

Clinical trials reveal promising results for neuroadaptation technology

Investigators are "impressed" with NeuroVision study outcomes.

Jena Passut



Richard L. Lindstrom

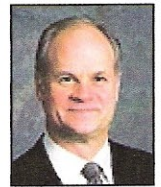
Researchers have been looking to the brain to help improve visual function in patients with conditions such as amblyopia, mild myopia and presbyopia. So far, they say they have been impressed with the results of several clinical trials for one company's program.

Singapore-based NeuroVision Inc. has developed a computer software program that "solely focuses in optimizing the visual processing in the brain" and "neurologically trains the brain to see better," according to company literature.

The system was approved by the U.S. Food and Drug Administration in 2001 to treat adult amblyopia. Now, researchers want to find out if it has broader applications.

NeuroVision called on leading U.S. researchers to try the software in clinical trials, including PCON Editorial Board member Richard L. Lindstrom, MD, and Daniel S. Durrie, MD.

"This particular device has some pretty solid science behind it," Dr. Lindstrom told PCON in an interview. "It seems to be real. It keeps generating the same outcome – about a two-line improvement in visual acuity – regardless of the indication, which is reassuring. That's enough to matter to patients."



Daniel S. Durrie

Dr. Lindstrom and his colleagues at Minnesota Eye Consultants are in the process of testing the software on presbyopic patients who have undergone multifocal IOL surgery.

"We are getting ready to enroll post-LASIK patients who are not happy – a few who have low refractive error," Dr. Lindstrom said.

Dr. Durrie said the science behind NeuroVision has existed for about 15 years. It was developed in Israel and Asia where myopia is almost epidemic, he said. He admits he was a skeptic at first; now he is on NeuroVision's medical advisory board.

"The history of visual training processes, specifically in the United States with the See Clearly and Bates methods, has been spotty at best, as far as its scientific basis," Dr. Durrie told PCON. "Generally, it has not been accepted as working very well, if at all, and has gotten a bad name over the years. The company realizes that, and that is why they are doing scientific studies in the United States to validate whether this process really is helpful to patients.

"I went into this very skeptical," Dr. Durrie continued. "I didn't think this was going to work, but I did see a positive effect for the patients in the clinical studies. In general, I was impressed that we could improve vision without doing surgery or without changing the optical structure of the eye, but just by improving the brain's ability to see."

Clinical trials

Dr. Durrie said the technology has been validated in research projects with patients who have low myopia and early presbyopia, post-refractive surgery and post multifocal IOL implants.

"There's an ongoing project with adolescent amblyopia," he said. "There's also a project for people with multiple sclerosis with optic nerve disease, or glaucoma, to see if we can bypass some true pathology and make the brain see better. We're also studying the neuroLASIK concept."

Dr. Durrie encouraged other researchers to consider participating in a clinical trial on the technology. "If somebody thinks it's absolute hogwash and they want to prove that it doesn't work, those are the people I'd like to get involved," he said.

How it works