Providing an Exceptional Education

NATIONAL RANKINGS

DOXIMITY

9th Nationwide
2nd in the West for Residency Education

OPHTHALMOLOGY TIMES

9th Nationwide for Residency Education Program

RESIDENT RESOURCES ONLINE

INSTAGRAM

moraneyeresidents

YOUTUBE

John A. Moran Eye Center—Residency Program Playlist
• Residency Overview
• Tour of Hospitals
• Life in Utah
• Moran Minute: Integrated Intern Year
• Moran Minute: Meet the Techs

High Surgical Volumes
In three years, one Moran resident on average performs about 740 surgeries and procedures. More than 300 are cataract surgeries—86 is the national requirement; 197, the national average. A wet lab and surgical simulators give residents additional hands-on experience.

Integrated Intern Year
A required intern year at Moran in ophthalmology and internal medicine means residents understand the system from the start and are well prepared.

Resident Continuity Clinic
From day one, interns manage a patient’s eye care throughout their ophthalmology rotation under the supervision of a board-certified ophthalmologist.

Innovative Curriculum
Moran goes beyond the traditional model to foster a dynamic, interactive ophthalmology curriculum, including a wellness program with protected academic time.

Online Publishing—CORE

Quality Improvement
Residents design quality improvement projects as part of value training to provide the best patient outcomes at the lowest possible cost.

Elective Time
Third-year residents can tailor three months of elective time to their interests and participate in local and international outreach work with Moran’s Global Outreach Division.

Program Growth
The program continues to be in high demand, with 504 resident applications for four spots in 2020. Including interns, Moran trains 16 residents and up to 12 fellows in specialties like cornea and refractive surgery, glaucoma, neuro-ophthalmology, retina and vitreous surgery, uveitis, and global outreach.

Dedicated Research Time
Moran residents may receive up to one-half day of dedicated research time per week for projects. Moran also provides funding opportunities such as the Achievement Rewards for College Scientists (ARCS) Foundation’s scholars program. Each year, at least one resident is awarded $15,000, and Moran matches funds for the awardee’s second and third year.
What do we do after weathering the challenges of 2020 and moving with caution into 2021?

As a Top 10 educational program, we take a deep breath and turn to the next chapter. We continue our drive to embrace change and innovation, and we stay positive.

Thanks to this drive, our academic program continues to grow stronger and more relevant than ever. Vice Chair of Education Jeff Pettey, MD, MBA, not only champions innovation, he encourages inclusion—inventing trainees to create initiatives that enhance their experience while contributing to the field.

This issue of *Education Focus* highlights some of the ways Moran prepares residents and fellows to become leaders in a world challenged by growing rates of blindness and to answer urgent calls for equity, diversity, and inclusion in medicine and every other aspect of life.

A collaboration with HelpMeSee, creators of a revolutionary surgical simulator designed to improve training and access to vision-saving cataract procedures worldwide, stands to make a significant impact on curable blindness. Moran is one of a handful of evaluation sites in the U.S. for the HelpMeSee Simulation-Based Training System.

Moran residents, faculty, and staff are also actively promoting equity, diversity, and inclusion in every part of our institution. Liliana Werner, MD, PhD, is leading these efforts, and our new mission statement is printed in full on this publication’s back cover.

I’m also pleased to share the phenomenal growth of Moran’s online education site, how residents and fellows are expanding their horizons through a new program dubbed TACO Tuesdays, and much more.

I couldn’t be prouder of the many ways in which our team has navigated the past year, and I can’t wait to see what the next chapter brings.

Sincerely,

Randall J Olson, MD
Professor and Chair, Department of Ophthalmology and Visual Sciences
CEO, John A. Moran Eye Center, University of Utah
New **Collaboration** Accelerates Manual Small-Incision **Cataract Surgery** Training
As the leading U.S. academic institution supporting local and international outreach work with dedicated resources, the Moran Eye Center offers residents and fellows a range of extraordinary opportunities.

From exchange programs to release time for volunteer outreach work, Moran trainees can access a network of global partnerships working to reduce the burden of blindness worldwide. Part of the Moran experience includes in-depth training in Manual Small-Incision Cataract Surgery (MSICS), a technique used successfully in low-resource and remote parts of the world.

In the spring of 2021, Moran faculty and students will begin training on and evaluating the cutting-edge eye surgery simulator and courseware developed by HelpMeSee, an international nonprofit organization. HelpMeSee selected Moran—one of the few U.S. academic programs offering MSICS training as part of its curriculum—as an evaluator for the virtual reality, immersive simulation-based, instructor-led training system.

Moran Vice Chair of Education Jeff Pettey, MD, MBA, said the simulator could be a game-changer in quickly training more surgeons in the U.S. and low-resource nations in the MSICS technique.

In the past ten years, Moran’s Global Outreach Division has worked in more than 25 countries as part of its mission to create sustainable eye care systems. Physicians and volunteers conduct high-volume surgery clinics to alleviate a backlog of blindness and train local doctors and nurses who can then teach others to increase access to care.

“I have admired Moran Eye Center for many years,” said James Ueltschi, co-founder and chairman of HelpMeSee. “Jeff Pettey’s record there speaks for itself. Moran and Jeff’s embrace of MSICS as a critical skill for surgical ophthalmologists and its potential to end cataract blindness with widespread adoption throughout the developing world makes Moran a natural fit.

“Our MSICS training system, which was adapted from many decades of experience in commercial pilot training, brings, for the first time, a very high-fidelity surgical simulation experience along with objective measurements of the training results,” Ueltschi continued. “With the help and support of Moran Eye Center, we are excited about the future, where access to cataract treatment is the rule rather than the exception wherever you live.”

### A Dire Need

Global blindness from cataracts has reached epic proportions—to the tune of 100 million visually impaired people. Of those, 17 million are bilaterally blind, and 83 million have moderate to severe vision loss.

For each visually impaired person, 2.5 people are taken out of the workforce or denied an education to care for them. Blindness is also associated with higher poverty rates, loss of social standing, isolation, depression, injuries, and earlier mortality.

According to the International Agency for the Prevention of Blindness (IAPB), without immediate action, the problem will double by 2050. But there are simply not enough surgeons trained to perform cataract surgeries in the world’s poorest regions with the highest vision loss rates: Africa, China, South and Southeast Asia, and Latin America.

"Cataract surgery in the U.S. and other high-income countries is performed using phacoemulsification machines that aren't always practical for low-resource settings," explained Pettey. "MSICS is an elegant form of manual surgery where we remove the cloudy lens of a cataract—including complex, dense cataracts—without ultrasound technology. Most of all, it's safe and cost-effective."
Enhancing the Curriculum
Although MSICS has long been a part of the Moran curriculum, residents may not have an adequate exposure to the technique to be fully proficient by graduation. The eye surgery simulator will enhance and increase competence in the technique while serving as a source of valuable feedback to the HelpMeSee team.

HelpMeSee is building a large-scale sustainable training model. It has already deployed the simulation-based training system with well-known institutions in several areas with the highest vision loss rates. Locations include India-based Aravind Eye Care System and L V Prasad Eye Institute; Zhongshan Ophthalmic Center, He Eye Specialist Hospital, and Eye Hospital, Wenzhou Medical University, in China; and the Mexico Institute of Ophthalmology. There are four of the eye surgery simulators in the United States and Europe: the Moran Eye Center, Bascom Palmer Eye Institute at the University of Miami, Columbia University, and the Copenhagen Academy for Medical Education and Simulation.

"Adoption of MSICS could effectively accelerate high-volume treatment and begin to reduce the cataract surgery backlog," said HelpMeSee President and CEO Saro Jahani. "We cannot do it alone, of course. That’s why we have established strategic partnerships to build the momentum and a sense of urgency to move swiftly to a competency-based simulation training model that provides eye surgeons with the ability to build proficiency without risk to patients to what they are most passionate about—restoring sight and restoring lives.”

Innovation, Technology, and Training
With a shorter learning curve than that for phacoemulsiﬁcation, MSICS simulation-based training offers a way to transfer surgical skills rapidly and effectively.

"The eye surgery simulator itself is a superb piece of technology," said Pettey. "As you look through a virtual reality image and place instruments on the eye in your view, you can actually feel the feedback from the simulated structures. It feels identical to the tissues of a human eye.

"We’re still learning about the eye surgery simulator here at Moran," Pettey continued. "We don’t yet know how long it will take a resident to gain full competency using the HelpMeSee Simulation-Based Training System. But it could potentially fast-forward residents to a level of a surgeon who’s done 50 cases by the time they have their actual first real case.”

Learn more at helpmesee.org.

THE GLOBAL CHALLENGE OF CATARACTS

- Cataracts are the leading cause of blindness and a significant cause of visual impairment across the globe.
- One hundred million people worldwide need cataract surgery.
- Over 17 million people are bilaterally blind from cataracts in the world in 2020—40% of all cases of blindness.
- The proportion of blindness due to cataracts among all eye diseases ranges from 15% in high-income regions to 50% or more in poor and remote areas.
- Because prevalence increases with age and is higher in females than males, cataract surgery remains an important focus for alleviating vision loss and addressing gender equity.

SOURCE: The International Agency for the Prevention of Blindness (IAPB)
Highlights:

- The simulator delivers lifelike physical representations, with a patient's body and head on a surgical table.
- Trainees use two handpieces that act as virtual instruments, which interact realistically with the eye model.
- The simulator provides true-to-life tactile feedback. As the trainee progresses, the simulator measures and reports performance data. Soft tissue physics modeling combined with haptic feedback give the trainee an accurate feel of how instruments interact with various tissue layers in the eye. This helps build muscle memory as the trainee operates. The HelpMeSee high-fidelity eye surgery simulator is the only one offering tactile, or haptic, feedback.
- Realistic visuals display eyeball simulation in stereoscopic 3D renderings. The trainee can instantly see any error or complication on the screen. They can see if a cut is standard, too deep, or too shallow—including bleeding or hitting another tissue layer if the cut is too deep.
- Trainees have access to unlimited practice sessions to repeat the individual steps of the MSICS procedure until they're proficient.

Training methods include:

- Self-study (Ebook)
- Instructor-led “reverse classroom” sessions
- Hands-on lab exercises
- Simulation-based training
- Feedback sessions with HelpMeSee

The HelpMeSee Simulation-Based Training System utilizes metrics to objectively measure competency to shorten the time it takes for surgeons to build proficiency and confidence before beginning live surgical training.

How it Works

A trainee uses simulator handpieces to interact with the eye model, at left, realistically.
Training a **Complete Ophthalmologist**—Tacos Included

*New resident-driven interactive sessions focus on non-clinical but essential topics.*

A small-group breakout during a TACO Tuesday session.
Once a month, Moran residents gather to mingle and learn in a comfortable setting replete with tacos at the end of a busy workday. The gathering is casual, but the topics covered carry serious weight—essentials that will help round out their careers.

“Clinical and surgical skill and wisdom form the core of what it takes to be an excellent ophthalmologist,” said Moran’s Brian Stagg, MD. “And Moran has always provided the best possible clinical and surgical training, but we also know it takes more than that to become a complete ophthalmologist.”

That philosophy led Stagg and other Moran faculty to launch Training a Complete Ophthalmologist (TACO), a monthly session focused on what it takes to become leaders in ophthalmology. Topics have included medical research, quality improvement, health policy, health disparities, global health, leadership, communication, the business of medicine, and personal wellness.

“That’s a lot of information—enough to add to our curriculum so we could formalize this training and ensure that every resident emerges from our program ready to make an impact,” said Stagg.

Dubbed “TACO Tuesday,” the course naturally involves enjoying delicious tacos from local eateries while discussing topics that, according to Stagg, “rarely come up in training but are extremely important.”

Residents help plan the interactive sessions. Each gathering has a course leader who organizes the evening’s agenda, which may include a panel discussion, group activity, journal club, or a flipped classroom (variations on the opposite of a teacher-to-student lecture).

“TACO Tuesday immerses residents in fields outside of the core ophthalmology training that are vital to their success,” said Moran Vice Chair of Education Jeff Pettey, MD, MBA. “It gives them a chance to absorb wisdom and perspectives every patient wants their doctor to know beyond the medical expertise.”

“One of my favorite TACO Tuesdays was a leadership discussion with Drs. Randall Olson and Mary Elizabeth Hartnett. They answered our questions candidly and shared so much wisdom. They talked about managing and motivating a team, and that’s something I really appreciated hearing early in my career.”

—Ariana Levin, MD, resident

Continuing Curriculum Innovation

In 2020, Moran introduced two highly successful initiatives driven by Moran residents. One is a new, interactive ophthalmology curriculum championed by a group of residents, fellows, and attending physicians. Named the Moran Ophthalmology Learning Experience (MOLE), the group collaborated to shift to more interactive, case-based learning that has resulted in completely revamped lesson plans.

Residents also helped design a wellness plan to tackle burnout, with two administrative half-days a month. Residents can use the time for anything that helps them catch up—whether it’s hiking or skiing or easing stress with extra study time.

Now, there are TACO Tuesdays in the mix.

Resident Abigail Jebaraj, MD, listens to a TACO Tuesday presentation.

“Training as a physician and surgeon is more than just book smarts and research, which is why I love this program,” said Theresa Long, MD, a third-year and chief resident. “One of my favorite sessions was on the health care system. The health care system is incredibly complex and what we learned is applicable to all of us, no matter where we end up practicing.”
Championing **Diversity** in **Ophthalmology**: Moran’s EDI Initiatives

The Moran Eye Center has always been committed to the vision that no person with a blinding condition, eye disease, or visual impairment should be without hope, understanding, and treatment.

Internally, Moran is equally committed to reaching and embracing a racially, ethnically, and culturally diverse population when recruiting and training residents and hiring faculty and staff. Moran strives to create a broad-based organization focused on clinical care, caregiver education, and basic and translational research.

As Moran’s inaugural Vice-Chair for Equity, Diversity, and Inclusion (EDI), Liliana Werner, MD, PhD, leads this effort with a committee of five other representatives.

“EDI is important for various reasons in any organization, including those related to moral or social justice, economic and market reasons,” said Werner. “In addition to addressing historical factors that have led to unfair conditions for minorities, organizations that tap into diverse talent pools are stronger and more efficient and much better at serving their customers by reflecting the diversity of their market base.”
Disparities in Diseases and Access to Care

Racial and ethnic disparities are particularly significant in eye care in the United States. Compared to non-Hispanic Whites, racial and ethnic minorities have a higher prevalence of blindness, higher rates of glaucoma, diabetic retinopathy and inability to afford eyeglasses, and lower eye surgery rates.

Studies show having a health care workforce that can relate to individuals of different backgrounds, skin colors, and ethnicities could improve the quality of care.

With this in mind, the committee has elaborated a strong EDI plan that reassesses all of the procedures through which Moran brings people on board, including students, residents, fellows, faculty, and staff.

“In our last round of resident interviews, members of the selection committee had EDI at the core of their process,” noted Werner. “The process will be embedded in all interviews as we move forward.”

Resident-Driven Scholarships

In 2020, third-year residents Christopher Bair, MD, and Bradley Jacobsen, MD, collaborated on a research project to create a scholarship devoted to applicants from groups underrepresented in medicine (URiM). The American Academy of Ophthalmology defines these groups as students who identify as Black or African American, Hispanic or Latino, and/or Native American (American Indian/Alaska Native/Native Hawaiian).

“Promoting diversity in medicine is incredibly important and necessary to provide the best care to all people. In developing this scholarship, I give all the credit to the Moran Eye Center and the willingness to recognize and confront the issue head-on,” said Bair.

“Moran is a nationally ranked Top-10 residency, and it would have been easy to continue with the status quo. However, our leadership has been willing to take a critical look at our practices,” he continued. “They’ve allowed us to take the necessary steps to address deficiencies that will improve the landscape for underrepresented candidates at Moran and in eye care overall.”

The COVID-19 pandemic delayed Moran’s first two away-rotation scholarships offering $500 to URiM students. In the future, these scholarships will help medical students in the summer between their first and second years of medical school to experience clinical and surgical training at Moran.

Moran also plans to offer additional $1,000 scholarships to rising second-year medical students with in-depth exposure to ophthalmology early in their education.


National Program Offers One-on-One Mentoring

Moran Retina Fellow Nikko Ronquillo, MD, PhD, has participated in Minority Ophthalmology Mentoring, a partnership program between the American Academy of Ophthalmology and the Association of University Professors of Ophthalmology since 2019.

“I’ve spoken to many students early in their medical school career about ophthalmology,” said Ronquillo. “Being an ambassador for ophthalmology for underrepresented minorities is important to continue to attract these bright students to our field.”

The national program aims to increase diversity in ophthalmology by helping students underrepresented in medicine become competitive residency applicants. Students receive one-on-one mentorship, valuable guidance in medical career planning, networking opportunities, and access to various educational resources.

Ronquillo has mentored individual students and spoke at the Latino Student Association, the National Hispanic Medical Association, and the Student National Medical Association annual conferences this year.

More information at aao.org/minoritymentoring.
Booming Demand for Online Education

For years, Moran’s Clinical Ophthalmology Resource for Education (CORE) has offered worldwide access to high-quality ophthalmic learning—an important step in addressing curable blindness on a global scale.

The educational role of CORE’s free, peer-reviewed curriculum became even more critical in 2020 when the COVID-19 pandemic halted international travel and disrupted training programs near and far.

The number of users at morancore.utah.edu jumped 225% between 2019 and 2020. The number of page views rose about 100 percent for the same period.

CORE’s YouTube usage numbers also saw significant increases from 2019 to 2020. Views increased by 55 percent, while the number of subscribers grew by 121%.

“Virtual and distance learning leaped years forward in 2020 and is now commonplace, with CORE growing at incredible rates,” said Moran Vice Chair of Education Jeff Pettey, MD, MBA.

Here’s a closer look at this invaluable learning resource.

MORAN CORE BY THE NUMBERS 2020

Website (morancore.utah.edu)
- 324,505 — Sessions
- 263,846 — Users
- 455,547 — Pageviews
- 210 — Countries
- 89.3%—New Users

YouTube CORE Channel
- 3,314,123 — Views
- 3,235,994 — Minutes Watched
- 9,367—New Subscribers

Top 3 CORE Videos on YouTube for 2021 (as of February)
- The Orbital Exam
- PRK
- The Neuro-Ophthalmology Exam: Neuro

CORE Resource Highlights
- Nearly 1,000 videos and growing, including training in basic eye care, instructional surgical videos, and faculty lectures.
- International curriculum, including best practices for outreach work.

CORE is a vital resource as Moran trains eye care professionals worldwide, including Frank Sandi, MD, pictured above, of the University of Dodoma in Tanzania.
A Conversation with Jane Durcan, MD

One of Moran’s earliest residents, Jane Durcan, MD, eventually returned as a faculty glaucoma specialist before moving into private practice in Spokane, Washington. Durcan has since retired, but her devotion to Moran’s outreach work continues.

What led you to choose the Moran Eye Center for your residency?

I interviewed for my residency in fall 1981. At that time, there was no Moran Eye Center. There was, however, a very new ophthalmology department housed in the old Emergency Room in the main hospital building. It consisted of only six faculty members. What impressed me most about the department at the time, something that holds true today, was the faculty’s enthusiasm. I remember the end of the interview day waiting to meet with Dr. Randy Olson. He was delayed in the OR, and I sat there trying to decide whether to stay for the interview or catch my plane. It was the best flight I ever missed. His excitement about the program was infectious. I came away convinced that this was a place I could be happy training and developing the expertise I would need to practice ophthalmology.

How did your residency at Moran influence your career in ophthalmology?

I loved my residency. Every day was an adventure of learning about ophthalmology and becoming more proficient in clinical and surgical skills. It was a small group of residents and faculty, and we had a lot of fun together. The faculty was amazing and, as I had hoped, were dedicated teachers, intent on making sure that we were more than competent by the time we finished.

What sparked your interest in Moran’s global outreach work?

My mother was born in Malawi and grew up in South Africa, and I remember reading books growing up about the flying doctors who cared for patients in remote areas of Africa. As soon as my second child went off to college, I started talking to Dr. Alan Crandall about getting involved in outreach. My first trip was to Guatemala in 2014, and it truly was life-altering.

I was overwhelmed by this population’s needs and the incredible challenge of working in difficult conditions on some of the most severe cases I have ever encountered.

Read the full interview at bit.ly/Durcan.
Awards & Honors

Curriculum Award

A presentation about Moran’s newly revamped approach to ophthalmic education, which stresses interactive blended learning over traditional lectures, received a commendation at the Association of University Professors of Ophthalmology (AUPO) annual meeting in February.

The Moran Ophthalmology Learning Experience (MOLE) committee, a group of residents, fellows, and attending physicians led by Rachel G. Simpson, MD, received the best resident quality improvement project/presentation award. Residents Katherine Hu, MD, and Rachel Patel, MD, and Neuro-Ophthalmology Fellow Srav Vegunta, MD, prepared the award-winning two-minute video “poster” on the new approach to didactic education.

Residents played a key role in developing the interactive ophthalmology curriculum, including restructured lectures and homework, which Moran introduced in July 2020.

Heed Fellow Award

Uveitis fellow Wen Fan Hu, MD, PhD, is a 2020-2021 Heed Fellow awardee. Hu completed her residency at Massachusetts Eye and Ear and received her medical and doctorate degrees from Harvard University.

The Heed Ophthalmic Foundation gives about 20 awards yearly to talented young ophthalmologists pursuing postgraduate fellowship training. Each recipient receives a merit award of $10,000.

ASCRS Foundation Grant

Moran Global Fellow Ashlie Bernhisel, MD, MSc, is a recipient of the ASCRS Foundation’s 2021 Young Eye Surgeon International Service Grant.

The Foundation created the grant to inspire young eye surgeons to become involved with global eye care on a long-term basis. Working with the ASCRS Foundation and its international partners, recipients will develop a customized plan to learn first-hand the intricacies behind global eye care efforts.

This year’s ASCRS Foundation grant will provide funding for grantees to initiate a global service project in 2021 at home, with the opportunity to travel when safe and feasible in 2022.

The ASCRS Foundation supports physician education and provides humanitarian cataract surgery in the United States and developing countries.
At 11 Moran clinics, more than 40 clinical faculty members, up to 12 fellows, 12 residents, and 4 interns conduct more than 135,000 patient visits and more than 7,000 surgeries annually, providing comprehensive care in all ophthalmic subspecialties.

Here is a breakdown of the surgical experience a Moran resident, on average, gained in a typical three-year period ending in 2019.
The new Committee for **Equity, Diversity, and Inclusion** recently updated Moran’s mission statement to read as follows:

"**The John A. Moran Eye Center** at the University of Utah believes that every person regardless of race, ethnicity, age, sexual orientation, gender, gender identity and expression, ability, socioeconomic status, veteran status, size, national origin, primary language, and religion deserves and has the right to compassionate, inclusive care.

We dedicate ourselves to serving patients and the greater public health community in an anti-racist and anti-discriminatory environment by creating a broad-based organization focused on clinical care, caregiver education, and basic and translational research.

Through a multidisciplinary approach, we encourage learning from our patients, and with that knowledge, we strive to create effective educational and research programs to develop new, widely available treatments for diseases shared by patients and the global health community."