

# Editorial

## VAD: Very Awesome Developments (or, YES, Virginia...Vision Therapy DOES Improve Reading!)

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Editor

It may be time for optometrists to stop dancing around the issue of how vision therapy affects academic performance, especially in the area of reading. During the recent 35<sup>th</sup> Annual Meeting of the College of Optometrists in Vision Development, Dr. Harold Solan's research clearly showed a significant connection between vision and reading,<sup>1,2</sup> while Dr. Barry Tannen's presentation<sup>3</sup> told us how to apply this research clinically. The connection that Dr. Solan noted is *Visual Attention* while Dr. Tannen suggested that the diagnosis we should be using in this situation is *Visual Attention Disorder* or VAD which includes anomalies in the Magnocellular (M-Cell) pathway, in temporal processing and in sequential processing. VAD is not only treatable, but treatable using standard vision therapy techniques and procedures.<sup>a</sup>

Magnocellular pathways play an important role in reading because of

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how they relate to selective and sustained attention. Attention stimulates arousal, activation and vigilance along with linking perception and cognition. Visual attention also stimulates the M-cell system to drive the next saccade so that information on the written page can be accessed in an appropriate manner. If this system does not function well, then a non-specific reading disability may be the result.

### Assessing VAD/M-cell Deficits

During the Solan/Tannen presentations we learned that there are several indirect M-Cell assessment tools readily available to us and one on its way. Those tools that we can now use include the Test of Silent Word Reading Fluency (TOSWRF), Rapid Automatized Naming (RAN), Cognitive Assessment System (CAS), the Visagraph/Readalyzer and various educational/reading tests. An M-Cell assessment instrument that should be available to us later this year assesses coherent motion (Random Dot Kinematogram or RDK).

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- a. (It should be noted that VAD is a non-medical diagnosis and would typically not be considered by most 3rd party payers as being reimbursable to the patient. Dr. Tannen suggests that you separate the medical diagnosis and therapy required (i.e. convergence insufficiency, amblyopia) from those that may belong in the realm of education (visual attention disorder).

Dr. Tannen's diagnostic workup for suspected VAD will often include a comprehensive optometric evaluation, Visagraph and DEM, visual perceptual/processing testing (TVPS, TAAS, Birch-Belmont, WJ non-word test, Cancellation Test, PMA Speed, Berry VMI, Gardner Reversal Frequency), and an assessment of reading ability (WJ Passage Comprehension test, TOSWRF, Dyslexia Determination Test). He will also determine M-Cell function (Coherent motion {RDK}, Critical Flicker Fusion, modified FDT visual fields). Upon completion of the diagnostic battery for the presence of any visual and/or VAD anomalies, he will specifically attack the VAD problems using the therapy techniques described by Solan. Tannen's treatment protocol will incorporate the Temporal Visual Processing Home Therapy Program (TVPP: Visual Span, Visual Search, Parafoveal Awareness), tachistoscope (TVPP or PAVE), visual efficiency (PAVE) and Guided Reader (Vision Builder or Taylor Associates). His protocol includes 20 forty minute sessions for a total of just over 13 therapeutic hours. During his lecture, he also reviewed several case reports that demonstrated these diagnostic and therapeutic procedures within the clinical setting.

Dr. Solan will be publishing additional articles (in the *Journal of Learning Disabilities* and other educational journals and a review for *Optometry and Vision Development*) to support the importance of VAD diagnosis and treatment in non-specific reading disabilities. As clinicians we may want to apply now what we already know to better serve our patients by following both the diagnostic and therapeutic protocols established by Drs. Solan and Tannen.

### Stop the War: A Comment on an Editorial

No, I'm not talking about the war in Iraq, but rather the war ophthalmology has declared upon optometry. In a recent editorial in *Binocular Vision & Strabismus Quarterly*,<sup>4</sup> Romano states that,

1. "... optometrists have stolen the winning hand..." because we advocate early prophylactic eye and vision care for children. Dr. Romano, you do not steal anything when you are only advocating for the welfare of your patients. Do you realize that we can practically eliminate amblyopia and strabismus by evaluating our children early in life?
2. ... "[ophthalmology's] hand, screening, is a guaranteed losing hand..." Dr. Romano, you are absolutely correct when you say screening is the "losing hand". We've had vision screening available for years. It has proved to be too little, too late. It is now time for not only optometry, but also for ophthalmology, to advocate for full, comprehensive evaluations for all children starting in infancy and continuing on through their school years. It is time for ophthalmology to join with optometry so that the "winning hand" can be held by America's children.

3. [ophthalmology] "...missed a major opportunity to *sell* ophthalmology to a major portion of the populace...". Dr. Romano, I would suggest that if ophthalmology is to *sell* anything, it should be to benefit our children and not any single profession. It's time for ophthalmology to *buy* into early eye and vision care for children.

The CDC, as detailed in a *Morbidity and Mortality Weekly Report* ("Visual impairment and the use of eye-care services and protective eyewear among children"), has noted that two thirds of the children in the United States do not receive eye and vision care services before their sixth birthday. Dr. Romano, it is time for ophthalmology to stop all wars and to join with optometry in peaceful co-existence so that America's children can benefit.

While we wait for the establishment of this peaceful co-existence, if you have not signed up for the American Optometric Association's InfantSEE™ program<sup>5</sup> go to:

<http://www.infantsee.org/>

for more information. Let's be the profession that *leads* the way in protecting our children's vision, after all optometry is America's primary eye care profession.

### References

1. Solan H. Learning related vision problems. Diagnosis and treatment. Presented at the 35<sup>th</sup> Annual Meeting of the College of Optometrists in Vision Development. Orlando, FL, 2005.
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3. Tannen B. Clinical approaches to visual attention therapy. Presented at the 35<sup>th</sup> Annual Meeting of the College of Optometrists in Vision Development. Orlando, FL, 2005.
4. Romano PE. War with optometry for the hearts and souls of kids first, and everyone ultimately. *Binoc Vi Strabismus Qtrly* 2005;20(2):70.

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