New England Ophthalmological Society

774th meeting

GLAUCOMA CARE FROM PATIENT TO POPULATION
With Chandler-Grant Lecture

Noelle Pruzan, MD
MODERATOR

Geoffrey Emerick, MD
PROGRAM COMMITTEE COORDINATOR

ANTERIOR SEGMENT PRESENTATIONS

Michael Price, MD
MODERATOR

APRIL 12, 2019

Back Bay Event Center
180 BERKELEY STREET | BOSTON, MA 02110

the 774th meeting of

New England Ophthalmological Society

A Public Foundation for Education in Ophthalmology

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April 12, 2019

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180 Berkeley Street
Boston, MA 02110

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Accreditation:

Accreditation: The New England Ophthalmological Society designates this live activity for a maximum of 7 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The New England Ophthalmological Society is accredited by the Massachusetts Medical Society to provide continuing medical education for physicians.

PRESIDENT'S MESSAGE

Thank you for joining us for the 774th meeting of the New England Ophthalmological Society. We have an exciting meeting planned for you. The morning kicks off with Grand Rounds, hosted by the Young Ophthalmologists' Committee, and presented today by the Tufts/New England Eye Center residents and fellows. Please join us downstairs in the Freedom room at 7:30 am.

Immediately following Grand Rounds will be our morning session, entitled "Glaucoma Care from Patient to Population", and moderated by Dr. Noelle Pruzan, MD. This session promises to provide you with new and exciting information and strategies to better care for your glaucoma patients. We welcome Jonathan S. Myers, MD, Director of the Glaucoma Service at the Wills Eye Hospital, as our Guest of Honor.

It is my great pleasure to congratulate Paul P. Lee, MD, JD, Chair of Ophthalmology at the University of Michigan, for being selected as our 2019 Chandler-Grant Guest of Honor Lecturer. We look forward to Dr. Lee's talk entitled "Why Do Some People Go Blind from Glaucoma?". The Chandler-Grant Lecture is given at NEOS biannually. The Chandler-Grant Glaucoma Society (CGGS) was founded in 1982 in memory of Drs. Paul A Chandler and W. Morton Grant, visionaries in the field of glaucoma. Members of the CGGS are focused on preventing blindness from glaucoma through integration of research and clinical disciplines. Such research efforts are currently supported by the David L. Epstein Clinician-Scientist Research Award, and the R. Rand Allingham Research Fund. I am personally indebted to the late Drs. B. Thomas Hutchinson and A. Robert Bellows, who both served as past presidents of the CGGS and who introduced me and many others to the society. Tom and Bob will be remembered for the example they set about how to practice medicine and advocate for our patients and our profession.

In the afternoon we will switch gears to Anterior Segment Presentations, moderated by Michael Price, MD with Guest of Honor Nicole Fram, MD, Clinical Instructor at Jules Stein Eye Institute and managing partner at Advanced Vision Care, in Los Angeles, California. This exciting, case-based session will be sure to inform and will provide ample time for questions and interactive learning.

These are exciting but challenging times in American medicine. During transitions, the more firmly grounded we remain as individuals and organizations in our basic mission, principles and core values, the more successful we will be. Since 1884, NEOS has encouraged and cultivated the study and advancement of ophthalmology. Now in its 135th year and 700 members strong, NEOS remains dedicated to our patients and to each other. We are well-positioned to not only weather the challenges ahead but to also pave the way for future generations of ophthalmologists.

Sincerely,
Laura C. Fine, MD
President

GUEST OF HONOR

NICOLE FRAM, MD

Nicole Fram, M.D. is a nationally and internationally recognized expert in refractive and complex cataract surgery, anterior segment reconstruction and corneal transplantation. She is the managing partner at Advanced Vision Care in Los Angeles, CA. In addition, she is a Clinical Instructor of Ophthalmology at the Stein Eye Institute, UCLA and serves as an attending surgeon for residents and fellows at West Los Angeles Veteran's Hospital.

Dr. Fram received her medical degree from Thomas Jefferson University, Jefferson Medical College in Philadelphia and was elected to the Alpha Omega Alpha National Honor Society. She completed her residency at the Wills Eye Hospital in Philadelphia serving as Chief Resident. Dr. Fram then completed a fellowship in Cornea, Refractive and External Disease at University of California, San Francisco (UCSF) Francis I. Proctor Foundation.

Academically, Dr. Fram has authored several journal publications and book chapters. She enjoys contributing to the field of ophthalmology and is the Chair of the American Academy of Ophthalmology (AAO) Cataract Committee. As an active member of the American Society of Cataract and Refractive Surgery (ASCRS), she serves as a member of their Cataract Committee and sub-committee on Challenging and Complicated Cataract Surgery and serves on the editorial board for the Journal of Cataract and Refractive Surgery. She is active in clinical research and has participated in numerous surgical trials. Dr. Fram lectures nationally and internationally and enjoys teaching innovative surgical techniques to colleagues, residents and fellows. She is a frequent winner of the "Best paper" award at the AAO; most recently in 2018 for a paper on "Prediction Error Correlation Between Fellow Eyes Undergoing Cataract Surgery". In 2018, Dr. Fram gave the named lectureship, The Ada Victoria Cevallos Lecture, at the Annual Meeting of the H. Bruce Ostler Association of Proctor Fellows.

GUEST OF HONOR

JONATHAN MYERS, MD

Jonathan S. Myers, MD, is Director of the Glaucoma Service at Wills Eye Hospital and an Associate Professor of Ophthalmology at Sidney Kimmel Medical College in Philadelphia, PA. After earning a bachelor of arts in chemistry at Princeton University, graduating magna cum laude and with Phi Beta Kappa honors, he went on to obtain his medical degree from the University of Pennsylvania. He pursued his residency training in ophthalmology at Wills Eye Hospital, where he served as chief resident in his final year, then completed his glaucoma fellowship at Duke University in 1997. After fellowship, he joined the staff at Wills Eye Hospital, where he has remained for over 20 years. Previously, he has served as the Director of the Glaucoma Research Center and Director of the Glaucoma Fellowship Program at Wills.

A respected international lecturer on glaucoma diagnosis and treatment, Dr. Myers has authored and co-authored more than 70 articles in peer reviewed journals. He is active in clinical research, having participated in numerous surgical trials and multi-center studies of glaucoma. Current research interests include outreach efforts in underserved communities, depot drug delivery, perimetry and novel glaucoma surgeries.

Dr. Myers has held several roles within the American Glaucoma Society and the American Academy of Ophthalmology. Currently, he is a member of the AGS Foundation Development Task Force, Patient Care Committee, and Bylaws and Strategic Planning Committee. He is a past president of the Greater Philadelphia Ophthalmic Society and a past examiner for the American Board of Ophthalmology. He also serves on the editorial boards of the Journal of Glaucoma, Clinical & Experimental Ophthalmology, and Glaucoma Today. In 2014, he was a recipient of the American Academy of Ophthalmology Senior Achievement Award.

Beyond his academic and research roles, he is a sought-after clinician and surgeon, honored as a US News and World Report Best Physician, a "Top Doctor" by Philadelphia Magazine every year since 2010 and one of "America's Top Doctors" by Castle Connolly every year since 2014. His central tenet is that each patient should determine, with the help of their physician, what is in their best interest among the available treatments.

CHANDLER-GRANT LECTURER

PAUL LEE, MD

Dr. Paul Lee serves as F. Bruce Fralick Professor and Chair in the Department of Ophthalmology at the University of Michigan Medical School and Director of the W.K. Kellogg Eye Center.

Dr. Lee has published over 250 papers on glaucoma and eye care delivery in general, particularly on understanding and improving eye and health care. He has been principal investigator on research projects to evaluate the appropriateness of cataract surgery, the quality of glaucoma and diabetic retinopathy care, utilization patterns of eye care, provider workforce analyses for ophthalmology and orthopedics, and analyses of failure patterns for the treatment of diabetes related eye disease and glaucoma. He has also led the ophthalmic portions of other projects investigating conformance with AHCPR guidelines for cataract, utilization and quality of eye care patterns in managed care, and a comparison of fee-for-service to managed care among Medicare patients.

Dr. Lee has served in several leadership capacities, including as the chair of the ARVO Foundation, an at-large member of the Board of Trustees of the American Academy of Ophthalmology (AAO), chair of the American Glaucoma Society's Quality of Care Subcommittee, and original co-chair of the AMA-AAO Consortium Task Force for Eye Care Quality Indicators (PQRI). He has also been a consultant for the CDC and the WHO, as well as RAND. He currently serves on the Board of Advisors for the Hoskins Center on Patient Safety and Quality for the Foundation of the AAO and has served on the IRIS Registry Development Group, the first national outpatient care registry of any specialty being implemented in the United States. In addition, Dr. Lee serves as the vice-chair and chair-elect of the Board of Directors of the American Board of Ophthalmology, on the Board of Directors of the Association of University Professors of Ophthalmology and the American Glaucoma Society, and as a past board member of Prevent Blindness America, the Blind Children's Center, and the Center for the Partially Sighted.

He has received the Lew Wasserman Merit Award from Research to Prevent Blindness, the Alcon Institute Research Award, the Senior Achievement Award from the AAO, the Gold Fellow from ARVO, and has been inducted into Academia Ophthalmologica Internationalis. He has also delivered the American Glaucoma Society Lecture, the Parker-Heath Lecture of the AMA section of ophthalmology, and the Shaffer Lecture at the American Academy of Ophthalmology, as well as numerous lectureships around the world.

Dr. Lee received his law degree from Columbia University in 1986. He received his medical degree from the University of Michigan that same year.

CHANDLER-GRANT GLAUCOMA SOCIETY

The Society was founded in 1982 in appreciation for the high ethical and moral values and ophthalmic education Dr. Paul A. Chandler and Dr. Morton Grant provided to their colleagues at the Massachusetts Eye and Ear Infirmary, Harvard Medical School and the New England Ophthalmological Society. Dr. Chandler as a clinician and Dr. Grant as a basic and clinical investigator served as inspirational leaders within New England Ophthalmological Society for decades.

The purpose of the Society is to focus on the prevention of blindness from glaucoma through the integration of research and the clinical disciplines that related to glaucoma and to sustain and promote high ethical and moral values in the practice of ophthalmology and subspecialty of glaucoma.

Previous Chandler-Grant lecturers

Dr. Robert Schaffer
Dr. Richard J. Simmons
Dr. B. Thomas Hutchinson
Dr. Richard Brubaker - 1992
Dr. Michael van Buskirk - 1994
Dr. Bruce M. Shields - 1996
Dr. David L. Epstein - 1999
Dr. A. Robert Bellows - 2001
Dr. David G. Campbell – 2003
Dr. David Walton - 2005
Dr. Murray A. Johnston - 2007
Dr. Joel S. Schuman - 2009
Dr. Martin Wand - 2011
Dr. Mark Latina - 2013
Dr. Cynthia Mattox – 2015
Dr. Janey Wiggs - 2017

MORNING SESSION

GLAUCOMA CARE FROM PATIENT TO POPULATION

Moderator: Noelle Pruzan, MD
Program Committee Coordinator: Geoffrey Emerick, MD

Professional Practice Gaps:
Feedback from NEOS members and Program committee review identified potential practice gaps including knowledge on the latest diagnostic and surgical advances in glaucoma as well as population- and practice-based topics, such as screening and how to best manage increasing numbers of glaucoma patients.

PROGRAM OBJECTIVES:
The content and format of this educational activity has been specifically designed to fill the practice gaps in the audience's current potential scope of professional activities by:

1. Increasing the awareness of and competence with some of the latest diagnostic and surgical advances in glaucoma.
2. Improving knowledge regarding how best to screen for and efficiently care for the increasing glaucoma patient population.

7:00 am	Registration/Exhibits
7:30	Best of the NEOS Hal Freeman Video Library..... MAIN HALL
7:30-8:15	NEOS GRAND ROUNDS.....Freedom Room
8:30	Introduction..... Noelle Pruzan, MD
8:35	Beyond Visual Fields: New Horizons of Testing in Glaucoma .....David Ramsey, MD
8:45	MIGS: Where are we Now.....Claudia Richter, MD
8:55	Introduction of Guest of Honor..... Noelle Pruzan, MD
9:00	MIGS: Matching the Surgery to the Patient.....Jonathan Myers, MD
9:20	Navigating the Challenges of Optometric Glaucoma Co-management..... Thomas Hsu, MD
9:30	Primary Angle Closure: Updates in Diagnosis and Management .....Babak Eliassi-Rad, MD
9:40	*Business Meeting*
9:50	*Refreshment break / Exhibits*
10:20	Introduction of Chandler-Grant Lecture.....Laura Fine, MD
10:25	Why Do Some People Go Blind from Glaucoma– Perspectives Almost 40 Years Later .....Paul Lee, MD

MORNING SESSION (continued)

11:00 The Philadelphia Glaucoma Detection and Treatment Project ..... Jonathan Myers, MD

11:20 Questions and Panel Discussion ..... Noelle Pruzan, MD, *Moderator*

Babak Eliassi-Rad, MD — Jonathan Myers, MD
Thomas Hsu, MD — David Ramsey, MD
Paul Lee, MD — Claudia Richter, MD

11:45 **LUNCHEON SEMINAR:**

'Coma Conundrums
Jonathan Myers, MD
Freedom Room

BE SURE TO SCAN IN AT REGISTRATION BEFORE GOING TO LUNCHEON SEMINAR TO RECEIVE CREDIT

In Memoriam
A. Robert Bellows, MD
March 15, 2019

AFTERNOON SESSION

ANTERIOR SEGMENT PRESENTATIONS

Moderator: Michael Price, MD

Educational Gaps: We obtained feedback from NEOS members and discussed with the Program committee to identify potential practice gaps that include an update on anterior segment issues including complex cataracts, malpositioned implants, artificial iris, problems with premium lenses and difficulties related to cataract surgery.

NEOS Program Objectives: The content and format of this educational activity has been specifically designed to fill the identified practice gaps in our membership's current and potential scope of professional activities in a way that focuses on education, while maintaining independence from promotional activities and commercial proprietary interests. This program seeks to:

1. Present a review of anterior segment surgical and presurgical problems and outline strategies for diagnosis and effective treatment.
2. Review current trends in the management of problems related to various cataract implants.
3. Review new anterior segment surgical issues such as the artificial iris.

1:00 pm	Introduction	Michael Price, MD
1:05	Premium Intraocular Lens Options and Problems	Lorenzo Cervantes, MD
1:15	No Capsule? No Problem. Options for Intraocular Lens Placement when the Capsule is Ruptured	Naveen Rao, MD
1:25	Introduction of Guest of Honor	Michael Price, MD
1:30	The Complex Cataract	Nicole Fram, MD
1:55	The Malfunctioning and Malpositioned Intraocular Lens	Nicole Fram, MD
2:20	*Refreshment Break/Exhibits*	
2:50	The Ocular Surface and Cataract Surgery	Helen Wu, MD
3:00	Cataract Surgery and Keratoconus	Purak Parikh, MD
3:10	A Novel Treatment Approach to Uveitis-Glaucoma-Hyphema Syndrome after Anterior Segment Reconstruction	Ankoor Shah, MD
3:20	Artificial Iris	Nicole Fram, MD

AFTERNOON SESSION (continued)

3:45 Panel Discussion and Questions ..... Michael Price, MD, *Moderator*

Lorenzo Cervantes, MD — Naveen Rao, MD

Nicole Fram, MD — Ankoor Shah, MD

Purak Parikh, MD — Helen Wu, MD

4:00 Adjourn

BEYOND VISUAL FIELDS: NEW HORIZONS OF TESTING IN GLAUCOMA

David Ramsey, MD, PhD, MPH

WINCHESTER, MA

Objective: 1. To review the options for electrophysiological assessment of the retinal ganglion cell response. 2. To illustrate the potential for electrophysiological testing to facilitate early diagnosis of glaucoma using case-based examples.

Functional deficits in glaucoma can be assessed by visual field testing using either automated static perimetry, or less commonly kinetic Goldmann perimetry performed by a skilled perimetrist, or highly specialized electrophysiological techniques, such as the recording of retinal ganglion cell (RGC) response with the pattern reversal electroretinogram (PERG) and the photopic negative response (PhNR). Clinicians most commonly employ automated static perimetry to look for characteristic functional defects and then repeat these tests to assess for progression. However, visual field defects in glaucoma may not show up on automated field tests until 25% to 35% of the RGCs have been lost. Electrophysiological methods provide objective measures of retinal ganglion cell function that are more sensitive to glaucomatous damage making them ideal for earlier diagnosis and monitoring. However, these highly specialized clinical tests are less readily available and saturate early in the disease, making them less useful for monitoring advanced glaucoma.

References: Banitt MR, Ventura LM, Feuer WJ, Savatovsky E, Luna G, Shif O, Bosse B, Porciatti V. Progressive loss of retinal ganglion cell function precedes structural loss by several years in glaucoma suspects. Invest Ophthalmol Vis Sci. 2013 Mar 28;54(3):2346-52.

Bode SF, Jehle T, Bach M. Pattern electroretinogram in glaucoma suspects: new findings from a longitudinal study. Invest Ophthalmol Vis Sci. 2011 Jun 16;52(7):4300-6.

Viswanathan S, Frishman LJ, Robson JG, Walters JW. The photopic negative response of the flash electroretinogram in primary open angle glaucoma. Invest Ophthalmol Vis Sci. 2001;42:514–522.

MIGS: WHERE ARE WE NOW?

Claudia U. Richter, MD

OPHTHALMIC CONSULTANTS OF BOSTON | BOSTON, MA

Objective: Review the current availability and results with MIGs (minimally invasive glaucoma surgery) with cataract surgery.

The MIGS options available to treat glaucoma with cataract surgery continue to evolve. The current options include trabecular stent, Schlemm's canal unroofing, and reduction of aqueous humor production (endoscopic laser cyclophotocoagulation, micropulse laser cyclophotocoagulation). The results with these procedures and their advantages and disadvantages will be briefly reviewed. The early results with the trabecular meshwork bypass stent will be presented.

References: Samuelson TW, Chang DF, et al. A Schlemm canal microstent for intraocular pressure reduction in primary open-angle glaucoma and cataract. The HORIZON Study. Ophthalmololgy126:2018;29-37.

Bahler CK, Hann CR et al. Second-generation trabecular meshwork bypass stent (iStent inject) increases outflow facility in cultured human anterior segments. Am J Ophthalmology 2012;153:1206-13.

Dorairaj SK, Seibold LK, et al. 12-Month outcomes of goniotomy performed using the Kahook dual blade combined with cataract surgery in eyes with medically treated glaucoma. Adv Ther 2018;35:1460-9.

MIGS: MATCHING THE SURGERY TO THE PATIENT

Jonathan Myers, MD

WILLS EYE HOSPITAL | PHILADELPHIA, PA

Objective: To review the features of the various MIGS procedures that make them better or worse matches for various patient concerns.

After participating in this course, physicians will be able to (1) describe the benefits and risks of the full range of glaucoma surgeries available in the United States and (2) apply this knowledge to balance surgical features with patient issues, taking into account unique patient needs and goals.

The recent, dramatic increase in surgical options to treat glaucoma has created new opportunities, but at the same time it has made determining the best choice for individual patients more complex. Balancing the unique potential benefits and risks of each surgery to the unique needs and issues confronting each glaucoma patient is a challenging but critical task for clinicians. This lecture will review considerations for each type of glaucoma surgery and how they relate to typical and atypical patient features and concerns, including IOP goals, risks for complications, refractive goals, and postoperative course.

References: Pillunat LE, Erb C, Jünemann AG, Kimmich F. Micro-invasive glaucoma surgery (MIGS): a review of surgical procedures using stents. Clin Ophthalmol. 2017 Aug 29;11:1583-1600.

Lavia C, Dallorto L, Maule M, Ceccarelli M, Fea AM. Minimally-invasive glaucoma surgeries (MIGS) for open angle glaucoma: A systematic review and meta-analysis. PLoS One. 2017 Aug 29;12(8):e0183142.

9:20 AM

NAVIGATING THE CHALLENGES OF OPTOMETRIC GLAUCOMA CO-MANAGEMENT

Thomas Hsu, MD

OPHTHALMIC CONSULTANTS OF BOSTON | BOSTON, MA

Objective: To understand the challenges of glaucoma management when sharing care with optometry, and to craft an individualized plan for treating each patient.

The healthcare burden of glaucoma care is rapidly increasing. Year upon year, the incidence of new glaucoma cases is rising, in conjunction with increasing impacts of cataracts and macular degeneration. Across the United States, optometry has been permitted to treat glaucoma with topical anti-hypertensive medications, with the exception of Massachusetts. In addition, OK, KY, and LA allow optometrists to perform lasers. Inevitably, we are faced with the reality that glaucoma care will be comanaged. We need to be proactive and examine our relationships with community optometrists, and determine what approach will be in the best interests for our patients. Legislation is unlikely to provide a uniform approach for glaucoma co-management, and we must take the initiative to define clearly the process by which we set the expectations for shared patient care.

References: The Eye Diseases Prevalence Research Group, Arch Ophthalmol. 2004; Prevent Blindness America.

Chodnicki et al. A Systematic Evaluation of State Laws Governing Optometric Glaucoma Management in the United States Up to 2015. J Glaucoma. 2018 Mar; 27(3):233-238.

Winkler NS, Khanna SS, Khanna CL, et al. Analysis of a physician-led, team-based care model for the treatment of glaucoma. J Glaucoma 2017;26:702-7.

PRIMARY ANGLE CLOSURE: UPDATES IN DIAGNOSIS AND MANAGEMENT

Babak Eliassi-Rad, MD

BOSTON, MA

Objective: To review the spectrum of primary angle closure (PAC), the different diagnostic modalities used in PAC, and the possible treatment options for PAC.

Primary angle closure (PAC) encompasses a wide variety of conditions with different severity (narrow angles to severe glaucoma) and presentations (acute, subacute, and chronic). The evaluation of the anterior chamber (AC) angle is critical in diagnosis and treatment of PAC. Gonioscopy remains the gold standard diagnostic test, though anterior segment OCT and ultrasound biomicroscopy (UBM) are also important diagnostic modalities in the evaluation of the AC angle. Laser peripheral iridotomy is the most common therapy for PAC. Due to the EAGLE study and other studies, lens extraction with or without a glaucoma procedure (i.e. goniosynechiolysis, endocyclophotocoagulatio, or trabeculectomy) are becoming more popular and accepted for treatment of PAC.

References: Razeghinejad MR, Myers JS. Contemporary Approach to the Diagnosis and Management of Primary Angle-Closure Disease. Surv Ophthalmol. 2018 Nov - Dec;63(6):754-768.

Azuara-Blanco A, Burr J, Ramsay C, et al. Effectiveness of Early Lens Extraction for the Treatment of Primary Angle-Closure Glaucoma (EAGLE): A Randomised Controlled Trial. Lancet. 2016;388(10052):1389-97.

WHY DO SOME PEOPLE GO BLIND FROM GLAUCOMA - PERSPECTIVES ALMOST 40 YEARS LATER

Paul Lee, MD, JD

UNIVERSITY OF MICHIGAN | ANN ARBOR, MI

Objective: Participants will be able to identify risk factors for glaucoma blindness in the US and apply strategies to combat them.

In their seminal 1982 paper, "Why Do Some People Go Blind From Glaucoma," Grant and Burke discussed the importance of personalizing glaucoma care to the needs of each patient and the severity of glaucoma. In the intervening 37 years, we have learned much more about not only the individual response to glaucoma but how our society and health care system play important roles in determining the course of glaucoma in patients. Using a "failure mode" analysis, we can identify opportunities where patients with glaucoma can be better screened, care initiated, follow-up care provided and social resources mobilized to reduce the burden of glaucoma-related vision loss not only for individuals but for our population in the United States and globally. In leading a team approach to care, we can also rediscover the joys of practicing medicine that will keep our profession vigorous and patient-focused amidst the tremendous changes underway in medicine and health care. By asking "why," we can find new ways of addressing long-standing challenges so that glaucoma will no longer be the second leading cause of blindness (first among blacks) in the United States.

References: Grant WM, Burke JF Jr. Why do some people go blind from glaucoma? Ophthalmology. 1982 Sep;89(9):991-8. PMID: 7177577.

Newman-Casey PA, Shtein RN, Coleman AL, Herndon L, Lee PP. Why patients with glaucoma lose vision: the patient perspective. J Glaucoma. 2015 Aug. PMCID: PMC4769687.

Custer PL, Fitzgerald ME, Herman DC, Lee PP, Cowan CL, Cantor LB, Bartley GB. Building a Culture of Safety in Ophthalmology. Ophthalmology. Sep 2016;123(9 Suppl):S40-45. PMID: 27550004.

THE PHILADELPHIA GLAUCOMA DETECTION AND TREATMENT PROJECT

Jonathan Myers, MD

WILLS EYE HOSPITAL | PHILADELPHIA, PA

Objective: To familiarize attendees with the goals and limitations of outreach and screening programs,

The Centers for Disease Control and Prevention (CDC) funded two grants for Wills Eye Hospital to perform and study outreach and screening in underserved communities in Philadelphia. In the first project, examinations and treatment were performed in 4 dozen community centers and gathering places across underserved regions of Philadelphia over two years. In the second trial, subjects were screened in primary care offices in a dozen public health centers across Philadelphia and referred to local ophthalmologists. In the second project, screening over 900 subjects led to over 500 subjects being referred for further evaluation of glaucoma, diabetic retinopathy, cataracts, and other eye diseases. Given the proven issue of retention of patients within the system after positive screenings, half the subjects were assigned a social worker to aid in follow up. Preliminary data shows a dramatic improvement in follow up with the aid of the social worker. Additional findings include a high prevalence of glaucoma and glaucoma suspect, narrow angles, diabetic retinopathy and cataract. Detailed analysis showed that screening could be achieved at relatively modest cost.

References: Hark L, Acito M, Adeghate J, Henderer J, Okudolo J, et al. Philadelphia Telemedicine Glaucoma Detection and Follow-up Study: Ocular Findings at Two Health Centers. J Health Care Poor Underserved. 2018;29(4):1400-1415.

Hark LA, Myers JS, Rahmatnejad K, Wang Q, Zhan T, et al. Philadelphia Telemedicine Glaucoma Detection and Follow-up Study: Analysis of Unreadable Fundus Images. J Glaucoma. 2018 Nov;27(11):999-1008.

Hark LA, Katz LJ, Myers JS, Waisbourd M, Johnson D, et al. Philadelphia Telemedicine Glaucoma Detection and Follow-up Study: Methods and Screening Results. Am J Ophthalmol. 2017 Sep;181:114-124.

Hark LA, Leiby BE, Waisbourd M, Myers JS, Fudemberg SJ, et al. Adherence to Follow-up Recommendations Among Individuals in the Philadelphia Glaucoma Detection and Treatment Project. J Glaucoma. 2017 Aug;26(8):697-701.

Pizzi LT, Waisbourd M, Hark L, Sembhi H, Lee P, Crews JE et al. Costs of a community-based glaucoma detection programme: analysis of the Philadelphia Glaucoma Detection and Treatment Project. Br J Ophthalmol. 2018 Feb;102(2):225-232.

1:05 PM

PREMIUM INTRAOCULAR LENS OPTIONS AND PROBLEMS

Lorenzo Cervantes, MD

CONNECTICUT EYE SPECIALISTS | SHELTON, CT

Objective: To present and discuss cases of premium intraocular lens consideration in the setting of Fuchs' dystrophy.

Modern cataract surgery and advanced technology intraocular lens (IOL) options provide not only improved vision and quality of life, but also the possibility of reduced spectacle dependence from astigmatism and/or presbyopia correction. Comorbid ocular pathology, however, can decrease refractive outcome predictability and degrade vision quality, especially with multifocal IOLs. Fuchs' dystrophy is a bilateral cornea endothelial disorder that can present on a spectrum - with minimal findings and no associated symptoms to profound corneal edema and vision loss.

What happens when advanced technology IOL results are compromised by Fuchs' dystrophy or corneal edema? What can be done if Fuchs' dystrophy or corneal edema is present and patients desire premium IOL outcomes? This presentation discusses several such cases.

References: Tong CM, Baydoun L, Melles GRJ. Descemet membrane endothelial keratoplasty and refractive surgery. Curr Opin Ophthalmol. 2017 Jul;28(4):316-325.

Yokogawa H, Sanchez PJ, Mayko ZM, Straiko MD, Terry MA. Astigmatism Correction with Toric Intraocular Lenses in Descemet Membrane Endothelial Keratoplasty Triple Procedures.. Cornea. 2017 Mar;36(3):269-274.

Schoenberg ED, Price FW Jr, Miller J, McKee Y, Price MO. Refractive outcomes of Descemet membrane endothelial keratoplasty triple procedures (combined with cataract surgery). J Cataract Refract Surg. 2015 Jun;41(6):1182-9.

NO CAPSULE? NO PROBLEM - OPTIONS FOR INTRAOCULAR LENS PLACEMENT WHEN THE CAPSULE IS RUPTURED

Naveen Rao, MD

LAHEY HOSPITAL & MEDICAL CENTER | BURLINGTON, MA

Objective: 1. To review the options for Intraocular Lens Placement in the absence of capsule support. 2.To illustrate the potential for intrascleral haptic fixation as a versatile technique for stable IOL placement.

When the capsule ruptures during cataract surgery, we can all agree that if vitreous prolapses forward, the first step is to perform a vitrectomy. But what should be done next? There is no consensus on the optimal IOL implantation technique in the absence of adequate capsular support, when an IOL cannot be safely placed within the capsular bag or in the sulcus. There are numerous options, including ACIOL placement, iris-fixation, and scleral-fixation, each of which has distinct advantages and challenges. This talk will briefly cover some pitfalls of using ACIOLs, including malposition, irregular astigmatism, corneal decompensation, and cystoid macular edema. Iris-sutured and scleral-sutured IOL fixation will then be reviewed, followed by a discussion of the sutureless scleral-fixation techniques known collectively as intrascleral haptic fixation (ISHF). These ISHF techniques include the glued IOL technique introduced by Agarwal and the double-needle flanged haptic technique introduced by Yamane. This case-based presentation will include several surgical videos.

References: Yamane S, Sato S, Maruyama-Inoue M, Kadonosono K. Flanged Intrascleral Intraocular Lens Fixation with Double-Needle Technique. Ophthalmology. 2017;124(8):1136-1142.

Gabor SG, Pavlidis MM. Sutureless intrascleral posterior chamber intraocular lens fixation. J Cataract Refract Surg. 2007;33(11):1851-4.

Agarwal A, Kumar DA, Jacob S, Baid C, Agarwal A, Srinivasan S. Fibrin glue-assisted sutureless posterior chamber intraocular lens implantation in eyes with deficient posterior capsules. J Cataract Refract Surg. 2008;34(9):1433-8.

Unlabeled/Unapproved Uses of Drugs or Products: Tisseel glue (fibrin adhesive) used for sealing scleral flaps in glued IOL surgery. Three-piece IOLs including Zeiss CT Lucia 602 which we use off label for intrascleral haptic fixation. Gore-Tex suture which is used off label for scleral-sutured IOL fixation by some surgeons.

1:30 PM

THE COMPLEX CATARACT

Nicole Fram, MD

ADVANCED VISION CARE | LOS ANGELES, CA

Objective: Learn surgical techniques to successfully address a variety of complex cataract situations.

Modern day cataract surgery is a highly successful procedure with great satisfaction rates for both the patient and surgeon. However, there are many circumstances where the type of cataract is more complex and understanding a systematic approach to tackling these cases is critical. In this lecture various forms of complex cataract case videos will be presented including, zonulopathy (traumatic, pseudoexfoliation, iatrogenic), white intumescent cataract, brunescent cataract, and intraoperative complications such as posterior capsule tears and suprachoroidal hemorrhage management. Preoperative considerations and perioperative management will be discussed as well as appropriate and safe surgical technique.

Unlabeled/Unapproved Uses of Drugs or Products: Gortex sutures

1:55 PM

THE MALFUNCTIONING AND MALPOSITIONED INTRAOCULAR LENS

Nicole Fram, MD

ADVANCED VISION CARE | LOS ANGELES, CA

Objective: To provide cataract surgeons with surgical options, underlying causes and preventative measures for malfunctioning and malpositioned IOLs.

This lecture will focus on managing patients with malfunctioning and malpositioned IOLs. Often the care of this patient population is delayed or denied due to the perceived surgical risk associated with treatment. However, delay in care can lead to significant visual discomfort and, in the case of malpositioned IOLs, irreversible ocular damage. The malfunctioning IOL portion will include pseudophakic dysphotopsia and IOL opacification. The malpositioned IOL case presentations will include management of early and late dislocations. Preoperative testing and counseling, perioperative technique and postoperative management of this complex patient population.

References: Masket S, Fram NR, Cho A, Park I, Pham D. Surgical Management of Negative Dysphotopsia. J. Cataract Refract Surg. 2018 Jan;44(1):6-16.

Holladay JT, Simpson MJ. Negative Dysphotopsia: Causes and Rationale for Prevention and Treatment. J.Cataract Refract Surg 2017;43;263-275.

2:50 PM

THE OCULAR SURFACE AND CATARACT SURGERY

Helen K. Wu, MD

TUFTS MEDICAL CENTER | BOSTON, MA

Objective: The objective of this presentation is to discuss the spectrum of therapeutic interventions which may be used to maximize the ocular surface in conjunction with intraocular surgery.

Ocular surface disease is common in patients seeking cataract surgery. The presence of preexisting dry eye or other ocular surface disease may affect preoperative keratometric and topographic measurements, leading to potential errors in astigmatism or lens implant calculations. A compromised ocular surface may also adversely affect quality of vision through multifocal lenses, leading to significant patient dissatisfaction. In addition, preexisting ocular surface disease may be exacerbated by cataract surgery, leading to such potential risks as infection and corneal melting, particularly in patients with underlying autoimmune or neurotrophic disorders. It is thus imperative to recognize and treat ocular surface disease preoperatively, so as to assure optimal outcomes.

The diagnosis of ocular surface disease may be made using a variety of tests, including patient symptom questionnaires, tear break up time, Schirmer testing, conjunctival staining, and tear film osmolarity. Imaging studies such as meibography and confocal microscopy may be helpful in delineating disorders of the Meibomian glands or corneal nerves. Clinical signs should guide the choice of treatment options. A stepwise approach utilizing artificial tears, anti-inflammatory agents, punctal occlusion, treatment of blepharitis and meibomian dysfunction, and autologous serum tears and other compounded medications may be utilized. Systemic immunosuppressant agents may be necessary in patients with severe preexisting ocular surface disease and underlying systemic autoimmune and inflammatory disorders.

References: Chuang J, Shih KC, Chan TC, Wan KH, Jhanji V, Tong L. Preoperative optimization of ocular surface disease before cataract surgery. 2017 Dec;43(12):1596-1607.

Movahedan A and Djalilian AR. Cataract surgery in the face of ocular surface disease. Curr Opin Ophthalmol. 2012; 23(1): 68-72.

Sutu C, Fukuoka H, Afshari NA. Mechanisms and management of dry eye in cataract surgery patients. Curr Opin Ophthalmol. 2016 Jan;27(1):24-30.

CATARACT SURGERY AND KERATOCONUS

Purak Parikh, MD

NASHUA EYE ASSOCIATES | NASHUA, NH

Objective: To detail the perioperative considerations when performing cataract surgery on patients with keratoconus.

Special considerations are taken into account when planning for cataract surgery in a patient with keratoconus. In mild keratoconus, one must be aware of the implications previous or future collagen cross linking can have on the cornea. Aiming for mild myopia is preferred in these patients given the hyperopic shift which occurs with corneal flattening after crosslinking. In a patient with stable and mild keratoconus who will not need crosslinking, a toric lens implant can be considered if: 1.) spectacle refraction was stable and satisfactory prior to cataract development; 2.) biometry is reliable and consistent with multiple modes of measurement; 3.) the patient will not wear a rigid contact lens in the future. An extended depth of field or multifocal lens implant is inadvisable in patients with corneal ectasia of any degree.

Moderate keratoconus patients should be aimed for moderate myopia given a more posterior effective lens position than expected based on IOL calculation formulas. In addition, fitting a rigid myopic lens is easier and better tolerated compared to a rigid hyperopic lens. It is ideal, but not always possible, to have the patient suspect rigid lens use several weeks prior to biometry.

In those with severe keratoconus (candidates for PKP or DALK), keratoplasty would ideally be performed prior to phacoemulsification. This will allow for more accurate lens calculations and a better refractive outcome. If the cataract surgery is to be done prior to, or in tandem with, keratoplasty, it is recommended to power the lens implant with an arbritrary K value of roughly 44D rather than using the Ks from the steep, ectatic cornea. This will prevent high hyperopia following keratoplasty. Intraoperatively, the peripheral cornea can be thin and the view can be poor, thus secure wound closure and the use of capsular staining can be helpful.

References: Krachmer J, Mannis M, Holland E. Cornea - 3rd Edition. Mosby. 2010 Mohammadpour M, Heidari Z, Hashemi H. Updates on Managements for Keratoconus. J Curr Ophthalmol. 2018;30(2):110-124.

Piñero DP, Nieto JC, Lopez-miguel A. Characterization of corneal structure in keratoconus. J Cataract Refract Surg. 2012;38(12):2167-83.

Raiskup F, Theuring A, Pillunat LE, Spoerl E. Corneal collagen crosslinking with riboflavin and ultraviolet-A light in progressive keratoconus: ten-year results. J Cataract Refract Surg. 2015;41(1):41-6.

3:10 PM

A NOVEL TREATMENT APPROACH TO UVEITIS-GLAUCOMA-HYPHEMA SYNDROME AFTER ANTERIOR SEGMENT RECONSTRUCTION

Ankoor Shah, MD, PhD

BOSTON CHILDREN'S HOSPITAL | BOSTON, MA

Objective: To see a novel, non-invasive technique for treatment of uveitis-glaucoma-hyphema syndrome.

Uveitis-Glaucoma-Hyphema (UGH) syndrome, caused by chafing of the iris against an implanted intraocular lens (IOL), is rarely reported in children. We show a video demonstrating the etiology of UGH in an 11-year-old-boy who presented with persistent uveitis after extraction of a traumatic cataract and implantation of a sulcus IOL at the age of 8. Specifically, atrophic areas of the iris oscillated with every eye movement leading to chafing against the IOL. Typical treatment involves explantation of the IOL. However, we demonstrate that a daily mydriatic restricted iris movement and resolved the UGH syndrome. This novel treatment paradigm allowed retention of the IOL, preservation of vision, and may be another option for treatment of UGH.

References: Lin CJ, et al., Uveitis-glaucoma-hyphema syndrome caused by posterior chamber intraocular lens--a rare complication in pediatric cataract surgery. Ann Ophthalmol (Skokie), 2008. 40(3-4): p. 183-4.

Zhang L, et al., Mechanisms for in-the-bag uveitis-glaucoma-hyphema syndrome. J Cataract Refract Surg, 2014. 40(3): p. 490-2.

Percival SP, Das SK. UGH syndrome after posterior chamber lens implantation. J Am Intraocular Implant Soc. 1983 Spring;9(2):200-1.

3:20 PM

ARTIFICIAL IRIS

Nicole Fram, MD

ADVANCED VISION CARE | LOS ANGELES, CA

Objective: To provide ophthalmologists with clinical information on how and when the newly FDA approved HumanOptics Customflex Artificial Iris may help their patients with iris defects.

Surgical management of large iris defects has been a challenging task for most surgeons with little access to appropriate technology to assist these patients. Large iris defects can be caused by congenital and degenerative disease, trauma and surgical iatrogenic trauma. Often patients struggle with debilitating glare and poor cosmesis. An opaque or colored contact lens can be utilized, however, this option is not tolerated in most patients. Further, the devices previously available for compassionate use were difficult to access, implant and achieved poor cosmesis. The HumanOptics Artificial Iris device has recently gained FDA approval and provides excellent safety and cosmesis. This lecture will address the preoperative considerations, perioperative fixation techniques and postoperative management of this exciting technology.

References: Koch KR, Heindl LM, Cursiefen C, Koch HR. Artificial Iris Devices: Benefits, Limitations, and Management of Complications. J. Cataract Refract Surg. 2014 Mar;40(3):376-82.

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May 31	Non-Infectious Uveitis	Lana Rifkin, MD
	Macular Degeneration (with Taylor Smith Lecture)	Andre Witkin, MD
September 6	Future of Ophthalmology	Carolyn Kloek, MD
	Ethics and Risk Management	Alice Lorch, MD
November 1 **NB; NEW LOCATION BU SHERMAN HALL** (This Meeting Only)	Glaucoma (with Simmons Lecture)	Christopher Teng, MD
	Cataract	Joseph Williams, MD
	Annual Meeting for OMP	
2020		
March 13	Cornea	Nicoletta Fynn-Thompson, MD
	Innovations in Ophthalmology	Deborah Jacobs, MD
April 24	New Drugs in Ophthalmology	Lucia Sobrin, MD
	Retina	Peter Chang, MD
June 5	Ocular Trauma	Magdalena Krzystolik, MD
	Subday: Neuro-ophthalmology Uveitis Strabismus	Crandall Peeler, MD Ninani Kombo, MD Oren Weisberg, MD

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Elizabeth Sullivan
Andrienne Tashjian
The Rivers School
In Memory of Dr. Peter Gudas:
Naomi Litrowinik
Mercedes Sayler
Needham Psychotherapy Associates
New England Carpenters Health Fund
Norfolk Lodge A.F. and A.M.
James and Jean Twyning
Jacqueline Pepper
Jeanne Smith
Dr. Peter Batson
Dr. Richard Brown
Dr. David Corbit
Dr. Paul Cotran
In memory of Dr. Mariana Mead
Dr. Peter Donshik
Dr. Stuart Fay
In honor of Dr. Michael Bradbury and Dr. Tuck
Melvyn and Eleanor Galin Foundation
In honor of B. Thomas Hutchinson
Dr. Andrew Gillies
In memory of Dr. Moshe Lahav
Dr. Timber Gorman
Dr. Jay Gooze
In memory of Kirstyn Smith
Dr. Amy Gregory
Dr. Walter Griggs
Dr. Robert Herm
Dr. Ted Houle
Dr. Glenn P. Kimball
Dr. David Lawlor
Dr. Howard M. Leibowitz
In memory of Dr. Behrooz Koleini
Dr. Clifford Michaelson
In memory of Dr. Behrooz Koleini
Dr. Lawrence Piazza
Dr. Theodore Renna
Molly-Jane Isaacson Rubinger
In honor of Trexler Topping
Dr. Donna Siracuse-Lee, MD
Alice Sarno
In memory of B. Thomas Hutchinson
Dr. Domenic M. Strazzulla
Dr. Carter Tallman
Dr. Michael Wiedman
In honor of Dr. Claes Dohlman

NEOS SCIENTIFIC POSTER PROGRAM

Hecht Awards for Best Resident, Fellow, and Trainee Posters

May 31, 2019

Residents, fellows, and trainees from all the New England ophthalmologic teaching programs are invited and encouraged to submit abstracts for a scientific poster presentation contest to be conducted at the May 31, 2019, NEOS meeting.

Posters will be judged on originality and scientific merit. Awards will be made for the first prize $500.00, second prize $300.00, third prize $200.00 and three honorable mentions of $50.00 each. Funding for the awards is derived from a gift to the NEOS Education Endowment Fund honoring the late Sanford Hecht, MD.

Poster presentations exhibited at ARVO in 2019 and at the AAO meeting in of 2018 may be submitted. We encourage all trainees to participate in this event.

To submit posters, go to neos-eyes.org – future meetings/May 31/abstract submission form. **Deadline for abstract to appear in printed program April 15.** Others may be accepted as space allows.

For questions, please contact Judy Cerone Keenan at 617/227-6484
or neosjudy@aol.com

www.neos-eyes.org