



DynamicEye

Artikel über SportsVision Training für Olympiaathletin in den USA zur Vorbereitung auf die Olympischen Spiele in Rio 2016

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Carrying the Torch

Doctors of
optometry have
a role in helping
elite athletes
fulfill their true
potential—and
their Olympic
dreams.

BY LORRAINE KEE

Bronson Hamada, D.O., works with
U.S. Olympic athletes who play
volleyball, water polo and soccer.

PHOTOGRAPH BY THOMAS ALLMAN

Faster. Higher. Stronger.

That Olympic motto will take on some added import for doctors of optometry this summer as U.S. athletes gather to compete against the world in Rio de Janeiro, Brazil. That's because for years, doctors of optometry have helped train American athletes for the Olympics.

Train their eyes, that is.

These doctors, who specialize in sports vision care and enhancement, talk of eye tracking, eye-hand-body coordination visualization, visual memory and visual reaction time, and have opened athletes' eyes to

how they can enhance their performances on the courts, track and fields. The eyes might just be that competitive edge they seek.

"Most people think that you either have it or you don't," says Graham Erickson, O.D., a professor at Pacific University College of Optometry in Forest Grove, Oregon, where he teaches courses in pediatric optometry, vision therapy and sports vision. "They don't think about vision being something you can improve."

Dr. Erickson, who has worked with Olympians, adds, "Traditionally, the focus has been on the physical side of sports. And there certainly is a lot of focus on the mental side also. But I think of vision training as physical training. There's always a thought that I can be a little faster, a little stronger, a little quicker. These athletes are always looking to optimize."

Eyes on the prize

Jeanne Derber, O.D., is the eye care provider at the U.S. Olympic Complex in Colorado Springs, Colorado, the flagship training center for the United States Olympic Committee (USOC). She also is the U.S. classifier for the International Paralympic Committee and the International Blind Sports Association.

As the Olympic Complex's eye care provider, she works primarily with athletes on the national team who will be heading to the Olympics in Rio Aug. 5-21. Some might need routine examinations. Occasionally, though, an athlete might get poked in the eye or need to be examined for a concussion. Blurry vision and sensitivity to light are among the symptoms of traumatic brain injuries.

"I see the athletes and teams as they rotate through," says Dr. Derber, who started as a volunteer with the USOC about 30 years ago. "I see anyone who needs eye care. Some athletes want to maximize their vision with contact lenses or visual correction."

Dr. Derber, who practices at Executive Park Eye Care in Colorado Springs, does more than write prescriptions. She will leave her fully equipped exam room in the Olympic campus' sports vision center to closely observe the athletes on their fields of competition: the pool, the track, the courts.

"Each sport has its own flavor," says Dr. Derber, who believes she can be of more value in advising athletes if she has been on their turf. "Some athletes are very particular about their eyes. They want to know they are at their peak. They want to know they are at their best and that you're going to help them be the ultimate they can be."

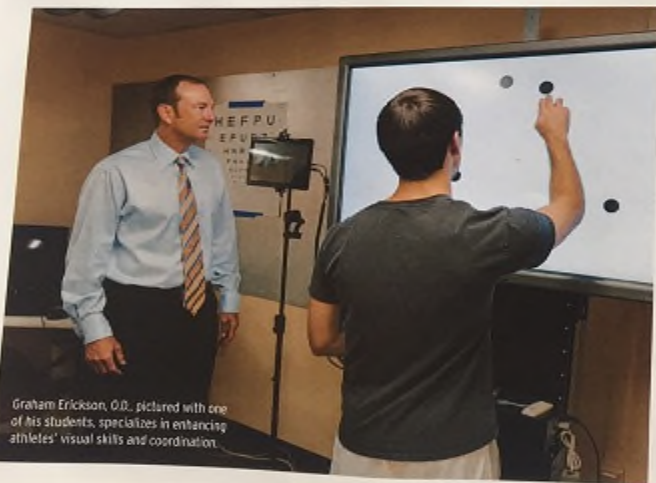
Of course, the fields of competition can take her around the world. She has traveled to London, Hungary,

Jeanne Derber, O.D., who started with the United States Olympic Committee as a volunteer 30 years ago, completes an eye exam on patient Jonathan Cortinas at her practice in Colorado Springs, Colorado.



PHOTOGRAPH BY ISAAC LAKE-KOVAL

PHOTOGRAPH BY MATT HALLER



Graham Erickson, O.D., pictured with one of his students, specializes in enhancing athletes' visual skills and coordination.

Greece and Qatar to classify athletes for competitions, including the Paralympic Games Sept. 7 through Sept. 18 in Rio.

"Blind athletes compete at different levels," says Dr. Derber, a certified medical classifier for the athletes. "A single amputee, for instance, competes differently than a double amputee. My role is to define how blind the athletes are and classify them as to how blind they are. They are provided with the same opportunities as Olympic athletes."

Ready, set, go

Doctors of optometry didn't always cross the finish line with elite athletes. Dr. Derber, for instance, says she had to educate a few doubters about the contributions made by doctors of optometry, especially early on when they were outnumbered by ophthalmologists among the international classifiers.

"I probably had a greater scope of service than a lot of them," Dr. Derber says.

Optometry, according to Bronson Hamada, O.D., has a role to play in the training of elite athletes. Dr. Hamada owns a practice in Huntington Beach, California, not far from the Olympic training center in Chula Vista, California, and he currently works with U.S. Olympic athletes who play volleyball, water polo and soccer.

But sports vision therapy is nothing new.

In the 1990s, industry sponsors such as Bausch & Lomb raised awareness with their Olympic campaign on sports vision, says Fred Edmunds, O.D., a leader in sports and performance vision. Dr. Edmunds was one of the leaders of the Bausch & Lomb campaign.

Studies have reinforced the view that vision training can boost performance. For instance, oft-cited



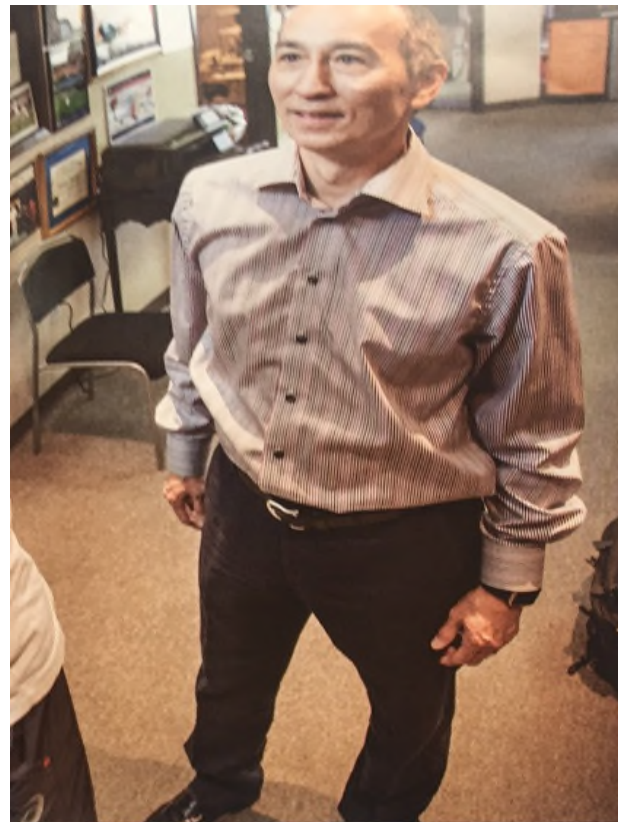
pictured here with volleyball player and Olympic hopeful Kawika Shoji.

research published in 2014 showed the results of an integrated perceptual learning training program—described as a vision training video game—for members of the University of California Riverside baseball team. Afterward, the players' eyesight showed improvement (a 31 percent jump in visual acuity), along with their batting averages. Players also saw a 4.4 percent

decrease in strikeouts.

Doctors of optometry are carrying the baton for sports vision enhancement.

"We are poised to participate in the multi-disciplinary care of elite athletes," Dr. Hamada says. "We are the best at refraction, vision correction, functional eye skills, ocular nutrition, sports vision training, specialty contact lenses, and



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neuro-rehabilitation."

He adds, "Optometrists have unique knowledge and insights into sports performance that no other sports-performance trainer has."

But optometrists haven't crossed the finish line yet.

"There has definitely been a change in thinking about vision, but we still have a long way to go," Dr. Hamada says. "Think about elite sports performance in terms of a report card grade. Coaches train the body to achieve an A+ grade in physical fitness, but then accept that an athlete hasn't even had a current eye examination, or accept that 20/20 is 'perfect' vision, or accept that an athlete removes his or her vision-corrective lenses prior to competition. "Does that make sense?" Dr. Hamada asks. "For an elite athlete, 20/20 would be equivalent to a vision grade of C-, or 'below' average. So what is the human potential if they are an A+ from the neck down and a C- from the neck up?"

The eyes have it

"How important is vision to what these elite athletes are trying to achieve?" asks Dr. Erickson, O.D., who authored "Sports Vision: Vision Care for the Enhancement of Sports Performance" in 2007.

"In most athletic situations, your ability to see makes the difference between success or not," he says, noting that it may never occur to some athletes that their eyesight may be holding them back. "You can always find some exceptions to this, but most of the time vision is what guides your decision-making and your responses, how well you see and how quickly you process that information. That can all make a difference."

Any sports vision evaluation starts with questions for athletes and their sports trainers, doctors say. What aspects of vision are important

ZIKA: SHOULD OLYMPIC ATHLETES AND FANS BE CONCERNED?

As the 2016 Olympic Games near, doctors of optometry are keeping an eye on news reports and alerts by public health agencies about an outbreak of the Zika virus in South America.

About 10,500 athletes from 205 countries will compete in Rio de Janeiro, Brazil—with an estimated 500,000 tourists cheering them on. Some athletes have expressed concerns about contracting the Zika virus if they compete in Rio. The World Health Organization has declared the Zika virus a “public health emergency of international concern” and advised pregnant women not to travel there. Reports have linked Zika virus to microcephaly (birth defects), and Guillain-Barré Syndrome.

“I would not go to Rio if I were pregnant, trying to get pregnant or going to be pregnant,” advises Sue Lowe, O.D., chair of AOA’s Health Promotions Committee. Dr. Lowe is a partner at Snowy Range Vision Center in Laramie, Wyoming, and formerly served as a consultant to the U.S. freestyle ski team.

Symptoms for the Zika virus, transmitted via the bite of an infected Aedes mosquito, include:

- Fever
- Skin rashes
- Conjunctivitis
- Muscle and joint pain

For most people who become infected, the symptoms are very mild and pass within a few days. Dr. Lowe recommends athletes and fans take precautions if they plan to go to Rio, such as:

- Wear a hat that covers the neck
- Use insect repellent where skin is exposed

Advise patients to be aware of the symptoms and alert their physicians if they spot any signs of infection, especially if they have traveled to infected areas.

• Visit aoa.org/zika (member login required) to learn what doctors of optometry need to know about the Zika virus.



Dr. Erikson demonstrates one of his performance enhancement exercises with an optometry student at Pacific University in Forest Grove, Oregon.

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—Graham Erickson, O.D.

to their sport? Is the sport monocular (shooting) or binocular (basketball)? What are the conditions like where they will compete?

Dr. Erickson continues, “If there are any obvious barriers to success, I like to remove those. Next, I think about what we can do to optimize their vision so they are getting the best vision they can for their sport. I look at pushing performance beyond average. There’s ample evidence that everything we do is modifiable.”

Technology matters, too.

Dr. Erickson was formerly part of a team at Nike Inc. that developed a computer-based system that assessed elite athletes for various visual factors and then compared their scores in a database of other elite athletes in their sports.

Although the team parted ways with Nike, Dr. Erickson became an advisor to Senaptex, a Beaverton, Oregon-based company that says it can increase vision performance. Its Senaptex Sensory Station performs the assessments and makes the comparisons.

Then the real training begins.

“My job is to educate,” Dr.

Erickson says. “Here’s an aspect of your performance. Here’s where you stand in comparison to your competition. Here are your options. We start at a basic level and as they progress, we increase the demand to keep them working at that threshold of their ability. For instance, there are different ways to train depth perception.”

Sports vision performance

enhancement is about seeing, perceiving and reacting, Dr. Edmunds says. That is as much about the eye as the brain, he adds.

“Sports-vision doctors look at visual performance differently,” Dr. Hamada says. “Various sports, such as golf, shooting and soccer, have different visual demands and require expertise in different performance aspects. A patient may be wearing a toxic contact lens and experience blur immediately after the blink. That blink may not be acceptable for an elite athlete. Nutraceuticals are prescribed for patients with macular degeneration, and an athlete might take nutraceuticals to enhance contrast sensitivity and performance.”

He adds, “Some people can’t appreciate 3-D movies socially, but an athlete with binocular problems

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may struggle with depth perception and eye-hand coordination. Headlight glare may cause problems for drivers, but for an athlete who plays night games under stadium lights, it could be devastating. Stress and anxiety and emotional state can cause a constriction of the visual

field, and an athlete must learn to manage this or he or she could get badly injured. Most people function in primary gaze position, but athletes are usually in secondary or tertiary positions so smaller amounts of strabismus are more problematic.”

Seeing for himself

Most doctors of optometry will be watching the Olympics from home as the U.S. athletes go faster, higher and stronger and maybe even win a medal or achieve a personal best. Dr. Hamada has his own dreams.

“I am planning on taking my family,” Dr. Hamada says. “It will be a dream to see the greatest athletes in the world compete. Go Team USA!”

Lorraine Kee is a content producer for the AOA, based in St. Louis, Missouri.

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