

Best treatment determined for childhood eye problem

October 13 2008

Mayo Clinic researchers, as part of a nine-site study, helped discover the best of three currently-used treatments for convergence insufficiency in children. Convergence refers to the natural ability of the eyes to focus and align while viewing objects up close. Children with convergence insufficiency tend to have blurred or double vision or headaches and corresponding issues in reading and concentrating, which ultimately impact learning.

The findings, published today in the journal *Archives of Ophthalmology* (<http://archophth.ama-assn.org/>), show children improve faster with structured therapy sessions in a doctor's office, with reinforcement eye exercises at home.

"This is good news for children and parents experiencing this fairly common condition," says Brian Mohny, M.D., Mayo Clinic ophthalmologist and lead investigator for Mayo in the study. "Three different approaches were being used across the country and no one knew for certain which worked best. Now that's settled. And only 12 weeks of treatment were necessary to demonstrate improvement."

How they did it

The researchers followed 221 children nationally, ages 9 to 17, divided into four study groups, two of which received only home-based therapies. One group did simple daily exercises for 15 minutes, trying to

focus on a moving pencil. A second home-based group performed a shorter version of the pencil exercise and a series of computer-based exercises using special software. A third group did an hour of supervised therapy in a clinical office each week along with 15 minutes of prescribed exercises at home five days a week. The fourth group, the placebo or control group, did office and home exercises designed to look like real therapy but that had no effect. Follow-up exams were held after the fourth and eighth weeks and at the end of the 12-week study.

Significance of the findings

Children in all three treatment groups experienced improvement, though it's not clear from the research whether any improvement in the home groups was due to a placebo effect. About 75 percent of the children who had weekly office-based therapy coupled with 15 minutes of at-home exercise five days a week experienced either normalization (full correction) of their vision in 12 weeks or saw marked improvements, compared to roughly 40 percent in the two home treatment groups. Researchers say that the lower cost of home therapy may be a factor in its popularity, but they point to the high percentage of normalized vision in the office-based sample after 12 weeks as an indicator of quality outcome in the shortest period of time.

Source: Mayo Clinic

Citation: Best treatment determined for childhood eye problem (2008, October 13) retrieved 2 May 2024 from <https://medicalxpress.com/news/2008-10-treatment-childhood-eye-problem.html>

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