



Physicians

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- Nicholas D. Chinskey, MD
- Leonard Feiner, MD, PhD
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- Christopher M. Seery, MD
- Sumit P. Shah, MD
- Elizabeth Tegins, MD
- Vinod B. Voleti, MD
- H. Matthew Wheatley, MD

Locations

- | | |
|-----------------------------------|--------------------------------------|
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908-218-4303 |
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| Morristown
973-630-7700 | Edison
732-906-1887 |
| Ridgewood
201-445-6622 | Lakewood
732-363-2396 |
| Teaneck
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609-896-3655 |
| Union City
201-867-2999 | Monroe
609-655-8301 |
| Vauxhall
908-349-8155 | New Brunswick
732-220-1600 |
| Wayne
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Technological Advances Enter the Operating Room

Over the last several years, the inside of the vitreoretinal operating room has changed drastically. The tools are getting smaller, making for smaller incisions with less manipulation of the conjunctiva. The visualization is also getting better, allowing for more vivid views of the macula and peripheral retina. These new technologies are making surgery safer for patients, with less recovery time and better outcomes. New tools are also a huge benefit to the doctors, as the surgeries are more efficient and ergonomically comfortable. At NJRetina, two new tools have been added to our operating rooms, which will allow us to provide even better patient care.

Intraoperative Optical Coherence Tomography

Without question, the use of optical coherence tomography (OCT) has completely changed the management of the retina patient in the office. Diseases such as aged related macular degeneration (AMD), diabetic macular edema, macular holes and epiretinal membranes are now quickly diagnosed and managed with OCT. While fluorescein angiography (FA) is still needed in many situations, such as differentiation between post-cataract cystoid macular edema vs AMD, macular conditions are often handled without the need for FA, which is time consuming and can cause an allergic dye reaction, although rare. This technology has been around for well over a decade and continues to improve with swept source data and OCT angiography.

Initial intraoperative OCT devices were handheld systems that could be used on supine patients. Early studies showed value in treating conditions such as macular holes or epiretinal membranes as OCT

was used to determine if all membranes were removed, or if more surgery was needed, to prevent recurrent puckers and open holes^{1,2}. However, these devices required the surgeon to stop surgery, adding significant time to the operation, and risked contamination of the field. In addition, they could not visualize surgical instrumentation or manipulation in real time, as the microscope and surgeon had to move away from the patient to position the OCT.



Figure 1:
Zeiss RESCAN 700 with intraoperative OCT

This led to the second generation of intraoperative OCT, which is a microscope mounted device, with a display visible to the surgeon intraoperatively (Figure 1). Now, we are now able to get a real time scan, with minimal interference or down time. Although not needed all cases, the intraoperative OCT provides valuable information in certain situations. For example, in the release of vitreo-macular traction, there is often a concern that a full thickness macular hole has been created in the induction of the posterior vitreous detachment. If a hole is created and seen intraoperatively, face down positioning and gas tamponade are standard. Using the OCT intraoperatively can eliminate the guess work and the need for face down positioning, and the accompanying neck and back pain, if no hole is present.

During macular pucker surgery, there are several utilities of OCT. Unlike the inner limiting membrane (ILM), which is routinely peeled during macular hole surgery, the epiretinal membrane does not stain with indocyanine green dye and can be difficult to visualize during vitrectomy. As a result, it is sometimes challenging to see if the entire membrane has been peeled, or if more layers are still present on the macula, and how far out they extend. Using intraoperative OCT, residual membranes can be scanned for, and removed, leading to more complete membrane removal and less chance of having to return to the OR.

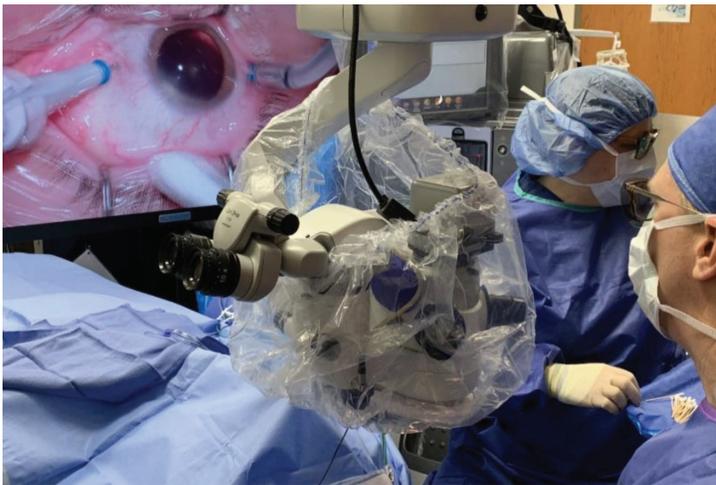


Figure 2:
TrueVision Heads-up Display

In retinal detachments, OCT can detect several entities that can change operative management, such as residual subretinal fluid and the presence of a full thickness macular hole. Having the OCT can help determine the need for positioning after surgery and the need for additional surgical manipulation, such as removing the ILM, which can be challenging if the macula is detached. In complex cases, such as diabetic traction detachments, OCT can be used to find surgical dissection plains, detect full thickness holes, and determine the presence of membranes, like proliferative vitreoretinopathy.

Studies have verified the clinical utility of intraoperative OCT in the last few years. Depending on the report, the intraoperative OCT affected the surgical plan between 8-35% cases. In the same studies, OCT data was achievable in 92-99% of operations³⁻⁵

Heads-up Display with TrueVision®

We have also added a heads-up display technology with TrueVision. With this device, a 3D camera is mounted onto the microscope where typically the oculars would be placed. The image is displayed on a large screen monitor and can be viewed by anyone in the room using 3D glasses (Figure 2). There are several advantages to this over the traditional microscope including ergonomics for the surgeon, lower light levels, ability to overlay data (like OCT) on the screen and improved teaching capabilities. For the surgeon, he or she no longer needs to be leaned over into the microscope, but can instead assume of more natural upright position, leading to less back and neck strain. For students and assistants, they can get a high definition, 3D view of surgery, which previously was only possible if they were looking through the oculars. This is also helpful for fellowship teaching, where the surgeon can direct exactly where maneuvers should be performed, leading to safer instruction. For the patient, macular light toxicity can be an issue in long or difficult surgeries. By using the screen to increase contrast and light, instead of using microscope or internal illumination, the surgeon can work at lower light levels, making for safer surgery.

References:

1. Dayani PN, Maldonado R, Farsiu S, Toth CA. Intraoperative use of handheld spectral domain optical coherence tomography imaging in macular surgery. *Retina*. 2009;29(10):1457-1468.
2. Wykoff CC, Berrocal AM, Scheffler AC, Uhlhorn SR, Ruggeri M, Hess D. Intraoperative OCT of a full-thickness macular hole before and after internal limiting membrane peeling. *Ophthalmic Surg Lasers Imaging*. 2010;41(1):7-11.
3. Runkle A, Srivastava SK, Ehlers JP. Microscope-integrated OCT feasibility and utility with the EnFocus system in the DISCOVER study. *Ophthalmic Surg Lasers Imaging Retina*. 2017;48(3):216-222.
4. Ehlers JP, Kaiser PK, Srivastava SK. Intraoperative optical coherence tomography using the RESCAN 700: Preliminary results from the DISCOVER study. *Br J Ophthalmol*. 2014;98(10):1329-1332.
5. Ehlers JP, Goshe J, Dupps WJ, et al. Determination of feasibility and utility of microscope-integrated optical coherence tomography during ophthalmic surgery: the DISCOVER Study RESCAN Results. *JAMA Ophthalmol*. 2015;133(10):1124-1132.

NJRetina Welcomes Our Newest Physicians

We have two physicians joining the NJRetina team soon.



Alexander Port, MD

Dr. Alexander Port joined NJRetina in 2020. Originally from Toms River, New Jersey, Dr. Port completed his Bachelor of Arts in Biology at Columbia University in New York City. Dr. Port then obtained his medical degree from Weill Cornell Medical College where he was inducted into the Alpha Omega Alpha honor society. Dr. Port discovered his love of ophthalmology doing volunteer community vision screenings as a medical student and continued to volunteer and supervise medical student screeners throughout his residency.

Dr. Port completed a preliminary internship in internal medicine at New York University before returning to Weill Cornell for his ophthalmology residency where he served as Chief Resident during his senior year. He then completed a two-year fellowship in vitreoretinal surgery at Boston University and the Boston VA Medical Center, serving as a clinical instructor to residents and medical students.

Dr. Port has presented numerous abstracts at national meetings and has published articles on a variety of topics including vitrectomy surgery, cytomegalovirus retinitis, endophthalmitis, retinopathy of prematurity, and quality of life in aging.

Dr. Port is board-certified by the American Board of Ophthalmology and is a member of the American Society of Retina Specialist and the American Academy of Ophthalmology.

Dr. Port has been married to his wife, Yael, since 2010 and they have two daughters. His hobbies include cooking, cycling and triathlons.



Luis A. Gonzalez, MD, MPH

Luis A. Gonzalez, is a vitreoretinal surgeon at NJRetina. He earned his medical degree from the School of Medicine at the Monterrey Institute of Technology and Higher Education in Monterrey, Mexico where he graduated summa cum laude. In 2012, Dr. Gonzalez earned a Master of Public Health degree in Biostatistics and Epidemiology from Harvard University.

He completed his residency in ophthalmology at University of Pittsburgh Medical Center, followed by a two-year fellowship in medical and surgical vitreoretinal diseases at Weill Cornell Medical College in New York City. He also trained in uveitis and ocular immunology with Dr. Stephen Foster at the Massachusetts Eye Research and Surgery Institution.

Dr. Gonzalez has held several leadership and academic appointments, serving as an Instructor in Ophthalmology at Weill Cornell Medical College, and as Chief Ophthalmology Resident at the University of Pittsburgh Medical Center. Dr. Gonzalez has received numerous honors and awards, including the Peer Recognition Award from the University of Pittsburgh and the Harvard Presidential Scholar Award. He has presented in national and international meetings including the Atlantic Coast Retinal Club and Macula 20/20 Meeting in 2020, the 2018 and 2019 Annual Retina and Uveitis Symposium in New York City, the 2019 Annual Meeting of the Mexican Retina Association. Dr. Gonzalez has authored book chapters and original papers in various peer-reviewed journals, including the Graefe Archive for Clinical and Experimental Ophthalmology, Ophthalmology, Retina, and the British Journal of Ophthalmology.

He is board certified by the American Board of Ophthalmology and a member of the American Society of Retina Specialists, The Association for Research and Vision in Ophthalmology, the Ocular Immunology and Uveitis Foundation, and the American Academy of Ophthalmology.

Dr. Gonzalez and his wife Patricia have been married since 2017 and they live with their rescue mutt Beni. Dr. Gonzalez enjoys skiing, running, and playing classical piano. He is fluent in Spanish.

At the Forefront of Clinical Research

NJRetina currently conducts clinical trials at key locations. Our clinical research coordinators who conduct the trials will be happy to discuss the inclusion/exclusion criteria or any other aspect of these studies with you or your patients. If you have any questions, please feel free to contact:

Véronique Ruppe, PhD, Clinical Trials Manager - CBO: 908-258-8323

Joe Martinez - Teaneck: 201-837-7300; 4

Dina Christodoro - Toms River: 732-797-3984

Amy Leviton - Edison: 732-906-1887

NOTE: ENROLLMENT IS ON HOLD FOR ALL STUDIES UNTIL FURTHER NOTICE.



Enrolling Studies:

Dry AMD

Teaneck & Edison

A Genetic Screening and Registry Study to Evaluate Long-term Clinical Outcomes and Disease Progression in Subjects with Non-Central Geographic Atrophy (GA) Who Are Carriers of High-Risk Genetic Complement Variants Associated with Dry Age-related Macular Degeneration (AMD)
A Prospective Natural History Study to Evaluate Clinical Characteristics and Disease Progression in Subjects with Non-Central Geographic Atrophy (GA) Who Are Carriers of High-Risk Genetic Variants of Complement Factor H (CFH) (Gemini)

Teaneck

Phase II, Randomized, Double-Masked, Placebo-Controlled Clinical Study to Evaluate the Safety, Efficacy, and Pharmacokinetics of Subcutaneous Injections of Elamipretide in Subjects with Age-Related Macular Degeneration with Geographic Atrophy (SPIAM)

Teaneck & Toms River

A Phase II, Multi-Center, Randomized, Single-Masked, Sham Injection Controlled Study of the Safety, Tolerability, and Evidence of Activity of Intravitreal Injection of R7171009 in Patients with Geographic Atrophy Secondary to Age-Related Macular Degeneration (Gallego)

Vauxhall

A Study of Disease Progression in Genetically Defined Patients with Geographic Atrophy Secondary to Age-Related Macular Degeneration

Wet AMD

Edison and Teaneck

A Randomized, Single-Masked, Active-Controlled Phase 2 Study of the Safety, Tolerability, and Efficacy of Repeated Doses of High-Dose Aflibercept in Patients with Neovascular Age-Related Macular Degeneration (Candela)

Soon to Enroll Studies:

- A Phase III, Multicenter, Randomized, Visual Assessor Masked, Active Comparator Study of the Efficacy, Safety, and Pharmacokinetics of the Port Delivery System with Ranibizumab in Patients with Diabetic Macular Edema (PAGODA)
- Feasibility of Adaptive Optics Imaging for Assessment of Progression of Atrophy Secondary to Dry Age-Related Macular Degeneration (Astellas)
- A 64-week, Phase 3b, Multicenter Study Assessing the Efficacy and Safety of Brolucizumab 6mg Compared to Aflibercept 2mg in a Treat to Control Regimen in Patients with Neovascular Age-Related Macular Degeneration (Talon)
- A Randomized, Double-Masked, Active-Controlled Phase 3 Study of the Efficacy and Safety of High-Dose Aflibercept in Patients with Neovascular Age-Related Macular Degeneration (Pulsar)
- A Randomized, Double-Masked, Active-Controlled Phase 2/3 Study of the Efficacy and Safety of High-Dose Aflibercept in Patients with Diabetic Macular Edema (Photon)
- Phase III, Multicenter, Randomized Study of the Efficacy, Safety, and Pharmacokinetics of the Port Delivery System with Ranibizumab in Patients with Diabetic Retinopathy (PAVILION)