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October 20, 2008

## Office-Based Treatment Best for Childhood Vision Disorder

According to a new study, children with a common eye-muscle disorder responded better to treatments that included weekly office visits to a trained therapist than to strictly home-based regimens, which are more often prescribed.



Children with convergence insufficiency have trouble viewing up-close objects because their eyes are not well-coordinated at close range. Their eye muscles have to work extra hard to turn inward, or converge, to focus on nearby objects. The strain can lead to headaches, blurry or double vision, loss of concentration and difficulties with reading and comprehension.

To improve the condition, most eye-care professionals recommend some type of simple, daily home-based eye exercise regimen. A more intensive but also more costly approach involves regular structured therapy sessions in a doctor's office. The relative success of these different exercise regimens has been unclear.

A multi-center clinical study, called the Convergence Insufficiency Treatment Trial, was designed to compare different treatment options for convergence insufficiency in children. The study, funded by NIH's National Eye Institute (NEI), appeared in the October 13, 2008, issue of *Archives of Ophthalmology*.

The clinical trial included 221 children, ages 9 to 17, divided into 4 study groups. Two of the groups received only home-based treatment. One group did "pencil push-ups" for 15 minutes, 5 days a week. For this exercise, patients visually follow a small letter on a pencil as they move the pencil closer to the bridge of the nose. The goal is to keep the letter clear and single, and to stop if it appears double. The second home-based group performed a shorter version of the pencil activity along with a series of computer-based exercises using special software.

A third group did an hour of supervised therapy in a clinical office each week, as well as 15 minutes of prescribed exercises at home 5 days a week. For comparison, a fourth control group had weekly office-based therapy sessions and home exercises, but the exercises were designed to recreate normal visual activities and not specifically targeted to stimulate and encourage eye convergence.

After 12 weeks of treatment, nearly 75% of children who received the office-based therapy along with at-home exercises achieved normal vision or had significantly fewer symptoms of convergence insufficiency. About 43% of patients who performed home-based pencil push-ups alone showed similar results, as did 33% of patients who did the home-based computer therapy and 35% of patients in the control group.

Although home-based therapies may be sufficient for treating some patients who have convergence insufficiency, the more intensive office-based approach seems to offer a clear advantage. A year-long follow-up study is now being conducted to examine the long-term effectiveness of these 12-week treatment regimens.

### Related Links:

- >> Convergence Insufficiency Treatment Trial:  
<http://www.clinicaltrials.gov/ct2/show/NCT00338611?term=convergence+insufficiency&rank=3>

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