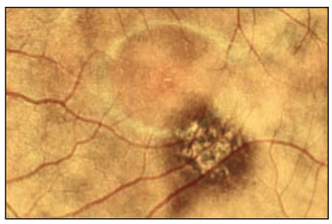
By Judith Riddle
Senior Editor

New Factors Predict Risk of Melanoma



EIGHT FACTORS MAY PREDICT whether a choroidal nevus may develop into melanoma, according to a study published in a recent issue of *Archives of Ophthalmology*.

Benign choroidal nevi and small melanomas share many characteristics, including color, location and size. "The challenge is to identify the single small melanoma among the thousands of choroidal nevi," researchers say. The factors that predicted growth into melanoma included five previously identified factors, such as tumor thickness greater than 2 millimeters, fluid beneath the retina, decreased vision or flashes and floaters, orange pigment and a tumor edge within 3 millimeters of the optic disc. The two new factors identified were hollowness of the growth on ultrasound and the absence of a surrounding halo, or circular band of depigmentation.

According to the study, monitor patients with choroidal nevi twice a year after the initial diagnosis, provided they don't have any of the seven risk factors, then annually if they remain stable. If patients have one or two risk factors, they should be seen every 4 to 6 months. Patients with three or more risk factors should be referred for treatment.

Worldwide Gap in Vision Care Attitudes and Behaviors

ACROSS CULTURES AND NATIONAL boundaries, sight is valued as the most important of the five senses. Yet, a recent global survey shows that across the world, nearly 44% of respondents share the misguided belief that having good vision is the same as having good eye health.

Researchers surveyed more than 6,500 adults from Australia, Brazil, China, France, Hong Kong, Italy, Japan, Korea, Russia, Singapore, Taiwan, the United Kingdom and the United States to better understand the incidence, practice and perception of eye exams for adults and children around the world. Eight in 10 (79%) respondents believe that improving their vision will impact their enjoyment in life, helping them perform better in hobbies (73%), school/career (71%) and sports (65%). But only 54% have had a comprehensive eye exam, and more than 1 in 3 parents/caregivers have never taken their children for a vision assessment.

Based on these findings, you should remind patients that a comprehensive eye exam won't only assess vision and the need for upgraded prescriptions, it also may help identify and diagnose other health concerns, such as hypertension and diabetes. To view the survey, visit thevisioncareinstitute.com/globalsurvey.

Enzymes Lead to Vascular Damage

A RECENT STUDY found that elevated levels of the enzyme arginase contribute to vascular eye damage, and therapies to normalize its levels could halt progression of diabetic retinopathy and other diseases that can cause vision loss.

The study, published in the August issue of *The American Journal of Pathology*, is the first to make the connection between eye disease and arginase. Because the researchers can measure arginase blood levels, the enzyme could become a biomarker for a disease process that can work silently in the eye for months or even years.

Understanding how arginase regulates inflammation may lead to new therapies for many acute and chronic inflammatory diseases of the eyes and other organs. Researchers suspect a high level of arginase is a red flag for early vascular damage in the eyes as well as the heart, kidneys and other organs.

Free Meds for the Unemployed

PFIZER HAS LAUNCHED a program to help patients in financial need, so they can continue receiving eye medications, such as the glaucoma drug latanoprost, if they've recently become unemployed and don't have prescription drug coverage.

Beneficiaries of the program will receive their Pfizer meds for free for up to 1 year or until they become reinsured. For more info, visit PfizerHelpfulAnswers.com.

Opening the Eyes of the Blind

Optometry students and practicing ODs bring patients out of darkness and into the light around the globe, and they're gaining

LONG BEFORE DAYBREAK, hundreds of men, women, children and infants begin forming a line that stretches ¼ mile to 1 mile long in front of a makeshift eyecare clinic in a remote area in Ethiopia. These patients are eager — often desperate — for eye care that will enable them to finally read a book, seek employment, see the blackboard in school and view the faces of family and friends for the first time. A compassionate, conscientious team of optometry students, seasoned ODs, ophthalmologists, opticians, interpreters and other volunteers hustle to unpack thousands of eyeglasses and sunglasses and various diagnostic equipment to prepare for a 12- to 14-hour day of examining eyes, diagnosing, treating disease, correcting refractive error and making referrals.

Amid the clamor of horns honking, car engines humming, dogs barking and chickens squawking, team members roll up their sleeves to set up a station for history-taking and visual acuity testing. They designate another area for blood pressure and blood sugar measurements, pupil and anterior segment exams and dilation; a station for retinoscopy and refraction; and still another for dilated fundus exams. A separate area is allocated for dispensing eyeglasses and sunglasses. The task at hand seems formidable. The doctors will examine hundreds, maybe a thousand patients by the end of the day. They say the work is exhausting but exhilarating and incredibly rewarding. And most (if not all) will look forward to going on several more missions like this one in the months and years ahead.

VOSH Mission Field

These doctors, students and other volunteers provide charitable eyecare services as members of Volunteer Optometric Services to Humanity (VOSH/International), a 38-year-old nongovernmental, nonsectarian, apolitical organization dedicated to offering eye care and vision care to those who are below poverty level and have no access to eye care.

The organization has 35 regional chapters and 25 student chapters in the United States, Canada, Honduras, India, Africa, South America and the Netherlands. Each year, these VOSH chapters average between 80 and 90 mission trips, serving more than 100,000 people.

As part of VOSH's mission to sustain ongoing eye care in underdeveloped countries, it has helped establish permanent eyecare clinics in Honduras, Guatemala, El Salvador, Nicaragua, Haiti, Mexico and Peru. Moreover, the organization offers educational activities and is involved in optometric research.

"Being a part of VOSH has been an experience words can't describe," says Dale Cole, OD, VOSH/International's past president and current historian in Salina, Kan. "Often, we provide the only opportunity people have to receive eye care. People will come from miles away and stand in line all day long without food or water, and they're thankful," he adds. "For example, in Honduras, an elderly lady with advanced cataracts walked for 8½ hours to reach our clinic. After she had cataract surgery, she walked for another 8½ hours to return to her hometown.

By Judith Riddle, Senior Editor

◀ Crowds of patients in Vietnam wait for eye care they seldom receive.

▼ An American optometry student teaches a Ghananian optometry student how to use a retinoscope at Kwame Nkrumah University of Science and Technology in Kumasi, Ghana.

And when my team and I arrived in Vietnam, a mass of people applauded us as we approached the clinic. They gave us bouquets of flowers. It was very touching."

Personal Rewards

Optometry students and practicing ODs who join VOSH/International experience great personal satisfaction in helping the underserved. "It's such a great feeling to know you're helping people in such a grand way," says Jenee Barth, OD, a private practitioner in Salina, Kan., and past president of SVOSH (Student Volunteer Optometric Services to Humanity) at the Southern College of Optometry in Memphis, Tenn. "By giving sight to people, you're changing their lives. Patients are able to work, find higher paying jobs, receive an education, support their families and enjoy a better quality of life."

Matthew Lampa, OD, FAAO, assistant professor at Pacific University College of Optometry in Forest Grove, Ore., and a former member of SVOSH at the university, has traveled to Honduras and Guatemala. He recalls a unique experience he had during a mission trip in West Africa, where he provided eye care to patients alongside optometry students from Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, Ghana. "For the first time in Africa, we had the opportunity to work alongside African optometry school students," Dr. Lampa says. "We shared our knowledge of optometry with the faculty and students and provided eye care to patients side by side. It was a phenomenal learning experience I'll never forget."

Harry I. Zeltzer, OD, DOS, FAAO, past president and executive director of VOSH/International in Ipswich, Mass., who's been a member of VOSH for 24 years, accompanied the med-

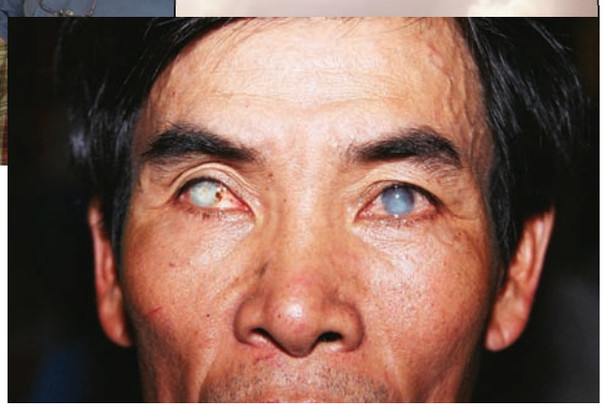
Become a VOSH Volunteer

Optometry students who want to provide eye care to the underserved can join SVOSH (Student Volunteer Optometric Services to Humanity) by applying to their school chapters.

Practicing optometrists can become members of VOSH/International by joining a local chapter in their state. Visit vosh.org for a membership application and additional information.

VOSH/International has 35 regional chapters and 25 optometry school chapters. Practitioners have the opportunity to start their own chapter if one doesn't exist in their state.

◀ Dale Cole, OD (far left), and Harry Zeltzer, OD, DOS, FAAO (far right), present two sets of ophthalmoscopes and retinoscopes to optometry students at Kwame Nkrumah University of Science and Technology in Kumasi, Ghana.



▼ A Vietnamese man suffered an ocular infection that led to the development of corneal scars — and eventually blindness.

ical team to Ghana. "We held clinics with the students from Pacific University College of Optometry and the students from KNUST," he says. "Despite the different cultures, there was an amazing harmony and camaraderie between the students. The only difference was that the American students had all of the equipment needed for the program and the African students didn't. So we shared our equipment with them and have since shipped equipment — such as phoropters, biomicroscopes, ophthalmoscopes, retinoscopes and trial lens sets — to the university. This experience gave the American students a real taste of humanitarian eye care."

Priceless Clinical Experience

The late founder of VOSH/International Franklin Harms, OD (1917-1978), once said, "An optometry education is not complete until you have been on a VOSH mission." The doctors and optometry students who participate in VOSH unanimously agree. By providing eye care to the underserved, they're exposed to far more advanced refractive error, eye disease and eye injuries than they'd ever encounter in the United States. "Doctors are more likely to see ocular complications from genetic defects, poor hygiene and environmental stress," Dr. Zeltzer says. "This is due to the lack of eye care or the inability to afford eyeglasses to correct refractive error and surgery to remove advanced cataracts, which often is the underlying reason for visual impairment and blindness. Factor in wretched living conditions, lack of education and the absence of public health care, and you see a host of eye conditions resulting from infection to devastating retinopathies."

Dr. Barth says, "A large variety of pathology exists in underdeveloped countries. These people don't have access to eye care, so refractive errors, diseases and eye injuries go untreated for several years. By the time we see them, their conditions are in an advanced stage. As a doctor, you gain a much better understanding of disease and what the end stage of a disease process looks like."

Dr. Lampa agrees. "The diseases you see in underdeveloped countries are incredibly rare in the United States. You'll see end stage eye disease in developing countries versus early stage disease in the United States. As a student, you get the chance to apply what you spend hours studying in optometry school to peoples' lives."

Specifically, the doctors are more likely to encounter high myopia and high hyperopia, greater degrees of astigmatism, early presbyopia, untreated amblyopia and strabismus. "In underdeveloped countries, where there's a higher incidence of poor health and malnutrition, you're likely to see presbyopia in adults as young as 25 years old versus the average age of 40 in our country," Dr. Zeltzer says. Moreover, doctors are more prone to see trachoma, Marfan's syndrome, river blindness,

"A large variety of pathology exists in underdeveloped countries. These people don't have access to eye care, so refractive error, diseases and eye injuries go untreated for several years. By the time we see them, their conditions are in an advanced stage."
— Jenee Barth, OD, Salina, Kan.

pingueculae, pterygia, staphylomas, histoplasmosis, retinopathies, advanced cataracts and scarring from wounds received during machete accidents on farms.

Adding to their clinical experience is the vast number of patients they examine each day on a mission trip. "Students and doctors will examine many more eyes in an 8-hour period than they would in their offices in the United States," Dr. Cole says. "On average, depending on the size of the team, six ODs will see 2,500 patients in 4 days. On one particular mission in Africa, a team of 13 doctors saw 4,000 patients in 4 days."

Life-changing Moments

In addition to the rich personal rewards and clinical experiences the doctors and students receive during VOSH missions, they recall other memorable moments that have transformed the lives of patients.

Dr. Barth remembers an 8-year-old boy in Costa Rica who sat in the back of his classroom in school because the administrators believed he was unable to learn. He couldn't participate in class or do any classwork because he simply couldn't see. "This young boy was extremely hyperopic," Dr. Barth recalls. "His prescription was +15.00D. He'd never seen his mother's face. But once we put on his eyeglasses, and he realized he could see, he cried, his mother cried and I cried. He stayed at the clinic for 3 hours just looking at everything."

Dr. Cole remembers a 15-year-old boy in Honduras who suffered from severe myopia. He complained of light sensitivity and wouldn't open his eyes. Once Dr. Cole began placing stronger and stronger lenses in front of the boy's eyes, slowly he began to open them and finally see. "The boy started crying because he saw his friends for the first time," Dr. Cole says. "This was a boy who was kicked out of school because the teachers believed he was stupid. The boy said he was going back to school to show them he could see."

In Venezuela, Dr. Cole recalls a mother who feared her 12-month-old daughter was blind in both eyes. Previously, the child had cataract surgery but not intraocular lens implantation. "One of the volunteers found a pair of eyeglasses designed for an adult cataract patient and reduced the size to fit the child's face," Dr. Cole says. "When he placed the eyeglasses on the child, immediately she looked at her hand and her mother's

▶ A Vietnamese woman presents with pterygia caused by excessive ultraviolet light exposure.

▼ In Africa, hundreds and hundreds of men, women and children wait in line to receive eye care from VOSH volunteers.

◀ Smiling onlookers watch a 15-year-old boy with severe myopia receive his first pair of eyeglasses, which enable him to see his family and friends for the first time. Now, he can finally read and see the blackboard in school.

face. She discovered she could see."

Charles Covington, Sr., secretary/treasurer of VOSH in Lake Mary, Fla., who's coordinated about 20 VOSH missions and traveled to 13 countries, remembers a trip he took to the Ukraine when he found the perfect prescription for eyeglasses for a 50-year-old woman whose visual acuity was 20/200. "When she tried on the eyeglasses and realized she could see, she dropped to her knees, began crying and thanking God and everyone on the team for coming to her country. It was quite an emotional moment!"

In Honduras, Dr. Lampa played a role in saving a woman's life. When he examined her eyes, he noticed both optic nerves were inflamed, indicating possible increased intracranial pressure, which could've been life-threatening. "This woman had papilledema," Dr. Lampa says. "Thankfully, we had a primary care physician from the United States on our team who promptly referred her to a nearby hospital for immediate medical treatment. To come away from this experience knowing I made a difference in someone's life is amazing."

During a mission trip in Haiti, Dr. Cole recalls when a doctor on his team examined a woman and fit her with reading eyeglasses. "She was so excited that she finally could see that she made her way back through the crowds to the doctor to show him she could read her Bible! All you need is one or two experiences like this, and you'll want to go on another mission trip."

And that's exactly what most of the doctors interviewed by *new OD* are planning to do in the upcoming months and next couple of years.

Future Endeavors

Dr. Lampa, along with members from his local church, recently visited the La Mixteca region in Mexico in October 2009. Mr. Covington is preparing to travel to Cameroon, West Africa, in 2010. Dr. Zeltzer is returning to San Miguel, El Salvador, in February 2010. And Dr. Cole is preparing to go to Uganda, West Africa, in 2011.

"These trips are a life-changing experience," Mr. Covington says. "Once you go on a trip to help people in dire need of eye care, you'll want to continue giving back to humanity." **nOD**

Making Greater Strides

VOSH/International recently received a grant for $30,000 from *Optometry Giving Sight* to build a nonprofit optometry clinic at Xochicalco University in Tijuana, Mexico. *Optometry Giving Sight* is a global fundraising initiative that targets the prevention of blindness and impaired vision due to uncorrected refractive error. The program provides funds for projects offering eye care to underserved regions.

The organization continues to endorse *Vision 2020: The Right to Sight*, a global initiative aimed at eliminating preventable blindness worldwide by the year 2020. The World Health Organization, the directing and coordinating authority for health within the United Nations system, recently launched the program.