

Hampton Roads Edition

M.D. NEWS

A BUSINESS AND LIFESTYLE MAGAZINE FOR PHYSICIANS

**Jon M.
Adleberg, M.D.**
Ophthalmologist and Retinal Specialist



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By Bobbie Fisher

It's a classic movie scene — a patient sits up in a hospital bed, his head covered by yards of bandages. Two, maybe three, anxious looking people stand at the foot of the bed watching as a physician dramatically removes pieces of cloth from across his eyes. The scene fades to black as the perspective shifts from that of the viewer to that of the patient. As the last strip of gauze is pulled aside, there's a second or two of blurriness before the room becomes crystal clear. Total and complete vision is restored, and the patient sees — and lives — happily ever after.

Dr. Jon Adleberg knows that such scenes are played out far more often in Hollywood than in the operating room. "It usually doesn't happen that way when there's a functional problem with the retina," he says. As one of the few physicians in the country who is fellowship-trained in both ophthalmic pathology and vitreoretinal surgery, Dr. Adleberg works with patients whose problems exist in the back of the eye, at the very heart of the process of vision.

For Dr. Adleberg, the ophthalmic subspecialty of retinal diseases is a nexus — he's not only "very scientifically oriented," he also genuinely enjoys caring for people. "There's nothing I enjoy more than restoring vision to people. What I'm able to do is very complex microsurgery, which enables the patient to see better. That's really what it's all about, improving their quality of life."

Reflecting that nexus, Dr. Adleberg began his premedical education at the University of Maryland, Baltimore County

Examining the retina



PHOTO BY MARSHALL D. HOYLE

with a B.A. in interdisciplinary studies combining philosophy and biological sciences. He graduated from Philadelphia's Hahnemann University School of Medicine and completed his internship at Mary Imogene Bassett Hospital in Cooperstown, NY. From there he completed an ophthalmic pathology/research fellowship at the University of Utah Health Science Center and returned to Philadelphia for an ophthalmology residency at Temple University Hospital. He completed a two-year fellowship in vitreoretinal surgery at Tulane University in New Orleans in 1997. He's board certified in ophthalmology and is a Diplomate at the American Society of Retina Specialists.

A PASSION FOR EDUCATION

Throughout his career, Dr. Adleberg has been committed to medical education, believing that his talents as a surgeon can help the greatest number of people by training young surgeons in the latest techniques to address the unique needs of patients in his subspecialty. He has fulfilled that commitment, not just by instructing in American teaching facilities and medical schools, but also in areas of the developing world where "they don't always have the knowledge or the technology within their own hospital systems." Through his work with ORBIS, a 25-year-old nonprofit humanitarian organization dedicated to blindness prevention and treatment, Dr. Adleberg has operated and lectured on board the Flying Eye Hospital, a DC10 that travels around the world equipped with a full ophthalmic operating room. "The object of ORBIS is to go to local areas and teach local medical personnel how to provide care for their own populations. We do it by selectively taking patients and caring for them, with the ultimate goal of disseminating information and transferring medical skills."

He considers himself fortunate to work with ORBIS, "For me, it's part of being a physician." And so this physician has spent time in Tashkent, Uzbekistan and Kunming, China, educating local physicians in diabetic retinopathy, vitreoretinal surgery and the use of pneumatic retinopexy in the treatment of retinal detachment. He's also traveled to Nepal with SEVA International,



Dr. Adleberg treats a wide variety of retinal diseases.

an organization with a mission to alleviate suffering caused by disease and poverty, including preventing blindness and restoring sight.

Dr. Adleberg became accustomed to having an interpreter in the operating room. “In some places in the world, they speak English, but we used a Russian translator back and forth, describing what was going on during the surgery in Uzbekistan,” he says. “It was quite interesting there because I had the U.S. ambassador looking through a glass panel in the OR. It could be a real test of skills — operating while answering questions from the audience back and forth through a translator.” Often some of that audience was in a lecture hall on the plane, with sound and images also transmitted to overflow areas in the airport to maximize exposure. “There was a great deal of learning and transfer of skills between all parties involved.”

‘YOU CAN’T FIX WHAT YOU CAN’T SEE’

In his daily practice, most patients come to Dr. Adleberg through referral from ophthalmologists, optometrists and primary care physicians. “They have the hard job of trying to figure out when patients come in with vision loss whether that’s a retinal problem or refractive error — whether it’s cataracts or glaucoma or neurologic problems,” he says, “and if it turns out that it’s a complex retinal problem, then they’ll often refer them to me for evaluation.”

Although many of Dr. Adleberg’s patients are older — as people age, the incidence of retinal disease goes up significantly — he treats the youngest and smallest of patients as well. “The most common cause of vision loss from retinal disease in the elderly population

is macular degeneration,” he says. “With infants, it’s retinopathy of prematurity. I take care of a wide spectrum of patients.”

The most common of the retinal diseases Dr. Adleberg treats are macular degeneration, diabetic retinopathy and retinal detachments. He also treats patients with a wide variety of less common conditions, including retinitis pigmentosa and uveitis. Historically, for many of these patients, including the youngest, the ultimate outcome would be blindness without treatment. Not so today.

One of the challenges facing ophthalmologists, and retinal specialists in particular, has always been the ability to visualize the retina well enough to diagnose complex problems with literally pinpoint accuracy, and treat them accordingly. Today, the outlook is brighter. Dr. Adleberg explains, “One of the most powerful imaging techniques now available is optical coherence tomography. We have the only newer generation of that technology in Virginia, a spectral domain optical coherence tomography unit that allows us to image the retina very rapidly in a noninvasive way. It lets us visualize and objectively measure retinal changes both pre- and postoperatively that we otherwise couldn’t see.”

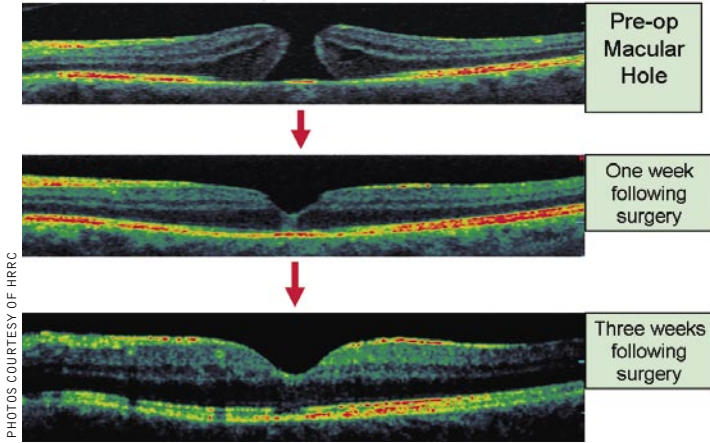
The macula is the area of retina that allows central vision, within the center of the macula sits the 1-mm-diameter fovea that contains the cones allowing us to see fine details and color vision. As small as it is, it’s a very important and complicated area of specialized

Dr. Adleberg, fellowship trained in both ophthalmic pathology and vitreoretinal surgery.



PHOTOS BY MARSHALL D. HOYLE

**OCT changes in Macular Hole Surgery
Depaul Medical Center**

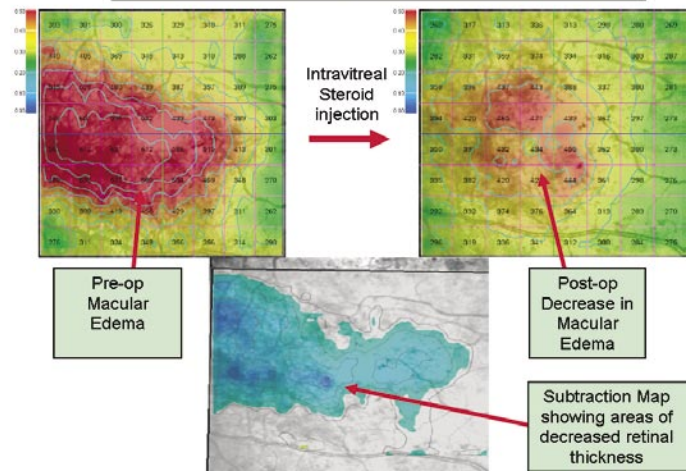


PHOTOS COURTESY OF HRRC

OCT images showing complete resolution of macular hole following surgery

neural tissue. Like all eye doctors, Dr. Adleberg has long been able to see in back of the eye through dilation and special lenses, but the new technology allows him to image the macula and fovea in great detail. “You can’t treat what you can’t see,” he says, “and not only can’t you treat what you can’t see, but you can’t know whether your

Treatment of severe Diabetic Macular Edema



OCT images revealing marked decrease in diabetic macular edema following treatment

therapies are working or not. This technology has become a critical part of diagnosis and treatment of macular disease.”

Ever the scientist, Dr. Adleberg is equally excited about the potential this new technology offers to physicians in other specialties, “For the last two hundred or so years the only way to examine the

Dr. Adleberg performing retinal microsurgery at Depaul Medical Center with anesthesia services provided by the capable hands of Marieta Bajit, M.D.



PHOTO BY MARSHALL D. HOYLE



In daily practice, most of Dr. Adleberg's patients come to him through referral from ophthalmologists, optometrists and primary care physicians.

fine tissue structure of a lesion was to excise it and examine sections of the tissue under a microscope. With this technology instead of performing a surgical biopsy it is possible to examine the histology in vivo using interferometry from light waves. It's completely non-invasive." The applications for dermatologists, orthopedists, dentists and other medical caregivers offer, literally, an optical, noninvasive biopsy. "It's truly revolutionary," Dr. Adleberg says. "There will come a day not too far in the future where a dermatologist will be able to put a probe over a lesion and see a television screen showing exactly what the fine structure of the lesion is. This technology came out of retinal research!"

Dr. Adleberg credits optical physicists with the development of spectral domain optical coherence tomography. "It's very technical," he says, "but I'm involved now in the pioneering end of it, of

focusing the technology on clinical applications to be more relevant. It's exciting to see where this can take us. Five years ago, if you had wet macular degeneration, you'd likely be blind within a year. Now, there's a high probability that I could treat you and improve your vision."

Treatment isn't always necessarily surgery. In the case of macular degeneration, it can be a series of injections directly into the eye. "There have been tremendous advances in the science of treatment of macular degeneration," Dr. Adleberg explains. "New, complex, biological drugs have been developed that are able to stabilize vision in patients with many forms of wet macular degeneration."

He's anticipating many more advances in treatment options over the next couple of years and is currently involved in a clinical trial for an extended release system designed to more efficiently deliver drugs to the back of the eye, thus eliminating the need for so many injections. "Science is giving us ways to revolutionize how we care for many diseases of the retina," he says. "That coupled with the very advanced technology that provides higher resolution images of the retina is resulting in a much greater ability to preserve vision."

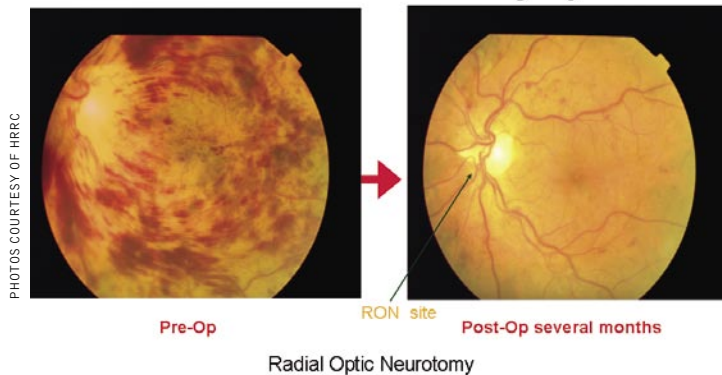
One of the most exciting potential areas of advancement for Dr. Adleberg is the development of retinal implants, microprocessors that will be implanted on the retinal surface. "These will function much like cochlear implants," he explains, "potentially providing vision in patients who don't currently have vision, or markedly improving vision in patients who have limited sight."



(Side) Aboard the Flying Eye Hospital, a modified DC-10, a local Uzbekistan physician evaluates a patient alongside Dr. Adleberg, ORBIS volunteer faculty member, prior to his performing retinal surgery for her on the plane's operating room suite and (Bottom) Dr. Adleberg boarding the Flying Eye Hospital in Tashkent, Uzbekistan.



Central Retinal Vein Occlusion before and after surgery



PHOTOS COURTESY OF HRRCC

New and innovative surgical procedures performed by Dr. Adleberg can sometimes restore vision in patients with no good treatment options as in this patient following radial optic neurotomy for a severe central retinal vein occlusion.

This technology will initially be used in patients with retinal dystrophies, with conditions where their rods and cones don't function properly or are diseased. "It will be most applicable, initially, there," he says. "But as with cochlear implants, as the technology matures and advances, a variety of patients will be candidates for the implantation of these chips." Is there application for someone who had been born blind? "Yes, could be," Dr. Adleberg says. "They could be born blind or have diseases where the outer retina is nonfunctional

**The dedicated team of Hampton Roads Retina Center (left to right):
Terressa McDougald, clinical coordinator; Jon M. Adleberg, M.D.;
Jenny Kessel, billing and insurance supervisor.**



PHOTO BY MARSHALL D. HOYLE

and so they don't see. These implants could potentially allow them to regain visual function."

It's cutting-edge medicine like this that has been a hallmark of Dr. Adleberg's practice. "I always want to take the newest technology available and apply it whenever possible, where otherwise my patients are going to go blind," he says. "When I established the Hampton Roads Retina Center in 2002, one of my reasons for opening my own practice was to be able to bring to the community the newest techniques, the newest technologies that were otherwise unavailable."

Such was the case a few years ago, when Dr. Adleberg attended a major conference in Montreal, where a physician researcher presented his findings on a new compound, which was actually a cancer drug, but which had possible applications for AMD — age-related macular degeneration. "I started using it for patients with severe macular degeneration because we had limited treatment options," he says. "The results were amazing in some patients who, for the first time, had some improvement in their vision."

Since coming to Hampton Roads, Dr. Adleberg has operated for many years at Bon Secours DePaul Medical Center in Norfolk, and looks forward to performing many of his surgical procedures at the new Bon Secours Health Center at Virginia Beach. This new center is an 85,000-square-foot center that provides state-of-the-art health care services, including advanced imaging, laboratory services, ambulatory surgery, physical therapy and sports performance — as well as ophthalmology. Dr. Adleberg will continue to provide surgical care at Bon Secours DePaul in Norfolk and at Chesapeake General Hospital in Chesapeake. As a member of the Sentara medical staff, he frequently lectures on advances in the care of retinal patients.

"Between caring for patients, clinical studies and research, teaching and managing a solo practice, life is always hectic, never as much personal play time as I'd like," he says. "Not right now, in any case."

What he does have right now — in full measure — is the daily satisfaction of using his love of science to bring hope and healing to his patients. It may not be the way Hollywood portrays it, but for this physician, who's able to offer his patients a bright future, "that's what it's all about." ■



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