

## Matthew Hirabayashi MD

Parkhurst NuVision

EyeFlyMD.com

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EMPLOYMENT & EDUCATION	INSTITUTION	
Vision Correction & Cataract Surgeon, Associate	<i>Parkhurst NuVision, San Antonio, TX</i>	2025-Present
Refractive Surgery Fellowship	<i>Parkhurst NuVision, San Antonio, TX</i>	2024-2025
Ophthalmology Residency, <i>Chief Resident</i>	<i>University of Missouri, Columbia, MO</i>	2020-2024
M.D.	<i>University of Missouri, Columbia, MO</i>	2016-2020
B.S. Biology <i>Summa Cum Laude with Honors</i>	<i>Saint Louis University, St. Louis, MO</i>	2012-2016
CERTIFICATIONS, LICENSES		
WaveLight™ EX500, Countoura (ALCON)		2024
EVO ICL, Stella (STAAR Surgical)		2024
VISUMAX, SMILE, LASIK Flaps (ZEISS)		2024
ALLY Adaptive Cataract Treatment System (LENSAR)		2024
CATALYS Precision Laser System (Johnson & Johnson)		2024
ORA SYSTEM Intraoperative Aberrometer (Alcon)		2024
Physician/Surgeon Texas (U8999)		2024-Present
Business Foundations, Wharton Online (University of Pennsylvania)		2022
Certificated Flight Instructor-Instrument (4359991CFII) – Airplane Single Engine Land		2021-Present
Commercial Pilot License, Instrument Rating (4359991) – Airplane Single Engine Land		2021-Present
USMLE Step 3: 251, USMLE Step 2 CS: Pass, USMLE Step 2 CK: 261, USMLE Step 1: 259		2018-2020
HONORS & AWARDS		
Young Ophthalmology Leaders Award, AECOS and Cedars Aspens		2024
Best of Poster Session 2024, ASCRS		2024
Chairman’s Award for Outstanding OKAP Score 2023, University of Missouri		2023
1 <sup>st</sup> Runner Up Research Presentation, Residents & Alumni Weekend, University of Missouri		2023
Top Five Abstract and Social Media Award, Young MD Connect Live 2023		2023
Chairman’s Award for Outstanding OKAP Score 2022, University of Missouri		2022
John Aure Buesseler Award for Excellence in Ophthalmology, University of Missouri		2020
Health Sciences Research Day Poster Award, University of Missouri		2019
MedZou Distinguished Volunteer Award, University of Missouri		2019
Research Council Small Grant Award, Missouri Orthopaedic Institute		2017
ILEX Grant Recipient, Saint Louis University		2016
Senior Legacy and Undergraduate Teaching Award, Saint Louis University		2016
Presidential Scholar, Saint Louis University		2012-2016
HONORARY & PROFESSIONAL SOCIETIES		
World College of Refractive Surgery and Visual Sciences		2025-Present
Alpha Omega Alpha Honor Medical Society		2024-Present

American Society of Cataract and Refractive Surgery (ASCRS)	2023-Present
National Association of Flight Instructors	2021-Present
American Academy of Ophthalmology	2020-Present
Alpha Sigma Nu Jesuit Honor Society	2013-Present
Presidential Scholarship Society, <i>Saint Louis University</i>	2012-Present

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## RESEARCH & SCHOLARSHIP

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### Peer-Reviewed Publications:

- Hirabayashi M, Viridi G, Nasser T, Libfraind L, Zapata E, Abramson A, Parkhurst G. ICL Exchanges or Explants Due to Sizing in a United States High Volume Center. *Clinical Ophthalmology*. Accepted July 2025.
- **Hirabayashi M**, Viridi G, Nasser T, Abramson A, Parkhurst G. VAULT-OCT: Vault Accuracy Using Deep Learning Technology for Predicting ICL Postoperative Vault with Anterior Segment Optical Coherence Tomography. *Journal of Cataract & Refractive Surgery*. Accepted July 2025.
- **Hirabayashi M**, Viridi G, Abramson A, Nasser T, Vanrachack A, Parkhurst G. Clinical Outcomes of Implantable Collamer Lenses for the Treatment of Myopia in Eyes with Anterior Chamber Depth (<3.0 mm) at a Single Center in the United States. *Clinical Ophthalmology*. 2025. doi.org/10.2147/OPTH.S528267
- Wattanasirakul P, **Hirabayashi M**, Yousuf R, Elkeeb A. *Cureus*. February 2025. A Retrospective Chart Review: The Presence of Anterior Hyaloid Separation Sign in Posterior Vitreous Detachment. *Cureus*. doi.org/10.7759/cureus.78342
- Nasser T, **Hirabayashi M**, Viridi G, Abramson A, Parkhurst, G. VAULT: Vault Accuracy Using deep Learning Technology – A Novel Image-Based AI Model for Predicting Implantable Collamer Lens Postoperative Vault. *Journal of Cataract & Refractive Surgery*. April 2024. doi.org/10.1097/j.jcrs.0000000000001386
- **Hirabayashi M**, Mellencamp E, Duong S, Simoncic J, Homan C, King J, An J. Effect of Selective Laser Trabeculoplasty on the Fellow Eye. *Journal of Current Ophthalmology Practice*. January 2024; 17(4):175-177. doi.org/10.5005/jp-journals-10078-1420
- **Hirabayashi M**, Barnett B. Solving STODS—Surgical Temporary Ocular Discomfort Syndrome. *Diagnostics*. 2023; 13(5):837. doi.org/10.3390/diagnostics13050837
- **Hirabayashi M**, Gharabagi A, Hesemann N, Johnson S, Webel A, Petroski G, Davis G. Spherical aberration of cataractous eyes and its relationship with age, ocular biometry, and various IOL platforms. *Journal of Refractive Surgery*. 2023; 39(2), 89–94. doi.org/10.3928/1081597X-20221207-01
- Hooshmand S, Voss J, **Hirabayashi M**, McDaniel L, An J. Outcomes of initial and repeat micro-pulse transscleral cyclophotocoagulation in adult glaucoma patients. *Therapeutic Advances in Ophthalmology*. 2022;14:251584142110644. doi: 10.1177/25158414211064433
- Pratte E, Cho J, Landreneau R, **Hirabayashi M**, An J. Predictive Factors of Outcomes in Kahook Dual Blade Excisional Goniotomy Combined with Phacoemulsification. *Journal of Current Glaucoma Practice*. 2022; 16(1):47-52. doi: 10.5005/jp-journals-10078-1313
- Xu H, Thomas M, Lee D, **Hirabayashi M**, An J. Response to netarsudil in goniotomy-treated eyes and goniotomy-naïve eyes: a pilot study. *Graefes*. 2022;260(9):3001-3007. doi: 10.1007/s00417-022-05609-6
- **Hirabayashi M**. Wing Separation and Mid-Air Breakup Analysis in Light Training Aircraft. *Aviation*. 2021;25(4):278-282. doi: 10.3846/aviation.2021.15953.

- Cho J, Hogan D, Salim M, Pratte E, King J, Bylund R, **Hirabayashi M**, An J. Comparison of Outcomes for Laser Trabeculoplasty after Kahook Dual Blade Goniotomy Versus in Goniotomy-Naive Eyes. *Ophthalmology and Therapy*. 2021;10(4):905-912. doi: 10.1007/s40123-021-00378-7
- King J, Lee D, Thomsen S, **Hirabayashi M**, An J. Relationship Between Selective Laser Trabeculoplasty and Excisional Goniotomy Combine with Phacoemulsification. *Canadian Journal of Ophthalmology*. 2021;57(2):112-117. doi: 10.1016/j.jcjo.2021.02.040.
- **Hirabayashi M**, Viridi G, King J, Lee D, Nguyen V, An J. Effect of Excisional Goniotomy with the Kahook Dual Blade (KDB) on Surgically Induced Astigmatism. *Clinical Ophthalmology*. 2020;14:4297-4303. doi: 10.2147/OPTH.S279073
- Pratte E, Landrenau J, **Hirabayashi M**, An J. Comparison of 12-Month Outcomes of Kahook Dual Blade Excisional Goniotomy Performed by Attending versus Resident Surgeons. *Journal of Academic Ophthalmology*. 2020; 12(02): e181-e187. doi: 10.1055/s-0040-1717055
- **Hirabayashi M**, Ponnusamy V, An J. Predictive Factors for Outcomes of Selective Laser Trabeculoplasty. *Scientific Reports*. 2020;10(1):9428. doi: 10.1038/s41598-020-66473-0
- **Hirabayashi M**, Smith D, An A. Biostatistics 101: Perspectives on Statistics in Ophthalmology. *JOJ Ophthalmol*. 2019;7(5): 555724. <https://doi.org/10.19080/JOJO.2019.07.555724>.
- Lee D, King J, Thomsen S, **Hirabayashi M**, An J. Comparison Of Surgical Outcomes Between Excisional Goniotomy Using The Kahook Dual Blade And iStent Trabecular Micro-Bypass Stent In Combination With Phacoemulsification. *Clinical Ophthalmology*. 2019;13:2097-2102. doi: 10.2147/opth.s224109
- **Hirabayashi M**, McDaniel L, An J. Reversal of Toric Intraocular Lens-corrected Corneal Astigmatism after Kahook Dual Blade Goniotomy. *Journal of Current Glaucoma Practice*. 2019;13(1):42-44. doi: 10.5005/jp-journals-10078-1243
- **Hirabayashi M**, Rosenlof T, An J. Comparison of Outcome Predictors for MicroPulse Laser Trabeculoplasty and Selective Laser Trabeculoplasty. *Clinical Ophthalmology*. 2019;13:1001-1009. doi: 10.2147/opth.s205977
- **Hirabayashi M**, King J, Lee D, An J. Outcome of Phacoemulsification Combined with Excisional Goniotomy using the Kahook Dual Blade in Severe Glaucoma Patients at 6 months. *Clinical Ophthalmology*. 2019;13:715-721. doi: 10.2147/opth.s196105

#### Non-Peer Reviewed Publications:

- **Hirabayashi M**, Parkhurst G. Low Myopes Get New Options. *Ophthalmology Management*. August 2024.
- **Hirabayashi M**, An J. One Size Does Not Fit All. *The Ophthalmologist*. March 2023.
- **Hirabayashi M**. The Laws of Learning, Teaching, and Life. *NAFI Mentor Magazine*. March/April 2023.
- **Hirabayashi M**, Viridi G, Davis G, Heseman N. Toric Tolerance: 1° for 3%? *The Ophthalmology Business Minute*. December 2022.
- **Hirabayashi M**, Viridi G, Johnson S. The Path of Broken Ground: A timeline of technological developments in ophthalmology. *The Ophthalmologist*. December 2022.
- Barnett B, **Hirabayashi M**. The Art of Focusing Light: Refractive Surgery Fellowships. *The Ophthalmology Business Minute*. December 2022
- **Hirabayashi M** and An J. Laser Trabeculoplasty in the Treatment of Open-angle Glaucoma. *Glaucoma Physician*. December 2021.

- Dailey E, Thomsen S, Davis G, Davis R, **Hirabayashi M**, and Ponnusamy V. The Curious Case of Cysts and Sight. *EyeNet Magazine*. January 2019.

#### **FDA Clinical Trials**

- Prospective, Multicenter, Randomized, Controlled Clinical Study to Evaluate the Safety and Effectiveness of the enVista® Beyond (EY) EDF Intraocular Lens in Subjects Undergoing Cataract Extraction, protocol 924, sponsor Bausch & Lomb, Inc. (Sub-Surgeon, 2025)
- A Phase 4, Multicenter, Open-Label Study to Evaluate the Effect of Miebo® on Preoperative Biometry/Keratometry and Postoperative Refractive Accuracy Phase 4, protocol 936, sponsor Bausch & Lomb, Inc. (Sub-Surgeon, 2024)
- Randomized, Double-Masked, Placebo-Controlled, Multicenter, Phase 3, Study of the Efficacy and Safety of Phentolamine Ophthalmic Solution (POS) 0.75% in Participants With Presbyopia, protocol OPI-NYXP-302 Vega-3, sponsor Ocuphire Pharma, Inc. (Sub-I, 2024)
- A Prospective, Multicenter, Open Label, Single Arm, Post-Marketing Clinical Study to Evaluate Real World Outcomes of the enVista® Aspire (EA) and Aspire Toric (ETA) Intraocular Lens in Subjects Undergoing Cataract Extraction, protocol BL-SU01-ASRWE-4401 enVista Aspire and Aspire Toric, Post Marketing Trial, sponsor Bausch & Lomb, Inc. (Sub-Surgeon, 2024)
- A multi-center, prospective, randomize, controlled clinical trial to demonstrate the safety and effectiveness of the full visual range AT ELANA 841P posterior chamber intraocular lens for correction of aphakia following cataract removal, protocol AT ELANA 841P-BER-303-24, sponsor Carl Zeiss Meditec USA, Inc. (Sub-Suregon, 2024)
- A multi-center, prospective, randomize, controlled clinical trial to demonstrate the safety and effectiveness of the full visual range AT ELANA 841P posterior chamber intraocular lens for correction of aphakia following cataract removal, protocol AT ELANA 841P-BER-303-24, sponsor Carl Zeiss Meditec USA, Inc. (Sub-Suregon, 2024)
- Clinical Investigation of the TECNIS® Next-Generation Intraocular Lens, PCOL109PHNG, sponsor Johnson & Johnson Surgical Vision, Inc. (Sub-Surgeon, 2024)
- A Dose Ranging Multicenter Sham-Controlled Study to Evaluate the Safety and Efficacy of Corneal Cross-linking in Subjects with Keratoconus protocol NXL-101-KCON, sponsor Glaukos Corporation (Sub-Surgeon, 2024)

#### **International Poster Presentations:**

- **Hirabayashi M**, King J, Lee D, An J. Outcome of Phacoemulsification with Kahook Dual Blade Goniotomy in Severe Glaucoma at 6 months. Poster Presented at: 8<sup>th</sup> World Glaucoma Congress; April, 2019; Melbourne, Victoria.
- **Hirabayashi M**, King J, Lee D, Thomsen S, An J. Comparison of ab-interno 360-degree Trabeculotomy and ab-interno Trabeculectomy using Dual Blade. Presented at: 8<sup>th</sup> World Glaucoma Congress; April, 2019; Melbourne, Victoria.
- **Hirabayashi M**, Rosenlof T, An J. Comparison of Outcome Predictors for MLT and SLT. Presented at: 8<sup>th</sup> World Glaucoma Congress; April, 2019; Melbourne, Victoria.
- **National Poster Presentations:**

- **Hirabayashi M**, Viridi G, Johnson S, Davis G, Relationship between Corneal Aberrations and Prediction Error of the Barrett II IOL Formula. Presented at: ASCRS 2024; March 2024; Boston, MA.
- **Hirabayashi M**, Gharabagi A, Hesemann N, Johnson S, Webel A, Petroski G, Davis G. Spherical aberration of cataractous eyes and its relationship with age, ocular biometry, and various IOL platforms. Presented at: Young MD Connect Live; March 2023; Austin, TX.
- **Hirabayashi M**, Ponnusamy V, An J. Predictive Factors for Outcomes of Selective Laser Trabeculoplasty. Presented at: 2019 American Glaucoma Society Meeting; April, 2019; San Francisco, CA.

#### Books:

- **Hirabayashi M**, Nasser T, Parkhurst G. *Vision Correction: Introduction to Modern Refractive Surgery*. KDP; 2025. ISBN: 979-8305423129
- **Hirabayashi M**. *Focusing Light: The Science of Photography*. KDP; 2024. ISBN: 979-8877583610.
- McLaughlin D, Gharabagi A, Viridi G, Miller A, **Hirabayashi M**. *The Eye Guide: Matching in Ophthalmology*. KDP; 2023. ISBN: 979-8392161324
- **Hirabayashi M**. *The Eye Guide: The Eye Exam*. KDP; 2023. ISBN: 979-8369938799.
- **Hirabayashi M**. *The Eye Guide: Cataract Surgery*. KDP; 2022. ISBN: 979-8365363342.
- **Hirabayashi M**. *The Eye Guide: Anatomy and Optics*. KDP; 2022. ISBN: 979-8364789389.

#### Book Chapters:

- **Hirabayashi M**, Johnson S. 2023. "Chapter 23: Cataract Surgery in the Hypotonous Eye." In *Cataract Surgery in the Glaucoma Patient*, by Johnson S. Springer Science+Business Media. doi: 10.1007/978-0-387-09408-3\_23

#### Peer Reviewer:

- Journal of Glaucoma

#### Presentations, Lectures, and Speaking Engagements:

- ICL Section and Expanded Content, *Refractive Foundations*
- EVO ICL in Pigment Dispersion Glaucoma Patient, *AECOS Summer Symposium*, 2025
- ICLs with Low Myopia and Sizing Pearls, *Telling it Like it Is*, 2025
- Why I Chose EVO ICL, *STAAR Surgeon Summit*, 2024
- The Future of AI ICL Sizing is OCT Not UBM, *STAAR Surgeon Summit*, 2024
- VAULT: Vault Accuracy Using deep Learning Technology, *The Outliers*, 2024
- Beyond the White Coat: Entrepreneurship in Ophthalmology, *Young MD Connect Live*, 2023
- Cataract Surgery: Deep Dive into the Basics, *Retina Academy*, 2022
- Introduction to Cataract Surgery for Interns and First Years, *Sponsored by Bausch + Lomb*, 2022
- Ophthalmology Interest Group Lecture Series, *University of Missouri School of Medicine*, 2020-2024

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#### MEDIA & PRESS MENTIONS

Next-Generation Online IOL Resources, <i>Cataract &amp; Refractive Surgery Today</i>	2023
Filling the App in Knowledge, <i>Young MD Connect (YMDC)</i>	2023
Bridging the App, <i>The Ophthalmologist</i>	2022
IOL Reference App Allows Surgeons to Search for FDA-Approved IOLs, <i>Ophthalmology Breaking News</i>	2022
New App Allows Surgeons to Search for FDA Approved IOLs, <i>eyewire</i>	2022
Virtual Resources for Aspiring Ophthalmologists, <i>MillennialEYE</i>	2022

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## COMMUNITY SERVICE

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Taking it to the Streets San Antonio	2025-Present
MedZou Ophthalmology Resident Volunteer, <i>University of Missouri</i>	2022-2024
Command Pilot, <i>Angel Flight</i>	2021-2024
STEM Mentor, <i>Wings of Hope</i>	2021-2024
Presidential Scholarship Interviewer, <i>Saint Louis University</i>	2020-2024
MedZou Student Volunteer, <i>University of Missouri</i>	2016-2020
Medical School Charity Band (Vocals, Guitar), <i>University of Missouri</i>	2017-2020
Senior Teacher Educator Partnership (STEP) Volunteer, <i>University of Missouri</i>	2016-2017
Labre Ministry with the Homeless Volunteer, <i>Saint Louis University</i>	2015-2016
Guitar Teacher, <i>Doorways Housing St. Louis</i>	2016

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## LEADERSHIP & PROFESSIONAL SERVICE

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Founder, President Abaco Arts LLC – Media, Graphic Design, Medical Consulting	2025-Present
Co-Founder of Refractive Foundations (RefractiveFoundations.com), <i>WCRSVS</i>	2024-Present
• RefractiveFoundations.com	
Chief Resident, <i>University of Missouri</i>	2023-2024
RSA Resident Webinar Committee, <i>Refractive Surgery Alliance Society</i>	2023-2024
Editor of Technology and Innovation, <i>Ophthalmology Business Minute</i>	2023-Present
Bimini AI LLC Co-Founder – AI, Technology, and Innovation in Ophthalmology	2022-Present
• BiminiAI.com	
• IOL Reference iOS Application in the Apple App Store and IOLReference.com	
EyeFlyMD LLC Ophthalmology, Surgery, and Matching Educational Resource Founder	2020-Present
• EyeFlyMD.com	
• X.com, Instagram, Youtube @EyeFlyMD	
Medical Student Research Coordinator, <i>University of Missouri</i>	2020-2024
Ophthalmology Interest Group Resident Representative, <i>University of Missouri</i>	2020-2023
Dean-Appointed Curriculum Innovation Committee, <i>University of Missouri</i>	2017-2020
Curriculum Board Representative, <i>University of Missouri</i>	2016-2020
MedZou Medical Student Education Chair, <i>University of Missouri</i>	2016-2017
SLU String Orchestra, Concertmaster, <i>Saint Louis University</i>	2012-2016

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## ADDITIONAL EDUCATION & CERTIFICATION

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Introduction to Marketing, <i>Wharton Online (University of Pennsylvania)</i>	2022
Introduction to Financial Accounting, <i>Wharton Online (University of Pennsylvania)</i>	2022
Managing Social and Human Capital, <i>Wharton Online (University of Pennsylvania)</i>	2022
Introduction to Corporate Finance, <i>Wharton Online (University of Pennsylvania)</i>	2022
Introduction to Operations Management, <i>Wharton Online (University of Pennsylvania)</i>	2022

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## INTERESTS AND HOBBIES

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### Aviation, Commercial Pilot and Instrument Flight Instructor

- Aviation Education and Resource/Content Creator
- EyeFlyCFL.com and youtube.com/@EyeFlyMD

**Seascape and Wildlife Photography & Graphic Design**

- Portfolio: [FocusingLight.com](http://FocusingLight.com)
- Proficiency with Adobe Creative Cloud Suite
- (Lightroom, Photoshop, Premiere Pro, After Effects, and Illustrator)

**Jazz Guitar and String Quartet Arranging**

- [www.youtube.com/@CuriosityandCats](http://www.youtube.com/@CuriosityandCats)

**Sailing/Boatbuilding/Scuba Diving****Wing Chun Kung Fu****Learning Spanish** (currently B1 based on the Instituto Cervantes Placement Exam)