



**VISION**Quest 20/20

Because Every Child Deserves To See

**James W. O'Neil, M.D., Board President & Co-Founder, VisionQuest 20/20**

*“Imagine the tremendous social benefit if every child in America was assured quality vision screenings at school. Preventable causes of vision loss could be detected at an early age when treatment works best. Learning and school performance would be optimized.”*

Dr. James O'Neil is a board certified pediatric ophthalmologist (children's eye doctor and surgeon) that has been treating childhood vision disorders for close to two decades. All too often, Dr. O'Neil must inform families that their child has a serious vision disorder which would have been treatable if only the problem had been identified sooner. Amblyopia, or lazy eye, must be treated early in life during the critical period of development for the brain's vision center. After age nine or 10, it is generally too late to restore vision.

Parents are shocked and filled with guilt to learn their child has a vision problem that has “slipped through the cracks”. Often, there are no outward signs or symptoms and the problem can be missed without a formal vision assessment.

Realizing that the way we screen for vision problems with a wall chart has not changed significantly for over 100 years, Dr. O'Neil observed how computer literate his own children were at very early ages. He envisioned how children's natural love for computer games might be harnessed with advancements in computers and Internet technology to make vision screenings more reliable, accessible, economical and fun. In partnership with Richard Tirendi (co-founder and software engineer) VisionQuest 20/20 was born.

From the beginning, the founders recognized that changing a public health model through the use of technology was an enormous undertaking. VisionQuest 20/20 was established as a 501(c)(3) non-profit organization to facilitate the collaborations with vision experts, schools, parent groups, foundations, and government agencies. Years were spent meticulously developing and systematically evaluating the program through a successive series of steps including software programming, scientific validation, and repeated pilot testing to make certain the program performed as designed, and was well accepted by schools, nurses, parents, and the children themselves.

“Working with VisionQuest 20/20 is in many ways an extension of what I do everyday as a children’s eye doctor. My goal is to help make certain children can see. The difference is, instead of interacting with one child at a time, VisionQuest 20/20’s program allows me to impact the lives children on a much more significant scale. Through VisionQuest 20/20, we have already screened tens of thousands of children I have never met, and we continuously are expanding and improving the program every year. We are on the verge of experiencing a paradigm shift in the way we screen children for vision disorders through the use of new technology. It is incredibly exciting to think that what we are doing could be part of the solution.”

Dr. O’Neil has had prior first hand experience with how technology can revolutionize the way we screen children for vision problems. He is an expert in treating Retinopathy of Prematurity, a blinding condition of premature infants. He was the first to establish the Retinopathy of Prematurity Telemedicine Program in Arizona to provide remote eye examinations of premature infants via highly specialized photographs sent over the Internet. At the time, this was only the second such non-research program in the country.

Dr. O’Neil is a member of the American Association of Pediatric Ophthalmology’s national vision screening committee. He is a board certified pediatric ophthalmologist who has performed thousands of eye surgeries on children in his career. He is a practicing physician with Arizona Pediatric Eye Specialists, PLC (the nation’s largest pediatric ophthalmology subspecialty practice) and on staff at Phoenix Children’s and Banner Cardon Children’s Hospitals. He was named as one of the “Best Doctor’s in America” and one of Phoenix Magazine’s “Top Doctors” on numerous occasions. Dr. O’Neil graduated Summa Cum Laude from Creighton University and Cum Laude from Creighton University Medical School. He received ophthalmology residency and pediatric ophthalmology training from the Medical University of South Carolina.

Dr. O’Neil has an identical twin (a practicing radiologist) who wore an eye patch for amblyopia as a child. His father is a retired Eye, Ear, Nose and Throat Specialist who diagnosed his brother’s amblyopia after it was missed by others. Dr. O’Neil lives in Phoenix, Arizona. He is engaged with two children.

## **Richard S. Tirendi, CEO and Co-Founder, VisionQuest 20/20**

*“The past 10 years have gone by very quickly. I guess doing what you love makes that happen. It took seven years to develop, and in only three years, EyeSpy 20/20™ has screened nearly 200 thousand children. I am truly honored to be a part of something that will help millions of children – not just for that one day, but for the rest of their lives.”*

With more than 25 years of technology experience, Richard Tirendi oversees VisionQuest 20/20. Tirendi is a successful electrical and computer engineer with numerous patents in his field. Grateful for his gift of sight and compelled to find solutions to ensure that schoolchildren across the country are not impacted by preventable vision disorders, Tirendi is deeply invested along with his co-founder in the success of VisionQuest 20/20 and serves as the organization’s chief executive officer.

At age five, Tirendi awoke one morning to find that he had lost his vision due to a poisonous insect bite. While the condition was treatable and his vision was eventually restored, he never forgot the fear and sadness he experienced, and so his passion is manifested in his commitment to VisionQuest 20/20.

Tirendi began his career at the TJ Watson IBM Research Center in 1986. Although degreed in Electrical Engineering, Tirendi recognized that software would significantly contribute to virtually every aspect of our lives. While working with great thinkers and co-developing numerous advancements in the area of semiconductor (computer chip) manufacturing, he insisted that he could develop software systems that would increase manufacturing yield and profitability. Independently, Tirendi focused his attention developing real-time statistical process control systems that proved him correct. Encouraged, Tirendi and several colleagues formed a semiconductor technology company. Within months, their new venture was acquired, and Tirendi successfully applied his systems to other business operations including forecasting. In 2000, Tirendi and his team agreed to sell their remaining interest.

Over the next several years, Tirendi studied research on human vision, optical science, and various biometric screening technologies. Working with Randy Pausch and his graphics design team at Carnegie Mellon University’s Entertainment Technology Center, Tirendi applied his systems knowledge to make Dr. O’Neil’s idea a reality – a technology that can detect virtually any vision disorder while children “play” a 2-3 minute video game. While developing this revolutionary approach, Tirendi co-founded VisionQuest 20/20, the nation’s only nonprofit organization dedicated solely to protecting children and their families from the devastating effects of undetected vision disorders.