News from the American Optometric Association

A flawed statement on vision therapy, learning and dyslexia is reissued

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"Vision problems can interfere with learning, but vision problems are not the primary cause of reading or learning problems for most children. Therefore, any effort to improve a child's visual performance through vision therapy is unsupported, even if your child happens to be one of those who might be helped by vision therapy."

Any parent reading that statement would find it illogical if not misleading. Yet for the fourth time in four decades, the American Academy of Pediatrics, American Academy of Ophthalmology, American Association for Pediatric Ophthalmology and Strabismus, and American Association of Certified Orthoptists have combined their efforts to publish this notion in the guise of public interest.

This is the essence of the abstract of an article in the August 2009 issue of *Pediatrics* that states:

"Vision problems can interfere with the process of learning; however, vision problems are not the cause of primary dyslexia or learning disabilities. Scientific evidence does not support the efficacy of eye exercises, behavioral vision therapy, or special tinted filters or lenses for improving the long-term educational performance in these complex pediatric neurocognitive conditions."

The American Optometric Association in a joint policy statement with the American Academy of Optometry has previously pointed out the flaws with the joint policy statement of the organizations above (1997, at www.aoa.org/x5420.xml). A point-by-point rebuttal of the misleading information intended to discredit optometric vision therapy was published by the American Optometric Association in its journal, *Optometry*. (Bowan MD, 2002). This latest iteration in the form of the *Pediatrics* article unfortunately recycles the same straw man arguments as the prior joint statements.

Here are the primary flaws and myths in the *Pediatrics* article:

"Convergence insufficiency and poor accommodation, both of which are uncommon in children, can interfere with the physical act of reading but not with decoding. Thus, treatment of these disorders can make reading more comfortable and may allow reading for longer periods of time but does not directly improve decoding or comprehension."

FACT: There is no basis for this statement. In fact, there is evidence to the contrary.

The definitive scientific study on convergence insufficiency was published by the Convergence Insufficiency Treatment Trial Study Group. The study was published in *Archives of Ophthalmology* in 2008, and involved children from the ages of 9 through 18. A key part of that study was the Convergence Insufficiency Symptom Survey (CISS) published by the CITT group in *Optometry and Vision Science* (2003). As noted by the CITT investigators, although it has been suggested that CI is not common in children, no data have been presented to support this position.

More important, consider the implications of the following items in the CI Symptom Survey on reading comprehension:

- Do you lose concentration when reading or doing close work?
- Do you have trouble remembering what is read?
- Do you have double vision when reading or doing close work?
- Do you see words move, jump, swim, or appear to float on the page when reading or doing close work?
- Do you feel like you read slowly?
- Do you lose your place while reading or doing close work?
- Do you have to re-read the same line of words while reading?

For each of these questions, the positive response of the children diagnosed with convergence insufficiency was statistically much greater than the children with normal binocular vision.

For example, 43 percent of children with convergence insufficiency reported losing concentration fairly often or always when reading, as opposed to only 7 percent of the children with normal binocular vision. 34 percent of the children with convergence insufficiency reported trouble remembering what is read as opposed to 9 percent of children with normal binocular vision. 47 percent of the children with convergence insufficiency reported feeling like they read slowly as opposed to 9 percent of the children with normal binocular vision.

"*Many children with reading disabilities enjoy playing video games, including handheld games, for prolonged periods. Playing video games requires concentration, visual perception, visual processing, eye movements, and eye-hand coordination. Convergence and accommodation are also required for handheld games. Thus, if visual deficits were a major cause of reading disabilities, children with such disabilities would reject this vision-intensive activity*."

FACT: There is no basis for this statement. In fact, there is evidence to the contrary.

The statement that many children with reading disabilities enjoy playing video games is not substantiated by any evidence in the article. Assuming that some evidence was presented for this, however, it would not be surprising. In fact, it would support the concept that a subset of children with reading disabilities has unstable binocular and eye tracking skills for static stimuli, such as reading print on a crowded page, but excel in tracking dynamic or moving targets such as video games.

How, as a parent, might you infer this? Consider your experiences when trying to read in a car. How well are you able to concentrate on, and comprehend what you read? Even if you're a good reader, chances are that the act of reading under conditions of instability induces not only discomfort, but can be distressing to the point of dizziness or nausea. Try to play a hand-held

video game in a car, and see if you have the same experience. Motivation is less relevant here than physiology, and you too will find that video games are far easier to sustain.

For children with unstable binocular vision, the act of reading at a table is equivalent to someone with normal binocular vision trying to read in a car. While the medical professionals who put together this policy statement view this as incidental to comprehension, we suspect parents and non-biased professionals will agree that conditions such as convergence insufficiency may be highly relevant to reading comprehension and reading disabilities.

"…is poorly validated because it relies on anecdotes, poorly designed studies, and poorly controlled or uncontrolled studies. Their reported benefits can often be explained by the placebo effect or by the traditional educational remedial techniques with which they are usually combined."

FACT : The review of the literature conducted in this paper is highly selective and skewed.

Although papers have been published, and policy statements issued to counter the misinformation in this Joint Policy Statement, its authors continue to ignore factual criticisms. Interested readers are encouraged to review the Optometric Joint Policy Statement on these issues at: http://www.aoa.org/x5411.xml.

The literature supporting the efficacy of optometric vision therapy often exceeds the level of supportive literature for other forms of therapy touted in this paper and far exceeds the placebo effect. The bulk of children with learning disabilities or dyslexia aided by optometric vision therapy come to us having already failed with other forms of intervention including educational remedial techniques. Optometric vision therapy is not offered as a replacement for educational interventions. These children continue to struggle despite their parents reading to and with them, and spending countless hours on homework and reading tutors.

A final note is in order here. Susan R. Barry, Ph.D., is a professor of neurobiology at Mount Holyoke College who recently authored a book "Fixing My Gaze" (Basic Books, 2009). Her book is endorsed by two Nobel Laureates in Physiology and Medicine and a professor emeritus of ophthalmology and neuroscience at Yale. Susan writes of her struggles to read as a child and the way in which she and her mother were patronized by the medical and educational systems that overlooked or devalued her visual problems. She offers considerable scientific support as an antidote to the misinformation of joint policy statements such as the most recent version of the article in *Pediatrics*. It should be required reading for anyone doubting the role of vision in learning and reading disabilities.