More effective treatment identified for common childhood vision disorder

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Scientists have found a more effective treatment for a common childhood eye muscle coordination problem called convergence insufficiency (CI). For words on a page to appear in focus a child's eyes must turn inward, or converge. In CI, the eyes do not converge easily, and as a result, additional muscular effort must be used to make the eyes turn in.

While the majority of eye care professionals treat children diagnosed with CI using some form of home-based therapy, a new study concludes that office-based treatment by a trained therapist along with at-home reinforcement is more effective. The research, reported in the Oct.13 issue of *Archives of Ophthalmology,* was funded by the National Eye Institute (NEI), part of the National Institutes of Health.

The 12-week study, known as the Convergence Insufficiency Treatment Trial (CITT), found that approximately 75 percent of those who received in-office therapy by a trained therapist plus at-home treatment reported fewer and less severe symptoms related to reading and other near work. Symptoms of CI include loss of place, loss of concentration, reading slowly, eyestrain, headaches, blurry vision, and double vision.

"This NEI-funded study compared the effectiveness of treatment options for convergence insufficiency," said Paul A. Sieving, M.D., Ph.D., director of the NEI. "The CITT will provide eye care professionals with the research they need to assist children with this condition."

The CITT, which included 221 children age 9 to 17, is the first to compare three forms of vision therapy and a placebo therapy option. The first therapy was the current treatment standard known as home-based pencil push-up therapy, an exercise in which patients visually followed a small letter on a pencil as they moved the pencil closer to the bridge of their nose. The goal was to keep the letter clear and single, and to stop if it appeared double. The second group used home-based pencil push-ups with additional computer vision therapy. The third attended weekly hour-long sessions of office-based vision therapy with a trained therapist and performed at-home reinforcement exercises. The last group was given placebo vision activities designed to simulate office-based therapy.

After 12 weeks of treatment, nearly 75 percent of children who were given the office-based vision therapy along with at-home reinforcement achieved normal vision or had significantly fewer symptoms of CI. Only 43 percent of patients who completed home-based therapy alone showed similar results, as did 33 percent of patients who used home-based pencil push-ups plus computer therapy and 35 percent of patients given a placebo office-based therapy.

"There are no visible signs of this condition; it can only be detected and diagnosed during an eye examination," said principal investigator Mitchell Scheiman, O.D., of Pennsylvania College of Optometry at Salus University near Philadelphia, Pa. "However, as this study shows, once diagnosed, CI can be successfully treated with office-based vision therapy by a trained therapist along with at-home reinforcement. This is very encouraging news for parents, educators, and anyone who may know a child diagnosed with CI."

Source: NIH/National Eye Institute