



Karen Wai, MD

Clinical Assistant Professor, Ophthalmology

CLINICAL OFFICE (PRIMARY)

- **Stanford Byers Eye Institute**

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Bio

BIO

Dr. Wai is a board-certified ophthalmologist and fellowship-trained vitreoretinal surgeon with Stanford Health Care Byers Eye Institute. She is also a clinical assistant professor of ophthalmology in the Department of Ophthalmology at Stanford University School of Medicine.

Dr. Wai is a retina specialist who diagnoses and treats retinal and macular diseases, including age-related macular degeneration, diabetic retinopathy, retinal vascular occlusions (blockages), and retinal tears/detachments. The retina is a tissue layer in the back of the eye. It converts light into signals that the brain then interprets as images. The macula is the part of the retina responsible for central (straight ahead) vision. Diseases of the retina and macula can cause low vision and vision loss.

Dr. Wai's research interests include working with data from electronic health record databases to improve patient outcomes. She has researched morbidity and mortality (illness and death) rates in patients with retinal vein occlusions and retinal artery occlusions. A retinal vein occlusion is a blocked vein to the retina that can cause vision loss. A retinal artery occlusion is when an artery to the retina is blocked, which is also sometimes referred to as eye stroke. Dr. Wai has also examined the effects of systemic medications on the retina. She has won several ophthalmology awards, including the Heed Fellowship and Harvard Medical School's Excellence in Clinical Instruction Resident Award.

Dr. Wai has published in more than 40 peer-reviewed journals, including Ophthalmology, American Journal of Ophthalmology, and JAMA Ophthalmology. She has presented research at meetings and conferences around the United States.

Dr. Wai is a member of the American Board of Ophthalmology.

CLINICAL FOCUS

- Ophthalmology
- Vitreoretinal Surgery

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Ophthalmology

PROFESSIONAL EDUCATION

- Fellowship, Stanford Health Care Byers Eye Institute , CA
- Board Certification, American Board of Ophthalmology , Ophthalmology
- Fellowship, Byers Eye Institute, Stanford University , Vitreoretinal Surgery
- Residency, Harvard Ophthalmology, Massachusetts Eye and Ear Ophthalmology Residency , MA
- Internship, Memorial Sloan Kettering Cancer Center Transitional Year Training , NY
- Medical Education, Case Western Reserve School of Medicine , OH

Publications

PUBLICATIONS

- **Ocular and Orbital Trauma Correlated with an Increased Risk of Mortality in Female Patients with a History of Intimate Partner Violence.** *American journal of ophthalmology*
Amarikwa, L., Renner, L. M., Homer, N. A., Wai, K. M., Ludwig, C. A., Koo, E., Rahimy, E., Mruthyunjaya, P., Shriver, E. M., Kossler, A. L.
2025
- **Ocular Adverse Events of Antibody Drug Conjugates and Association With Survival From a Real-World Database.** *Cornea*
Kim, S. H., Marshall, R. F., Wai, K. M., Rahimy, E., Vingopoulos, F., Mishra, K., Berkenstock, M., Mruthyunjaya, P.
2025
- **Time to incident ocular and extraintestinal manifestation in HLA-B27-Associated diseases: a comparative study of immunotherapies.** *Clinical rheumatology*
Yavari, N., Wai, K. M., Alsoudi, A. F., Koo, E., Ludwig, C. A., Kossler, A. L., Nguyen, Q. D., Mruthyunjaya, P., Rahimy, E.
2025
- **Mammalian Target Rapamycin Inhibition as a Therapeutic Target for Prevention of Proliferative Vitreoretinopathy.** *JAMA ophthalmology*
Alsoudi, A. F., Loya, A., Wai, K., Koo, E., Weng, C. Y., Mruthyunjaya, P., Rahimy, E.
2025
- **Risk of developing thyroid eye disease in patients with thyroid dysfunction that received a COVID-19 vaccination.** *Canadian journal of ophthalmology. Journal canadien d'ophtalmologie*
Amarikwa, L., Chandraparnik, P., Wai, K. M., Rahimy, E., Kinde, B., Koo, E., Ludwig, C. A., Dosiou, C., Mruthyunjaya, P., Kossler, A. L.
2025
- **Reduced rates of diabetic retinopathy complications with use of continuous glucose monitoring.** *Scientific reports*
Alsoudi, A. F., Wai, K. M., Koo, E., Koo, E., Mruthyunjaya, P., Rahimy, E.
2025; 15 (1): 25215
- **Long-Term Cannabis Use and Risk of Postoperative Proliferative Vitreoretinopathy.** *JAMA ophthalmology*
Alshaihsalama, A. M., Alsoudi, A. F., Mukhtar, A., Wai, K., Koo, E., Kossler, A., Ludwig, C., Mruthyunjaya, P., Rahimy, E.
2025
- **Gout and Risk of Age-related Macular Degeneration.** *Retina (Philadelphia, Pa.)*
Alshaihsalama, A. M., Alsoudi, A. F., Wai, K. M., Koo, E., Mruthyunjaya, P., Rahimy, E.
2025
- **Low Occurrence of Ocular Adverse Events after CAR-T Cell Therapy.** *Ocular oncology and pathology*
Murty, T., Wai, K. M., Rahimy, E., Mruthyunjaya, P.
2025; 11 (2): 104-108
- **Ophthalmic Outcomes and Management of Retinopathy in Patients With Sickle Cell Disease: A Comprehensive Health Registry Study and Review of Management Strategies** *OPHTHALMIC SURGERY LASERS & IMAGING RETINA*

- Nangia, P., Wai, K. M., Scott, A. W., Rahimy, E., Mruthyunjaya, P.
2025: 1-6
- **Association of Mental Health Disorders with Age-related Macular Degeneration**
Xiao, J., Nimmagadda, H., Mruthyunjaya, P., Rahimy, E., Ludwig, C. A., Koo, E., Wai, K.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **Longitudinal Trends of Intraocular Lens Implant Dislocation in a Large, Federated Electronic Health Record Network**
Lin, J. B., Wai, K., Alsoudi, A., Adam, M. K., Mruthyunjaya, P., Rahimy, E.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **Ocular Complications and Treatment Outcomes with Plaque Brachytherapy for Uveal Melanoma: A Real-World, Retrospective Study from Two Sources**
Nangia, P., Wai, K., Rahimy, E., Mruthyunjaya, P.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **Risk of Ophthalmic Adverse Events in Breast Cancer Patients Receiving Taxane-Based Chemotherapy Versus Tamoxifen: an Aggregated Electronic Health Record Database Study**
Quiruz, L., Kikani, B., Wai, K., Rahimy, E., Mruthyunjaya, P., Quiruz, L., Kikani, B., Wai, K., Rahimy, E.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **Ocular Outcomes Comparing the Left Atrial Appendage Occlusion Device to Systemic Anticoagulation Therapy**
Yeung, T., Alsoudi, A., Koo, E., Wai, K., Mruthyunjaya, P., Rahimy, E.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **Association of Age-Related Macular Degeneration and Dementia: A Health Registry Database Study**
Nimmagadda, H., Wai, K., Koo, E., Rahimy, E., Mruthyunjaya, P.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **Ocular Complications and treatments in Patients with Sickle Cell Retinopathy: Real World Data Compared in Two Databases**
Yahya, Y., Wai, K., Rahimy, E., Mruthyunjaya, P.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **The Impact of Myopia on the Risk of Retinal Re-Detachment After Cataract Surgery**
Mesfin, Y., Arnal, L., Salvi, A., Wai, K., Brodie, F., Koo, E., Kossler, A., Koo, E., Rahimy, E., Mruthyunjaya, P., Ludwig, C.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **Prevalence and Risk of Systemic Comorbidities in Bilateral Retinal Telangiectasia**
Zhao, C., Do, D., Rahimy, E., Mruthyunjaya, P., Wai, K.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
 - **Morbidity and Mortality Associated With Systemic Lupus Erythematosus and Retinal Vasculitis: A Multicenter Cohort Study** *OPHTHALMIC SURGERY LASERS & IMAGING RETINA*
Huang, J. D., Mishra, K., Wai, K., Mruthyunjaya, P., Rahimy, E.
2025: 1-7
 - **Types of strabismus and strabismus surgery after retinal detachment repair: a health registry database analysis.** *Journal of AAPOS : the official publication of the American Association for Pediatric Ophthalmology and Strabismus*
Soetikno, B. T., Tran, E. M., Wai, K. M., Mruthyunjaya, P., Rahimy, E., Koo, E. B.
2025: 104216
 - **Short-term effects of tetracycline use in patients with diabetic retinopathy.** *Canadian journal of ophthalmology. Journal canadien d'ophtalmologie*
Alshaikhsalama, A. M., Alsoudi, A. F., Wai, K. M., Koo, E., Mruthyunjaya, P., Weng, C. Y., Rahimy, E.
2025
 - **Re: Alshaikhsalama et al.: Association between obstructive sleep apnea and age-related macular degeneration development and progression** *Ophthalmol Retina*. 2024 Dec 9;S2468-6530(24)00580-3. doi: 10.1016/j.oret.2024.12.004. Online ahead of print.) *REPLY OPHTHALMOLOGY RETINA*
Alshaikhsalama, A. M., Alsoudi, A. F., Wai, K. M., Koo, E., Mruthyunjaya, P., Rahimy, E.
2025; 9 (5): e41-e42

- **Cardiovascular Morbidity and Mortality After Amaurosis Fugax.** *JAMA ophthalmology*
Wai, K. M., Loube, D. K., Pham, N. H., Ludwig, C. A., Koo, E., Mruthyunjaya, P., Rahimy, E.
2025
- **In-clinic vitreous biopsy peel pack technique.** *International journal of retina and vitreous*
DeBoer, C., Zhao, C., Mruthyunjaya, P., Mahajan, V. B., Wai, K. M., Sanislo, S. R.
2025; 11 (1): 15
- **Reply: Alshaikhsalama et al: Association between Obstructive Sleep Apnea and Age-related Macular Degeneration Development and Progression.** *Ophthalmology. Retina*
Alshaikhsalama, A. M., Alsoudi, A. F., Wai, K. M., Koo, E., Mruthyunjaya, P., Rahimy, E.
2025
- **Low Occurrence of Ocular Adverse Events after CAR-T Cell Therapy** *OCULAR ONCOLOGY AND PATHOLOGY*
Murty, T., Wai, K. M., Rahimy, E., Mruthyunjaya, P.
2025
- **Risk of Cataract Surgery Complications in Patients with Prior Intravitreal Injection Therapy.** *American journal of ophthalmology*
Zhao, C. S., Chwialkowski, K., Wai, K. M., Mruthyunjaya, P., Rahimy, E., Koo, E. B.
2025
- **The Interplay Between Ophthalmic and Systemic Outcomes in Patients With Sickle Cell Disease and Concurrent Retinopathy-A Population-Based Study.** *American journal of hematology*
Nangia, P., Wai, K. M., Scott, A. W., Rahimy, E., Mruthyunjaya, P.
2025
- **Association between Obstructive Sleep Apnea and Age-related Macular Degeneration Development and Progression.** *Ophthalmology. Retina*
Alshaikhsalama, A. M., Alsoudi, A. F., Wai, K. M., Koo, E., Mruthyunjaya, P., Rahimy, E.
2024
- **Glaucoma tube shunt surgery with repeat penetrating keratoplasty in an aphakic patient.** *American journal of ophthalmology case reports*
Chiang, B., Wai, K., Naranjo, A., Smith, S., Rose-Nussbaumer, J., Liu, W. W.
2024; 36: 102145
- **Reply to Comment on Ophthalmic Immune-Related Adverse Events and Association with Survival: Results from a Real-World Database.** *American journal of ophthalmology*
Quiruz, L., Yavari, N., Kikani, B., Gupta, A. S., Wai, K. M., Kossler, A. L., Ludwig, C., Koo, E. B., Rahimy, E., Mruthyunjaya, P.
2024
- **Use of Artificial Intelligence-Based Detection of Diabetic Retinopathy in the US.** *JAMA ophthalmology*
Shah, S. A., Sokol, J. T., Wai, K. M., Rahimy, E., Myung, D., Mruthyunjaya, P., Parikh, R.
2024
- **Curcuma-Based Nutritional Supplements and Risk of Age-Related Macular Degeneration.** *JAMA ophthalmology*
Alsoudi, A. F., Wai, K. M., Koo, E., Mruthyunjaya, P., Rahimy, E.
2024
- **Risk of Intestinal Complications, Extraintestinal Morbidity, and Mortality in Patients with Crohn's Disease and Ocular Involvement.** *Ocular immunology and inflammation*
Alsoudi, A. F., Wai, K. M., Koo, E., McConnell, R. A., Pham, N. H., Do, B. K., Ludwig, C. A., Kossler, A. L., Mruthyunjaya, P., Rahimy, E.
2024: 1-8
- **Ophthalmic Immune-Related Adverse Events and Association with Survival: Results from a Real-World Database.** *American journal of ophthalmology*
Quiruz, L., Yavari, N., Kikani, B., Gupta, A. S., Wai, K. M., Kossler, A. L., Ludwig, C., Koo, E. B., Rahimy, E., Mruthyunjaya, P.
2024
- **Reply to comment on: Impact of GLP-1 Agonists and SGLT-2 Inhibitors on Diabetic Retinopathy Progression: An Aggregated Electronic Health Record Data Study.** *American journal of ophthalmology*
Wai, K. M., Mishra, K., Koo, E., Ludwig, C. A., Parikh, R., Mruthyunjaya, P., Rahimy, E.

2024

- **Initial Therapy of Panretinal Photocoagulation vs Anti-VEGF Injection for Proliferative Diabetic Retinopathy.** *JAMA ophthalmology*
Alsoudi, A. F., Wai, K. M., Koo, E., Parikh, R., Mruthyunjaya, P., Rahimy, E.
2024
- **Risk of ocular neovascular conversion and systemic bleeding complications in patients with AMD on DOACs or Warfarin.** *Ophthalmology*
Alsoudi, A. F., Koo, E., Wai, K., Mruthyunjaya, P., Rahimy, E.
2024
- **Impact of Obstructive Sleep Apnea on Diabetic Retinopathy Progression and Systemic Complications.** *American journal of ophthalmology*
Rahimy, E., Koo, E. B., Wai, K. M., Ludwig, C. A., Kossler, A. L., Mruthyunjaya, P.
2024
- **Endogenous Fusarium Endophthalmitis after Bone Marrow Transplant: A Case Report and Literature Review.** *Vision (Basel, Switzerland)*
Zhao, C. S., Wai, K., Koo, E. B., Rahimy, E., Mruthyunjaya, P., Mahajan, V. B., DeBoer, C. M.
2024; 8 (3)
- **Progression to Pars Plana Vitrectomy in Patients With Proliferative Diabetic Retinopathy.** *JAMA ophthalmology*
Alsoudi, A. F., Wai, K. M., Koo, E., Parikh, R., Mruthyunjaya, P., Rahimy, E.
2024
- **Simplified Clinic-Based Vitreous Biopsy Technique Using A Vitreous Cutter and Manual Actuation**
DeBoer, C., Knapp, A. N., Wai, K., Mruthyunjaya, P., Mahajan, V. B., Sanislo, S.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Are patients with Graves' Ophthalmopathy at risk for hyperglycemia?**
Kikani, B., Wai, K., Rahimy, E., Dosiou, C., Kim, S. H., Mruthyunjaya, P., Kossler, A.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Risk of Intestinal Complications, Extraintestinal Morbidity, and Mortality in Patients with Crohn's Disease and Ocular Involvement**
Alsoudi, A., Wai, K., Koo, E., Pham, N., McConnell, R., Mruthyunjaya, P., Rahimy, E.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Comparative Efficacy of Corticosteroids and Teprotumumab in Thyroid Eye Disease Management: A Retrospective Cohort Study**
Choi, S., Chandraparnik, P., Wai, K., Mruthyunjaya, P., Kossler, A.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Immune Checkpoint Inhibitor-Induced Ophthalmic Adverse Events and Association with Survival: Results from a Real-World Database**
Quiruz, L., Yavari, N., Wai, K., Gupta, A., Rahimy, E., Kossler, A., Mruthyunjaya, P.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Geographic Atrophy Natural History Versus Treatment: Time to Fovea** *OPHTHALMIC SURGERY LASERS & IMAGING RETINA*
Zhang, C., Kahan, E., Begaj, T., Friedman, S. M., Deobhakta, A., Heyang, M., Shen, L., Moshfeghi, D., Wai, K., Parikh, R.
2024: 1-10
- **Impact of GLP-1 Agonists and SGLT-2 Inhibitors on Diabetic Retinopathy Progression: An Aggregated Electronic Health Record Data Study.** *American journal of ophthalmology*
Wai, K. M., Mishra, K., Koo, E., Ludwig, C. A., Parikh, R., Mruthyunjaya, P., Rahimy, E.
2024
- **Recovery of Vision in Open Globe Injury Patients with Initial No Light Perception Vision.** *Ophthalmology. Retina*
Sherif, N. A., Hoyek, S., Wai, K., Makhoul, K. G., Bitar, R., Teiger, M., Lorch, A. C., Patel, N. A., Armstrong, G. W.
2024
- **Association of ocular manifestations of Marfan syndrome with cardiovascular complications.** *American journal of ophthalmology*
Tran, E. M., Wai, K. M., Kossler, A. L., Mruthyunjaya, P., Rahimy, E., Koo, E. B.
2024
- **Acute Subretinal Fluid Accumulation Induced by Futibatinib Therapy for Malignant Metastatic Breast Cancer** *OPHTHALMIC SURGERY LASERS & IMAGING RETINA*

- Chhoy, B., Wai, K. M., Leng, T.
2024; 55 (2): 109-111
- **Association of Cutaneous Keloids, Hypertrophic Scarring, and Fibrosis with Risk of Post-operative Proliferative Vitreoretinopathy.** *Ophthalmology*
Mammo, D. A., Wai, K., Rahimy, E., Pan, C. K., Srivastava, S. K., Mruthyunjaya, P.
2024
 - **Risk of Stroke, Myocardial Infarction, and Death After Retinal Artery Occlusion.** *JAMA ophthalmology*
Wai, K. M., Knapp, A., Ludwig, C. A., Koo, E., Parikh, R., Rahimy, E., Mruthyunjaya, P.
2023
 - **Biobanking of Human Aqueous and Vitreous Liquid Biopsies for Molecular Analyses.** *Journal of visualized experiments : JoVE*
Wolf, J., Chemudupati, T., Kumar, A., Rasmussen, D. K., Wai, K. M., Chang, R. T., Montague, A. A., Tang, P. H., Bassuk, A. G., Dufour, A., Mruthrunjaya, P., Mahajan, V. B.
2023
 - **Risk of Stroke, Myocardial Infarction, Deep Vein Thrombosis, Pulmonary Embolism, and Death after Retinal Vein Occlusion.** *American journal of ophthalmology*
Wai, K. M., Ludwig, C. A., Koo, E., Parikh, R., Mruthyunjaya, P., Rahimy, E.
2023
 - **Photographic Gel Artifact Simulating International Classification of Retinopathy of Prematurity Notch: Stanford University Network for Diagnosis of Retinopathy of Prematurity (SUNDROP) Report no. 16.** *Ophthalmology. Retina*
Wai, K. M., Moshfeghi, D. M.
2023; 7 (8): 732-736
 - **Effect of Next Generation Oral Hypoglycemic Agents on Diabetic Retinopathy Progression: A National Cohort Study**
Wai, K., Ahluwalia, A., Abrant, A., Ludwig, C., Parikh, R., Mruthyunjaya, P., Rahimy, E.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2023
 - **Evaluating the Effect of Hypoglycemic Agents on Diabetic** *OPHTHALMIC SURGERY LASERS & IMAGING RETINA*
Wai, K. M., Saroj, N., Boucher, N., Aggarwal, N., Ho, A. C., Rahimy, E.
2023; 54 (3): 158-165
 - **Acute Syphilitic Posterior Placoid Chorioretinitis With Subfoveal Choroidal Neovascularization Managed With Anti-VEGF Therapy.** *Journal of vitreoretinal diseases*
Wai, K. M., Gong, D., Rodriguez, M., Cunningham, E. T., Vavvas, D. G., Elliott, D.
2022; 6 (3): 246-250
 - **Astrocytic TGF-beta Signaling Limits Inflammation and Reduces Neuronal Damage during Central Nervous System Toxoplasma Infection** *JOURNAL OF IMMUNOLOGY*
Cekanaviciute, E., Dietrich, H. K., Axtell, R. C., Williams, A. M., Egusquiza, R., Wai, K. M., Koshy, A. A., Buckwalter, M. S.
2014; 193 (1): 139-149