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CONTINUING MEDICAL EDUCATION

Join us for the 3rd Annual Doheny-UCLA
INTERNATIONAL RETINA SYMPOSIUM

Saturday, February 1, 2025

Doheny Eye Institute | 150 North Orange Grove Blvd. | Pasadena, CA 91103

FEATURED KEYNOTE SPEAKER:



Hendrik P.N. Scholl, MD, MA, FARVO

Chief Medical Officer, Belite Bio, Inc.
Senior Consultant, Pallas Kliniken AG,
Klinik Zürich, Switzerland
Adjunct Professor, Medical University of
Vienna President, European Vision Institute (EVI)

COURSE DIRECTORS



Michael Ip, MD

Gavin S. Herbert Endowed Chair for Macular
Degeneration
Professor of Ophthalmology
David Geffen School of Medicine UCLA
Medical Director, Doheny Imaging Reading Center
Doheny Eye Institute



Kirk Hou, MD, PhD

Assistant Professor
Retinal and Vitreous Diseases Specialist
David Geffen School of Medicine UCLA
Doheny Eye Institute



Doheny Eye Institute is accredited by the California Medical Association (CMA) to provide continuing Medical Education for physicians.

Credit Designation Statement: Doheny Eye Institute designates this line activity for 6 AMA PRA Category 1 credits. Physicians should only claim credit commensurate with the extent of their participation in this activity.

WELCOME

Dear Colleagues:

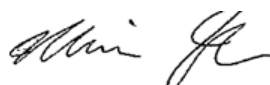
This full-day meeting is tailored to update practicing ophthalmologists and related healthcare specialists on recent advances and emerging paradigms in the diagnosis and management of both common and rare retinal diseases. Meetings such as this symposium are essential for summarizing and disseminating information in this ever-evolving field.

To accomplish this, we rely on the broad expertise of world-renowned retina experts. We are honored to welcome our international keynote speaker, Hendrik P.N. Scholl, MD, from Belite Bio, Inc. and the Medical University of Vienna, Department of Clinical Pharmacology. Dr. Scholl is also a member of the European Vision Institute in Basel, Switzerland. Internationally known experts from institutions here in Southern California have also agreed to speak, alongside esteemed faculty from UCLA (Stein and Doheny).

Unfortunately, due to the very recent communications ban from the federal government, Dr. Emily Chew is unable to participate in the program. Dr. Chew, Director of the Division of Epidemiology and Clinical Applications (DECA) and NIH Distinguished Investigator and Chief of Clinical Trials at the National Eye Institute, was scheduled as a keynote speaker, and we deeply regret her absence.

We extend our gratitude to our industry partners and exhibitors for recognizing the importance of this gathering through their generous support. This course would not be possible without their contributions.

Thank you for taking the time to join us today. We hope you enjoy the program!

Michael Ip, MD
Course Director
Charles Stewart Warren and Hildegard Warren
Endowed Chair
Medical Director, Doheny Eye Center UCLA, Pasadena
Professor of Ophthalmology
David Geffen School of Medicine UCLA
Doheny Eye Institute




Kirk Hou, MD, PhD
Course Director
Retina Vitreous Diseases Specialist
Assistant Professor of Ophthalmology
David Geffen School of Medicine UCLA
Doheny Eye Institute



ABOUT DOHENY EYE INSTITUTE

The story of Doheny Eye Institute begins with the vision and generosity of Carrie Estelle Doheny, who, after experiencing a devastating vision loss, founded the Doheny Eye Foundation in 1947 with the mission "to further the conservation, improvement, and restoration of human eyesight." With the help of her ophthalmologist, Dr. A. Ray Irvine, Sr., and his sons, Doheny established the first eye pathology laboratory in Los Angeles. The institute quickly became renowned for its commitment to advancing vision research and patient care.

Over the decades, Doheny Eye Institute assembled a team of world-class scientists, clinicians, and researchers, propelling the institute to the forefront of ophthalmology. In 2013, Doheny entered a long-term affiliation with UCLA's Stein Eye Institute, strengthening its research and clinical capabilities. Today, Doheny Eye Institute is recognized as a preeminent center for vision research, particularly in areas like age-related macular degeneration (AMD) and the application of machine learning in ophthalmology, contributing to groundbreaking advancements in the field.

Today, the two internationally recognized eye institutes, Doheny Eye Institute and Stein Eye Institute, underpinned by the UCLA Department of Ophthalmology, are ranked fifth among the top ophthalmology programs by *U.S. News & World Report*. This distinction recognizes the strength, reputation and standing of our two top-tier institutions, working together since 2013 to advance vision research, education, and patient care under the leadership of:

Deborah Ferrington, PhD

Stephen J. Ryan-Arnold and Mabel Beckman
Foundation Endowed Presidential Chair
Chief Scientific Officer
Professor of Ophthalmology
David Geffen School of Medicine UCLA
Doheny Eye Institute

Marissa Goldberg

Chief Executive Officer
Doheny Eye Institute

Anne Coleman, MD, PhD

Chair, UCLA Department of Ophthalmology
Director, UCLA Stein Eye Institute
Fran and Ray Stark Professor of Ophthalmology
Professor of Epidemiology at the UCLA Fielding
School of Public Health
Director of the UCLA Center for Eye Epidemiology,
Mobile Eye Clinic, and the Center for Community
Ophthalmologists and Vision Health
David Geffen School of Medicine UCLA

Alfredo Sadun, MD, PhD

Vice Chairman and Flora L. Thornton Endowed
Chair in Vision Research
David Geffen School of Medicine UCLA
Doheny Eye Institute

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**Program Schedule
2025**

March 29, 2025

Annual CME Conference

Course Directors: Monica Khitri, MD, Justin Karlin, MD, and Ken Lu, MD

Location: 150 N. Orange Grove Blvd., Pasadena, CA 91103

CME Credits: 7

For more information or to register, please visit www.doheny.org/cme.

June 2025

***UCLA Department of Ophthalmology Annual Seminar**

Course Directors: Anne L. Coleman, MD, PhD and Anthony C. Arnold, MD

Location: UCLA Stein Eye Institute, RPB Auditorium, Los Angeles

CME Max Credits: 11.25

For more information, please visit <https://ucla.cloud-cme.com>.

July 11–12, 2025

***UCLA Aesthetic Eyelid and Facial Rejuvenation Masters Course
2025**

Course Directors: Robert A Goldberg, MD and Justin Karlin, MD

Location: UCLA Stein Eye Institute, RPB Auditorium, Los Angeles

CME Max Credits: TBA

For more information, please visit <https://ucla.cloud-cme.com>.

September 27, 2025

**7th Annual Doheny-UCLA Glaucoma Conference:
*Glaucoma Surgical Techniques – Didactics plus Dry-Lab & Wet-Lab
Instruction***

Course Directors: Brian Francis, MD, MS and Vikas Chopra, MD

Location: 150 N. Orange Grove Blvd., Pasadena, CA 91103

CME Credits: TBA

For more information, please visit www.doheny.org/cme.

**CME credits awarded by the David Geffen School of Medicine at UCLA*

ACCREDITATION

Doheny Eye Institute is accredited by the California Medical Association to provide continuing medical education for physicians.

CREDIT DESIGNATION

The Doheny Eye Institute Office of Continuing Medical Education designates a maximum of 6 AMA PRA Category 1 Credits™ for this live activity. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:

1. Identify New Paradigms and Treatment Strategies in geographic atrophy, secondary to age related macular degeneration
2. Identify New Paradigms and Treatment Strategies in inherited retinal disease
3. Update participants on all the newest and latest retinal injectables and their indications for a variety of retinal disease

EVALUATIONS

Evaluation forms are an important tool in physician gaps and program planning. We welcome your comments and suggestions. Your input is valuable and will be used for planning future programs.

OBTAINING CME CREDIT

You must complete, sign, and submit an evaluation form (include number of credits requested) to receive CME credit. The completed evaluation form may be returned to the registration desk at the end of the conference or emailed to cme@doheny.org. A CME certificate will be emailed to you within 7 business days upon completion of the evaluation.

QUESTIONS

If you have questions or comments, please contact our CME office at 323-342-6427 or email cme@doheny.org.

ACKNOWLEDGEMENTS

We offer an opportunity for physicians and other health care professionals to examine the newest products and services available in ophthalmology and vision care. We invite you to discuss your needs with representatives of exhibiting companies.

Doheny Eye Institute acknowledges with gratitude the support of the following program educational grantors and exhibitors.

Educational Grantors

Genentech, a member of
the Roche Group

Exhibitors

Alcon Vision, LLC
Adverum Biotechnologies
Apellis Pharmaceuticals
Ocular Therapeutix
Zeiss

DISCLOSURE STATEMENT

The Doheny Continuing Medical Education (CME) policy is to ensure balance, independence, objectivity, and scientific rigor in all CME activities. CME content will be evidence-based and free of commercial bias. Furthermore, Doheny CME providers have identified, reviewed, and resolved all conflicts that persons involved in the development, management and presentation disclose prior to an educational activity. All financial relationships are disclosed below.

DISCLOSURE SUMMARY

The speakers and CME program planners listed below have indicated that they do **not** have financial relationships with commercial interests:

Mary Collins-Smith	Tara A. McCannel, MD, PhD	Irena Tsui, MD
Kirk Hou, MD, PhD	Moritz Pettenkofer, MD	Cecilia Zamudio
Kristie Lin, MD	Marko Popovic, MD, MPH	
David Lozano Giral, MD	Victoria Tseng, MD, PhD	

The speakers and CME Committee members listed below have indicated financial relationships with commercial interests/industry.

Key

C – Consultant/Consulting Fees	R – Researcher / Grant Support
E – Equipment/Research Instruments	S – Speaker / Honorarium
PI – Principal Investigator	O – Ownership / Stock Options

Benjamin Bert, MD, FACS: Novartis – R, PI; Regeneron – R, PI

David Boyer, MD: Consultant for: Aderyra; Adverum; Apellis; Algenesis; Alkahist; Allegro; Bausch & Lomb, Bayer; Healthcare, Biogen, BioMotiv; Bio Time, Inc; Boehringer Ingelheim; Chengdu Kanghong Biotec; Clearside; Coda Therapeutics; Daiichi Sankyo Co Ltd., Duet; Everads Therapy; Eyepoint; Genentech/Roche; Glaukos; JCyte; Kala; Kriya; Lumithera; Nanoscope; Ocugen; Oculis; Ocuphire; Optovue, Inc, Ora, Inc., Orbit Biomedical, Oxurion, Ray Vision, Inc., RecensMedical Inc., Regeneron; REGENXBIO, Regulus Therapeutics, Ripple; Samumed LLC, Santen Inc., SciFluor, Semathera, Smilebiotex; Stealth Biotherapeutics, Sun Pharmaceutical Industries, Taiwan Liposome Company, Thea; Unity; 4DMT

Ocugen Inc. – R; Ocular Therapeutix – O; Ocuphire Pharma Inc – R; Opthea: Optos, Inc – R

Andrew Browne, MD, PhD: Alcon Medical – R; Carl Zeiss Meditec – R; Slingshot Insights – C

DISCLOSURE STATEMENT

continued

Key

C – Consultant/Consulting Fees	R – Researcher / Grant Support
E – Equipment/Research Instruments	S – Speaker / Honorarium
PI – Principal Investigator	O – Ownership / Stock Options

Michael Ip, MD: Alimera Sciences – C; Allergan – C; Amgen – C; Apellis – C; Clearside – C; Genentech/Roche – C; Novartis – C; OCCURX – C; Regeneron – C; Adverum – R; Apellis – R; Astellas – R; Aviceda, Biogen – R; Boehringer Ingelheim, Genentech – R; Lineage Cell Therapeutics – R; Regenxbio – R; Splice Bio – R; 4DMT – R

Tara McCannel, MD, PhD: to disclose any relevant industry relationships at time of presentation

Bobek Modjtahedi, MD, MBA: Genentech/Roche – R; VoxelCloud – R

Andrew Moshfeghi, MD, MBA: Apellis – C; Ocular Therapeutix – C, O; Bausch & Lomb – C; Alcon – C; SciNeuro – C; Pr3vent – O; Valitor – O; Waldo DBA Ainsly Limited – C, O

Pradeep S. Prasad, MD, MBA: Abbvie – C; Alimera Sciences – C; Dutch Ophthalmic USA DORC – S; OD-OS GmbH – S; Regeneron – S

Hendrik Scholl, MD, MA: Consultant for: Belite Bio Inc.; Boehringer Ingelheim Pharma GmbH; Droia NV; Tenpoint; Saliogen, Splice, Janssen Research and Development, Pallas Kliniken AG; ReVision Therapeutics Inc.

PENDING DISCLOSURES

Aya Barzelay-Wollman, MD, PhD: to disclose any relevant industry relationships at time of presentation

David Sarraf, MD: to disclose any relevant industry relationships at time of presentation

Jennifer K. Sun, MD, MPH: to disclose any relevant industry relationships at time of presentation

FEATURED SPEAKER



HENDRIK P.N. SCHOLL, MD, MA

Chief Medical Officer, Belite Bio, Inc. San Diego, CA
Senior Consultant, Pallas Kliniken AG, Klinik Zürich, Switzerland
Medical University of Vienna, Austria
European Vision Institute, Basel

BIOGRAPHY

On September 01, 2024, Hendrik P. N. Scholl, MD, MA, was appointed as the Chief Medical Officer of Belite Bio, Inc. Dr. Scholl is the foremost globally recognized authority on Stargardt disease and age-related macular degeneration (AMD). He is a forefront leader in the field of ophthalmology and brings decades of expertise in treating retinal diseases.

Dr. Scholl served as the founding and scientific co-director of the Institute of Molecular and Clinical Ophthalmology Basel (IOB) and Professor of Ophthalmology at the University of Basel, where he also led the Department of Ophthalmology as its Chairman. He currently serves as President of the European Vision Institute as well as Chairman of the largest clinical research network in ophthalmology in Europe, EVICR.net, and its Expert Committee on Retinal Dystrophies. He is also the Founder and President of the Swiss Association for Research in Vision and Ophthalmology (ARVO- SWISS).

Dr. Scholl's distinguished career in academia includes leadership positions at several key academic institutions. Recently, he served as Professor of Ophthalmology and Endowed Chair at the Wilmer Eye Institute of Johns Hopkins University Medical School. At the Johns Hopkins Hospital, he was the Head of the Retinal Degeneration Clinic and the Director of the Visual Neurophysiology Service. For the Wilmer Eye Institute, he also served as the Co-director of the Johns Hopkins Center for Stem Cells and Ophthalmic Regenerative Medicine.

Dr. Scholl is the coordinating principal investigator of the largest natural history study of Stargardt disease (ProgStar Study), which enrolled 365 subjects. Throughout his career, he has participated in over 10 clinical studies both in Stargardt disease and AMD, authored over 280 articles and reviews in peer-reviewed journals, and received numerous prestigious awards, including the European Vision Award, the President's Award of the American Society of Retinal Specialists, the W. Richard Green Award and the Paul Henkind Memorial Award of the Macula Society, the Swiss Alfred-Vogt Award, and the Kupfer award of ARVO.

Over the course of his 25 years of experience, Dr. Scholl has led and participated in numerous boards and advisory committees. He currently serves on the Scientific Advisory Board of Pro Retina Deutschland, Foundation Fighting Blindness, Erasmus University Medical Center, AIBILI, and the Institut de la Vision (Paris); on the Investment Advisory Board of Droia NV; and the Data Safety Monitoring Board of Roche Holding AG and ViGeneron GmbH.

3rd Annual Doheny-UCLA International Retina Symposium
Saturday, February 1, 2025
7:00 AM - 3:30PM

Saturday, February 1, 2025			
7:00	7:55 AM		Registration & Breakfast
7:55	8:00 AM	Michael Ip, MD	Welcome from the Course Director
8:00	8:05 AM	Kirk Hou, MD, PhD	Introduction to the Symposium
Meeting Moderator: Kirk Hou, MD, PhD			
8:05	8:20 AM	David Sarraf, MD	Tips and Tricks on Interpretation of OCT, OCTA and Retinal Imaging
8:20	8:35 AM	Bobek Modjtahedi, MD	New Paradigms in Artery Occlusions
8:35	8:50 AM	Aya Barzelay-Wollman, MD, PhD	Beyond Limits: Whole Eye Transplantation as a New Frontier in Medicine
8:50	9:05 AM	Kirk Hou, MD, PhD	GLP-1-R Agonists and Retinal Disease
9:05	9:10 AM	Michael Ip, MD	Introduction of International Keynote Speaker: Hendrik Scholl, MD, MA
9:10	9:40 AM	Hendrik P.N. Scholl, MD, MA	Therapy Development for Inherited Macular Degeneration
9:40	9:55 AM	Marko Popovic, MD, MPH	Cataract Surgery Complications in Individuals who Previously Received Intravitreal Injections: A Population-Based Cohort Analysis
9:55	10:25 AM	P A N E L	Interesting Retinal Cases Moderator: David Sarraf, MD Panelists: Drs. Michael Ip, Bobek Modjtahedi, Hendrik Scholl, David Boyer
10:25	10:55 AM	B R E A K	
10:55	11:10 AM	David Boyer, MD	Photobiomodulation Therapy for Non-Exudative Age-Related Macular Degeneration
11:10	11:25 AM	Irena Tsui, MD	Suprachoroidal Delivery of Triamcinolone Acetonide in the Management of Retinal Disease
11:25	11:40 AM	David Lozano Giral, MD	Methotrexate Guard Protocol for PVR in Traumatic Retinal Detachments
11:40	11:55 AM	Andrew Moshfeghi, MD, MBA	Impact of Cataract Surgery on Chronic Macular Disease Management
11:55	12:10 PM	Moritz Pettenkofer, MD	Use of Pegcepacoplan: An Update from the UCLA Practice
12:10	12:25 PM	Tara A. McCannel, MD, PhD	Nevus or Nasty: Clues to Detect a Choroidal Melanoma Early
12:25	12:40 PM	*Jennifer K. Sun, MD, MPH	Update on Mary Tyler Moore Initiative
12:40	1:40 PM	L U N C H B R E A K	
Meeting Moderator: Michael Ip, MD			
1:40	1:55 PM	Hendrik Scholl, MD, MA	Masquerades of Geographic Atrophy in AMD
1:55	2:10 PM	Pradeep Prasad, MD, MBA	Update on the Evaluation and Management of Hypotony Associated with Proliferative Vitreoretinopathy
2:10	2:25 PM	Michael Ip, MD	Impact of Retinal Hard Exudate in Diabetic Macular Edema
2:25	2:40 PM	Andrew Browne, MD, PhD	Methods for Artificial Intelligence to Enhance VR Surgery
2:40	2:55 PM	Kristie Lin, MD	Geographic Atrophy and Complement Inhibitors, To Treat or Not to Treat
2:55	3:25 PM	P A N E L	How do I Choose Which Drug for Which Disease? Moderator: Michael Ip, MD Panelists: Drs. Kristie Lin, Moritz Pettenkofer, Andrew Moshfeghi, David Boyer
3:25	3:30 PM	Michael Ip, MD	Closing Remarks

* Virtual Speaker



DAVID SARRAF, MD

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Residency: University of Chicago Hospitals
Fellowship: Moorfields Eye Hospital NHS Trust, London
UCLA School of Medicine
Currently: Professor of Ophthalmology Retinal Disorders and
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TIPS AND TRICKS ON INTERPRETATION OF OCT, OCTA AND RETINAL IMAGING

SUMMARY



BOBECK MODJTAHEDI, MD

Medical School: UC Davis Medical Center, Sacramento
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Currently: Vitreoretinal Surgeon
Southern California Medical Group
Director, Eye Monitoring Center
Kaiser Permanente Southern California, Georgia, Colorado, and Hawaii

NEW PARADIGMS IN RETINAL ARTERY OCCLUSIONS

PURPOSE

To discuss advances in the diagnosis, evaluation, and management of retinal artery occlusion.

METHODS

Patients with a history of retinal artery occlusions from 2017-2023 were analyzed in this retrospective study. Trends in the diagnostic and medical management of these patients were analyzed following the introduction of new clinical pathways which provided guidance for expedited evaluation of patients and were coordinated between ophthalmology, neurology, inpatient internal medicine, primary care, and neurology. Key innovations involved developing a new evidence-based pathway for clinicians, installation of fundus cameras in emergency departments, and analyzing the use of thrombolytics

RESULTS

Following the deployment of this new program, there have been improvements in the utilization of appropriate cardiovascular imaging and medical management of post-retinal artery occlusion patients. Additionally, early results suggest a trend towards improved visual acuity in those who receive prompt thrombolytic therapy.

CONCLUSION

Evidence based clinical pathways can provide clinicians with a simple to follow algorithm that improves the management of patients following retinal artery occlusions. There may be promise in the utilization of thrombolytic therapy in acute retinal artery occlusions.

REFERENCES

1. Vo AT, Modjtahedi BS, Sangha NS. Central Retinal Artery Revascularization Promptly After Tenecteplase. JAMA Ophthalmol. 2024 Oct 1;142(10):e243526. doi: 10.1001/jamaophthalmol.2024.3526. Epub 2024 Oct 17. PMID: 39417810.
2. Vo A, Hicks W, Sangha N. A case series on treatment of central and branch retinal artery occlusion with intravenous tenecteplase: Tenecteplase for retinal artery occlusions. J Stroke Cerebrovasc Dis. 2024 Jan;33(1):107488. doi: 10.1016/j.jstrokecerebrovasdis.2023.107488. Epub 2023 Nov 18. PMID: 37984044.



AYA BARZELAY-WOLLMAN, MD, PHD

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Sheba Medical Center, Tel Aviv
Currently: Retinal and Vitreous Diseases Specialist
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BEYOND LIMITS: WHOLE EYE TRANSPLANTATION AS A NEW FRONTIER IN MEDICINE

SUMMARY



KIRK HOU, MD, PHD

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GLP-1-R AGONISTS AND RETINAL DISEASE

SUMMARY



HENDRIK P.N. SCHOLL, MD, MA

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Senior Consultant, Pallas Kliniken AG, Klinik Zürich
Adjunct Professor, Medical University of Vienna
President, European Vision Institute (EVI)

THERAPY DEVELOPMENT FOR INHERITED MACULAR DEGENERATION

SUMMARY

Therapy development for Stargardt disease focuses on addressing its genetic and biochemical mechanisms. The ProgStar study group has advanced research by identifying reliable outcome measures for clinical trials, including the rate of progression of retinal degeneration using fundus autofluorescence and visual function assessments, which are critical for evaluating treatment efficacy.

Pharmacologic therapy includes Tnlarebant, an oral RBP4 inhibitor, which reduces vitamin A transport to the retina, aiming to lower toxic bisretinoid accumulation, the primary driver of photoreceptor damage. Tnlarebant is currently undergoing clinical trials, showing promise in slowing disease progression.

Gene editing strategies target the G1961E mutation in the *ABCA4* gene, a common mutation in Stargardt disease. Advances in base editing technology aim to correct this mutation, restoring normal *ABCA4* function. While still in pre-clinical stages, this approach offers potential for long-term disease modification. Together, these efforts are paving the way for effective treatments.

REFERENCES

1. Schmetterer L, Scholl HPN, Garhöfer G, Janeschitz-Kriegl L, Corvi F, Sadda SK, Medeiros FA. Endpoints for clinical trials in ophthalmology. *Prog Retin Eye Res.* 97:101160. doi: 10.1016/j.preteyeres.2022.101160. Epub 2023 Jan 2. PMID: 36599784.
2. Muller A,... Scholl HPN,..., György B (2025) *Nature Medicine* 2025 Jan 8. doi: 10.1038/s41591-024-03422-8. Online ahead of print.



MARKO POPOVIC, MD, MPH

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 MPH: Harvard University
 Residency: University of Toronto
 Fellowship: Stein and Doheny Eye Institutes, UCLA
 Currently: Medical Retina Fellow
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 David Geffen School of Medicine, UCLA
 Doheny Eye Institute

CATARACT SURGERY COMPLICATIONS IN INDIVIDUALS WHO PREVIOUSLY RECEIVED INTRAVITREAL INJECTIONS: A POPULATION-BASED COHORT ANALYSIS

PURPOSE

To determine differences in the risk of cataract surgery-related complications in patients with retinal disease who previously received intravitreal injections (IVI) compared to those with no IVI history.

METHODS

In this retrospective, population-based cohort study, adults (≥ 20 years) with retinal disease who had cataract surgery between 2009 to 2018 in the province of Ontario, Canada were included. Patients who received bilateral IVI treatments were in the exposed group, whereas patients without an IVI record were in the unexposed group. Physician billing data from a publicly funded universal healthcare system in Ontario were used to identify eligible patients, IVI history and outcomes. Adjusted hazards ratios (aHR) with 95% confidence intervals (CI) derived from multivariable Cox proportional hazards models were used to assess risk of cataract surgery-related complications between those with and without IVI history. The main outcome measures were the risk of non-clearing vitreous hemorrhage, retinal tear, retinal detachment, and retained lens fragments at 3 months, as well as the risk of intraocular lens (IOL) exchange, IOL repositioning, lens dislocation, anterior vitrectomy, glaucoma surgery, or corneal transplant at 2 years postoperatively.

RESULTS

Of the 163,663 adults identified who underwent cataract surgery with a history of retinal disease in the study period, 3,243 were in the exposed group and 160,420 were in the unexposed group. Most were aged ≥ 65 years (75.6%). There was an association between patients who received IVI and greater risk of non-clearing vitreous hemorrhage (aHR 3.37, 95% CI 2.57–4.43), retained lens fragments (aHR 2.00, 95% CI 1.02–3.91), retinal detachment (aHR 3.63, 95% CI 2.47–5.35), retinal tear (aHR 3.24, 95% CI 2.36–4.45), lens dislocation (aHR 1.97, 95% CI 1.31–2.97), anterior vitrectomy (aHR 1.67, 95% CI 1.17–2.38) and glaucoma surgery (aHR 4.03, 95% CI 2.86–5.70). There was no significant risk associations detected for other analyzed outcomes.

CONCLUSION

Cataract surgery patients with retinal disease who previously received IVI had a greater risk of multiple cataract surgery-related complications, including non-clearing vitreous hemorrhage, retained lens fragments, retinal detachment, retinal tear, lens dislocation, anterior vitrectomy and glaucoma surgery, compared to those without an IVI history. These findings should be considered in informed operative counselling of cataract patients with retinal disease.

REFERENCES

1. Patel D, Patel SN, Chaudhary V, Garg SJ. Complications of intravitreal injections: 2022. *Curr Opin Ophthalmol.* 2022;33(3):137-146. doi:10.1097/ICU.0000000000000850
2. Falavarjani KG, Nguyen QD. Adverse events and complications associated with intravitreal Injection of anti-VEGF agents: a review of literature. *Eye.* 2013;27(7):787. doi:10.1038/EYE.2013.107



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PHOTOBIMODULATION THERAPY FOR NON-EXUDATIVE AGE-RELATED MACULAR DEGENERATION

PURPOSE

To make physicians aware of new treatments diseases for retinal that will change our care of patients.

METHODS

Review of late-stage trials looking at various retinal diseases.

RESULTS

New treatments for venous occlusions, diabetic eye disease, Stargardts disease, intermediate dry AMD, and treatment to improve vision in nAMD will be discussed.

CONCLUSION

2025 will prove to be a year of many additional treatments for retinal disease.

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SUPRACHOROIDAL DELIVERY OF TRIAMCINOLONE ACETONIDE IN THE MANAGEMENT OF RETINAL DISEASE

PURPOSE

To evaluate the efficacy and safety of suprachoroidal Triamcinolone Acetonide (SCS-TA) in treating non-infectious cystoid macular edema (CME) in patients with complex ophthalmic conditions commonly encountered in retina practice.

METHODS:

This retrospective study was approved by the UCLA IRB and included patients diagnosed with non-infectious CME who received SCS-TA injections between January 1, 2024, and December 31, 2024, at Jules Stein Eye Center and the VA. Patients aged 13–92 years with non-infectious CME were included, while those with infectious uveitis, retinal dystrophy, or contraindications for steroids were excluded. Baseline demographics, imaging with OCT (central subfield thickness [CST]), and visual acuity (VA) were assessed at baseline, 1 month, and 3 months post-injection. Statistical analysis was performed using R^2 .

RESULTS

A total of 50 eyes from 46 patients were included. The cohort consisted of 26 females (57%) and 20 males (43%), with a mean age of 66 years (range: 13–92). Etiologies included Irvine-Gass/post-surgical CME (64%) and uveitic CME (36%). The cohort was complex, with 13 patients undergoing prior complicated cataract surgeries, 9 aphakic eyes, 19 pseudophakic eyes (2 with documented open capsules), 4 eyes with anterior chamber IOLs, and 2 aphakic eyes with silicone oil tamponade. Thirty-one eyes had prior retina surgeries, and 15 eyes underwent at least two retina or glaucoma surgeries unrelated to cataract surgery. Before SCS-TA, 70% of eyes failed topical treatments, 26% received anti-VEGF therapy, and 20% had intravitreal steroids. At 1 month, 54% of eyes (27 eyes) demonstrated a complete response, defined as normalization of CST, while an additional 32% of eyes (16 eyes) exhibited a significant improvement with a $\leq 50\%$ reduction in CST. Furthermore, 24% of eyes achieved a ≥ 3 -line improvement in VA. Mean CST reduction at 1 month was 145 microns (max 634 microns). By 3 months, 60% of eyes achieved complete CST normalization and 70% of eyes-maintained stabilization or further improvement in VA. Only 15% of eyes (3 eyes) showed no significant CST improvement by the 3-month mark. Safety outcomes were favorable, with only 8% of eyes developing elevated intraocular pressure, all of which were successfully managed with topical medications. Importantly, no cases of infection, cataract progression, or suprachoroidal hemorrhage were observed.

CONCLUSIONS

SCS-TA is a safe and effective treatment for non-infectious CME, offering significant visual and anatomical improvements in a complex patient cohort. Its utility as a valuable alternative steroid option

is particularly evident in cases with advanced pathology and contraindications to other intraocular steroids. Further studies are needed to confirm its role in managing this challenging population.

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METHOTREXATE GUARD PROTOCOL FOR PVR IN TRAUMATIC RETINAL DETACHMENTS

PURPOSE

To discuss our recent experience in the surgical and clinical management of patients with a history of ocular trauma and open globe injuries who develop proliferative vitreoretinopathy and recurrent retinal detachments.

METHODS

Patients we have treated for retinal detachment that have history of ocular trauma and surgical repair of open globe injuries at our ocular trauma service. This protocol involves the first intravitreal dose delivery of methotrexate intraoperatively during vitrectomy, which in most cases we are doing in adjunction to lensectomies, choroidal drainages, scleral buckles and silicone oil. If medication is not readily available then we can also deliver the first dose at postop day 1, followed by weekly injections for the next 8 weeks. Once that first phase is complete and there is no clinical sign of PVR or sign of recurrence of RD, then we proceed to inject our patients biweekly for the next 8 weeks. Thus, a total of 13 injections are administered over 16 weeks.

RESULTS

Improving surgical outcomes for traumatic retinal detachment with PVR.

One key benefit is the reduced need for additional surgeries, as methotrexate prevents further fibrovascular membrane formation, leading to better long-term retinal stability.

Relatively low risk of systemic toxicity. The main concerns during post-operative follow-up involve monitoring for potential intraocular inflammation, but these are generally manageable.

CONCLUSION

The Methotrexate Guard Protocol represents a significant advancement in the management of traumatic PVR retinal detachment.

By using methotrexate to inhibit the proliferation of fibrovascular membranes, this protocol helps improve surgical outcomes, reduce recurrence rates, and offer better long-term visual

results for patients. While there are some challenges, particularly in terms of post-operative monitoring, the benefits in preventing re-detachment and the need for multiple surgeries make it an essential tool for surgeons managing complex retinal detachments.

With this, I'd like to end by saying how important I think the use of this drug is to be able to finally fight back against PVR in a more consistent way. I truly believe that just like with anti-VEGF drugs for AMD and macular edema, there is a before and after Methotrexate for retinal detachment surgery and PVR management.

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IMPACT OF CATARACT SURGERY ON CHRONIC MACULAR DISEASE MANAGEMENT

THE QUESTION:

Will undergoing cataract surgery impact the status of my macular disease and its treatment?

- Historical perspectives on impact of cataract surgery on AMD conversion risk
- Cataract surgery in the 1970s through the 1990s is different from modern cataract surgery
- Evolution of ophthalmic imaging: analog-to-digital evolution & ubiquity of optical coherence tomography (OCT)

THE ANSWER:

- Anecdotal experience as compared with data gleaned from contemporary prospective, randomized, and controlled clinical trials on AMD & DME

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USE OF PEGCEPACOPLAN: AN UPDATE FROM THE UCLA PRACTICE

PURPOSE

A case series to share the clinical experience with pegcepacoplan since initiation in our practice.

METHODS

We collected observations in patients that have been treated with at least 1 injection of intravitreal pegcepacoplan in a single-provider practice at UCLA since 08/2023.

RESULTS

A total of 13 eyes of 13 patients were observed. Each patient received at least 1 injection (range 1 to 12). 12 patients received treatment every other month and 1 patient received monthly injections. To date, treatment is still ongoing in 9 out of 13 patients. Two patients discontinued treatment due to subjectively darker vision after 1 and 2 treatments respectively. In 1 patient, exudative macular degeneration was re-activated after two years of inactivity off injections. The same patient experienced a cerebral ischemic event within a week of the injection, with no permanent physical impairment. One patient was discontinued after developing a sterile intraocular inflammation which was managed with intravitreal anti-infectives and topical steroids.

CONCLUSION

After gaining approval from the US FDA in February 2023, intravitreal pegcepacoplan is still considered a novel treatment for patients with geographic atrophy secondary to age-related macular degeneration. The use of the medication is still evoking controversial discussions among providers about safety, efficacy and injection burden in relation to potential benefit. Real-world data suggest that the treatment is effective for slowing down the growth of atrophy. While longer follow-up time is needed, our patients maintained their visual acuity in the treatment eye since initiation of pegcepacoplan injections. However, 4 out of 13 patients were discontinued for a variety of reasons.

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NEVUS OR NASTY: CLUES TO DETECT A CHOROIDAL MELANOMA EARLY

PURPOSE

To identify clinical features of lesions which may be malignant.

METHODS

Cases will be presented as examples.

RESULTS

Management outcomes will be discussed.

CONCLUSION

The audience will be able to better identify worrisome intraocular lesions which could be malignant.

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UPDATE ON THE MARY TYLER MOORE INITIATIVE

SUMMARY

The purpose of the Mary Tyler Moore Vision Initiative (MTM Vision) is to advance research to preserve and restore vision in people with diabetes. The phase 1 part of this initiative is to establish an Accelerator Platform which has three important components. The first is to develop a Diabetic Retinal Diseases Staging System and Severe Scale Update. The second is to establish a Human Ocular Biorepository and Resource Center. The third is to establish Novel Endpoints Identification and Validation. This allows us to respond to the 3 fundamental barriers to progress. One must define the problem, study the problem, and find metrics to measure success.

The MTM Vision held a workshop that consisted of 6 different working groups that addressed the following issues relating to the development of a new staging of diabetic retinal diseases:

1. A new approach to staging diabetic eye disease: Staging of diabetic retinal neurodegeneration and diabetic macular edema.ⁱ
2. Imaging modalities for assessing the vascular component of diabetic retinal disease: Review and consensus for an updated staging system.ⁱⁱ
3. Role of systemic factors in improving the prognosis of diabetic retinal disease and predicting response to diabetic retinopathy treatment.ⁱⁱⁱ
4. Rationale of basic and cellular mechanisms considered in updating the staging system for diabetic retinal disease.^{iv}
5. Visual function measurements in eyes with diabetic retinopathy: an expert opinion on available measures.^v
6. Measuring quality of life in diabetic retinal disease: A narrative review of available patient-reported outcome measures.^{vi}

Each of these working groups has contributed a publication that deals with the topic.¹⁻⁶ The MTM Vision will collaborate with the NIH-supported Diabetic Retinopathy Clinical Research Network (DRCR.N) to establish a new staging system of severity of diabetic retinal diseases by mounting multicenter, longitudinal observational studies. The primary aim is to define the ocular structural and functional characteristics of people with diabetes, covering a broad range of diabetes duration and disease severity in eyes over the *natural history of the disease* as well as *under treatment*. The secondary aims include investigating retinal structure-function relationship, investigating the degree to which each measure changes with increasing severity

of diabetic retinal disease, understanding test-retest variability for visual function measures of interest, and evaluating the correlation in test characteristics between the 2 eyes of a patient. The final secondary aim is to understand whether structural/functional measurements can be validated as surrogate, clinical or primary endpoints.

There will be two protocols conducted with the DRCR.network: Protocol AR (4-year duration): *Longitudinal natural history study of retinal function in eyes of patients with diabetes while Protocol AS (1 year duration) is a longitudinal study of retinal function in eyes treated for diabetic macular edema with anti-VEGF agents. Eye exams included best-corrected visual acuity using the ETDRS logMAR visual acuity charts, imaging with ultra-wide field color and fluorescein angiography, spectra domain OCT and OCT-angiography. Blood and urine examples will be collected. Systemic co-morbidities and social determinants of health will also be collected. Visual function testing in addition to visual acuity include objective field analyzer, electroretinogram, reading speed, Humphrey visual fields and pupillometry.*

An international network of centers would be ideal to draw on data from large diverse cohorts to quickly and efficiently evaluate the prognostic and predictive benefit of risk factors and imaging technologies. We would need to build coalitions with academic institutions, industry and regulatory agencies to encourage incorporation of any promising structural/functional variables in other trials of diabetic retinal diseases, standardize datasets with common data elements, technologies, and support development and validation of new primary endpoints for diabetic retinal diseases. This would lead to the ultimate goal of developing and validating new primary endpoints for diabetic retinal diseases.

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MASQUERADES OF GEOGRAPHIC ATROPHY IN AMD

SUMMARY

- Macular dystrophies, panretinal dystrophies, mitochondrial syndromic disease (MIDD) and drug toxicity can cause (geographic) atrophy of the RPE at the posterior pole and mimic geographic atrophy secondary to AMD.
- The most important differential diagnoses include Stargardt disease (*ABCA4*) and CACD (*PRPH2* p.Arg142Trp).
- Adequate diagnosis of Stargardt disease would allow patients to be enrolled into treatment trials which are currently underway.
- Drug toxicity such as PPS-associated maculopathy must be recognized. Screening programs will need to be established.

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UPDATE ON THE EVALUATION AND MANAGEMENT OF HYPOTONY ASSOCIATED WITH PROLIFERATIVE VITREORETINOATHY

PURPOSE

To assess the incidence of hypotony in patients who underwent vitrectomy for PVR and to investigate the potential impact of intravitreal methotrexate (MTX) injections on hypotony rates in this population.

METHODS

The medical records of 140 patients with PVR who underwent vitrectomy were reviewed to assess the rate of hypotony at the final follow-up. Hypotony was defined as a persistent intraocular pressure (IOP) of ≤ 6 mmHg for at least 6 months. Patients were grouped based on whether they received intravitreal MTX during or after the index surgery.

RESULTS

Among the 140 patients studied, hypotony occurred in 18 (12.86%) with an average follow-up period of 328 days post-index surgery for PVR. The final BCVA was significantly worse in the hypotony group compared to patients with IOP >7 at the final follow-up (LogMAR 2.3 vs. LogMAR 1.1, $P < 0.001$). Hypotony was observed in 2 of the 48 patients (4.17%) who received intravitreal MTX injections during or after surgery for PVR, compared to 16 of 92 patients (17.39%) who did not receive MTX (Odds Ratio: 4.84, $P = 0.026$). Patients presenting with retinal detachment extending beyond one quadrant had a higher likelihood of developing hypotony at the final examination compared to those with retinal detachment of one quadrant or less (Odds Ratio: 4.70, $P = 0.0358$). The incidence of hypotony also varied significantly with lens status at the time of the index surgery: 25% in aphakic patients, 17.91% in pseudophakic patients, and 3.51% in phakic patients ($P = 0.0176$). Preoperative hypotony was also a significant predictor, with a 34.78% postoperative hypotony rate versus 8.55% in those without preoperative hypotony ($P = 0.0024$).

CONCLUSION

Intravitreal MTX injections appear to reduce the risk of hypotony in retinal detachments complicated by PVR, indicating a potential role in managing this challenging complication. Hypotony in PVR cases is more prevalent among aphakic and pseudophakic patients, those with preoperative hypotony, and individuals with extensive retinal detachment.

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IMPACT OF RETINAL HARD EXUDATE IN DIABETIC MACULAR EDEMA

SUMMARY

Diabetic macular edema (DME) is characterized by increased vascular permeability and often there is deposition of hard exudates (HE) in the retina. There is limited information available regarding the impact of HE in the treatment of DME. This talk addresses the relationship between HE and the risk of visual impairment and visual acuity outcomes with anti-VEGF treatment. This talk also addresses some prior misconceptions regarding HE deposition following treatment of DME. Lastly, the effect of using newer agents (other than anti-VEGF therapy alone) on HE is also discussed.



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METHODS FOR ARTIFICIAL INTELLIGENCE TO ENHANCE VR SURGERY

PURPOSE

The accurate detection and classification of surgical tools in eye surgeries are essential for enhancing computer-assisted interventions and assessing surgical skills. This work aims to address the gap in comprehensive datasets by introducing 3D-STARES (3D Surgical Tool Annotation for Retinal Eye Surgeries), a new dataset tailored to eye surgeries.

METHODS

The 3D-STARES dataset includes video frames acquired during vitreoretinal surgeries, annotated with the type of surgical tool, bounding boxes for tool tips, and approximate categorical distances of the tool tip to the retina. Using a multi-stage annotation process involving six human annotators (three surgeons and three non-surgeons), we applied a majority voting scheme to ensure consensus for training models to evaluate individual video frames. We then used these annotations to train two models with YOLOv8: a detector for tool tip bounding boxes and classes, and a classifier for tool tip depth.

RESULTS

Preliminary model results demonstrate promising performance in both tool detection and depth classification tasks, establishing a baseline for future studies.

CONCLUSION

The 3D-STARES dataset and trained models represent valuable resources for advancing algorithms in surgical tool detection and classification, supporting further research in computer-assisted interventions and surgical skill assessment, ultimately aimed at improving patient outcomes and surgical training.

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GEOGRAPHIC ATROPHY AND COMPLEMENT INHIBITORS: TO TREAT OR NOT TO TREAT

PURPOSE

Review considerations in management and treatment of dry AMD with complement inhibitors.

CONCLUSION

Geographic atrophy (GA), an advanced subset of age-related macular degeneration (AMD), leads to progressive and irreversible vision loss. Recent advancements in complement inhibition therapy offer promising avenues to slow GA progression. Understanding the efficacy, safety, and patient selection criteria for these treatments is crucial for optimizing patient outcomes. I will review which potential patients could be ideal candidates and review the risks and benefits of receiving complement inhibitors.

Complement inhibition therapy represents a significant advancement in the management of GA secondary to AMD. By slowing disease progression, these treatments have the potential to protect and preserve vision and improve quality of life for patients. Ongoing research and accumulation of clinical data will further refine patient selection criteria and enhance our understanding of the long-term benefits and risks associated with these therapies.

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2. Khanani AM, Patel SS, Staurenghi G, et al. Efficacy and safety of avacincaptad pegol in patients with geographic atrophy (GATHER2): 12-month results from a randomised, double-masked, phase 3 trial. *Lancet*. 2023;402(10411):1449-1458. doi:10.1016/S0140-6736(23)01583-0
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PROGRAM EVALUATION

To help us determine if your educational needs were met during this course and to further improve upcoming courses, please complete this form. Please print your responses.

1. Please Rate the COURSE FACULTY (in speaking order)

Speaker	Excellent	Very Well	Average	Comments
Course Director: Michael Ip, MD				
Course Co-Director: Kirk Hou, MD, PhD				
David Sarraf, MD				
Bobeck Modjtahedi, MD				
Aya Barzelay-Wollman, MD, PhD				
Kirk Hou, MD, PhD				
Hendrik P.N. Scholl, MD, MA				
Marko Popovic, MD, MPH				
David Boyer, MD				
Irena Tsui, M D				
David Lozano Giral, MD				
Andrew Moshfeghi, MD, MBA				
Moritz Pettenkofer, MD				
Tara A. McCannel, MD				
Jennifer K. Sun, MD, MPH				
Pradeep Prasad, MD, MBA				
Michael Ip, MD				
Andrew Browne, MD, PhD				
Kristie Lin, MD				

2. **Your present status is: (check one)** MD (currently practicing) MD, PhD Fellow/Resident
 Medical student OD/Health Care Professional Retired physician Other _____

3. **To what extent did the overall presentation meet the following course objectives? (check one)**

Objectives:	Excellent	Very Well	Average	Comments
Identify new paradigms and treatment strategies in geographic atrophy, secondary to age related macular degeneration				
Identify new paradigms and treatment strategies in inherited retinal disease				
Update participants on all of the newest and latest retinal injectables and their indications for a variety of retinal disease				

4. Please complete the statement below:

As a result of what I learned from my participation in this CME activity, I intend to make the following practice/performance changes and/or modifications that I believe will result in improved patient outcomes:

5. What new knowledge did you gain from this activity?

- | | | |
|--|--|---|
| <input type="checkbox"/> Pre-op evaluation | <input type="checkbox"/> Use of diagnostic testing | <input type="checkbox"/> Post-op follow-up care |
| <input type="checkbox"/> Surgical Procedure | <input type="checkbox"/> Emerging Treatments | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Clinical evaluation | <input type="checkbox"/> Counsel/inform patients differently | |

6. Were today's presentations free of commercial bias? (Commercial bias is defined as information presented in a manner that attempts to sway participants' opinion in favor of a product or business.)

Yes No (If No, please explain)

7. What barriers do you anticipate encountering in implementing your intended changes in practice?

Time Resources Organization Staff None Other _____

8. Were issues in cultural and linguistic competency (e.g., difference in prevalence, diagnosis, treatment in diverse populations, linguistic skills, and pertinent cultural data) addressed in this activity? Yes No

9. How did you learn about this program? (Check all that apply)

Doheny Website Doheny Physician E-mail/blast Colleague Stein Eye Institute
 Other (please explain) _____

10. Is this your first time attending this course? First time attending an event at Doheny?

11. Can we contact you at a later time to survey if you have implemented any changes in your practice because of what you learned at this course? Yes No

12. Which of the following appealed to you for attending the 3rd Annual Doheny-UCLA International Retina Symposium

Program Speakers Location CME Credits Exhibitors Fellowship Other _____

13. Which of the following registration fees is indicative of the educational value and overall quality of today's program? (Please check one)

\$300 \$250 \$200 \$100 _____

14. Would you refer patients to Doheny-UCLA? _____

15. Suggested future topics? _____

Name and address must be legibly provided for attendance to be logged and CME certificate issued.

The 3rd Annual Doheny-UCLA International Retina Symposium - February 1, 2025

MD Non-MD Credits claimed: _____ (maximum 6)

Name: _____

Please circle home or business:

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Thank you for your participation



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