

**Methods** Retrospective case series of 540 patients.

**Results** The FST was Type I ( $n = 126$ , 23%), II ( $n = 337$ , 62%), III ( $n = 56$ , 10%), IV ( $n = 8$ , 2%), V ( $n = 12$ , 2%) and VI ( $n = 1$ , <1%). A comparison (FST I versus II versus III, IV, V and VI) revealed Types I and II to be associated with older mean patient age (63.9 versus 60.7 versus 51.1 years,  $P < .001$ ), greater percentage of female patients (68% versus 44% versus 42%,  $P < .001$ ) and smaller tumor thickness (2.1 versus 2.8 versus 3.6 mm,  $P = .01$ ). Kaplan-Meier estimates for 5-year risk showed no difference by types for visual acuity loss  $\geq 3$  lines, local tumor recurrence, exenteration, metastasis or death.

**Conclusion** Most patients with conjunctival melanoma show FST I or II, and this demonstrated no association with 5-year rate of vision loss, tumor recurrence, exenteration, metastasis or death.

Available On Demand

Session: PO274

### **Predictors of Survival in Primary Merkel Cell Carcinoma of the Eyelid**

Scientific Poster

Topic: Ocular Pathology, Oncology

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**Carol L Shields MD**

Craig Erwin Geist MD

### Abstract

**Purpose** Eyelid primary Merkel cell carcinoma (MCC) is rare. This study sought to determine factors associated with overall survival (OS).

**Methods** The Surveillance Epidemiology and End Results 2018 database was queried for adult primary eyelid MCC and noneyelid head and neck MCC. A Cox proportional hazards analysis was performed.

**Results** Patients ( $n = 103$ ) had a mean age of 78.1 years (SD: 11.2), and a M:F sex ratio of 0.65. Female patients (80.1) were older than male patients (75.1) ( $t$  test  $P = .023$ ). Mean tumor size was 1.8 cm (SD: 1.7). Male sex and advanced age ( $\geq 80$  years) decreased OS (HR 2.4,  $P = .003$ ; HR 6.5,  $P < .001$ ). Race, laterality and size did not affect OS. Regional and distant staging portended poor prognosis (HR 4.7,  $P = .045$ ; HR 3.1,  $P = .038$ ). Local excision, biopsy then gross excision, and wide excision ( $>1$  cm margins) were increasingly associated with better prognosis (HR 0.23,  $P = .002$ ; HR 0.17,  $P = .001$ ; HR 0.10,  $P < .001$ , respectively). Eyelid MCC had a greater median OS (6 years) than noneyelid head and neck MCC (3.1 years) (Mantel-Cox  $P = .017$ ).

**Conclusion** Primary MCC of the eyelid presents more often in elderly female patients. Wider margins of resection might improve OS.



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Session: PO283

### **Iris Melanoma: Features Predictive of Secondary Glaucoma at Presentation in 432 Cases at a Single Ocular Oncology Center**

Scientific Poster

Topic: Ocular Pathology, Oncology

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Abstract

**Purpose** To identify factors predictive of secondary glaucoma on presentation in patients with iris melanoma.

**Methods** Retrospective review from 1970-2016 with binary logistic regression analysis.

**Results** In 432 patients with iris melanoma, 110 (25%) presented with secondary glaucoma. Multivariate analysis identified male sex (OR: 2.00 [1.29-3.12],  $P = .002$ ), poor visual acuity (OR: 4.37 [2.27-8.42],  $P = .01$ ) and increased iris stromal seeding (OR: 1.13 [1.00-1.27] per 1 clock-hour increase,  $P = .045$ ) as independent predictors of secondary glaucoma on presentation, while dilated feeder iris vessels were a possible protective factor against glaucoma (OR: 0.21 [0.05-0.91],  $P = .02$ ). Additionally, tumors leading to secondary glaucoma were more often of smaller diameter ( $P = .001$ ) and flat configuration ( $P = .02$ ) and had trabecular meshwork involvement ( $P = .03$ ).

**Conclusion** Male sex, poor visual acuity and increased tumor seeding to the iris stroma should raise concern for the presence of secondary glaucoma in iris melanoma.

Available On Demand

Session: PO295

### **Gender Differences in Publication Productivity and Academic Rank Among Oculoplastic Surgery Faculty**

Scientific Poster

Topic: Oculoplastics, Orbit

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Abstract



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

**Purpose** To examine whether there are gender differences in publication productivity and academic rank among oculo-plastic surgeons.

**Methods** Cross-sectional study conducted in April 2020 on 222 full-time academic oculo-plastic surgeons from 95 institutions (94 in the United States and one in Canada) affiliated with an ophthalmology residency or American Society of Ophthalmic Plastic and Reconstructive Surgery fellowship program. Nonacademic clinical faculty were excluded. Faculty gender, academic rank, h-index (obtained from the Scopus database), and m-index (h-index divided by career duration) were evaluated.

**Results** Of 222 academic oculo-plastic surgeons, only 70 (31.5%) were female. Males had a significantly higher median h-index than females (9 [interquartile range (IQR), 5-18] versus 5.5 [IQR, 3.8-8],  $P < .001$ ) and were more likely to hold associate (41 versus 10) and full professor (58 versus 10) positions ( $P < .001$ ). After stratifying by academic rank, there were no significant differences in median h-index or m-index ( $P > .05$ ) based on gender.

**Conclusion** Female oculo-plastic surgeons held fewer senior faculty positions than males. When controlling for academic rank, there were no gender disparities in publication productivity.

Available On Demand

Session: PO327

### Early Experience With Netarsudil in Childhood Glaucoma: A Retrospective Review

Scientific Poster

Topic: Pediatric Ophthalmology, Strabismus

Presenting Author:

**Patrick B Rapuano, MD**

Co-Author(s):

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**Jonathan S Myers MD**

Abstract

**Purpose** To describe outcomes of netarsudil use in childhood glaucoma.

**Methods** Retrospective review of 12 glaucoma patients <18 years of age who used netarsudil in one or both eyes in addition to baseline medications. The main outcome measure was failure, which was defined as IOP lowering <15% or progression to surgery.

**Results** Mean (SD) baseline IOP was 30.8 mmHg (4.2), baseline number of medications was 4.25 (0.75), and duration of netarsudil use was 19.1 (19.9) weeks. Mean decrease in IOP was 5.9 mmHg ( $\pm 8.7$ , range: -21 to +8) at 1-3 weeks ( $P = .03$ ). Failure was seen in eight of 12 patients (66%) based on both IOP and surgery criteria. Baseline IOP predicted failure by IOP reduction ( $P = .01$ ) and need for surgery ( $P < .01$ ), but baseline medications did not ( $P = .211$ ). Five of 12 (42%) had conjunctival hyperemia, and one of 12 (8%) discontinued netarsudil for hyperemia and irritation.

**Conclusion** Netarsudil lowered IOP and was well tolerated, though most patients ultimately progressed to surgery.

Available On Demand

Session: PO407

### FST to Assess Sepofarsen Patient Response in Leber Congenital Amaurosis



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

### Type 10

Scientific Poster

Topic: Retina, Vitreous

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Abstract

**Purpose** To evaluate seprofarsen effect on best corrected visual acuity (BCVA) and full-field stimulus testing (FST) in Leber congenital amaurosis type 10 (LCA10) patients, including light perception (LP) patients.

**Methods** Eleven patients (8-44 years) received 1-4 seprofarsen intravitreal injections in the worse-seeing eye in a 12-month, multicenter, open-label, multiple-dose, dose-escalation Phase 1b/2 trial. Change in BCVA and FST from baseline to Month 12 was assessed in treated eyes.

**Results** Six out of 11 patients showed a BCVA improvement greater than or equal to  $-0.25$  logMAR, and six and eight out of 11 patients showed improvements greater than or equal to  $-0.5$  log cd/m<sup>2</sup> in blue and red FST, respectively. One out of five LP patients showed an improvement in BCVA (i.e.,  $-2.7$  logMAR), whereas all LP patients showed improvements in blue FST (ranging from  $-0.5$  to  $-1.7$  log cd/m<sup>2</sup>), and four out of five LP patients in red FST (ranging from  $-1.3$  to  $-1.7$  log cd/m<sup>2</sup>).

**Conclusion** FST may be a more sensitive method to assess seprofarsen effect in LCA10 patients with more advanced disease.

Available On Demand

Session: PO410

### Phase 1b/2 Trial Results of Intravitreal Sepofarsen RNA Therapy in Leber Congenital Amaurosis 10

Scientific Poster

Topic: Retina, Vitreous

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## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

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Abstract

**Purpose** To evaluate seprofarsen in subjects with p.Cys998X mutation in the *CEP290* gene in a Phase 1b/2 study.

**Methods** Eleven subjects received intravitreal unilateral seprofarsen at two dose levels. Primary endpoint: safety. Secondary endpoints: best corrected visual acuity (BCVA) and full-field stimulus test (FST).

**Results** Reported cases of cataract, cystoid macular edema and retinal thinning were 3, 0, and 0, respectively, in the 160/80- $\mu$ g group ( $n = 6$ ); 5, 2 and 2 in the 320/160- $\mu$ g group ( $n = 5$ ). No other safety concerns were identified. Sepofarsen-treated patients showed improvements from baseline to Month 12 in treated eyes versus untreated eyes mean  $\pm$  standard error of the mean BCVA ( $-0.55 \pm 0.26$  versus  $-0.12 \pm 0.07$  logMAR,  $P < .05$ ), red FST ( $-0.91 \pm 0.18$  versus  $-0.16 \pm 0.16$  log cd/m<sup>2</sup>,  $P < .01$ ) and blue FST ( $-0.79 \pm 0.23$  versus  $+0.02 \pm 0.11$  log cd/m<sup>2</sup>,  $P < .02$ ).

**Conclusion** Sepofarsen had a manageable safety profile and showed improvement in BCVA and FST.

Available On Demand

Session: PO419

### Gender Differences in Physician-Industry Interactions and Anti-VEGF Use Among U.S. Ophthalmologists

Scientific Poster

Topic: Retina, Vitreous

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Abstract

**Purpose** To assess the relationship between industry, gender and anti-vascular endothelial growth factor (anti-VEGF) injections.

**Methods** Retrospective review of Centers for Medicare and Medicaid Services (CMS) Provider and Payment Data and the CMS Open Payments 2013-2017 related to anti-VEGF medications.

**Results** Of 3,957 physicians included, 57% received industry payments related to brand anti-VEGF (aflibercept and ranibizumab). Men received significantly more payments by proportion (58% men versus 53% women,  $P = .01$ ), more payments totaling  $\geq$ \$1,000 (8% versus 5%,  $P < .01$ ) and a higher average number of industry payments (12 versus nine,  $P = .049$ ). Number of industry



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payments was positively correlated with total anti-VEGF injection use ( $r = .38$ ), total brand anti-VEGF injection use ( $r = .42$ ) and percentage of brand anti-VEGF injection use ( $r = .32$ ; all  $P < .001$ ), regardless of gender.

**Conclusion** Men received significantly more industry payments than women, and for both genders, number of industry payments correlated with greater use of brand anti-VEGF.

Available On Demand

Session: PO437

### RD Rates and Clinical Outcomes Following PK and EK

Scientific Poster

Topic: Retina, Vitreous

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Abstract

**Purpose** To evaluate retinal detachment (RD) rates and clinical outcomes after penetrating keratoplasty (PK) and endothelial keratoplasty (EK).

**Methods** Records of an academic private practice in Philadelphia, PA, were electronically queried for PK or EK performed from 1/1/12 to 9/1/18. RD diagnosis was identified by billing codes and confirmed by chart review.

**Results** 1,676 PKs and 2,292 EKs were included. The rate of RD after PK (41 of 1,676; 2.4%) was significantly higher than that after EK (11 of 2,292; 0.5%) ( $P < .001$ ). Concurrent anterior or pars plana vitrectomy at the time of transplant was associated with a significantly higher odds of developing RD (OR: 8.66; 95% CI, 2.98-25.18;  $P < .001$ ). Visual acuity outcomes were worse after PK-related RD than EK-associated cases, although this difference was not statistically significant.

**Conclusion** In this cohort of patients undergoing either PK or EK, rates of RD were low for both procedures and significantly lower for EK compared to PK. Eyes with RD after PK had worse visual acuity outcomes and graft prognosis compared to those with RD after EK.

Available On Demand

Session: PO442

### Comparison of “Cell Therapy” Websites for Ocular Conditions in 2017 and 2019: Did the 2018 FDA Injunctions Have an Impact?

Scientific Poster



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

Topic: Retina, Vitreous

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Abstract

**Purpose** We assessed whether the FDA's permanent injunction against two "cell therapy" clinics in 2018 resulted in a change in the "cell therapy" clinics in the United States that advertise treatments for ocular conditions online.

**Methods** Using a systematic Internet search, U.S. "cell therapy" websites of businesses that market cell therapy for ocular conditions were identified and analyzed in 2019 and compared to findings in 2017.

**Results** There was a similar number of U.S. businesses (2019: 39, 2017: 40). Of the 2017 businesses, 25 were still marketing eye treatments in 2019; 13 had removed ocular ads; and six discontinued their sites in 2019. Fourteen new businesses were identified. The most common advertised condition remained macular degeneration (2019: 28, 2017: 24). The most common cell source remained autologous adipose-derived cells (2019: 28, 2017: 36). The state with the most clinics in 2019 was Texas (12), while it was California in 2017 (21). The highest advertised out-of-pocket cost increased to \$12,000 in 2019 from \$10,500 in 2017.

**Conclusion** Despite increased FDA scrutiny, "cell therapies" for ocular conditions are still available in the U.S. via online marketing.

Available On Demand

Session: PO445

### **Quantitative Comparison of Two UWF Fundus Cameras**

Scientific Poster

Topic: Retina, Vitreous

*Presenting Author:*

Andrew Chen, MD

*Co-Author(s):*

Suveera Dang, MD, MPH

Mina Chung MD

Rajeev S Ramchandran MD

David A DiLoreto Jr MD, PhD

David M Kleinman MD

Jayanth S Sridhar, MD

Charles C Wykoff, MD, PhD

**Ajay E Kuriyan, MD**

Abstract



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

**Purpose** To compare the retinal area imaged using the Optos P200DTx and the Zeiss Clarus 500 ultrawide-field (UWF) fundus cameras.

**Methods** Seventy-eight eyes of 46 patients were imaged with the Optos, single capture, and Zeiss Clarus 500, montaged if possible. Retinal area was measured with Optos and ImageJ software, using Clarus images that were registered to the Optos images. Peripheral retinal lesions were compared. Patients' and technicians' preferences and imaging session times were recorded.

**Results** Optos captured a larger total retinal area (765.6 versus 566.5 mm<sup>2</sup>), and in each quadrant (all  $P < .001$ ). The results were consistent when comparing only the 52 montaged Clarus images. Among the 38 images with peripheral pathology, Optos captured pathology not captured by Clarus in 12 images (31.6%), and Clarus captured pathology not captured by Optos in one image ( $P = .001$ ). The additional peripheral findings were clinically significant in two eyes (5.3%), both captured by Optos. There was a difference in neither patient or technician preference nor acquisition time.

**Conclusion** The Optos P200DTx captured statistically significantly more retinal area than did the Zeiss Clarus 500.

Available On Demand

Session: PO477

### FNAB of Posterior Segment Tumors in 500 Consecutive Cases

Scientific Poster

Topic: Retina, Vitreous

*Presenting Author:*

Chloe TL Khoo, MD

*Co-Author(s):*

Basil K Williams, MD

Maura DiNicola MD

**Arman Mashayekhi MD**

Hormoz Ehya MD MD

**Jerry A Shields MD**

**Carol L Shields MD**

Abstract

**Purpose** To assess diagnostic yield, accuracy and complications of fine-needle aspiration biopsy (FNAB) in patients with posterior segment tumors.

**Methods** Retrospective case series of 500 patients who underwent FNAB for cytopathology of posterior segment tumors.

**Results** The mean patient age was 63 years (median: 63, range: 8-94). Mean lesion basal dimension was 12.0 mm (median: 11.8, range: 1.0-28.0), and mean thickness was 4.1 mm (median: 4.1, range: 0.5-17.0). FNAB was performed for cytopathology in 402 cases (80%) and for cytopathology and cytogenetics in 98 cases (20%). Pars plana transvitreal approach was used in 444 cases (89%), and a transscleral approach was used in 66 cases (11%). Adequate sample was achieved in 428 cases (86%). Cytopathologic diagnosis was inaccurate in four cases (1%). Visually significant vitreous hemorrhage developed in 49 cases (10%), and rhegmatogenous retinal detachment occurred in 11 cases (3%). One patient developed vitreous seeding, and none developed endophthalmitis or extraocular extension.

**Conclusion** FNAB is a reliable technique for cytopathologic identification of posterior segment tumors, providing adequate sample in 86% of cases.



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

Available On Demand

Session: PO478

### The New 2020 Guidelines for Retinal Surveillance of Patients With VHL Disease: A New Approach

Scientific Poster

Topic: Retina, Vitreous

*Presenting Author:*

Anthony B Daniels, MD

*Co-Author(s):*

Emmanuel Y Chang MD PhD

Emily Y Chew MD

Dan S Gombos MD

Michael B Gorin MD PhD

**Carol L Shields MD**

Henry E Wiley IV MD

Abstract

**Purpose** To report the new retinal surveillance guidelines as determined by the Ophthalmology Subcommittee of the International von Hippel-Lindau (VHL) Surveillance Guidelines Consortium of >50 VHL experts.

**Methods** Seven specific questions about the timing and methodology of retinal screening for VHL were generated. Systematic review of the literature was performed. The evidence was graded according to the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) criteria, and guidelines were generated. The strength of the recommendations were weighted according to National Comprehensive Cancer Network (NCCN) criteria.

**Results** The guidelines now address age to start and cease, frequency, pregnancy and puberty, exams under anesthesia, imaging modalities, and management of small presymptomatic lesions. Evidence was GRADE B-D, and guideline strength was 2A.

**Conclusion** The new 2020 VHL guidelines are evidence based and include earlier screening, increased frequency during the first few decades of life, recommendations for increased use of widefield imaging and proactive treatment of small lesions.

Available On Demand

Session: PO489

### Assessing the Accuracy, Quality and Readability of Patient Accessible Online Resources Regarding Ocular Gene Therapy

Scientific Poster

Topic: Retina, Vitreous

*Presenting Author:*

Swetha Davuluri, BS

*Co-Author(s):*

Nicolas Yannuzzi, MD

Amy Kloosterboer



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

**Ajay E Kuriyan, MD**  
Jayanth S Sridhar, MD

### Abstract

**Purpose** To evaluate the accuracy, quality and readability of online information regarding ocular gene therapy.

**Methods** In this cross-sectional study, 10 resources about voretigene neparvovec (Luxturna, Spark Therapeutics, Philadelphia PA) were assessed by three independent graders using a standard 25-question assessment. An online readability tool was used to assess readability. Accountability was evaluated using the *Journal of the American Medical Association* (JAMA) benchmarks.

**Results** The average questionnaire score was 33.93 out of 100 possible points, with significant variation in content accuracy and quality between articles ( $P = .017$ ). The mean reading grade was 12.88, with significant variation between articles ( $P = .001$ ). No article achieved all 4 JAMA benchmarks, and only one achieved three of the four benchmarks.

**Conclusion** Online information regarding ocular gene therapy is of low quality, is difficult to read and varies significantly between sources. The material would not support patients adequately in their consideration of this new therapeutic option.

Available On Demand

Session: PO493

### Clinical Outcomes in Bilateral Sequential RRD

Scientific Poster

Topic: Retina, Vitreous

Presenting Author:

**Duo Xu, MD**

Co-Author(s):

Peter J Belin, MD

Patrick Staropoli, MD

Nicolas Yannuzzi, MD

Gautam Vangipuram, MD

**Allen Chiang MD**

Gaurav K Shah MD

Justin H Townsend, MD

Edwin Hurlbut Ryan Jr MD

**Michael A Klufas, MD**

### Abstract

**Purpose** To assess outcomes of bilateral sequential rhegmatogenous retinal detachment (RRD) utilizing a paired-eye comparison.

**Methods** Retrospective review of bilateral RRD treated with pars plana vitrectomy (PPV), scleral buckle (SB), or SB/PPV. Data was collected on anatomic features of the RRD, surgical procedures and visual acuity (VA). Single-operation anatomic success (SOAS) and type / number of procedures were assessed with a paired-eye comparison.

**Results** Among 504 eyes of 252 patients, SOAS was 83% in the initial eye and 84% in the subsequent eye ( $P = .8$ ). VA was better in the subsequent eye at presentation (+19 letters,  $P < .0001$ ) and at postoperative month 6 (+5.5 letters,  $P = .03$ ). Macula involvement was less prevalent (34% versus 56%,  $P < .0001$ ) with fewer quadrants detached (mean 1.9 versus 2.0,  $P = .01$ ) in the



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second eye. When patients underwent a different surgical technique in each eye, SB/PPV yielded a higher SOAS of 96%, compared to 69% for either PPV or SB alone ( $n = 75$ ,  $P = .0002$ ).

**Conclusions** Patients with bilateral RRD have similar SOAS in each eye, but the second eye is more likely to achieve better final vision. SB/PPV yielded significantly higher SOAS than PPV or SB alone.

Available On Demand

Session: PO495

### Prophylactic ILM Peeling During RRD Surgery

Scientific Poster

Topic: Retina, Vitreous

*Presenting Author:*

**Matthew R Starr, MD**

*Co-Author(s):*

Edwin Hurlbut Ryan Jr MD

Gaurav K Shah MD

**Michael J Ammar, MD**

**Anthony Obeid, MD**

Xinxiao Gao, MD, PHD

Claire Ryan, BA

Malika Madhava, BS

Sean Maloney

Krishi V Peddada, MD

Kareem Sioufi, MD

Daniel P Joseph MD PhD

Antonio Capone Jr MD

Geoffrey G Emerson MD PhD

Dean Elliott MD

**Jason Hsu MD**

**Carl D Regillo MD FACS**

**Omesh P Gupta MD**

**Yoshihiro Yonekawa, MD**

Abstract

**Purpose** Prophylactic peeling of the internal limiting membrane (ILM) at the time of rhegmatogenous retinal detachment (RRD) repair has been proposed as a technique to potentially prevent epiretinal membrane (ERM) and proliferative vitreoretinopathy (PVR) formation.

**Methods** This is a multi-institutional, retrospective interventional study of all consecutive primary RRD surgeries from January 1, 2015, through December 31, 2015. This study compared those who underwent concomitant ILM peeling to those who did not. Metrics included macular status, visual acuity, anatomical success and postoperative ERM formation. Eyes with preoperative macular hole, ERM and PVR were excluded.

**Results** There were 1,442 eyes that met inclusion criteria, with 41 eyes (2.8%) undergoing concomitant ILM peeling at the time of RRD surgery. Comparing eyes with and without ILM peeling, there was no difference in visual acuity or ERM formation ( $P$ -values  $> .05$ ). However, eyes with ILM peeling had a higher single-surgery success rate, at 95%, versus 85% ( $P = .03$ ), which remained significant after multivariate analysis controlling for confounding variables ( $P = .02$ ).



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**Conclusion** ILM peeling at the time of RRD surgery was associated with improved single-surgery success rates.

### **SESSIONS**

Available On Demand

Session: PTH02

#### **PRO/CON Debates**

Session

Topic: Ocular Pathology, Oncology

Advances in the Clinical Management of Sebaceous Cell Carcinoma

*Hakan Demirci MD*

Sebaceous Cell Carcinoma: Immunohistochemistry and Muir-Torre Syndrome Testing

*Tatyana Milman, MD*

Available On Demand

Session: RET08

#### **Pediatric Retina**

Session

Topic: Retina, Vitreous

*Panel Moderator:*

Antonio Capone Jr MD

*Panelists:*

Audina M Berrocal MD

R V Paul Chan MD

Mary Elizabeth Hartnett MD FACS

**Yoshihiro Yonekawa, MD**

Update on the International Classification of ROP (ICROP-3)

*Michael F Chiang, MD*

Retinal OCT in ROP: Results from BabySTEPS

*Cynthia A Toth MD*

Available On Demand

Session: RET16

#### **Late Breaking Developments, Part II**

Session

Topic: Retina, Vitreous

*Moderator:*





## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

Tarek S Hassan MD

*Panelists:*

Alexander J Brucker MD

Thomas B Connor Jr MD

Suber S Huang MD, MBA

**Jose S Pulido MD MS**

Adrienne Williams Scott MD

One Year and Beyond: Long-Term Multiple-Dose Study of KSI-301, an Anti-VEGF Antibody Biopolymer Conjugate with Extended Durability, in wAMD, DME, and RVO

*Arshad M Khanani MD*

Multiple Evanescent White Dot Syndrome: Findings From a Large Northern California Cohort

*Robin A Vora MD*

Fluid Compartment Volatility and Dynamics in Neovascular AMD Treated with Anti-VEGF Therapy: Implications for Outer Retinal Integrity, Subretinal Fibrosis, and Functional Outcomes

*Justis P Ehlers MD*

Multifactorial Approach To Improve Performance of Novice Vitreoretinal Surgeons: Implications In Microsurgical Practice

*Mauricio Maia MD*

Exploring Ang-2 Signaling in Vascular Stability in Patients With DME Receiving Faricimab in the Phase 2 BOULEVARD Trial

*Karl G Csaky MD*

Precision Medicine in Uveitis: Single-cell RNA Sequencing (scRNA-Seq) for Personalized Therapy

*Lynn M Hassman, MD*

Longterm Clinical and Multimodal Imaging Findings in Patients with Disseminated Mycobacterium Chimaera Infection

*Sandrine Zweifel, MD*

Insights Into Risk of Diabetic Retinopathy (DR) Progression in Primary Care Patients With Diabetes in the United States

*Geeta A Lalchandani-Lalwani MD*

Evaluation of Geographic Atrophy (GA) Secondary to AMD in Real-World Clinical Practice: Analysis of the AAO IRIS Registry

*Ehsan Rahimy, MD*

Available On Demand

Session: RET18

### **Oncology**

Session

Topic: Retina, Vitreous

*Panel Moderator:*

**Carol L Shields MD**

*Panelists:*

David H Abramson MD FACS



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

Zelia M Correa MD  
Ivana K Kim MD  
Timothy G Murray, MD MBA

New Molecular/Genetic Findings in Ocular Oncology  
*Jasmine H Francis MD*

### **SKILLS TRANSFER**

Available On Demand  
Session: LAB108A

#### **Phacoemulsification and Advanced Techniques** Skills Transfer

Topic: Cataract  
Education Level: Intermediate  
*Course Director:*  
Steven H Dewey MD

*Instructor(s):*  
Marjan Farid MD  
Thomas A Oetting MD  
**Mark H Blecher MD**  
Jeff H Pettey, MD, MBA  
Cathleen M McCabe MD  
Steven H Dewey MD  
Gerald J Roper MD

#### Abstract

**Synopsis** In this course, the latest phaco techniques and technologies will be presented. These include wound construction, capsulorrhexis, capsular staining, phaco chop techniques, techniques for operating on dense and mature cataracts, capsular tension rings, and management of small pupils through the use of pupil expanders and hooks. Teaching will be one-on-one, allowing each surgeon attendee to individualize their desired training for the session. While the emphasis of the course is on surgical technique, each of the major manufacturers will have their equipment available for use and evaluation.

**Objective** By the conclusion of this course, the surgeon attendee should be familiar with the phaco techniques necessary to advance their surgical procedure to the next level.

Available On Demand  
Session: LAB136A

#### **Pupilloplasty Techniques and Innovations in Iris Repair** Skills Transfer

Topic: Cataract  
Education Level: Intermediate  
*Instructor(s):*  
Audrey R Talley Rostov, MD



# WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

*Course Director:*  
Priyanka Sood MD

*Instructor(s):*  
Priya Narang MS  
Ashvin Agarwal, MD  
**Brandon Ayres MD**

## Abstract

**Synopsis** Iris defects can be challenging to manage and can cause significant visual disturbances. At times, preoperative planning is possible; however, iris complications may arise intraoperatively as well, and it is therefore important to learn and feel comfortable with techniques available to treat these defects. The specific techniques that our course will focus on include modified Siepser; modified McCannel; single-pass, four-throw pupilloplasty; iridodialysis repair; and iris cerclage.

**Objective** At the conclusion of this course, the attendees will be able to describe the various iris repair techniques and to follow up with a hands-on Skills Transfer lab. They will be able to feel confident in using these techniques to improve visual outcomes for their patients.

**Note:** *The lecture for this lab is strongly recommended by the course director.*

## SYMPOSIUM

Available On Demand

Session: SYM20

### **Professionalism in Ophthalmology: Maintaining Resilience and Avoiding Burnout**

Symposium

Topic: Wellness

*Chair(s):*

Hans E Grossniklaus MD

George B Bartley MD

#### Introduction

*Hans E Grossniklaus MD*

#### What Is Professionalism?

*George B Bartley MD*

#### The Professionalism Tree

*Hans E Grossniklaus MD*

#### Inspiration

*Donny Won Suh, MD*

#### Counsel

*Jennifer Irene Lim, MD*



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

### **Work–Home Life Balance**

*Julia A Haller MD*

### Benchmarks

*Mary Elizabeth Hartnett MD FACS*

### Niche/Serendipity

*Jane A Bailey MD*

### Resilience

*Alison H Skalet MD PhD*

### Panel Discussion

### Conclusions

*George B Bartley MD*

### Abstract

Cosponsored by the American Ophthalmological Society (AOS) and the American Board of Ophthalmology (ABO)

Professionalism is often poorly understood. In short, it is personal integrity. Progression through your professional and personal life involves the maintenance of professionalism, which can be conceptualized as the “Professionalism Tree,” including branches of inspiration, counsel, work-home balance, benchmarks, and finding one’s niche (which often involves serendipity). This symposium will cover several skills that can help you achieve and maintain professionalism through resilience and avoidance of burnout throughout your career and personal life, including baby steps, diffusion, remembering successes, and mindfulness.

Available On Demand

Session: SYM31

### **Back to the Future: Ideas That Foreshadowed Modern Technology**

Symposium

Topic: Ophthalmic History

*Chair:*

Michael F Marmor MD

### Fake News! Strabismus and Chevalier Taylor

*Norman B Medow MD FACS*

### Cornea: Prosthetics and Transplants

*Mark J Mannis MD*

### Ancient Aspirations of Cataracts

*Christopher Theodore Leffler, MD*



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

Casanova and 18th-Century IOLs  
*Andrzej Grzybowski MD*

Glaucoma: The Earliest Filters-When, How and Why  
*Frances Meier-Gibbons MD*

Before Helmholtz: A View Inside the Eye  
*Daniel M Albert MD FACS*

**Retinal Drainage: Before Ophthalmoscopy**  
*Julia A Haller MD*

Abstract

Cosponsored by the Museum Program Committee

The AAO 2020 Virtual history symposium will trace the history of modern diagnosis and treatment back to the ideas and devices that foresaw the future. These techniques had never been tried before and some failed, but all were part of the evolution that eventually moved the technology toward our modern methods.

Available On Demand

Session: SYM52

**EyeWiki at 10 Years: From Launch to 18 Million Users**  
Symposium

Topic: General Medical

Chair(s):

Marcus M Marcet MD

Cat Burkat, MD, FACS

EyeWiki Editor-in-Chief: A 10-year Retrospective  
*Marcus M Marcet MD*

Cataract/Anterior Segment  
*Alpa S Patel MD*

Cornea/External Disease  
*Vatinee Y Bunya MD*

Glaucoma  
*Ahmad A Aref MD*

Neuro-ophthalmology/Orbit  
*Andrew G Lee MD*



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

### Ocular Trauma

*Ann P Murchison, MD MPH*

Oculoplastics/Orbit

*Michael T Yen MD*

### Oncology/Pathology

*Matthew W Wilson MD*

### Pediatric Ophthalmology/Strabismus

*Monte A Del Monte MD*

### Refractive Management/Surgery

*Alaa M Eldanasoury, MD*

### Retina/Vitreous

*Jennifer Irene Lim, MD*

### Incoming Editor-in-Chief: EyeWiki's Next 10 years and Beyond

*Cat Burkat, MD, FACS*

### Abstract

Cosponsored by the EyeWiki Editorial Board

In this symposium, using the site's unique data metrics, the EyeWiki Editorial Board will highlight the most impactful topics of interest to the comprehensive ophthalmologist over the site's 10-year history. Each topic will be presented with an emphasis on clinical relevance for the practicing ophthalmologist.

## **VIRTUAL CONFERENCE SCHEDULE**

**Friday, 9:15AM - 9:30AM PST**

Session: RET04V Virtual Meeting Live Broadcast

### **The Charles L Schepens MD Lecture**

Virtual

Topic: Retina, Vitreous

9:15 Introduction of the 2020 Charles L Schepens MD Lecturer

*David W Parke II, MD*

9:16 **Retina in the Pandemic**

*Julia A Haller MD*

**Friday, 9:50AM - 10:35AM PST**

Session: GLA05V Virtual Meeting Live Broadcast



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

### Papers to Increase the Odds in Your Practice: Journal Club

Virtual

Topic: Glaucoma

*Moderator(s):*

Teresa C Chen MD

Annette L Giangiacomo MD

*Panelists:*

Iqbal K Ahmed MD

Anne Louise Coleman MD PhD

**Marlene R Moster MD**

Thomas W Samuelson MD

9:50 Hysteresis (Susanna, et al. Corneal biomechanics and VFs. Ophthalmology 2019)

*Kathryn E Bollinger, MD PhD*

9:56 Discussion

10:01 Hydrus (Samuelson, et al. HORIZON study. Ophthalmology 2019)

*Michael Lin, MD*

10:07 Discussion

10:12 SIBS microshunt (formerly InnFocus; Schlenker MB et al. Am J Ophthalmol. 2020)

*Philip P Chen MD*

10:18 Discussion

10:23 XEN vs. trabeculectomy (Wagner et al. PLoS ONE. 2020)

*Beth Edmunds, MD, PHD*

10:29 Discussion

10:35 BREAK

**Friday, 10:45AM - 11:21AM PST**

Session: UVE07V Virtual Meeting Live Broadcast

### **Surgery in Uveitis—Pearls**

Virtual

Topic: Uveitis, Intraocular Inflammation

*Moderator:*

Lucia Sobrin MD

*Panelists:*

Matthias D Becker MD PhD

Bahram Bodaghi, MD, PHD

Janet Louise Davis MD

Glenn J Jaffe, MD

Akbar Shakoor MD



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

10:46 **Cataract Surgery in Uveitis - What's With Those "Sneaky Eyes"?**

*James Philip Dunn Jr MD*

10:52 Glaucoma Surgery in Uveitis

*Keith Barton, MBBCH*

11:58 Diagnostic/Therapeutic Vitrectomy in Uveitis

*Lisa J Faia MD*

11:04 Case Presentation: Postsurgical Uveitis - What Are the Odds of Me Stopping These Drops?

*Stephanie M Llop Santiago, MD*

11:10 Discussion

11:07 Case Presentation: Pediatric Uveitis/Surgery - A Nod to Tough Uveitis: Cataract Is in the Cards

*Anjum F Koreishi, MD*

**Friday, 12:30PM - 12:54PM PST**

Session: RET07V Virtual Meeting Live Broadcast

### **Gene- and Cell-Based Therapies**

Virtual

Topic: Retina, Vitreous

Moderator:

Elliott H Sohn MD

12:30 Overview of Gene Therapy

*Glenn C Yiu, MD, PHD*

12:36 Viral and Nonviral Suprachoroidal Ocular Gene Transfer

*Peter A Campochiaro MD*

12:42 Human Retinal Progenitor Cells for the Treatment of Retinitis Pigmentosa

*Baruch D Kuppermann MD PhD*

12:48 **Cell Therapies for Atrophic AMD**

*Allen C Ho MD*

**Friday, 12:35PM - 1:25PM PST**

Session: PTH02V Virtual Meeting Live Broadcast

### **PRO/CON Debates**

Virtual

Topic: Ocular Pathology, Oncology

Moderator(s):

Jesse L Berry, MD

Nora V Laver MD

12:35 Audience Response

12:38 There Is No Increased Risk of Systemic Metastasis Associated With the Use of Intra-arteria Chemotherapy for Retinoblastoma, Pro

*Jasmine H Francis MD*





## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

- 12:43 There Is No Increased Risk of Systemic Metastasis Associated With the Use of Intra-arterial Chemotherapy for Retinoblastoma, Con  
*Matthew W Wilson MD*
- 12:48 Audience Response
- 12:53 PRAME Is a Valuable Prognostic Test Worth Obtaining on My Patient With Choroidal Melanoma, Pro  
*Zelia M Correa MD*
- 12:58 **PRAME Is a Valuable Prognostic Test Worth Obtaining on My Patient With Choroidal Melanoma, Con**  
*Carol L Shields MD*
- 1:03 Audience Response
- 1:08 PAM With and Without Atypia Remains the Preferred Histologic Grading for Acquired Conjunctival Melanosis, Pro  
*Heather A D Potter MD*
- 1:14 PAM With and Without Atypia Remains the Preferred Histologic Grading for Acquired Conjunctival Melanosis, Con  
*George Harocopos MD*
- 1:20 Audience Response
- 1:25 BREAK

Friday, 1:35PM - 2:20PM PST

Session: RET09V Virtual Meeting Live Broadcast

### The 2020 Debates

Virtual

Topic: Retina, Vitreous

Moderator(s):

Colin A McCannel MD

Tara A McCannel MD

1:35 Pre-vote

1:36 The Best Treatment for Large, Thick Submacular Hemorrhage in AMD Is Anti-VEGF Therapy Alone

*Daniel F Martin MD*

1:39 The Best Treatment for Large, Thick Submacular Hemorrhage in AMD Is Anti-VEGF Therapy Plus Blood Displacement

*Sophie J Bakri MD*

1:42 Audience Vote

1:43 Pre-vote

1:44 First-line Treatment for Disabling Vitreous Floaters Is Vitrectomy

*Kirk H Packo MD*

1:47 First-line Treatment for Disabling Vitreous Floaters Is YAG Laser Vitreolysis

*Chirag P Shah MD MPH*

1:50 Audience Vote

1:51 Pre-vote



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

- 1:52 Anti-VEGF Therapy Should Be the Standard of Care for ROP  
*Darius M Moshfeghi MD*
- 1:55 Anti-VEGF Therapy Should Not Be the Standard of Care for ROP  
*Michael T Trese MD*
- 1:58 Audience Vote
- 1:59 Pre-vote
- 2:00 All Subretinal Fluid Should Be Eliminated When Treating Wet AMD  
*David M Brown MD*
- 2:03 Some Subretinal Fluid Can Be Tolerated When Treating Wet AMD  
*Robyn H Guymer MBBS PhD*
- 2:06 Audience Vote
- 2:07 Pre-vote
- 2:08 The Preferred Regimen for Neovascular AMD Is PRN Dosing  
*Susan B Bressler MD*
- 2:11 The Preferred Regimen for Neovascular AMD Is Treat-and-Extend Dosing  
*Neil M Bressler MD*
- 2:14 Audience Vote
- 2:15 **Intravitreal Gene Therapy with ADVN-022 for Neovascular AMD: OPTIC Phase 1 Study**  
*Carl D Regillo MD FACS*
- 2:20 **BREAK**

**Friday, 2:40PM - 3:25PM PST**

Session: OCU06V Virtual Meeting Live Broadcast

**No Implant? No Problem!**

Virtual

Topic: Oculoplastics, Orbit

*Moderator:*

Vinay K Aakalu MD MPH

**3:04 The Skinny on Dermis Fat Grafts**

*Alison H Watson, MD*

**Friday, 2:40PM - 3:25PM PST**

Session: PTH04V Virtual Meeting Live Broadcast

**Focus on Vitreoretinal Lymphoma**

Virtual

Topic: Ocular Pathology, Oncology

*Moderator(s):*

**Arman Mashayekhi MD**

Amanda C Maltry, MD

*Panel Moderator:*



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

Arun D Singh MD

**2:40 Keynote: The Diagnosis, Management, and Prognosis of Vitreoretinal Lymphoma**  
*Jose S Pulido MD MS*

**Friday, 2:40PM - 3:25PM PST**

Session: RET10V Virtual Meeting Live Broadcast

**Late Breaking Developments, Part I**

Virtual

Topic: Retina, Vitreous

*Moderator:*

Amir H Kashani MD PhD

*Panelists:*

**Sunir J Garg MD FACS**

**Julia A Haller MD**

Michael A Singer MD

Demetrios Vavvas MD

2:40 Update from ReST committee

*Paul Hahn MD PhD*

2:45 Assessing Characteristics of Patients With or Without Intraocular Inflammation (IOI) In the  
Brolicizumab Treatment Arms From the HAWK and HARRIER, Phase 3 Studies

*Jeffrey S Heier, MD*

2:50 Discussion

2:55 Phase 1/2 Trial of AAV5-RPGR Gene Therapy for RPGR-Associated X-Linked Retinitis  
Pigmentosa (XLRP): 12-month Results

*Michel Michaelides, MD*

3:00 Phase 1/2a Study Of Intravitreal Optogenetics Gene Therapy For Vision Restoration In  
Advanced Retinitis Pigmentosa

*Santosh Kumar Mahapatra, MS*

3:05 Discussion

3:10 Avacincaptad Pegol, A Novel C5 Inhibitor, Significantly Reduces the Mean Rate of  
Geographic Atrophy Growth in the Phase 2/3 GATHER1 Clinical Trial

*Donald J. D'Amico MD*

3:15 **AU-011, a Targeted Therapy for Primary Treatment of Choroidal Melanoma (CM)  
via Intravitreal (IVT) and Suprachoroidal (SC) Administration**

*Carol L Shields MD*

**Saturday, 7:40AM - 8:25AM PST**

Session: SYM54V Virtual Meeting Live Broadcast

**Academy Café: Cataract**

Virtual



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

Topic: Cataract

Chair:

Terry Kim MD

### 7:40 Panel

*Brandon Ayres MD*

*Kendall E Donaldson MD*

*Sumitra S Khandelwal, MD*

*Thomas A Oetting MD*

### 7:40 Screener

*Orwa Nasser, MD*

### Abstract

Join us for lively conversation in the Academy Cafe; a casual meeting place where you can benefit from discussions on various ophthalmologic topics. Seven moderated discussion sessions with expert panels are scheduled throughout the meeting.

**Saturday, 12:05PM - 12:50PM PST**

Session: 470V Virtual Meeting Live Broadcast

### **Mystery Retina 2020: Interactive Discussion of Challenging Cases**

Virtual

Topic: Retina, Vitreous

Education Level: Advanced

*Senior Instructor:*

William F Mieler, MD

*Instructor(s):*

Srinivas R Sadda MD

K Bailey Freund MD

David Sarraf MD

**Carol L Shields MD**

Richard F Spaide MD

### Abstract

**Synopsis** Instructors will present diagnostically challenging cases. The presentations will include interpretation of color photographs, spectral domain optical coherence tomography (OCT), OCT angiography and fluorescein angiography. When indicated, indocyanine green angiography, fundus autofluorescence, enhanced depth imaging OCT, swept-source OCT, infrared images, wide-angle imaging, echography, electrophysiologic studies, microperimetry, CT, MRI, results of genetic studies and cytology and/or histopathology will also be shown. All cases will be presented as unknowns.

**Objectives** Attendees will be better able to assess and evaluate a wide variety of diagnostically challenging cases. They should also be able to establish a more complete differential diagnosis and learn how to make the best use of ancillary diagnostic tests in order to establish a diagnosis and formulate a definitive treatment plan.



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

**Saturday, 12:05PM - 12:50PM PST**

Session: LAB133V Virtual Meeting Live Broadcast

### **Advanced Endothelial Keratoplasty (DSEK/DMEK): Overview and Surgical Pearls**

Virtual

Topic: Cornea, External Disease

Education Level: Intermediate

William Barry Lee MD

*Instructor(s):*

Clara C Chan MD

Edward J Holland MD

Massimo Busin MD

Donald Tan MD FRCS FRCOphth

Matthew Timothy Feng, MD

Rajesh Fogla, MD, FRCS

**Brandon Ayres MD**

Abstract

**Synopsis** In this course, corneal experts will share pearls about performing the steps of Descemet-stripping endothelial keratoplasty (DSEK) and Descemet membrane endothelial keratoplasty (DMEK), emphasizing tips on how to transition to DMEK. Tips will be presented for complex cases (anterior chamber IOL, tube/trab, post-penetrating keratoplasty, post-pars plana vitrectomy, aphakic eyes) and complication management for DSEK and DMEK. An update on Descemet-stripping automated endothelial keratoplasty (DSAEK), ultrathin and nano-thin DSAEK, and DMEK and hybrid-DMEK will also be presented. A realistic DMEK practice model will be shown. Surgical videos of both DMEK and DSEK will be shown to emphasize key learning points.

**Objectives** By the end of this course, participants will be up to date on everything related to posterior endothelial keratoplasty.

**Saturday, 1:00PM - 1:30PM PST**

Session: PD03V Location: Poster Theater & Lounge: Virtual Meeting Live Broadcast

### **Poster Discussion: Oculoplastics, Orbit, Ocular Pathology**

Virtual

Topic: Oculoplastics, Orbit

#### **PO273 Conjunctival Melanoma: Outcomes Based on Fitzpatrick Skin Type in 540 Patients**

***Carol L Shields MD***

#### **PO281 Incidence and Risk Factors of Malignancies in Biopsy-Proven IgG4-Related Ophthalmic Disease**

***Kelvin Kam Lung Chong, MD***

#### **PO294 Efficacy for Differentiating Benign and Malignant Eyelid Tumors Using DL Systems**

***Min Joung Lee MD***

#### **PO304 Risk of TED Among Patients With Thyroid Dysfunction: A U.S. Claims-Based Analysis**

***Ameel D Azad, BA***



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

### Abstract

Poster Discussions are unmoderated talks with four selected authors functioning as a panel, each presenting their own ePoster. Each recorded session is 30-minutes with the option to use the chat feature to discuss poster presentations.

**Sunday, 7:40AM - 8:25AM PST**

Session: OP02V Virtual Meeting Live Broadcast

### **Retina, Vitreous Original Papers**

Virtual

Topic: Retina, Vitreous

Chair:

Sharon D Solomon MD

*Anita Agarwal MD*

**Sunir J Garg MD FACS**

PA054 X-Linked RP: Natural Progression and Improvements With BIIB112 (NSR-RPGR)  
Subretinal Gene Therapy

*Byron L Lam MD*

PA060 Superselective Triple-Drug Intra-arterial Chemotherapy in RB

*Ankita Aishwarya, MS*

PA050 Phase 1/2a Study of Subretinally Transplanted hESC-Derived RPE Cells in Advanced  
Dry-Form AMD Patients

*Christopher D Riemann MD*

PA057 An Automated AI-Based Telemedicine Platform for Screening Patients With Referable  
AMD: A Prospective Trial

*Sharmina Alauddin, FCPS*

**Sunday, 11:05AM - 12:35PM PST**

Session: LAB100 Virtual Meeting Live Broadcast

### **No Capsule, No Problem: Intrasccleral Haptic Fixation of IOLs**

Virtual

Topic: Cataract

Education Level: Advanced

Naveen K Rao, MD

*Instructor(s):*

Ashvin Agarwal, MD

Amal M Alwreikat, MD, MBBS

David A Crandall MD

Sumit Garg MD

**Sadeer B Hannush MD**

Jason J Jones MD



## WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

### Abstract

Important note: We offer this virtual skills transfer course with the understanding that we cannot truly replicate the one-on-one teaching of a traditional hands-on skills transfer session. For that reason, this virtual skills transfer course is intended for surgeons who already have some experience performing intrascleral haptic fixation and are interested in improving specific aspects of their technique by seeking advice from a panel of experienced surgeons.

Synopsis: This virtual lab will provide attendees the opportunity to receive direct feedback about specific aspects of intrascleral haptic fixation surgery. Participants should have some experience performing the glued IOL technique, the Yamane flanged haptic technique, or both. We encourage participants to submit a brief video of a step they have difficulty with. The panel of expert surgeons will review these videos prior to the course. Panelists will offer their own video pearls in response to the videos submitted by participants. This format is designed to help participants overcome “pain points” during intrascleral haptic fixation surgery.

Separate registration is required to attend this course. Registration for the live session is limited to 90 participants; first come, first served. Open to Physicians only

**Sunday, 2:05PM - 2:50PM PST**

Session: SYM11V Virtual Meeting Live Broadcast

**Grand Rounds: Cases and Experts From Across the World**

Virtual

Topic: General Medical

Chair:

Carolyn K Pan MD

### Panel

*Kathryn A Colby MD PhD*

***Carol L Shields MD***

*Lucia Sobrin MD*

*Nicholas J Volpe MD*

An Unusual Intraocular Mass

*Lucy I Mudie, MD*

What's That Sheet?

*Hong-Uyen Hua, MD*

A Corneal Mass

*Ahmad Al Moujahed, MD*

Is there More to the Picture?

*Aditi Gupta, MD*

### Abstract

Real residents present real cases from real department grand rounds to a panel of experts followed by Q&A and discussion by the panel.

**Sunday, 2:05PM - 2:50PM PST**

Session: SYM17V Virtual Meeting Live Broadcast



# WILLS EYE HOSPITAL ACTIVITIES AT AAO 2020 VIRTUAL

## 20/20 in Focus: How Technology Will Bring Us Closer to Perfection

Virtual

Topic: General Medical

Chair(s):

Jesse L Berry, MD

Arvind Saini, MD, MBA

### Introduction

*Jesse L Berry, MD*

Cornea: Surgical Advances in Transplantation to the Cellular Level

*Jodhbir S Mehta, MBBS, PHD*

Plastics: Biologics for Orbital Disease (Teprotumumab)

*Raymond S Douglas MD PhD*

Glaucoma: Injectable and Sustained-Release Drugs Changing the Landscape of Glaucoma Management

*Anne Louise Coleman MD PhD*

Oncology: Minimally Invasive Precision Prognostics for Melanoma and Retinoblastoma

*Martine J Jager, MD, PHD*

Retina: Gene Therapy for Inherited Retinal Disease

*Audina M Berrocal MD*

Q&A/Conclusion of Panel I and Introduction to Panel 2

*Arvind Saini, MD, MBA*

Advances in Imaging for Myopia

*Marcus Ang, MBBS, PHD*

Telemedicine and Telesurgery for the Management of ROP

*Thomas C Lee MD*

**Gender Equity: Breaking the Glass Ceiling for Women in Leadership and Beyond 2020**

***Julia A Haller MD***

Artificial Intelligence: The Ethics of Autonomous AI

*Michael D Abramoff MD PhD*

Big Data: IRIS® Registry and the Bioethics of Big Data in the Next Decade

*Michael F Chiang, MD*

Q&A/Conclusion of Panel 2

*Arvind Saini, MD, MBA*

### Abstract

Cosponsored by the Young Ophthalmologist Committee

In 2020, more than ever before, the ophthalmic clinical landscape is full of technological advancements. These advancements will be the driving force that changes future ophthalmic treatment paradigms. Millennials are more likely to embrace these transformative ways of looking at evidence-based medicine and point-of-care technology. This symposium will look at robust and innovative advances in each subspecialty of ophthalmology from the last decade, as well as exciting predictions of the ways in which they will shape care in the new decade. We will highlight the top advances in ophthalmology over the past 10 years with a short, focused and exciting panel discussion highlighting the best achievements by field and by focus.