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Kids' eye problems often emerge in homework battle

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Your 9-year-old's eyes hurt during homework? Your teen's a slow reader plagued with headaches? They may have a common yet often missed vision problem: Eyes that don't turn together properly to read.

As many as one of every 20 students have some degree of what eye doctors call "convergence insufficiency," or CI, where eye muscles must work harder to focus up-close. And those standard vision screenings administered by schools and pediatricians won't catch it — they stress distance vision.

When symptoms such as eye strain, headaches, double vision or reading problems trigger the right diagnosis, doctors prescribe any of a hodgepodge of exercises designed to strengthen eye coordination. Now a major government study finally offers evidence for the best approach: Eye training performed in a doctor's office for 12 weeks.

The right treatment can make a profound difference, says Adele Andrews of Rydal, Pa., whose son Thomas participated in the study when he was 10 — and improved enough to at last start reading for fun.

His mother knew something wasn't right early on: Reading seemed to require a physical struggle of Thomas that his three older siblings never experienced.

"He always wanted to buy books but he wouldn't read them. He wanted to but it was too hard for him," she recalls.

Then homework began and "I don't even want to tell you how bad it was," Andrews adds. "He would get frustrated. He wouldn't do it. ... I tried bribery, I tried everything. It got to the point where it was just a battle."

Why? To bring print or other close-in work into focus, both eyes must turn slightly inward, or converge. As its name implies, convergence insufficiency means the eyes aren't doing that properly. Words may appear blurry or double, or disappear as readers lose their place. How much extra effort eye muscles must exert to compensate and bring that image into focus determines whether someone has obvious symptoms and how bad they are.

Complaints are rare in very young children because pictures and large type don't require as much convergence. Parents tend to start noticing a problem once homework and deeper reading begins. Some people complain only in the teen or college years, perhaps when their workload outpaces their ability to compensate. Others find they can read with one eye closed and do fine.

Nor does everyone experience obvious symptoms. How many compensate enough that CI truly doesn't matter — and how many quietly try to avoid reading? No one knows.

Dr. Mitchell Scheiman of the Pennsylvania College of Optometry at Salus University is suspicious when a child's "behavior is, 'I don't want to read, I don't like reading, I can't concentrate.'" His advice then: "Just rule it out."

Diagnosis requires seeing an ophthalmologist or optometrist trained to treat children who can measure convergence with some simple tests such as moving a pencil steadily closer to the nose until the person sees double.

But which treatment works best: The most commonly prescribed "pencil push-ups," practicing that pencil-to-nose test at home? At-home computer eye games? Or more varied eye exercises, including computer-based ones, performed in a doctor's office with at-home techniques for reinforcement?

A study funded by the National Eye Institute aimed to find out, by randomly assigning 221 9- to 17-year-olds to one of those approaches or to a control group given "dummy" exercises at the doctor's office.

Three months later, nearly three-quarters of the office-treated patients had greatly improved — compared with no more than 43 percent of home-treated patients, Scheiman and colleagues report in this month's Archives of Ophthalmology. The study will continue tracking patients for a year, to ensure the benefit lasts.

At roughly \$75 a visit, office treatment is clearly more expensive. Why would it work better? First, they got more intense treatment. The NEI's Dr. Brian Brooks says a combination of more varied in-office exercises may hold a child's attention better — along with a doctor acting like a personal trainer, ensuring the youngster does each technique properly and doesn't slack off.

What's not clear is the more intricate in-office techniques could be adapted for home use and work just as well, he cautions.

But Andrews witnessed the difference between the two techniques as they're practiced today. Thomas was originally assigned to pencil push-ups but improved only slightly. After his 12 study weeks were over, researchers switched him to office-based treatment — and his mother saw a rapid lessening of the homework battles.

Today at 13, Thomas has "become pretty serious about his schoolwork," says a relieved Andrews. "He's going to do OK."

EDITOR'S NOTE — Lauran Neergaard covers health and medical issues for The Associated Press in Washington.

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