

Video games used in new treatment that may fix 'lazy eye' in older children

October 23 2011

A new study conducted in an eye clinic in India found that correction of amblyopia, also called "lazy eye," can be achieved in many older children, if they stick to a regimen that includes playing video games along with standard amblyopia treatment. Today at the 115th Annual Meeting of the American Academy of Ophthalmology, Dr. Somen Ghosh will report on the approaches that allowed about a third of his study participants, who were between 10 and 18 years old, to make significant vision gains.

By the end of the one year study, nearly 30 percent of the 100 participants achieved significant vision gains. About 60 percent showed at least some improvement. Significant gains were more likely in children who participated in Groups 3 or 4 of the four [treatment regimens](#). Treatment Group 3 completed daily [video game](#) practice and Group 4 took the supplement citicoline, which is associated with improved brain function. Improvement was more likely in children younger than age 14 than in those 14 and older.

The prevailing wisdom has been that if [amblyopia](#) is not diagnosed and corrected before a child reaches school age, it is difficult or impossible to correct. But recently the United States-based Pediatric [Eye Disease](#) Investigation Group (PEDIG) reported significant vision gains in 27 percent of older children in a study funded by the National Eye Institute. This report motivated Dr. Ghosh to test new approaches to learn what might be particularly effective in this age group.

His study was divided into four treatment groups. Students in all groups followed a basic treatment plan that required them to wear eyeglasses that blocked the stronger eye for at least two hours a day, during which time they practiced exercises using the weaker eye. This "patching" technique is a standard amblyopia treatment that works by making the weaker eye work harder. Group one followed only the basic plan and served as the control group, while groups two, three and four received additional treatments:

- Group 2 took a supplement that contained micronutrients considered important to good vision
- Group 3 played at least one hour of video games daily using only the weaker eye
- Group 4 took the supplement citicoline, which is associated with improved [brain function](#)

Saurav Sen, a 16 year old graduate of Dr. Ghosh's clinic, received a second chance to achieve good vision. At age 13 Sen began to experience serious vision problems, which negatively impacted his school work. Other doctors had told him it was too late to correct his amblyopia. He completed the regimen assigned to treatment Group 3.t

"Playing the shooting games while using just my weaker eye was hard at first, but after a few months I could win all game levels easily," said Sen. "I'm very happy that I stuck with the program. My vision has improved a lot, so that I now have no trouble studying or taking exams. My tennis game also improved, and of course I'm now a pro PC gamer."

"The cooperation of the patient is very important, maybe even crucial, to successful treatment of amblyopia," said Dr. Ghosh. "We should never give up on our patients, even the older children, but instead offer them hope and treatment designed to help them achieve better vision."

Provided by American Academy of Ophthalmology

Citation: Video games used in new treatment that may fix 'lazy eye' in older children (2011, October 23) retrieved 1 May 2024 from <https://medicalxpress.com/news/2011-10-video-games-treatment-lazy-eye.html>

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