



OEP

Clinical Curriculum News

OPTOMETRIC EXTENSION PROGRAM FOUNDATION

OCTOBER 2011

Nearpoint Visual Stress: A Physiological Model

By: Martin Birnbaum, OD

Reviewed by: Robert A. Hohendorf, OD

I have often heard Rob Lewis, OD say, "If you want to learn something new, read something old". I think he borrowed it from elsewhere, but nevertheless this is a review of an old article that I recently came across and it had really had an effect on me early in my career. It explains the nearpoint stress model from a societal and neurologic basis better than anything else I have read.

Dr Birnbaum starts by stating that reading is a recent "culturally imposed" task that reflects the unique demands of containment, immobilization, and vigilant-attention on a flat two-dimensional surface for information processing through symbols. He goes on to state:

"Reading and related tasks impose demands inconsistent with our biologic heritage and physiology: They require precise matching of accommodation and convergence, yet, impose demands for attention and information processing which activates the sympathetic nervous system and cause a shift of accommodation towards farpoint."

Near centered tasks for prolonged periods of time to gather meaning was not always important to our survival, especially not as much as it is now.

"Increased accommodative effort is required to overcome the cycloplegic like effect of the sympathetic activation".... "which generates increased convergence, resulting in a tendency for convergence to localize closer to the individual than does accommodation."

We talk in the courses, especially the Art and Science Course, about esophoria and lowered PRA (#20 Positive Relative Ac-

commodation) being the very early signs of a visual stress response.

"Such a mismatch..... between accommodation and convergence constitutes a stress which must be resolved lest it cause diplopia, blur or asthenopia."

We note clinically the tendency for patients to pull materials closer to match some spatial perception elements amongst other symptoms when this happens.

"The patient will either persevere with asthenopia and impaired efficiency; avoid reading; and/or develop adaptive changes in the refractive, accommodative and/or binocular systems."

The crux of this view understands the idea that if we stay engaged in the task, we create adaptive conditions that are measurable and are not the primary visual problem. The Selye model we discussed in the courses and the Fight-Flight autonomic nervous system involvement all tie together beautifully with this concept.

The paper goes on to discuss the theoretical visual stress model while exploring supportive documentation of the day (71 references), which are still valid today. He looks at the works of Hans Selye and Walter B. Cannon on stress. He discusses pupil dilation and accommodative lag. He also reviews some of the applicable works of Elliott Forrest, Francis Young, Sidney Grofman, Carl Pribram, Phil Kruger and FV Malstrom amongst others to support the above quotes in a convincing fashion.

So, if you ever wondered what visual stress and life stress has to do with vision, read the old article to feel supported in what you do or can do clinically.

UPCOMING EVENTS

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OCTOBER 25-29, 2011 [COVID Annual Meeting](#), Tropicana Hotel, Las Vegas, NV CONTACT: COVID

NOVEMBER 3-7, 2011 [VT/Learning Related Visual Problems](#), OEP Clinical Curriculum. (OEP Clinical Curriculum)Western University College of Optometry, Pomona, CA TOPIC: Behavioral optometric visual training for learning related visual problems. INSTRUCTOR: Robert A. Hohendorf, OD CONTACT: [Theresa Krejci](#), 800 447 0370. 35 CE hours available.

NOVEMBER 5-6, 2011 [Regional Clinical Seminar](#), "Maximizing Stereopsis in Patients with Strabismus or Amblyopia" Oswego, IL, SPEAKER: David Cook, OD, CONTACT: [Lynnette Burgess, OD](#), or [Chula Lerdvoratavee, OD](#),

NOVEMBER 11-13, 2011 [TBI/ABI \(OEP Clinical Curriculum\)](#), Memphis, TN. TOPIC: The diagnosis, management and treatment of brain injury patients. INSTRUCTOR: Paul A. Harris, OD, FCOVD, CONTACT: [Theresa Krejci](#), 800 447 0370. 21 CE hours available.

NOVEMBER 11-13, 2011 [Heart of America Congress](#), Hilton Garden Inn, Overland Park, KS CONTACT: [John Metzger, OD](#), 913-469-8686

NOVEMBER 18-20, 2011 [The Foundation of Vision Therapy I](#), Tucson, AZ TOPIC: VT Education for Therapists Taught by Therapists, INSTRUCTORS: Alma Privette, COVT and Robert Hohendorf, OD, CONTACT: [Karen Ruder](#), 800 447 0370. 40 CE hours available.

Neuroscience Tip of the Day

By: *John Abbondanza, OD*

As a behavioral optometrist, I find it important to understand the visual process, to understand vision, perception, and how it is that we as active sentient beings use that process. It is also important to me to understand the deeper principles that underlie vision and allow us to function as visual beings. This has led me to read more and more outside of the optometric literature and into neuroscience and neuropsychology in an effort to achieve greater insight.

With this in mind, I began reading "The Physiology and Phenomenology of Action" by Alain Berthoz and Jean-Luc Petit. Berthoz is a neuroscientist who also wrote the book "The Brain's Sense of Movement" and Petit is a philosopher and professor at the University of Strassbourg. They have collaborated in this book to develop a philosophy of mind that accounts for and merges some of the greatest ideas of theory of mind through the ages with currently known neuroscientific principles. Phenomenology refers to the study of subjective aspects of sensory experience, the study of how we experience sensations and perceptions.

They write about a 'transcendental theory of perception and of judgement' based on experience, and the essential role of movement. The philosophical foundations have been expressed by Kant, Piaget, and Descartes, among others. The basic problem is how do you connect the internal sensations and thoughts of the individual to the external world of objects. The existence of those external objects 'transcends' (does not depend upon) experience outside itself. Objects exist outside of my experience and do not depend on my experience for them to exist.

They write about how Kant saw the need for us to be able to "deploy the different parts of an object in the very act of perceiving this object" (p 94), and how others have sketched out a "phenomenology of the body capable of accounting for the emergence of the individual form of the thing in and through the act of manual prehension" (p 95); in other words, through the sense of touch. They

quote von Herde, who wrote "The eye is only the initial guide, the hand's reason. It is the hand alone that reveals the form of things, their concepts, what they mean, what lies concealed in them." (p 96)

Although they seem to discard the importance of vision, which we might object to, they are changing the primary importance of vision as a 'sensation' to the role of vision in guiding movement. In fact, they continue: "...the function of our sense organs is to execute movements and to form the world rather than to capture sensations." (p 96) In the early stages, we use our hands and sense of touch to teach the eyes about form. This much is true. But eventually, we learn to see the form without the hand after we have had the experience of simultaneously feeling and seeing. The hands teach the eyes what the form is so we no longer have to touch. Based on our experience, all we have to do now is look and we know what it is and what it feels like. In this sense, vision is a means of 'touching' from a distance.

But let's look at that last quote – 'the function of our sense organs is to execute movements'. Beautiful!! Have you heard that before? In the OEP clinical curriculum, we talk about vision, what is it for, and what is your model of vision. Why do we have vision in the first place? We, as behavioral optometrists, have known for a long time that the primary purpose of the visual system is to guide and direct action. Sometimes optometrists think mostly about the input side of vision, how we use vision to identify what things are. But there is an output side to vision, and one aspect of the output (the most important one, I would argue) is using vision to efficiently guide movement. This has basic survival value in getting what we need (food and water, for example) and avoiding harm, and is what we mean when we say the primary purpose of the visual system is to guide and direct action.

Upcoming Events (continued)

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NOVEMBER 30 - DECEMBER 4, 2011
VT/Visual Dysfunctions, OEP Clinical Curriculum. Phoenix, AZ, TOPIC: Behavioral optometric visual training for all general binocular dysfunctions. INSTRUCTOR: Robin Lewis, OD. CONTACT: Theresa Krejci, 800 447 0370 35 CE hours available.

JANUARY 14-16, 2012
Kraskin Invitational Skeffington Symposium, Hyatt Regency Bethesda, Bethesda, Maryland CONTACT: Jeffrey Kraskin, OD,

JANUARY 20-22, 2012
The Foundation of Vision Therapy II, Tucson, AZ TOPIC: VT Education for Therapists Taught by Therapists INSTRUCTORS: Alma Privette, COVT and Robert Hohendorf, OD CONTACT: Karen Ruder, 800 447 0370. 40 hours CE available.

JANUARY 20-22, 2012
Southwest Congress of Optometry, San Antonio, TX, Speakers: David Cook, OD, Earl L. Smith, III, OD, PhD, Janice Wensveen, OD, PhD, Yuzo Chino, PhD CONTACT: Judy Hughes, OD, 512-219-1700

FEBRUARY 4-8, 2012
VT/Visual Dysfunctions, OEP Clinical Curriculum, Athens, Greece. TOPIC: Behavioral optometric visual training for all general binocular dysfunctions. INSTRUCTOR: Paul Harris, O.D. CONTACT: Theresa Krejci, 1-800-447-0370 or visit www.oepf.org.

FEBRUARY 11-12, 2012
Regional Clinical Seminar, "Maximizing Stereopsis in Patients with Strabismus or Amblyopia," Hilton Garden Inn, San Mateo, CA, SPEAKER: David Cook, OD CONTACT: Carole Hong, OD

Neuroscience Tip of the Day Cont'd

A major paradigm shift has occurred. Vision is no longer thought of as a means to create an internal representation of the world around us. It is thought of in terms of how we use it to guide action. Although this is a difficult concept for eye care practitioners to understand, it sure is nice when we hear others saying the same thing we behavioral optometrists have been saying for years, especially when their approach is from a totally different perspective. Now that neuroscientists and

philosophers are beginning to understand it, isn't it time for the rest of the eye care practitioners to catch up? *I would like to thank Bob Hoehendorf for his constructive comments and suggestions to this Tip for the Day.* I leave you with this food for thought.

News Items

CCVC

Review by: Rob Lewis, OD

The annual Conference on Clinical Vision Care (CCVC) was held July 16-18, 2011 on the campus of Southern College of Optometry. This meeting is unusual because there are no keynote speakers. The participants in the meeting are the most important contributors to the meeting. At the CCVC we take several challenging questions and then work in small groups at developing consensus answers. Everyone's input is important and all points of views are valued.

The evidence base has become an important concept when evaluating health care. This year's conference highlighted and investigated the largest evidence base available in all of vision care, that of shared clinical experience. What aspects of the process of providing vision care do we, as optometrists, manipulate to help assure our patient's success?

In addition to the expertise of the clinical optometrists present, a particular highlight of the meeting was the high level of participation of Southern faculty and students from beginning second year students through the dean of the college of optometry.

TBI/ABI Course

If you have been waiting to attend the Clinical Curriculum ABI/TBI course, here is your opportunity. The Course will be held at SCO, Memphis, TN, November 11-13, 2011. [Click](#) here for a copy of the course flyer.

Contact Information

Just a reminder: If you change your office address, phone number or email address please remember to contact [Karen Ruder](#) or call 800 447 0370, so we can update the web site. It is important to keep this information as up to date as possible. Thank you for your cooperation.

Auditing Clinical Curriculum Courses

Many people have called asking if they could take a Clinical Curriculum Course over after having completed it once. The answer is, "Yes, of course you can retake a course." In fact we have a very special fee to do so. It is called the audit fee. For a small fee of \$695, you can retake any Clinical Curriculum Course that you had already taken, even if it was 15 years ago. You will receive a new course manual and an updated Readings CD.

Many people have taken advantage of this special audit fee to retake a course or even the entire series of courses. As Mia Guillory said, "Hearing it for the second time solidified the information more and some of the things discussed the first time made more sense to me the second time."

Therapist Training

Amy Thomas, OD will be hosting the OEP [Foundation of Vision Therapy Course](#) on November 18-20, 2011 and January 20-22, 2012 in her office in Tucson, Arizona. Join Amy, other ODs and therapists for this hands-on education. Amy had sent two of her therapists to a Foundation of Vision Therapy Course and was so pleased, she decided to host a course in her office for her new therapists. If you are interested in this course or would like additional information, contact [Karen Ruder](#).

This communication was sent to you by:

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