

THE ‘GOLD STANDARD’ STUDY OF VISION THERAPY HAS APPRIVED & HAS FOSTERED AN *OPHTHALMOLOGICAL* PARADOX

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The scientific basis for, and efficacy of, optometric vision therapy (VT) has previously been well established. 1. Despite this, professionals outside of optometry have been slow to acknowledge the benefits of VT.

I was recently chatting with an occupational therapist (OT) whose opinion I value. We’ve had many conversations about VT before, and through the years she has been influenced by literature regarding vision published in OT sources. Yet, when she encourages parents to have their children’s vision evaluated, some wind up in the offices of pediatric ophthalmologists who advise them that optometric VT has little if any bearing on vision development or academic performance. Even within the school system where she works, misperceptions of vision and VT abound. She is puzzled by the schism between optometry and ophthalmology, knowing the benefits experienced by children who have undergone VT.

The persistence of myths about VT has been an enigma. I had presumed that when at least one gold standard study of it had been done, difficult as it would be to do, optometric VT would finally be accorded due recognition by those outside our profession. This is what Dr. Harold Solan and I envisioned when we signed on to be the team from the State University of New York, State College of Optometry involved in a multicenter trial involving VT. CIRS, the Convergence Insufficiency and Reading Study Group, was the forerunner of what evolved into the CITT, the Convergence Insufficiency Treatment Trial Study Group.

Imagine the sense of pride, then, in seeing our colleagues persist in their quest to conduct a “gold standard study” in VT. On January 10, e-mail trails were ablaze with word that the long anticipated, randomized, multicenter clinical trial for convergence insufficiency had been published in Archives of Ophthalmology. 2.

The study, funded by the National Eye Institute (NEI) of the National Institutes of Health (NIH), was conducted at six clinical sites, all of which were Colleges of Optometry.

There are several notable elements to this study. First and perhaps foremost, the “gold standard” design aspects:

- A prospective study rather than a review of cases.
- Multicenters rather than a practitioner’s office.
- Comparison of three therapy groups randomly assigned:
 - Office-based VT/orthoptics
 - Office-based placebo VT/orthoptics
- Standardized treatment protocols

- Standardized symptom survey for pre/post study analysis
- Precise follow-up and statistical analyses

The conclusions of the study are:

- VT/orthoptics is more effective than pencil push-ups or placebo VT/orthoptics
- Neither pencil push-ups nor placebo VT/orthoptics is effective in improving either symptoms or signs associated with convergence insufficiency.

Second is the fact that this study is published in a well-respected ophthalmology journal. This is not meant to imply, by any means, that studies of VT published in optometry journals aren't noteworthy; my point is that VT studies published in optometric journals rarely capture the attention of professionals who are our most vociferous critics. The fact that this study was impeccable, and drew 6 million dollars in additional funding for a larger scale study in nine centers, is not only a tribute to principal investigator, optometrist Dr. Mitch Scheiman and his colleagues, but makes it difficult for critics to gloss over.

Within two days of its being published, a local ophthalmologist put a copy in the mail to me, with a cover note simply stating: "Very impressive."

Which brings me to the final point, and that is the editorial that accompanies the paper. 3. It is penned by ophthalmologist, Dr. Burton Kushner, and is a fascinating study unto itself. He fills the cup half way, or leaves it half empty, depending on how one reads it. Dr. Kushner begins by congratulating Scheiman et al. for using good science and methodology to study the treatment of convergence insufficiency (CI). His tone then changes to one of qualified praise. Kushner opines: "My concern about this study is simple. Given how the lay media and professional tabloids hype sensationalist 1-line quotations from the abstracts of scientific articles, I fear this study will herald the belief that an office-based program is superior to a home-based program per se."

Why would Dr. Kushner "fear" the belief this study may herald, that office-based optometric VT is more effective than home-based ophthalmologically prescribed orthoptics alone? Because, he states, "Given my experience, I suspect both will be found effective." Dr. Kushner's "experience" is not impressive; he undertook his own hand-picked survey of 20 pediatric ophthalmologists and 15 orthoptists to substantiate his beliefs. Apparently he was not satisfied with the randomized survey that Scheiman et al conducted, to which 200 ophthalmologists responded. When I mentioned this to a local pediatric ophthalmologist, he replied: "That's ridiculous. I can tell you that outside of University Hospital Clinics, you're hard-pressed to find an orthoptist. Most of the pencil push-up procedures are prescribed by ophthalmologists, not orthoptists. And they involve keeping the tip of pencil single, with awareness of physiological diplopia in the background, exactly the way Scheiman; group describes."

In addition, Dr. Kushner was surprised that the CITT study found a 0% cure rate with home therapy alone in the form of pencil push-ups. So he conducted a retrospective review of his last 20 cases, acknowledging the limitations of such a review, and found that 16 would have met the criteria for cure in the CITT study, absent the symptom survey. Adopting the role of patient and healthcare advocate, he expresses concern about the time and dollars involved in an office-based therapy program when his version of home-alone therapy.

Here, then, is Kushner's Paradox: For the past 70 years, optometrists have been conducting VT successfully, but most ophthalmologists discounted it because results were likely due to placebo effects and evidences was anecdotal. Along comes the gold-standard optometric CITT study, but we must be cautious in accepting its conclusions. After all, the ophthalmologic management of the same population (9 to 18 year-olds with CI) is claimed to be just as effective. And what is the scientific basis of this conclusion? In a perplexing turn around, Kushner's anecdotal evidence suddenly becomes acceptable science because it is his anecdotal evidence.

Kushner/s Paradox should not deflect the spotlight from where it belongs. For many years, optometrists faced discriminatory reviews by third party carriers. Some optometrists have spent inordinate amounts of time defending the efficacy of VT. A significant number of patients still managed to receive our care because they astutely invested in what we delivered, with or without insurance reimbursement. Optometrists providing VT services have increasingly opted to be non-participating providers, a position that allowed us to be true patient advocates.

We have a gold-standard study on our hands, with the prospect of yet more gold on the hoizon from the CITT group. Let us use this gold wisely.

References

1. Ciuffreda KJ. The scientific basis for and efficacy of optometric vision therapy in nonstrabismic accommodative and vergence disorders. *Optometry* 2002;73:737-762.
2. Scheiman M, Mitchel GL, Cotter S, et al; the convergence insufficiency in children. *Arch Ophthalmol* 2005;123:14-24
3. Kushner BJ. Editorial: The treatment of convergence insufficiency. *Arch Ophthalmol* 2005;123-100-01.