2020
EDUCATING THE EDUCATORS

Meeting Syllabus

Association of University Professors of Ophthalmology

Educating the Educators 2020

The Association of University Professors of Ophthalmology's Program Directors Council welcomes you to the 17th annual Educating the Educators conference in Rancho Mirage, California.

This year, the morning will begin with an optional book-club over breakfast featuring *Make It Stick: The Science of Successful Learning*. The opening session features "Problem Resident: The Best Strategies for Remediation," which will include presentations on best-practices as well as an open-mike session for audience participation. The morning will also include a Free Paper Session and Organizational Updates. There will be a new Program Director orientation luncheon for those who are new to program leadership.

The afternoon will include guest lecturer **Laura Edgar, EdD, CAE**, Vice President, Milestones Development at ACGME, who will present a workshop on how to implement Milestones 2.0. Following Dr. Edgar there will be two mini-symposia: "Ways to Meet Program Requirements for Wet Lab Curricula" to share ideas and resources and "Don't Reinvent the Wheel" to showcase novel ideas that can be adapted or adopted to make programs better.

Please also take advantage of time during the breakfast, lunch, break time and before the cocktail reception to check out the poster session. We are trying something new this year with a novel format that has been touted as more effective at delivering visual content in the short time reviewers have during the meeting. Following the meeting you will be asked to weigh in on whether the format was effective. We also want to acknowledge our poster presenters who were willing to try out the new format with a big thank you!

We look forward to seeing you in Rancho Mirage, and hope you enjoy the meeting!

Susan Culican, MD, PhD
Co-Chair, Educating the Educators
Ad hoc Member
AUPO Program Directors Council

Stacy Pineles, MD
Co-Chair, Educating the Educators
Member-at-Large
AUPO Program Directors Council

Jeff Pettey, MD
Co-Chair, Educating the Educators
Member-at-Large
AUPO Program Directors Council

Jules Winokur, MD
Co-Chair, Educating the Educators
Member-at-Large
AUPO Program Directors Council

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Educating the Educators 2020 Program

Wednesday, January 29

Time	Event	Location
6:30 AM – 8:00 AM	Registration and Continental Breakfast	Celebrity Foyer
6:30 AM – 5:30 PM	Registration Open	Celebrity Foyer
7:00 AM – 7:55 AM	Book Club – *Make it Stick: The Science of Successful Learning* by Peter C. Brown, Henry L. Roediger, III, and Mark A. McDaniel	Oasis Ballroom
8:00 AM – 8:05 AM	Welcome and Announcements – *Evan 'Jake' Waxman, MD, PhD*	Celebrity D-E
8:05 AM – 10:00 AM	**Problem Resident: The Best Strategies for Remediation** – Moderator: *Susan M. Culican, MD, PhD*	Celebrity D-E
	8:05 AM – 8:20 AM Think, Pair, Share – *Susan M. Culican, MD, PhD*	
	8:20 AM – 8:35 AM Medical Knowledge – *Douglas Fredrick, MD*	
	8:35 AM – 8:50 AM Professionalism – *Robert Swan, MD*	
	8:5 AM – 9:05 AM Surgical Skills – *Andrew T. Thliveris, MD*	
	9:05 AM – 9:20 AM Extending Training – *Fasika Woreta, MD*	
	9:20 AM – 9:35 AM Setting Expectations, Documentation and Beneficial Communication – *Misha Syed, MD*	
	9:35 AM – 10:00 AM Open Mic with Panel Discussion	
10:00 AM – 10:20 AM	Break, Exhibits and Poster Viewing	Celebrity Foyer, A-C
10:20 AM – 11:25 AM	**Free Paper Session** – Moderator: *Stacy Pineles, MD*	Celebrity D-E
	10:20 AM –10:30 AM Responding to Patient-Initiated Verbal Sexual Harassment: Outcomes of a Pilot Training for Ophthalmologists – *Lauren Hock, MD*	
	10:30 AM – 10:40 AM Non-accidental Trauma (NAT) in Pediatric Patients: Screening Criteria for Resident-Performed Ophthalmologic Examination – *Samantha Ip, BSE*	
	10:40 AM – 10:50 AM Live Remote Surgical Mentorship: The Future of Surgical Training? – *Laura L. Wayman, MD*	
	10:50 AM – 11:00 AM Fellowship Match Outcomes in the U.S. from 2010-2017: Analysis of San Francisco (SF) Match – *Sidra Zafar, MBBS*	
	11:00 AM – 11:10 AM Crowdsourcing to Assess Resident Surgical Skill Proficiency in Cataract Surgery – *Grace Paley, MD, PhD*	
	11:10 AM – 11:25 AM Audience Question and Answer	
11:25 AM – 12:00 PM	**Organization Reports** – Moderator: *Jeff H. Pettey, MD*	Celebrity D-E
	11:25 AM – 11:30 AM San Francisco Matching Program (SF Match) – *Dennis Thomatos*	
	11:30 AM – 11:35 AM Ophthalmic Knowledge Assessment Program (OKAP) – *Kathryn Peters, PMP*	
	11:35 AM – 11:40 AM AAO Committee for Resident Education: Simulation and ONE Network – *Laura K. Green, MD*	
	11:40 AM – 11:45 AM AAO Young Ophthalmologists – *Janice C. Law, MD*	
	11:45 AM – 11:50 AM AAO State Affairs – *Kurt F. Heitman, MD*	
	11:50 AM – 11:55 AM Association of Veteran Affairs Ophthalmologists (AVAO) – *Andrew Thliveris, MD*	
	11:55 AM – 12:00 PM Journal of Academic Ophthalmology (JAO) – *Paul Sternberg, Jr., MD*	
12:00 PM – 1:00 PM	Lunch (included)	Oasis Ballroom
12:00 PM – 1:00 PM	New Program Director Lunch (included)	Mirage

Educating the Educators 2020 Program

Wednesday, January 29

1:00 PM – 2:30 PM	**Invited Guest Lecture**	Celebrity D-E
	1:00 PM – 1:05 PM Introduction – *Susan M. Culican, MD, PhD*	
	1:05 PM – 2:25 PM Milestones 2.0 Workshop – *Laura Edgar, EdD, CAE*	
	2:25 PM – 2:30 PM Audience Question and Answer	
2:30 PM – 2:50 PM	Break, Poster Viewing, Exhibits	Celebrity Foyer, A-C
2:50 PM – 3:55 PM	**Ways to Meet Program Requirements for Wet Lab Curricula** – Moderator: *Jules A. Winokur, MD*	Celebrity D-E
	2:50 PM – 2:55 PM Introduction of New Program Requirements – *Jules A. Winokur, MD*	
	2:55 PM – 3:05 PM Structured and Longitudinal: A Look at the Iowa Surgical Simulation Curriculum – *Jaclyn M. Haugsdal, MD*	
	3:05 PM – 3:15 PM Implementation and Results of a Longitudinal Wet Laboratory Curriculum for PGY-2 Residents – *Jeffrey Goshe, MD*	
	3:15 PM – 3:25 PM Graduated Autonomy: Wet Lab and EyeSi Stepwise Progression to OR Readiness – *Jennifer L. Lindsey, MD*	
	3:25 PM – 3:35 PM Keeping All Learners Engaged: A Three-year Cataract Surgery Curriculum – *Parisa Taravati, MD*	
	3:35 PM – 3:45 PM Wet Lab Video Assessment, Giving Feedback Near or Far… from the Comfort of Home – *Jeremy K. Jones, MD*	
	3:45 PM – 3:55 PM Audience Question and Answer	
3:55 PM – 5:00 PM	**Don't Reinvent the Wheel** – Moderator: *Jeff H. Pettey, MD*	Celebrity D-E
	3:55 PM – 4:00 PM Introduction – *Jeff H. Pettey, MD*	
	4:00 PM – 4:10 PM Empathy in Ophthalmology: A Comprehensive Wellness Program at Columbia University – *Royce Chen, MD*	
	4:10 PM – 4:20 PM Eyes for Ears - A Medical Education Podcast Feasibility Study – *Benjamin Young, MD, MS*	
	4:20 PM – 4:30 PM Eyelectures.com - A Cloud-based Lecture Portal Designed for Collaborative Medical Education – *Anurag Shrivastava, MD*	
	4:30 PM – 4:40 PM EyeGuru: Accelerating Pattern Recognition Development for Ophthalmic Images – *Shawn Lin, MD, MS, MBA*	
	4:40 PM – 4:50 PM PDHelper: Leveraging ACGME Surgical Log Data for Residency Program Improvement – *Evan 'Jake' Waxman, MD, PhD*	
	4:50 PM – 5:00 PM Open Mic with Panel Discussion	
5:00 PM – 5:05 PM	Conclusion and Adjournment – *Evan 'Jake' Waxman, MD, PhD*	
5:30 PM – 6:30 PM	Reception	Monte Luna Lawn

Free Paper Session

Responding to Patient-Initiated Verbal Sexual Harassment: Outcomes of a Pilot Training for Ophthalmologists

LAUREN HOCK, MD*; BRITTNI A. SCRUGGS, MD, PHD; PATRICK B. BARLOW, PHD; THOMAS A. OETTING, MD, MS; MICHAEL D. ABRAMOFF, MD, PHD; ERIN M. SHRIVER, MD

Background:

Sexual harassment is prevalent among female ophthalmologists during training. Frameworks for responding to patient-initiated sexual harassment are lacking.

Purpose:

Describe the impact of a pilot workshop and toolkit for ophthalmologists on identifying and responding to patient-initiated verbal sexual harassment, including bystander intervention.

Methods:

Training workshops were given to trainees and faculty on responding to patient-initiated verbal sexual harassment, including a response strategy toolkit. Participants completed a retrospective pretest-posttest survey and follow-up survey 3 weeks later assessing the workshop's effect on their sexual harassment response preparedness using a 5-point Likert scale.

Results:

Faculty and trainees (n=31) felt significantly more prepared to respond to patient-initiated sexual harassment after the workshop (4.5 ± 1.63) than before (3.0 ± 1.3, p<0.001). Most participants (83.9%) felt mostly or completely prepared to respond to comments about their age, gender, marital status, appearance, attractiveness, and inappropriate jokes after the workshop. More than 8 in 10 participants (83.9%) had no previous patient-initiated sexual harassment training.

Conclusions:

Participation in a brief skills-based workshop significantly improved ophthalmologists' preparedness to respond to patient-initiated verbal sexual harassment. All ophthalmologists who intervened toward harassment during the workshop follow-up period cited the Sexual Harassment Toolkit as helpful.

Non-accidental Trauma (NAT) in Pediatric Patients: Screening Criteria for Resident-Performed Ophthalmologic Examination

SAMANTHA S. IP, BSE*; T. Y. ALVIN LIU, MD; SIDRA ZAFAR, MD; MITCHELL GOLDSTEIN, MD; FASIKA A. WORETA, MD, MPH

Background:

Ophthalmology residents are often consulted to examine pediatric patients in the emergency room whenever there is suspicion of NAT. However, studies have shown that patients without any evidence of brain injury are very unlikely to have retinal hemorrhage, suggesting that this subset of patients may not require dilated examinations.

Purpose:

To develop screening criteria for determining when ophthalmology residents should be consulted to examine pediatric patients receiving NAT work-up.

Methods:

Retrospective cohort study of patients who received NAT work-up at a pediatric emergency department within a tertiary care institution from August 2014 to July 2018. Data collected include demographics, presenting symptoms, imaging findings, and ophthalmologic examination findings.

Results:

Of the 192 patients (mean age 8.4 ± 9.5 months) that were identified, 15 had retinal hemorrhage. Of these, 14 also had subdural hemorrhage. The diagnostic yield among patients with subdural hemorrhage is 28%, compared to 8% when all patients undergoing NAT work-up received ophthalmologic examination.

Conclusions:

To reduce resident workload and limit unnecessary examinations on infants and toddlers, ophthalmology residents should only be consulted for NAT work-up when there is neuroimaging evidence of subdural hemorrhage.

Live Remote Surgical Mentorship: The Future of Surgical Training?

LAURA WAYMAN, MD*; AMELIA GEARY; SARA BENAVENT

Background:

Ophthalmologists in low and middle-income countries have limited access to surgical mentorship. Orbis telehealth program twinned the Regional Institute of Ophthalmology (IRO) in Trujillo, Peru, with Vanderbilt Eye Institute (VEI) in Tennessee, USA, to conduct surgical tele-mentorship for young ophthalmologists.

Purpose:

Evaluate effectiveness of tele-mentorship for cataract surgery.

Methods:

Seven IRO junior ophthalmologists performed phacoemulsification with IOL implantation on 20 patients guided by tele-mentorship from an expert ophthalmologist from VEI (LW). All patients pre- and postoperative data was reviewed by the mentor through Orbis telehealth platform, Cybersight.org. Mentorship effectiveness was evaluated through: qualitative feedback from mentees; audiovisual quality of the live transmission to the mentor; complication rates during and after surgery; postoperative best corrected visual acuity (BCVA).

Results:

Participants reported improved skills and satisfaction with mentorship model. Video latency and quality was broadcast-grade, allowing the mentor to clearly see eye anatomy and instrument manipulation. No complications were reported. Day 1 BCVA was ≥20/60 in 85% of surgeries (N=20); 95% of surgeries (N=17) 1-month postoperative BCVA was ≥20/40.

Conclusions:

Clinical outcomes from this program are in line with the WHO criterion for quality and mentees reported improved hands-on competence without complications; supporting live remote surgical mentorship as a novel alternative to in-person phacoemulsification training.

Fellowship Match Outcomes in the U.S. from 2010-2017: Analysis of San Francisco (SF) Match

SIDRA ZAFAR, MBBS*; ZARA GHOUS, MBBS; XINYI CHEN, BSC; SAMANTHA IP, BSC; DIVYA SRIKUMARAN, MD; FASIKA WORETA, MD, MPH

Background:

Objective data describing the characteristics of ophthalmology fellowship applicants and factors associated with successful matching are lacking in the literature.

Purpose:

To describe applicant characteristics for the ophthalmology fellowship match between 2010-2017.

Methods:

Deidentified application and ophthalmology fellowship matching data collected by the SF Match for the 2010-2017 match cycles were analyzed.

Results:

Over a 8-year study period, an average of 320/434 (74%) applicants matched per year. Among matched applicants, the most common specialties were retina (31%), cornea (25%) and glaucoma (21%). 15% of applicants matched at the same institute they trained at. Factors associated with an increased likelihood of matching into fellowship programs were graduating from U.S. residency programs vs. non-U.S. residency programs (OR 2.19, 95% CI 1.54-3.13), being a Canadian vs. a U.S. citizen (OR 2.00, 95% CI: 1.12-3.57), and ranking more programs (OR 1.40, 95% CI: 1.35-1.46). International medical graduate status (OR 0.52, 95% CI: 0.37-0.73) and an increasing of number of applications (OR=0.98, 95% CI: 0.97-0.98) were associated with decreased odds of matching.

Conclusions:

Most applicants applying for an ophthalmology fellowship position match successfully. Significant associations were seen between the applicant's visa status, graduating residency program characteristics and rank list length, and the success of matching.

Crowdsourcing to Assess Resident Surgical Skill Proficiency in Cataract Surgery

**GRACE PALEY, MD, PHD*; JACK PRUETT; TEJAS SEKHAR; JENNY CHEN, MD; MICHAEL STOCK, MD; TONY PIRA, MD;
STEVEN SHIELDS, MD; EVAN L. WAXMAN, MD, PHD; BRADLEY S. WILSON, MA; MAE O. GORDON, PHD; SUSAN M. CULICAN, MD, PHD**

Background:

There is no standardized surgical skill evaluation across ophthalmology residencies.

Purpose:

Using real, non-simulated cataract surgery videos, we tested the hypothesis that crowdsourced lay raters can accurately assess surgical skills as compared to experts.

Methods:

Seventy-eight phacoemulsification video segments from 15 physicians were graded by 5 blinded expert surgeons and ~350 crowdworkers. Study arm one included 50 videos representing a cross-section of training levels from first-year resident to attending physician, and arm two included 28 videos captured longitudinally as residents progressed through 180 cases. Grading was performed using a modified Objective Structured Assessment of Surgical Skills (OSATS) tool. Crowd scores (CS) and Expert scores (ES) were compared via correlation and t-tests using SAS (Statistical Analysis Software).

Results:

The ES demonstrated high interrater reliability (ICC 0.976) and accurately predicted level of training, establishing content validity for the modified OSATS. CS and ES were highly correlated (Spearman's rho 0.86), but CS were consistently higher than ES for first, second, and third year residents ($p < 0.0001$, paired t-test). Longer surgery duration was strongly correlated with lower training level and ES, and video length independently was a better predictor than CS. A regression equation to convert CS plus video length into ES was derived from the cross-sectional data (R-sq=0.92) and demonstrated excellent predictive modeling when applied to the longitudinal data.

Conclusions:

This is the first study to examine the feasibility and validity of crowdsourcing evaluations of cataract surgery videos. While crowdsourced rankings of cataract surgery videos correlated with ES, CS overestimated technical competency, especially for novice surgeons. Adjusting CS with surgery duration generated a more accurate predictive model for surgical skill.

Don't Reinvent the Wheel

Empathy in Ophthalmology: A Comprehensive Wellness Program at Columbia University

ROYCE CHEN, MD*; LORA GLASS, MD; GEORGE CIOFFI, MD

Background:

Burnout is prevalent in current models of ophthalmic training, affecting greater than 60% of ophthalmology residents nationwide. Burnout contributes to personal and group feelings of negativity and is believed to ultimately result in suboptimal care of patients.

Purpose:

To decrease burnout by developing a structured wellness curriculum that increases professional competence, resiliency, perspective, and quality of life.

Methods:

Our curriculum consists of the following categories: Patient Perspectives, Leadership, Narrative Medicine, Physical Wellness, and Social/Emotional Health. The curriculum is integrated into the residency program with programming throughout the year and a special focus at our annual residency retreat.

Results:

Burnout levels are measured semiannually with the Maslach Inventory. We have partnered with visually-impaired guides and artists at the Metropolitan Museum of Art for observational and drawing sessions. A narrative medicine program provides a creative outlet for the challenges of ophthalmic training. Each resident receives a yearly stipend to support a healthy lifestyle and interests beyond medicine. Leadership sessions in recent years have included LEAN problem solving, negotiation, and public speaking.

Conclusions:

Burnout in ophthalmology may be mitigated by novel solutions that instill a greater appreciation for diverse experiences both in and outside of medicine.

Eyes for Ears - A Medical Education Podcast Feasibility Study

BENJAMIN YOUNG, MD, MS*; ANDREW POUW, MD; AMANDA REDFERN; FEI CAI, MD; JESSICA CHOW, MD

Background:

Downloadable audio files called podcasts have become popular within many areas of medical education. They can be a valuable supplement to traditional teaching methods. Medical educators may wish to incorporate podcasts into their curriculum and disseminate their work to a larger audience but may not know how.

Purpose:

We aim to describe the implementation of a novel medical education podcast series for ophthalmology medical student and resident learning, and demonstrate feasibility, sustainability, and acceptance of this series.

Methods:

The Basic and Clinical Science Course (BCSC) textbooks and supplementary texts, were used to create a weekly series of ophthalmology review podcasts. Feasibility markers include time and cost of production. Sustainability measures included download markers over time. Acceptance was measured by reviews on Apple iTunes and Twitter followers.

Results:

29 episodes were released from January 10, 2019 - July 31, 2019. Costs included $212.18 startup, and $29 monthly. The podcast has had 35,130 downloads to date (466/month 1/2019, increased to 8,511/month 7/2019). It obtained 219 Twitter followers, and 77 ratings on iTunes, with an average of 5.0 stars.

Conclusions:

29 episodes were released from January 10, 2019 - July 31, 2019. Costs included $212.18 startup, and $29 monthly. The podcast has had 35,130 downloads to date (466/month 1/2019, increased to 8,511/month 7/2019). It obtained 219 Twitter followers, and 77 ratings on iTunes, with an average of 5.0 stars.

Eyelectures.com - A Cloud-based Lecture Portal Designed for Collaborative Medical Education

ANURAG SHRIVASTAVA, MD*; SALLY PARK, MD

Background:

The eyelectures.com platform was conceived to help ophthalmic educators share cloud-based modules that allow students at all levels to participate in multimedia lecture modules that can be shared between institutions. The portal also functions as both a content and lecture management tool with powerful built-in analytics, and the ability to modify content elements in Google Slides thereby allowing the modules to be updated in real time.

Purpose:

The purpose of eyelectures.com is to allow institutions to share rich multimedia lecture content for student and resident education. Eyelectures.com will allow for ease in blending classrooms, and create active cloud based learning opportunities allowing programs to focus on discussion/case based learning and hands-on skills transfer.

In ophthalmology training, residency programs are required to provide a minimum of 120 hours of class-based lectures annually. These lectures are generally broken up by subspecialty and topic, and based upon content provided in the form of written manuals provided by the Academy of Ophthalmology. Enormous departmental resources are expended on the task of administering lectures, and the goals of this project are founded in the desire to optimize these critical live lecture exposures. While centralized question banks have been created for examination review purposes, a repository of lectures and carefully curated content does not exist to date. As a result, each ophthalmology residency program is required to create and deliver an individualized curriculum with limited collaborations.

Methods:

In response to this need, an intuitive cloud-based lecture management system has been developed to not only create and deliver content, but furthermore allow for program directors to monitor student activity and progress. Given the constantly evolving nature of medical knowledge, the platform additionally has the unique capability of allowing modifications in the cloud when portions of the content require updating. The ability for multiple training programs to share content is intrinsic to the platform, allowing learners and teachers to utilize lecture content from multiple institutions.

Results:

Eyelectures.com is being populated with content, and we aim to build a database of lectures to deliver to our residency program at Montefiore. Our goal at AUPO 2019 is to demonstrate the functionality of the portal, and to grow awareness and interest in the collaborative effort.

Conclusions:

Eyelectures.com, a cloud-based learning platform, allows residency programs to create rich multimedia modules to augment class-based activities, and collaborate content between institutions.

EyeGuru: Accelerating Pattern Recognition Development for Ophthalmic Images

**SHAWN LIN, MD, MS, MBA*; BENJAMIN LIN, MD; DAVID XU, MD; ANNE COLEMAN, MD, PHD; IRENA TSUI, MD;
N. VENKATESH PRAJNA, MD; STACY PINELES, MD**

Background:

Currently, ophthalmic imaging is learned through traditional modalities: clinical exposure, textbooks, and lectures. These experiences vary in quality and effectiveness and may not always engage the learner with the appropriate difficulty of content or provide high-quality feedback.

Purpose:

To accelerate pattern recognition skill development for ophthalmic imaging with a web platform.

Methods:

Starting with macular optical coherence tomography (OCT) and fundus photos, we have created a set of 169 OCT feature recognition questions, 48 OCT disease-based questions, and 49 fundus photo-based questions. These are hosted on EyeGuru.com, a free website geared towards resident education. Photos were contributed by partner institutions including Aravind Eye Hospitals and Retina-Vitreous Associates. The images are expertly annotated by fellowship-trained subspecialists in order to help the learner derive maximum learning from each image.

Results:

The imaging module has served 33,338 images to viewers around the world. We carefully track user performance on each question and module to gauge question quality, as well as to better understand user attributes and learning preferences. A total of 1699 quizzes have been completed, with an average score of 74.4% (range 0-100%). Users are able to specify how many questions they would like to complete at a time; the average quiz size was 19.6 questions (range 1- 169). The median completion time was 6 minutes (range 1 minute - 277 days). 75% of quizzes were completed within an hour of starting, and 25% were completed more than an hour after starting. 11% of quizzes were completed on a different date than when they were started (our platform has the option to pause a quiz). An up to date summary of traffic patterns and user results will be presented in the presentation or poster.

Conclusions:

Development of competence in ophthalmic imaging can be accelerated using tools such as EyeGuru. This can be done on an open level, as we have shown with our platform, or it could potentially be tailored for individual institutions. EyeGuru uses data insights to continue to improve the platform, and we are building modules for cataract grading, visual fields, topography, and continuing to add images to every module. Eventually, our goal is for a resident to be able to learn and practice and attain basic competence in the pattern recognition component of ophthalmic imaging through use of our free tool.

PDHelper: Leveraging ACGME Surgical Log Data for Residency Program Improvement

EVAN (JAKE) WAXMAN, MD, PHD*

<u>Background</u>:

The ACGME requires that residents complete a minimum number of cases across the subdisciplines in their field. They have created the Case Log data system. Residents must log their cases. Programs must ensure that each resident meet all minima prior to graduation. Programs face challenges as they meet these requirements.

- Residents find it challenging to log cases.
- Case data is not available in the best format for use by the CCC as it tracks resident performance.
- Case data is not available in the best format for use by the PEC, chair or individual faculty members as they look at the surgical teaching contributions of each faculty member and surgical site.

<u>Purpose</u>:

The author has developed an app that imports ACGME case log data and generates

- reminder emails for residents
- a report summarizing each resident's performance for the CCC
- a report summarizing surgical cases by faculty member and at each site
- a senior resident dashboard that demonstrates graduation requirement deficiencies

In addition, the app can integrate surgical performance data for programs that use the WUSTL Multi-Site Resident Surgery Evaluation

<u>Methods</u>:

The program is written in Python.

<u>Results</u>:

The residency program at UPMC has seen an improvement in resident logging behavior and faculty awareness of case logs. The CCC, PEC and Faculty Performance reports are used by committees, the chair and the faculty.

<u>Conclusions</u>:

The program may be of use to other ophthalmology programs and can be expanded for use in other specialties.

Poster Abstracts

Integration of a Web-Based Audience Response System in Residency Education in Neuro-Ophthalmology

AMANDA HENDERSON, MD*; PRADEEP Y. RAMULU, MD, PHD

Background:

Interactive audience response systems are increasingly used in educational and professional settings. Their use in neuro-ophthalmology education has not been examined previously

Purpose:

To evaluate the feasibility of implementing audience response questions into the resident curriculum in neuro-ophthalmology.

Methods:

Multiple-choice question sets were developed, addressing the medical knowledge objectives of the neuro-ophthalmology curriculum for residents at the Wilmer Eye Institute. Using the Poll Everywhere web-based software, sets of 10 questions each were administered to residents at the conclusion of 8 teaching sessions over 2 academic years. Questions focused on topics covered both during the session and in recorded lectures available online for resident review prior to the session. Feedback was provided in real time.

Results:

A total of 907 responses were recorded, of which 695 were correct (78%). Responses were evaluated in real time, thus allowing for identification of resident misconceptions and immediate clarification.

Conclusions:

Implementation of an interactive audience response system is feasible in a neuro-ophthalmology curriculum and may allow for real time identification and clarification of resident misconceptions.

Exploring an Integrated Ophthalmology Internship (PGY-1) - Perceived Preparedness and the Recommended Duration of Training

ANDREW HOU, MD*; NIKHIL GOYAL, MD; DEBORAH DARNLEY-FISCH, MD; PAUL EDWARDS, MD; DAVID J. GOLDMAN, MD, MBA

Background:

As programs shift towards integrating training, there is no definitive construct for the first postgraduate year (PGY-1).

Purpose:

The purpose of the study evaluated whether a minimum recommended ophthalmology exposure time during PGY-1 results in an increased sense of readiness for the PGY-2 demands and responsibilities.

Methods:

This is a retrospective cross-sectional study of PGY-2 Ophthalmology residents surveyed in their first two months of ophthalmology training. A survey was composed, modified from the Accreditation Council for Graduate Medical Education's assessment of resident training. The Wilcoxon rank sum test was used to evaluate differences between the transitional year versus the preliminary internal medicine year.

Results:

There were 72 PGY-2 residents who responded to blinded surveys. There were increases in preparedness for addressing the ophthalmic complaint ($p = 0.003$) at 8 weeks of clinical ophthalmology, ability to perform ophthalmic exam ($p = 0.018$) at 12 weeks, ophthalmology medical knowledge ($p = 0.005$) at 10 weeks, and proficiency with hospital electronic health record ($p = 0.003$) at 12 weeks.

Conclusions:

These findings suggest a potential merit of integrating 12 weeks of clinical ophthalmology training as a benchmark for resident preparedness.

Using High Temperature Cautery to Simulate Corneal Foreign Body Removal

ANDREW HOU, MD*; ANJALI BADAMI, MD; PAUL BACIU, MD; SEJAL AMIN, MD; DANIEL STEEN, MD

Background:

Corneal foreign body removal is a common procedure taught to residents. However, previously described techniques do not closely mimic the procedure and require significant preparation.

Purpose:

To describe a simple method that is cost effective and closely emulates the removal of a corneal foreign body and underlying rust ring.

Methods:

This is a descriptive case study. Fresh or frozen porcine eyes are secured to foam head models using steel pins. Small sequin pinheads were then placed on the surface of the cornea and heated using high-temperature cautery. The heating is continued until the metal is visibly embedded into the corneal tissue. The models were then secured in upright position to mimic real world scenario.

Results:

Creation of foreign bodies and rust rings similar to real-world cases was successful. Response to this technique has been positive. This allows for quick, repeatable development of the fine motor skills and comfort working with surgical tools under the slit-lamp microscope setting.

Conclusions:

This technique provides a simple, inexpensive method of allowing ophthalmology residents to develop motor skills needed in a systematic setting for the removal of corneal foreign bodies.

Breaking Bad News - A Communication Workshop for Ophthalmology Residents

ALICE LORCH, MD, MPH*; MARGOT WEINERT, MD; BETHANY ROSE DAUBMAN, MD; CAROLYN KLOEK, MD

Background:

Breaking bad news is a critical skill for ophthalmologists yet infrequently taught in ophthalmology residency. We designed a curriculum to help ophthalmology residents develop skills in breaking bad news through video-based group discussion, interactive didactics on the SPIKES protocol and vision rehabilitation, and role-playing scenarios.

Purpose:

To describe our program's experience in the design and implementation of a communication workshop.

Methods:

A needs assessment survey was administered to Harvard residents (n=24) and core teaching faculty (n=4) before an interactive workshop. A post-workshop survey was administered.

Results:

The pre-workshop survey identified time constraints, feeling unprepared, and fear of patient emotional reaction as barriers to breaking bad news. All participants indicated they would recommend the workshop to peers. Post-workshop survey results showed residents had increased awareness of the role of vision rehabilitation and felt more comfortable discussing it with patients. The SPIKES framework, role-play, and group discussion were identified as strengths of the workshop.

Conclusions:

An interactive workshop for residents to teach communication skills was effectively designed and implemented at Harvard. This has since been implemented at Tufts, Boston University and Wilmer, with survey results to be available by January 2020.

Culture of Safety Assessment in an Academic Ophthalmology Department

MATTHEW FLOYD, MD*; MARIA AARON, MD; JIONG YAN, MD; JOHN PAUL GORHAM, MD

Background:

Preventable harm in health care is a major public health problem. Safety cultures and physician reporting practices have been slowly maturing as the public increasingly expects to receive safe, high-quality care in teaching hospitals. Opportunities still remain for improvement, particularly within ophthalmology training programs.

Purpose:

To explore the current culture of safety within the Emory Department of Ophthalmology, to identify opportunities for improvement, and to develop a best practice framework for ophthalmology departments that utilize training opportunities at community, academic, and VA clinical sites.

Methods:

This study will take place at Emory Department of Ophthalmology, Grady Memorial Hospital, and the Atlanta Veterans Affairs Hospital. All residents, fellows, faculty, and staff will be sent the Press Ganey Culture of Safety survey to complete voluntarily.

Results:

Statistically significant differences were found in how trainees (residents and fellows) perceive patient safety event prevention and reporting between academic, community, and VA clinical settings.

Conclusions:

Differences appreciated between these clinical sites can be attributed to multiple factors including patient safety education, systems-based reporting, and provider roles within patient care. Recognition of these differences in clinical settings provides a first step towards improvement of patient safety cultures within ophthalmology training programs.

Interdisciplinary Training in Ophthalmology: A Pilot Study

MAREZ MEGALLA, MD*; BENJAMIN YOUNG, MD; EMILY LI, MD; AMANDA REDFERN, MD; EROL VERTER, MD; JESSICA CHOW, MD

Background:

Ophthalmology is briefly covered during medical school. Subsequently, residents feel ill-equipped in triaging and assessing ophthalmic complaints whether in the inpatient or outpatient setting.

Purpose:

To educate non-ophthalmology residents and fellows of all subspecialties about the most common ocular complaints and basic essentials of an ophthalmologic examination.

Methods:

An educational conference open to all non-ophthalmology trainees was prepared and held by the ophthalmology residents discussing the service structure and pertinent information to be elicited from a history and examination. Participants were asked to take an anonymous pre and post test for assessment. Unpaired t-test was used for statistical analysis.

Results:

Of the non-ophthalmology trainees who attended, 7 completed the pretest and 4 the posttest. Questions about logistics and basics of the ophthalmic examination had statistically significant improvement (p=0.0043) from an average of 28% ± 11 participants correct pretest to an average of 83% ± 12 post-test. Questions about management of ophthalmic emergencies did not show improvement (p=0.77). Written feedback was overwhelmingly positive.

Conclusions:

An educational conference can serve as a platform to introduce non-ophthalmology trainees to ophthalmology; however, discussion regarding management of suspected ocular emergencies, particularly those without associated systemic illnesses, requires more involved training.

Resident Retina Laser Education

KENNETH PRICE, MD*; ANDREW HENDRICK, MD

Background:

The ACGME requires ophthalmology residents to perform a minimum 10 panretinal photocoagulation procedures throughout their residency; however, residents rarely have an opportunity to practice prior to performing procedures on patients.

Purpose:

To assess residents' perspective on training and preparedness to perform retina laser surgery through a survey before and after simulation training.

Methods:

A survey was created to assess both self-perceived comfort with retina laser procedures and core competency perioperative/operative care as described by Law et al. Nine PGY2/3 ophthalmology residents from Emory University received a lecture and training with model eyes and were surveyed before and 6 months after participation.

Results:

Initial overall self-reported comfort with retina lasers among all participants was 1.3 while average grading among the core competency areas was 2.6 (from 1-5; 1 low, 5 high). All areas of testing increased, including the average overall comfort 3.3 and average core competency score of 3.7.

Conclusions:

There is a gap in resident preparedness to perform retinal laser surgery. This retina laser training model has proven to be useful for training residents, especially prior to performing the procedure on patients.

The Anatomy of a Lab: Experiences in the Development of an Advanced Digital Microsurgical Training Facility

SALLY PARK, MS-III*; ANURAG SHRIVASTAVA, MD

Background:

The Center for Ophthalmic Innovation and the Ronald M. Burde Microsurgical Simulation Laboratory project was conceived 5 years ago at Montefiore Medical Center, to address gaps in incorporation of technology in ophthalmic education, and specifically microsurgical training.

Purpose:

The goals of the project was to incorporate the most up to date educational techniques, with the latest technologies, to help develop a modern micro-surgical training facility.

Methods:

5 Wetlab Surgical stations were built to incorporate video cameras/monitors, foot pedal control, phacoemulsification platform integration, along with integrated fluid management. An additional professor station was customized to display to a large 75" touchscreen monitor with advanced whiteboard capability, and output to 3 large screen monitors throughout the workspace. An additional 16 Drylab stations were constructed with articulating arms, wireless bluetooth camera control, and individual large format Ipad integration to create a digital classroom optimizing faculty:student ratios. A dedicated multimedia computer laboratory with 10 stations, 3-D printing capability, and conference facility, were furthermore built in a contiguous space, to not only allow for didactics and networking during wetlab sessions, but furthermore facilitate scheduled and impromptu group learning activities among residents.

Results:

The Burde Laboratory has become a resource for countless medical students, residents, faculty, and community physicians in the Tristate area, and serves as a model for community and academic partnerships aimed to improve engagement, training, and ultimately surgical outcomes.

Conclusions:

The Burde Laboratory at Montefiore-Einstein was developed to provide an educational resource to the ophthalmic community, and serve as a proof of concept for other institutions interested in advancing micro-surgical training. We wish to help other institutions learn from our experience as we continue to improve our integration of simulation in our surgical curriculum.

Teaching High-value Care in Ophthalmology Training Programs: A Pilot Intervention in the Emergency Department (ED)

FASIKA WORETA, MD, MPH*; DEREK TENG, BA; SIDRA ZAFAR, MBBS; TINA TRAN, MD; ANK AGARWAL; ANDREW CHO; AMAN PATEL; DIVYA SRIKUMARAN, MD

Background:

Inappropriate preoperative testing is a potential area to improve value of care in patients undergoing emergent ophthalmic surgery.

Purpose:

To highlight the prevalence of unnecessary preoperative testing in patients presenting for emergent open globe surgical repair.

Methods:

Retrospective analysis of patients who underwent emergent open globe repair at the Wilmer Eye Institute between July 2016 and June 2019.

Results:

A total of 204 patients underwent emergent open globe surgical repair during the study period. The mean age was 46 years and 71% were males. A Type and Screen was ordered for 80% of patients, despite no chances of a blood transfusion occurring. Among the 29% of patients that were ASA class 1, the prevalence of medical tests ordered was: complete blood counts (85%), metabolic panels (85%), 12 lead EKG (27%). INR testing was performed in 84% of patients who were not on anticoagulant medications.

Conclusions:

High prevalence of unnecessary testing exists in the ED for patients requiring emergent ophthalmic surgery. Interventions aimed at reducing such tests may help decrease healthcare costs and improve healthcare resource utilization. Involving residents in quality improvement projects can instill the importance of high-value care in their training.

Ophthalmology Resident Selection: Satisfaction and Current Practices

BARBARA SMITH*; NATALIE KERR, MD

Background:

Ophthalmology residency programs rely on the interview and ranking process to select candidates who will thrive in their program.

Purpose:

To assess current practices in resident selection among ophthalmology residency programs and determine which practices lead to greater program satisfaction.

Methods:

A thirty question survey was distributed to all program directors (PDs) in the Association of University Professors of Ophthalmology listserv. Chi-square analysis was used to determine if there were significant differences in program satisfaction on the basis of demographics and current practices.

Results:

Forty-seven (39.5%) PDs responded. Seventy-five percent of the programs matched applicants in the top 1/3 of their rank-list with an 81% satisfaction rate. At 70% of programs, residents participate in applicant ranking or their opinions are heavily weighted during ranking. Performance at pre- or post-interview gatherings, often sold as "low pressure" events, was moderately or strongly considered at 77% of programs. Committee selection of applicants for interview and the chairman adjusting the rank list after the rank meeting were associated with greater program satisfaction.

Conclusions:

Performance at non-interview events may be more heavily weighted than previously thought. Most programs match their top ranked applicants with a high satisfaction rate.

A Collaboration Between Emergency Medicine (EM) and Ophthalmology to Improve EM Resident Ocular Exam Skills

LAURA WAYMAN, MD*; ALLISON UMFRESS, MD

Background:

The emergency department (ED) at Vanderbilt University Medical Center sees a large number of patients with ocular complaints. Despite that, formal Ophthalmic training is limited for the emergency medicine (EM) residents. Basic ophthalmic exam techniques such as documenting visual acuity and intraocular pressure are critical for those practicing in areas with limited access to Ophthalmologists.

Purpose:

To improve the ophthalmologic exam skills of EM residents and improve communication between the EM physician and ophthalmologist.

Methods:

Each PGY-3 EM resident spent 1 week on the ophthalmology service. They completed a graded curriculum working with technicians, residents, one Ophthalmology attending, and then performed skills independently. They completed a pre- and post-test to gauge their comfort with performing various eye examination techniques and recognizing common acute diagnoses.

Results:

Participants reported increased comfort performing specific aspects of the ocular examination, as well as their ability to identify key findings. We received positive feedback regarding the experience from both the EM and Ophthalmology residents who participated.

Conclusions:

Collaboration between EM and Ophthalmology departments and training of EM residents by skilled ophthalmic technicians and ophthalmologists can improve their exam skills and thereby improve communication regarding patients with eye complaints seen in the ED.

Simulation Training and Assessment of Resident Competency to Perform on-call Procedures Using Virtual Reality and Cadaver Heads

NEEL VAIDYA, MD, MPH*; SHEENA KHANNA, MD; DAVID YOO, MD; MICHAEL WALSH, MD; ANURADHA KHANNA, MD

Background:

Many institutions require residents to be specifically privileged for on-call procedures performed without direct attending supervision.

Purpose:

To comply with this requirement, we designed a simulation to train residents to perform common on-call procedures (lateral canthotomy/cantholysis, retrobulbar injection, and eyelid laceration repair) using fresh frozen cadaver heads.

Methods:

Residents from multiple ophthalmology programs participated in a skills training workshop. Virtual reality was used to review anatomy and practice diagnostic skills. Residents performed lateral canthotomy/cantholysis, retrobulbar injection, and eyelid laceration repair on fresh frozen cadaver heads with close faculty instruction. Analysis was performed using pre- and post-session surveys evaluating resident attitudes and knowledge. Skills were evaluated by direct observation by faculty.

Results:

Pre- and post-session survey data analysis shows a positive trend in resident confidence in the ability to perform these procedures. All participants achieved competency in the procedural skills as evaluated by faculty. All participants responded in favor of the format and endorsed that they would return the following year.

Conclusions:

Procedure simulation using virtual reality experiences and fresh frozen cadaver heads can effectively prepare residents for on-call responsibilities and meet privileging requirements.

Implementation and Assessment of a Surgical Curriculum for Ophthalmology Residency

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Background:

Few studies have assessed the impact of a formal surgical curriculum in teaching skills other than cataract surgery in ophthalmology residency. However, residents are expected to perform procedures such as eyelid lacerations and laser peripheral iridotomies (LPI) from their first year of training.

Purpose:

To develop and evaluate a surgical curriculum for ophthalmology residents.

Methods:

A surgical curriculum, comprised of didactic lectures and wet lab practicums, was developed for ophthalmology residents (PGY-2 to 4) at a single training program. A pre-curriculum survey and a survey after the first suturing workshop (post-curriculum) were administered to evaluate residents' confidence and ability to perform various surgical procedures. Frequencies and paired t-tests were used for statistical analysis.

Results:

A total of 14 residents completed the pre- and post-curriculum surveys. 71.43% were initially "not very/not at all confident" with suturing techniques and 71.42% were initially "not very/not at all confident" with LPI. Trainees perception of their ability to perform eyelid laceration repair improved after the suturing workshop (p= 0.0003). All residents "strongly agreed/agreed" that a formal surgical curriculum is helpful for ophthalmology residency.

Conclusions:

Ophthalmology residents expressed greater confidence and ability to perform skills taught in a formal curriculum. Future sessions will include LPI and corneal suturing workshops.

Impact of Parental Leave on Ophthalmology Residents' Performance

SIDRA ZAFAR, MBBS*; PETER UGOH, BSC; FASIKA WORETA, MD, MPH; DIVYA SRIKUMARAN, MD

Background:

Taking parental leave during ophthalmology residency is perceived by program directors to negatively affect resident scholarly activities and surgical volume. However, limited data exists on whether taking parental leave has any effect on objective measures of resident performance.

Purpose:

To determine whether taking parental leave affects key measures of resident performance.

Methods:

Retrospective review of the 2015-2019 graduating ophthalmology resident classes at the Wilmer Eye Institute stratified by parental leave status. Measures of resident performance assessed were: OKAP scores, publications during residency, milestones scores, and surgical volume.

Results:

Six out of 25 (24%) residents took parental leave. There were no significant differences in mean OKAP scores, number of publications, milestone scores and surgical volume between residents who took parental leave vs. those that did not. In a multivariable model adjusted for gender, pre-residency performance (i.e. medicine and surgery core clerkship grades, USMLE scores, and publications), parental status during residency and the presence of additional degrees, no significant differences were found in any of our measures of performance between residents who took parental leave vs. those that did not.

Conclusions:

Parental leave did not negatively influence any of our studied measures of resident performance.

Time as a Predictor of Technical Skill in Cataract Surgery

SIDRA ZAFAR, MBBS*; SATYANARAYANA VEDULA, MBBS, MPH, PHD; SHAMEEMA SIKDER, MD

Background:

Time is an easily measured metric that is readily available and remains the most well-recognized quantitative metric of technical skill.

Purpose:

To evaluate time as an objective measure of technical skill assessment in cataract surgery.

Methods:

We manually annotated 100 cataract surgery videos for skill during different activities of the procedure using ICO-OSCAR rubric. We computed time for activities and overall procedure. We specified expert/novice ground truths using task-specific and global indices (wound neutrality; overall speed): 5 on one index and >= 4 on the other, and appointment (faculty/trainee).

Results:

The overall time taken for completing the different steps of cataract surgery poorly distinguished between expert-novice skill class when task-specific indices were used. Overall time performed comparatively better with global indices (AUC 0.74, 95% CI: 0.64-0.83) and with appointment status (AUC 0.83, 95% CI: 0.72-0.91). Time for capsulorhexis correctly distinguished between expert-novice skill class 58% (95% CI: 0.46-0.69) of the times when capsulorhexis indices were used, 51% (95% CI: 0.40-0.62) of the times when global indices were used and 75% of the times with appointment status (95% CI: 0.66-0.87).

Conclusions:

Time as an objective measure of skill is limited in its ability to distinguish between expert novice skill class in a meaningful way.

Exposure to Corneal Surgeries in Ophthalmology Residency Programs

SIDRA ZAFAR, MBBS; ZACHARY ELLER, BSC; MARY QIU, MD; DIVYA SRIKUMARAN, MD; FASIKA WORETA, MD, MPH

Background:

Limited data exists on ophthalmology residents' surgical exposure to corneal procedures.

Purpose:

To evaluate surgical experience of U.S. ophthalmology residents in cornea and keratorefractive procedures.

Methods:

Retrospective review of the 2018 ophthalmology resident surgical case logs. Case logs were analyzed to evaluate the average corneal and keratorefractive cases performed by residents as the primary surgeon.

Results:

A total of 152 case logs from 36 programs were reviewed. Of the programs that responded, 36.1% were in the South, 22.2% in the Northeast, 22.2% in the Midwest, and 19.4% in the West. Thirty-one of the programs had an associated VA and the majority (94.4%) were small or medium programs, defined as less than 5 residents. At the time of graduation, the mean volume of procedures performed by ophthalmology residents was as follows: keratomileusis 9.73 ± 8.45; penetrating keratoplasties 4.91 ± 2.27; endothelial keratoplasties 4.63 ± 3.56; pterygium removal 5.20 ± 4.34; lesion excision 1.86 ± 1.53 and corneal relaxing incisions 1.82 ± 3.49. On multivariable analysis, no associations were seen between the residency program characteristics (region, VA affiliation, presence of on-site medical school, urban vs. rural location, program size) with resident cornea surgical volume.

Conclusions:

Exposure of U.S. ophthalmology residents to cornea and keratorefractive procedures is limited compared to other subspecialties.

Development of a Curriculum to Teach Professionalism and Communication Skills to Ophthalmology Residents

VICTORIA ADDIS, MD*; MAKAYLA MCCOSKEY, MD; PAUL TAPINO, MD; THOMASINE GORRY, MD, MGA; JOAN O'BRIEN MD

Background:

Professionalism and communication skills are two of the ACGME's core competencies for residency training. No formal curriculum has been established to teach these skills to ophthalmology residents.

Purpose:

To develop a curriculum to teach these ACGME core competencies to ophthalmology trainees.

Methods:

A series of professionalism, ethics, and quality sessions were developed at the Scheie Eye Institute. 10 sessions, each led by faculty in a discussion-type format, will be held at the beginning of residency training. Examples of sessions include: The Informed Surgical Consent Process, Considerations when Operating on Awake Patients, Discussion of Surgical Complications, Breaking Bad News, Physician Wellness. 15 residents completed pre- and post-course surveys.

Results:

Pre-course survey results demonstrated that 93% of residents agree this curriculum is a valuable, relevant part of their training. The majority reported lack of knowledge or comfort with the course topics. Once all discussion sessions have been completed and residents have completed their post-course surveys (approximately October 2019), effectiveness of the curriculum will be assessed by comparing pre and post-course survey results.

Conclusions:

Discussion-based sessions led by attending physicians may be an effective way to teach professionalism and communication skills to ophthalmology residents.

Predictors of a Successful Ophthalmology Resident

BRETT GUDGEL, MD*; R. MICHAEL SIATKOWSKI, MD

Background:

The number of ophthalmology residency applications per candidate continues to grow. Previous studies have highlighted the attributes of applicants which are correlated with an increased likelihood of matching into a residency program, but there has not been a study within ophthalmology to show if these pre-residency attributes correlate with success during residency.

Purpose:

Our study attempts to identify applicant attributes that positively correlate with successful performance in an ophthalmology residency.

Methods:

Residency applications from residents who graduated from our residency program from 2000 to 2019 will be acquired and reviewed. Selected attributes and characteristics will be recorded from each application. The residents will then be ranked into tertiles based on performance during residency by faculty members who were present during the residents' training. An objective measure of residents' performance on their final OKAP in-service exam will be included in resident ranking. Faculty assessment on deficiencies in any of the competencies will also be assessed. Regression analysis for associations between resident performance and pre-residency attributes will be performed.

Results:

Data collection in progress. Preliminary results will be available for presentation at the AUPO meeting..
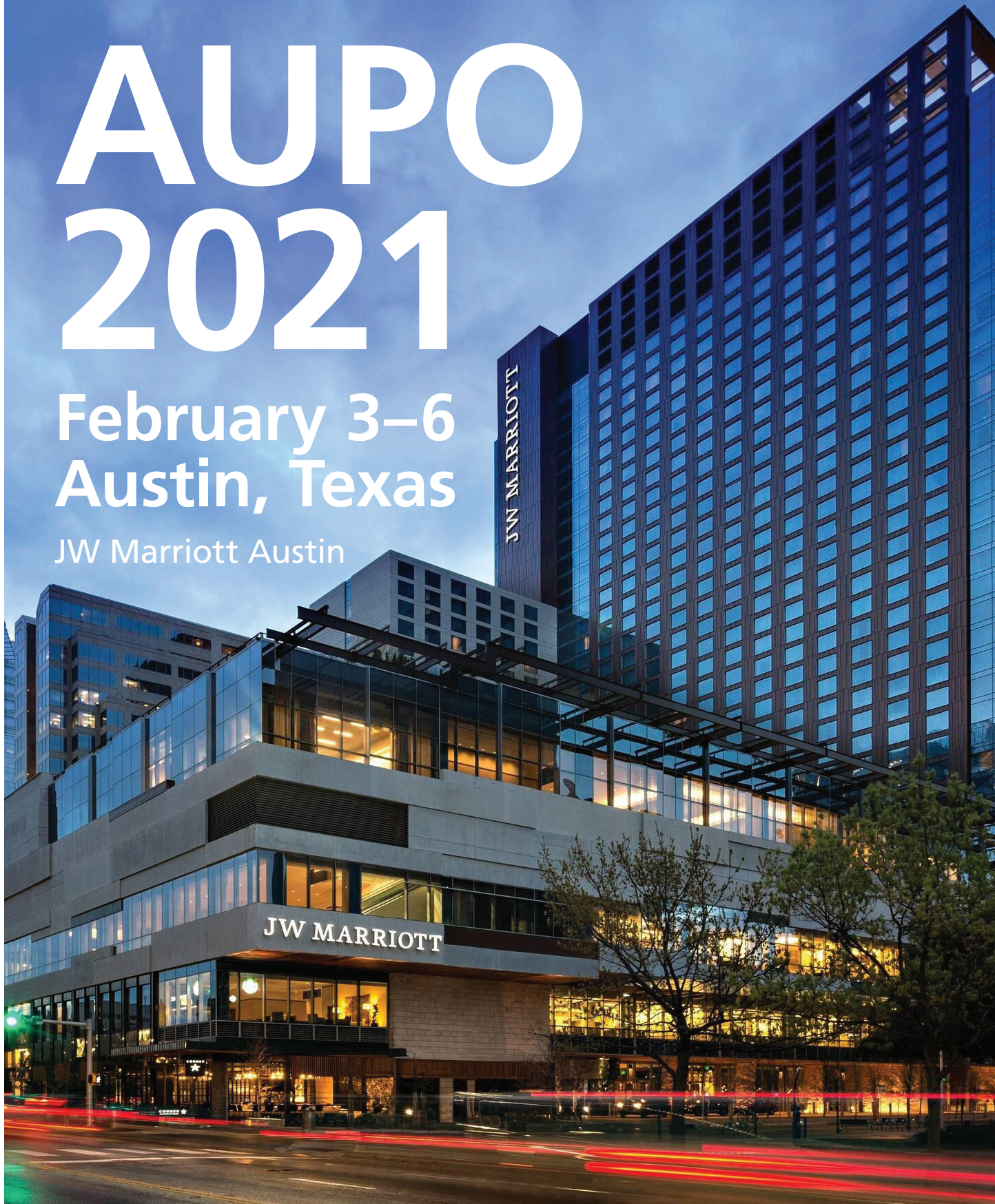
Conclusions:

Pending.

Notes

Save the Date!

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