



Ophthalmology

LEWIS KATZ SCHOOL OF MEDICINE AT TEMPLE UNIVERSITY DEPARTMENT OF OPHTHALMOLOGY NEWSLETTER

MESSAGE FROM THE CHAIR

Where AI Falls Short

This spring we had a “Walk to the Shore” challenge here in the hospital. Ophthalmology entered a couple of teams, and it required synchronizing your phone to an exercise app. I couldn’t get the thing synched, so our office manager offered to help me. Not surprisingly, she had it running in no time. That made me wonder, am I getting old?

Until that moment, I didn’t think I was. After all, our department is a national leader in using artificial intelligence to screen for diabetic retinopathy. We are screening more than 450 patients a month, presenting multiple ARVO abstracts annually, giving talks at national meetings, and publishing three papers. I think we’re on the cutting edge.

Maybe then I should try out this whole ChatGPT thing. Personally, I don’t know why anyone would want a computer to replace them, but just for kicks I decided to see what would happen if I asked ChatGPT to write my ophthalmology graduation comments this year. What was spit out in 15 seconds was perfectly acceptable, but it was generic. In other words, it was sufficient but not appropriate.

MACHINE VS. HUMAN

And that got me thinking about our residency program. It seems to me that what we are trying to do at Temple is the opposite of ChatGPT.

First, I’ve often been bothered by what I see as two philosophical camps when it comes to caring for patients. We’ll call the first one the evidence-based medicine camp. In this camp live the people who look to the literature to see what “evidence” from large clinical trials supports the treatment that you are choosing for this patient. The second one, we’ll call the personalization camp. In this camp live the people who believe every patient is an individual that almost certainly does not fit nicely into the mold of the patients who were in the clinical trial and so needs to have a treatment strategy tailored just to them. These competing visions always left me feeling lost since I have long believed that the truth is somewhere in the middle.

Yes, it’s true that almost no one we care for here at Temple would have been able to get into the clinical trial. And yet it is also true that I need guidance to help me understand what is likely to happen if I choose a certain therapy so that I have some sense of confidence in what I am doing. I guess in the end I’m left with trying to apply the general principles supported by the clinical trial to the patient in front of me.

For instance, it does me no good here at Temple to prescribe an eye drop that isn’t covered by insurance and is therefore unaffordable. Yes, the clinical trial says this medication works. But the personalization says this medication won’t work for this patient.

To me this is like ChatGPT vs. a human. At least for now, the computer is acting based on evidence from large datasets to create a generalizable statement that, while true, does not address the fact that I am talking to graduating Temple residents. In other words, its goal is to give a generalized output that would work in many circumstances but not really apply specifically to any of them.

THE TEMPLE ADVANTAGE

Our whole residency is spent facing this same issue. Every time we see a patient, we have to decide what treatment option that has been generally shown to work would make sense to this particular patient. This is where a Temple residency sets you apart.

Remember the social determinants of health? Well, we live them every day. We are constantly finding the sweet spot between what should happen, what is happening, and what may happen.

There are other residencies in this city where the drug reps drop off samples and a resident might just walk to the cabinet and start the patient on that drug – never mind that the drops cost \$100 to \$300 a month and there is no chance that the patient will ever use that medicine after the sample runs out. Not at Temple.

True, we have no samples here. But beyond that, we spend a lot of time triangulating the choice

that centers us between the three possibilities of what might work, what is feasible, and what the patient wants to do. And this is why, at the moment, computers will not replace humans for patient care. The computer can’t do nuance. The computer can’t do exceptions to rule. The computer can’t do reality.

Temple residents can.

Thanks to Temple, they know the rules, they know how to help patients follow the rules, and they know when to break the rules if it appears to be in the patient’s best interest.

You can learn ophthalmology anywhere. What you can’t learn anywhere is how to be a doctor. Thanks to their Temple experience, I know our residents will graduate more prepared for the next step of their journey.

On that note, I’ll leave you with a more successful ChatGPT effort – a limerick about eye surgery.

“Eye Surgery”

By ChatGPT

In the OR, with precision, they delve,
Eye surgeons, their skill no longer to shelve.
With a steady hand’s grace,
They restore sight’s embrace,
And in vision’s return, hearts do swell!



JEFFREY D. HENDERER, MD

Professor of Ophthalmology
Dr. Edward Hagop Bedrossian
Chair of Ophthalmology
jeffrey.henderer@temple.edu

A Diabetic Screening Program Is Quickly Becoming the Standard of Care

An innovative program expands access to eye care

Temple Ophthalmology has been addressing the diabetes epidemic in Philadelphia, in part, through its Retinal Diabetic Screening Program (RDSP), which was established in 2016. Here's everything you need to know about it.

OVERVIEW: The RDSP utilizes digital fundus photography coupled with an artificial intelligence program, EyeArt, to screen diabetic patients for retinal issues. This screening occurs conveniently during routine visits to primary care physicians (PCPs) for A1C checks.

IMPLEMENTATION AND EXPANSION: Launched in Temple's General Internal Medicine clinic, the RDSP has expanded to 25 locations, including most of Temple's PCP offices, Greater Philadelphia Health Action clinics, and our own Ophthalmology clinics across various campuses.

PROCEDURE: Once the non-dilated fundus images are captured, AI is used to assess the severity of diabetic retinal disease immediately. Temple optometrists then review these photos to further evaluate if other diseases are present.

FOLLOW-UP CARE: Temple Ophthalmology notifies the patients who fail the screening and set up all follow-up visits with either optometry, general ophthalmology, or our retinal specialist, Yi Zhang, MD, PhD, based on the results of the AI and optometrist interpretations.

COMMUNITY OUTREACH: To reach underserved populations, the RDSP has extended beyond clinical settings to locations such as ShopRite using Temple Health Mobile buses. This initiative aims to provide eye care screenings to communities that lack access to traditional clinical services.

GOALS: The RDSP aims to expand further by deploying fundus/AI cameras to more PCP offices and integrating them into the workflow of other departments treating a large diabetic population. This expansion would enhance accessibility and coverage for diabetic patients who need eye screenings.

STANDARD OF CARE: The Delaware Academy of Ophthalmology and American Academy of Ophthalmology (AAO) are developing a similar initiative based on

the RDSP in a health center in Delaware – hopefully, the first of more to come. It will use volunteers in the AAO's EyeCare America program to receive the patients who screen positive. Additionally, this spring, all eight academic residency programs in Pennsylvania will be participating in a statewide diabetic eye disease screening day – the first of its kind – coordinated by the Pennsylvania Academy of Ophthalmology.

IMPACT AND CONTINUATION: By providing early detection and intervention, the RDSP significantly contributes to managing diabetic eye health, thus improving overall healthcare outcomes in the Philadelphia area.

TAKEAWAY: The RDSP not only demonstrates innovative use of technology, but it also underscores a proactive approach to healthcare delivery by meeting patients where they are and ensuring essential eye care reaches underserved communities. It also improves access within our department by ensuring patients see the appropriate specialist in a timely manner.



Thank You, Maureen

It is with a heavy heart that we say farewell to **MAUREEN HUEBER**, Ophthalmology Senior Administrator, for the last 12 years. In August, Maureen moved to Children's Hospital of Philadelphia, where she is a Senior Administrator for the Division of Orthopaedics. Over her tenure at Temple Ophthalmology, Maureen provided a wealth of support to our physicians and staff. She will be missed. We wish her the best of luck in this new phase of her career.



Celebrating Recent Resident Graduates

EVELYN TRAN, MD, (pictured) will be joining Helm Vision Group in Valencia, California, as a comprehensive ophthalmologist.

TONY THIEU, MD, (pictured, right) has begun a cornea and refractive surgery fellowship at the University of Pittsburgh Medical Center.

SEAN CONSIDINE, MD, (pictured, left) will be joining Eye Consultants in Wilmington, Delaware, as a comprehensive ophthalmologist. We wish all our graduates much success in their endeavors!

(Safely) Watching the Sun Disappear



Temple Ophthalmology hosted a total solar eclipse viewing party on April 8 for all Temple Health employees. CBS 3's Stephanie Stahl came by to interview Dr. Henderer about the eclipse and solar retinopathy prevention. The event was so well attended that we ran out of protective glasses. We were able to accommodate those without glasses with our telescope projector. We will be prepared for the next solar eclipse in 2044, since hindsight is 20/20!

Dr. Henderer and the department hosted a health systemwide viewing party for the total solar eclipse, during which the telescope projector was put to good use.





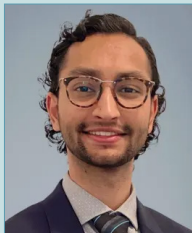
Ricardo Couso, MD

Welcome Dr. Ricardo Couso

RICARDO COUSO, MD, is joining Temple Ophthalmology as a Comprehensive Ophthalmologist and Cataract Surgeon this month. Dr. Couso grew up in Hillsborough, New Jersey, and graduated summa cum laude from Rutgers University with a bachelor's degree in exercise science. After college, he graduated from the Perelman School of Medicine at the University of Pennsylvania and then completed his ophthalmology

residency at the University of Pittsburgh Medical Center. From there, Dr. Couso went into private practice in Tucson, Arizona, where he specialized in delivering comprehensive medical and surgical care to a diverse community. Dr. Couso now lives in New Jersey with his wife and their two children. In his free time, he enjoys cooking for his family, playing baseball with his kids, and taking trips to the Jersey Shore.

Welcome New Interns



RUCHIR GUPTA, MD
 Hometown: Grand Rapids, Michigan
 Undergraduate School: Washington & Jefferson College
 Medical School: Lewis Katz School of Medicine at Temple University
 Post-Graduate Training: Temple University Hospital
 Interests: Books, food, art, travel, baking, and mentoring



RUBY HOLLINGER, MD, MSC
 Hometown: Vero Beach, Florida
 Undergraduate School: University of Notre Dame
 Medical School: The Herbert Wertheim College of Medicine at Florida International University
 Graduate School: The London School of Hygiene & Tropical Medicine
 Interests: Amateur magic tricks, tennis, rollerblading, basketball, skiing, Christopher Nolan films, and spending time with family and friends



FLORENCE YAN, MD
 Hometown: Wayne, Pennsylvania
 Undergraduate School: University of Virginia
 Medical School: The George Washington University School of Medicine and Health Sciences
 Post-Graduate Training: Temple University Hospital
 Interests: Hiking, running, yoga, cleaning, planning every minute of my life, reality TV, thriller movies, live music, art/design, cats, sunshine, ice cream



James Murphy, MD

Welcome Dr. James Murphy

JAMES MURPHY, MD, has joined the Temple Ophthalmology faculty as a Glaucoma Specialist. Dr. Murphy grew up in Doylestown, Pennsylvania, and went to LaSalle University, where he earned a bachelor's degree in biology as a member of the honors program. After college, he graduated from the Sidney Kimmel Medical College at Thomas Jefferson University and then completed his ophthalmology residency at Temple University, as well as a glaucoma fellowship at the University of Maryland. In his free time, Dr. Murphy enjoys spending time with his wife and their two-year-old son, especially at the beach, and running and hiking.



Hassan Shah, MD

Save the Date!

The Ellen and Charles Leone, MD '60, Endowed Lectureship

AT THE 13TH ANNUAL ALUMNI CONFERENCE

Saturday, October 26, 2024 • 8 AM – 12 PM

Lewis Katz School of Medicine, Health Sciences Campus, MERB

Wendy and Solomon Luo Auditorium, 3500 North Broad Street, Philadelphia

KEYNOTE SPEAKER: Hassan Shah, MD

Associate Professor of Ophthalmology and Visual Sciences, Occuplastics and Orbital Surgery, Medical Director of Ophthalmology at the University of Chicago Medicine

TOPIC: Global Ophthalmology: Building Capacity

RSVP [HERE](#).

PUBLICATIONS & POSTER PRESENTATIONS

Woodward, M. A., Hicks, P. M., Harris-Nwanyanwu, K., Modjtahedi, B., Chan, R. V. P., Vogt, E. L., Lu, M.-C., Newman-Casey, P. A., Chan, R. V. P., Chen, A., **Henderer, J.**, Modjtahedi, B., Muir, K., Newman-Casey, P. A., Russo, D., Scanzera, A. C., Rhodes, L., & Woodward, M. A. **Eye care in federally qualified health centers.** *Ophthalmology*. 2024 Apr 30;So161-6420(24)00274-4. PMID: 38697267

Verma SS, Gudiseva HV, Chavali VRM, Salowe RJ, Bradford Y, Guare L, Lucas A, Collins DW, Vratasha V, Nair RM, Rathi S, Zhao B, He J, Lee R, Zenebe-Gete S, Bowman AS, McHugh CP, Zody MC, Pistilli M, Khachatryan N, Daniel E, Murphy W, **Henderer J**; Regeneration Genetics Center; Kinzy TG, Iyengar SK, Peachey NS; VA Million Veteran Program; Taylor KD, Guo X, Chen YI, Zangwill L, Girkin C, Ayyagari R, Liebmann J, Chuka-Okosa CM, Williams SE, Akafo S, Budenz DL, Olawoye OO, Ramsay M, Ashaye A, Akpa OM, Aung T, Wiggs JL, Ross AG, Cui QN, Addis V, Lehman A, Miller-Ellis E, Sankar PS, Williams SM, Ying GS, Cooke Bailey J, Rotter JI, Weinreb R, Khor CC, Hauser MA, Ritchie MD, O'Brien JM. **A multi-cohort genome-wide association study in African ancestry individuals reveals risk loci for primary open-angle glaucoma.** *Cell*. 2024 Jan 18;187(2):464-480.e10. PMID: 38242088.

Shafer BM, McGee SR, Ifantides C, Williamson BK, Kannarr S, Whyte J, Zhang Z, Yanke T, Schachter S. **Understanding Perspectives on Presbyopia and Use of Pilocarpine HCl 1.25% Twice Daily from Participants of the Phase 3 VIRGO Study.** *Ophthalmol Ther*. 2024 Jun;13(6):1723-1742. Epub 2024 Apr 25. PMID: 38662193.

Gupta R, Leslie H, **Zhang Y.** **Spontaneous Regression and Separation of Idiopathic Epiretinal Membranes.** *Cureus*. 2023 Aug 31;15(8):e44473. PMID: 37791185.

Douglas A Jabs, Jennifer E Thorne, Carl S Wilkins, Karishma A Habbu, Meghan K Berkenstock, Bryn M Burkholder, **Benjamin C Chaon**, Avnish Deobhakta. **Tacrolimus for Immunosuppression in Patients with Noninfectious Intermediate, Posterior or Panuveitides.** *Retina*. 2023 Sep 1;43(9):1480-1486. PMID: 37184495

Rayna F Marshall, Krishna Mallem, Hannah Xu, Jennifer Thorne, Bryn Burkholder, **Benjamin Chaon**, Paulina Liberman, Meghan Berkenstock. **Investigating the Accuracy and Completeness of an Artificial Intelligence Large Language Model About Uveitis: An Evaluation of ChatGPT.** *Ocul Immunol Inflamm*. 2024 Feb 23;1-4. Online ahead of print. PMID: 38394625

POSTER PRESENTATIONS

Kung P, Tran E., **Krakauer M.**, **Henderer J.**, Akhtar I., **Lin, S.** **Feel nothing, see nothing: a biopsy-proven occult GCA with normal laboratory markers.** North American Neuro-Ophthalmology Society 50th Annual Meeting. March 4, 2024.

Matthew Blau; Ruchir Gupta; Madelyn Class; Channing Hou; Shivani Patel; Devrat Shah; Lorrie Cheng; Julia Grachevskaya; Sherona Tillmon; Oleg Shum; **Jeffrey D. Henderer; Yi Zhang.** **Impact of Hiring a Patient Care Navigator on Follow-Up Metrics of a Telemedicine Screening Program.** *Invest. Ophthalmol. Vis. Sci.* 2024; 65(7):596.

Devrat Shah; Shivani Patel; Ruchir Gupta; Madelyn M. Class; Channing Hou; Matthew Blau; Lorrie Cheng; Julia Grachevskaya; Oleg Shum; Stephen Aronoff; **Yi Zhang; Jeffrey D. Henderer.** **Validation of a Simple Diabetic Retinopathy Risk Score to Identify Patients at Low Risk of Diabetic Retinopathy.** *Invest. Ophthalmol. Vis. Sci.* 2024; 65(7):1793.

Madelyn M. Class; Shivani Patel; Ruchir Gupta; Channing Hou; Devrat Shah; Matthew Blau; Lorrie Cheng; Julia Grachevskaya; Oleg Shum; **Jeffrey D. Henderer; Yi Zhang.** **AI-assisted diabetic retinopathy screening in the primary care setting compared to the ophthalmology clinic setting.** *Invest. Ophthalmol. Vis. Sci.* 2024; 65(7):584.

Channing Hou; Shivani Patel; Madelyn Class; Devrat Shah; Ruchir Gupta; Matthew Blau; Oleg Shum; Julia Grachevskaya; Lorrie Cheng; **Jeffrey D. Henderer; Yi Zhang.** **Assessing the Impact of Photographer Experience on Gradability of Fundus Photography for Artificial Intelligence-based Diabetic Retinopathy Screening.** *Invest. Ophthalmol. Vis. Sci.* 2024; 65(7):582.

PRESENTATIONS

Abstract Selection for AAO Podium Poster **Channing Hou, BS** **Optimizing the Cataract Surgery Tray: Reducing Environmental Impacts and Unnecessary Costs of the Operating Room**
Abstract: 30079267
PTo4 Podium Posters: Cataract
Saturday, October 19, 2024, 1 PM – 2 PM
Hall A in the Poster Theater

Departmental Outing



**PHILADELPHIA PHILLIES
BASEBALL GAME**
Monday, June 18, 2024
(The Phillies defeated the
San Diego Padres, 4-3.)

Thank You to Our Recent Donors

- Helayna Brown, MD
- Dana Chang, MD
- Kevin and Hennessey Chang, MD
- Jeffrey Henderer, MD
- Ann Okemena Igbre, MD
- John Jangwhan Lee, MD
- Jack D Lemon, MD
- Charles Leone, MD
- Eva I. Liang, MD
- Steven K. Luminais, MD
- Keith Mathers, MD
- Raji Mulukutla, MD
- Ralph S. Sando Jr., MD
- Orin Michael Zwick, MD

**JOIN US
FOR A**



October 19, 2024

**Temple Ophthalmology
Reception**
at the AAO Annual Meeting
Chicago, IL

AAO ALUMNI RECEPTION

Saturday, October 19, 2024 • 5:30 – 7:30 PM
Mariott Marquis, John Hancock Room, Chicago, Illinois

RSVP [HERE](#).

Send us your news! Please contact Hazel Arroyo via email at hazel.arroyo@tuhs.temple.edu.

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