CLINICAL CURRICULUM NEWS

FORMERLY KNOWN AS

Newsletter of the

Baltimore Academy for Behavioral Optometry/OEP

Volume VI, Issue 4 November 2003

New Course Offering

Because of the tremendous success of our newest course offering, **How to Examine Children from Birth Through Age Three,** when it was held for the first time August 23-24, 2003, in Baltimore, Maryland, we have added two more scheduled times in 2004. It will be held March 13-14, 2004, in Phoenix, Arizona, and October 2-3, 2004, in Baltimore, Maryland. The instructor for this new course will be Glen T. Steele, OD, FCOVD. This course proves to be important in light of the recent developments across the country in children's vision. Dr. Steele will examine several young children between birth and age three during the course, so you will have a real, live experience to augment the lecture. Those attending should bring their retinoscopes. If the children cooperate, you will have the opportunity to try your skills. If you are interested in this course, please let Theresa know as soon as possible.

Kudos to an Instructor

At this year's annual meeting of the College of Optometrists in Vision Development (COVD), held in Phonex, Arizona, the A.M. Skeffington Award for Excellence in Optometric Writing was conferred upon Paul A. Harris, O.D., a Clinical Curriculum Instructor and founder of BABO. The award is given to recognize a body of work rather than a single article. Dr. Harris has written more than twenty articles that have appeared in various optometric journals, sharing his clinical and theoretical insights. Of the thirty-two winners of this award over as many years, Dr. Harris is the youngest to receive it. We are proud to have him as part of the Clinical Curriculum faculty.

GUEST ARTICLE

By: Toni Bristol

"WHY DIDN'T MY FAMILY EYE DOCTOR TELL ME ABOUT VISION THERAPY?"

At some point you will be asked this question. It could be answered a number of different ways. In your heart you are thinking, "Yes, why weren't they told? They certainly should have been!" The reality may be their doctor didn't interpret the tests correctly, didn't do the necessary tests, or didn't ask the right questions. It's not uncommon to feel frustrated, angry and disappointed, but the reality is that many optometrists don't fully understand the impact that even the "simplest" of oculomotor problems can have on their patients.

While you don't want to set yourself apart from your colleagues the fact remains that you are indeed different. You do provide specialized services and have pursued a tremendous amount of postdoctoral education on this subject. It is not fair to your patients to withhold this information. *So, what should you say?* You can start by presenting the fact that there is a branch of optometry, that diagnoses and treats certain types of vision problems, which influence behavior and interfere with learning. You can also talk about the differences between exams limited to checking the health of the eyes and how clearly one can see versus determining how well one can make sense out of what one is seeing.

It makes you and your colleagues look better if you explain that all optometrists examine the eyes to be sure they are healthy and one can see clearly; while at the same time clarifying that there is a specialty aspect to your approach. Developmental/Behavioral Optometry is in fact a specialty within Optometry. The behavioral perspective is not something that every optometrist learns in optometry school and if one has not gone through post-doctoral education on the subject, they won't necessarily know what to look for.

The most important point to keep in mind is that your explanation has to be simple and concise. Once said, you should redirect your patient back to the concern at hand, helping to correct the patient's problem. Please consider saying something such as:

"Even though it has been around for over 70 years, information about developmental/behavioral optometry is not broadly known in the mainstream because it demands a tremendous amount of post-doctoral education. Like other fields of medicine, optometry has experienced an increasing volume of information and groundbreaking research, which makes it very difficult to stay on top of everything. Actually I find it quite interesting that current research in other fields keeps "discovering" what has been known in the field of developmental/behavioral optometry for decades.*

Unfortunately, not every eye care provider has the background necessary to detect these types of vision problems. The good news is that you came here, and I can definitely help you find solutions to the vision problems you are having (or your child is having, etc.)." (Focus the discussion back onto the patient.)"

I hope you find this helpful. If you are not comfortable saying something like this or would like me to answer another question in the next newsletter, please email me at: ToniBristolVT@aol.com.
*(Editor's Note: Choose an adjective that best describes how you practice.)

GUEST BOOK REPORT

By David A. Goss, OD, PhD,
School of Optometry, Indiana University, Bloomington, IN 47405

A User's Guide to the Brain: Perception, Attention, and the Four Theaters of the Brain, by John Ratey, New York: Vintage Books, 2001, 404 pages, $14.95. ISBN 0-375-70107-9.

Reviewed by David A. Goss, OD, PhD, School of Optometry, Indiana University, Bloomington, IN 47405

This book presents a perspective on the function of the brain and how that function is manifested in personality, emotions, decisions, behavior, and sense of self. The author is an Associate Clinical Professor of Psychiatry at Harvard Medical School. He synthesizes some of the findings of research in neuroscience and related fields with his clinical experience.

The concept of the four theaters of the brain is not introduced until relatively late in the book, in the ninth of ten chapters. However, the order of the first eight chapters parallels the flow of the four theaters. The four theaters are: first, perception; second, attention, consciousness, and cognition; third, brain function; and fourth, identity and behavior. Ratey discusses stream-like flow from the first to the fourth theater and notes that there can be feedback from any of the theaters to prior ones. The brain is viewed as a complex interconnected network so that "any clinical treatment of any theater will have an effect on the entire stream." (p. 341)

After an eleven-page introduction, the first chapter discusses development. Points of emphasis include the concepts that both inheritance and environmental factors affect development and one of these environmental influences is experience. The latter concept is embodied in two quotes used by the author: "'Neurons that fire together wire together' means that the more we repeat the same actions and thoughts – from practicing a tennis serve to memorizing multiplication tables – the more we encourage the formation of certain connections and the more fixed the neural circuits in the brain for that activity become. 'Use it or lose it' is the corollary: if you don't exercise brain circuits, the connections will not be adaptive and will slowly weaken and could be lost." (p. 31)

The second chapter concentrates on all areas of perception, including vision. A difficult case, in which a key factor was treatment by an optometrist, was used to show that "perception is much more than simply sensing stimuli from the outside world. It is a huge factor in personality development. Even the smallest perception problem can lead to a cascade of changes in a person's psychological life. Abnormal perception can corrupt a person's experience." (p. 53)

Chapter 3 examines attention and consciousness, which are viewed as "different levels of the same brain activity." The fourth chapter, titled "Movement," examines how the brain plans and coordinates movements, how movements become learned, and how various factors such as attention and emotion affect movement. In the fifth chapter, the neurology of memory is discussed. Distinctions are made between different types of memory: short-term vs. long-term; explicit vs. implicit; episodic vs. semantic; sensory, motor, visuospatial, or language. What Ratey describes under the heading of visuospatial might be considered by some as a form of visualization.

The topic of chapter 6 is emotion. He proposes that human emotions can be described as various combinations of four basic emotions: fear, anger, sadness, and joy. He notes that emotion often manifests itself as motor activity, whether it is internal or external.

Most of Chapter 7, examines spoken language, although there is some consideration of reading. This is how Ratey represents vision in reading: "Words that we see on a page are processed as a visual representation of letters that are grouped into words. This process is distinct from the visual perception of everything else. We process words as visual units rather than as a series of single letters, and recognize whole words as fast as single letters….we visually process words along parallel routes of sight and sound, each with its own separate neural system: there are people who read primarily by sight and those who read primarily by sound….These two independent routes explain why some children learn to read better with phonics, sounding out words, while others learn better with whole language techniques, where the whole visual word form is learned in context." (pp. 280-281) The author also mentions how visual processing deficits have been implicated in some theories of "dyslexia." Chapter 8, "The Social Brain," discusses various aspects of social behavior.

As mentioned earlier, the author presents the concept of the four theaters of the brain in the ninth chapter. He suggests it as a useful model for clinicians and patients to identify the underlying causes of problems and to design appropriate treatments. He notes that each of the four theaters must be

examined. He observes that, "A deficit in perception has the potential to radically change the course of cognitive, emotional, and social development…A perception problem lies so far upstream from the major foci of our lives, such as emotional distress, social difficulties, or destructive behaviors, that it is often difficult for the individual or the clinician to identify, or even imagine, a perception problem as being the root cause of a major life disturbance." (p. 343)

In chapter 10, there are various recommendations for optimizing the function of the brain. Positive steps that can be taken include getting physical and mental exercise, having good nutritional habits, spirituality and meditation, and pursuing activities that give one a sense of purpose and accomplishment.

I found this book to be interesting and easy to read. It presents a model of brain function that appears to be applicable to many aspects of behavioral optometry. The book is indexed and includes a suggested reading list of fifty books published between 1985 and 1998.

NEW ON THE WEB SITE

The bibliography on the BABO web site, ***www.babousa.org***, has been updated and now contains over 800 new articles. Go check it out. Click on this link to go directly to the bibliography ***http://www.babousa.org/Articles/***.

EQUIPMENT AVAILABLE

Mort Davis from Bethesda, Maryland is closing one of his offices and has all the vision therapy equipment available. Please contact him directly, 301 530 6300.

For sale: Computer Orthoptics VT equipment - with 18 tapes & liquid crystal display. Includes both the cartridges and discs (Atari and Amiga systems). $4,000 plus shipping costs for everything.
Please contact: Barbara Tarbell, OD, FAAO, directly, at 305 Omni Drive, Hillsborough, NJ 08844
908-281-0800 (work) or 908-369-8257 (home).

WORKSHOP AVAILABLE

A workshop titled, ***The Magic of Case Presentation: How to Increase Your Number of VT Patients*** will be held Thursday through Sunday, December 11-14, 2003, in Burbank, California. If you are interested in this workshop please contact Toni Bristol, 818 248 3823 or via e mail ***ToniBristolVT@aol.com***.

Consultation Corner

Edited By: Robert A. Hohendorf, O.D.

The following is a case presented by Robert Copeland, Wyomissing, PA. This is a change from our normal format of having the case presented by an instructor. We ask for your input and the instructors will respond as well. To be continued in future newsletters.

I introduced BR in the last Newsletter. A brief review: BR DOB 9/21/51, age 50 years old at time of initial examination had suffered a head trauma followed by many vision symptoms appearing several months after the incident. BR's symptoms included an inability to sustain on tasks when there were any changes in ambient light. This was affecting her ability to work as a laborer making circuit boards, affecting her self-esteem and her behavior. Her job was in jeopardy and she had to discontinue her job

and be placed on disability. She received a lot of satisfaction from her work and wanted to get back to it as soon as possible.

My initial diagnosis: 1. Intermittent, Alternating Divergent Strabismus
2. Convergence Insufficiency
3. Ocular Motor Deficit

Treatment Plan: 1. New Rx OD +1.50-0.75x170=3PDBD
OS + 1.75-0.75x020=3PDBD
+2.00 Add OU in a Flattop 35
Gold A/R coating
2. 24 sessions in office VT combined with four days per week of home VT in addition to the office therapy.

Yoked prisms were prescribed in a compensatory manner based on the philosophy of Melvin Kaplan, OD. The prisms were prescribed in an attempt relieve visual stress. BR wore the new prescription glasses for one month and said she could not tolerate the prescribed glasses. She attributed this to the flat top style bifocal since her habitual prescription had been a progressive bifocal. I remade the lenses using the same prescription but changing to the Zeiss Gradal Top Progressive. I chose the Gradal Top for its wide near zone and minimal astigmatic aberration. I did not take into account the fact that progressive lenses have base down prism ground in them. Two months later she maintained she was still uncomfortable with her glasses and a new prescription was issued without the additional added based down yoked prism.

During this period BR was in active office vision therapy 2 sessions per week combined with four sessions of home vision therapy each week. I use 2 sessions of vision therapy per week as Dr. Leo Mannas taught me during my optometry school training. This also takes into consideration insurance programs that have time limits and reduced reimbursement per session. I based her treatment using the Vision Therapy I program as a model. I did not strictly adhere to the BABO VT I, but rather used a combination of many years of practice and using other procedures to accomplish the same goals as set in the grid from VT I.

It was my belief that BR's symptoms stemmed from a mismatch of information from the two visual channels. Her symptoms reminded me of how a student with a mismatch of timing of the magno/parvo system will have difficulty with eye movements, which creates an inability to program accurate eye movements and thus have difficulty with a reading environment. I theorized that BR's mismatch of information was so severe that it created an inability to sustain on a task when there was any change in peripheral input.

Each session BR would verbalize at great length about her symptoms and how everything was adversely affecting her life. She would come in with strange hats pulled down to the bridge of her nose so she could barely see where she was walking. She claimed this helped her with light changes. During therapy she often felt ill from almost all tasks. Toward the last few sessions of therapy we noticed changes in BR's behavior. She was less verbal about her symptoms. She stopped wearing hats to the office. Her entire personality was shifting from introverted to more extroverted.
Findings after 24 sessions of office VT combined with home therapy.

History: BR reports many symptoms seem to be resolving. She does not feel as reactive to light.

Ocular Motor Findings:

Cover test	Initial Visit	Far- exophoria Near- Alternating Exotropia
	Re-evaluation	Far- Orthophoria Near- exophoria

Convergence Near Point

Initial	Break=6 inches /recovery=8 inches
Re-evaluation	Break=4 inches /recovery = 6 inches.

Color vision is normal
Stereopsis with the OEP/BABO Randot test was 6th square/50 (50 arc seconds)
Stress Point Retinoscopy not done.

Analytical

Test	Initial Data	Re-evaluation Data
Auto-refraction OD		+1.75-0.50x173 20/20
OS		+1.75-0.25x014 20/20
#7A Subjective to best BVA		
OD	+1.50-0.75x170 20/20	+1.75-0.50x165 20/20
OS	+1.50-0.75x020 20/20	+1.50-0.50x025 20/20 OU 20/15

Control for distance findings 7A (since it was very similar to habitual correction and equaled #7 finding.)

#8 (Phoria at far) (Base out, Blur/Break/Recovery)	Ortho	1 exophoria
#9 & 10 (Base in, Break/Recovery)	x/8/4	8/36/4
#11	4/X	8/4 (Says feels sick with fusion testing)
Near Control +2.00 over 7 A		
Near phoria (Base out, Blur/Break/Recovery)	12 exophoria	2 exophoria
# 16 (Base in, Blur/Break/Recovery)	X/20/8	X/20/8
#17 (Positive Relative Accommodation)	X/24/16	X/16/0
#20 (Negative Relative Accommodation)	-1.25	-0.75
#21	+1.25	+1.00

Discussion and Treatment Plan

BR's reports and her behavior demonstrate change for the better. She is more social; less obsessed with symptoms and by her own report feels improvement. Some findings improved; cover test, Near point of Convergence, Stereopsis. The Analytical findings were more a contradiction with some finding improving and other declining.

I was still uncertain why the original prescriptions had caused symptoms. I chose to stay with the corrective lenses that BR was most comfortable with and most able to function with as per her reports. I prescribed a second unit of vision therapy. During that three-month period exciting changes took place.

Comments After Part 1 Appeared in Clinical Curriculum News, August 2003

By: Robin Lewis, O.D.

I am personally impressed with the courage and commitment of the doctor who asks such questions. To expose oneself to the scrutiny of one's peers and ask in effect "What am I missing?" is selfless and brave. It must be tempting to think, "It is just the screwed up patient!" as so many have done in the past.

There are a number of things that I noticed as I read this case report, especially as I know this doctor to be a bright and concerned practitioner. In terms of the case itself, very first thing that struck me was that there was no retinoscopy listed among the pertinent findings.

Retinoscopy is a finding that provides us with information about what lenses help a patient establish rapport with the world around them. In many cases, this will be a lens very close to the clearest optical prescription. I believe this is why many doctors believe the retinoscope is sort of a manually operated autorefractor. Some doctors lose confidence in their retinoscope findings because they expect them to be equal to the subjective findings. In fact retinoscopy is a separate view into the overall functionality of the visual system. The various techniques of retinoscopy tell us about stability, the way the patient responds to lenses, balance in the system, attention, the way the patient responds to task demands, etc. Suffice to say that the use of the retinoscope provides an incredible window into the functionality of the human for which I can find no substitute.

I suspect that one of the reasons many abandon the retinoscope, is a dependence on a streak instrument based on an almost purely optical model of vision care; the clearest optics are assumed to be the best lens for the person. In fact the streak instrument is a spot retinoscope with the sides of the reflex cut off to concentrate not just on the optical "correction", but also on just one meridian of the optics. Most of the information is removed to improve the ability to see what was of value to the inventor and supported the inventor's model of vision that concentrated on the optics of a paralyzed eye. With a spot retinoscope, one can see changes in sphere, cylinder, axis, and more as they happen. This helps us see the dynamic character of the visual system and observe the person and what they do in real time.

In this case, the lack of retinoscopy stands out because we know the optical model has failed this patient. She has had a number of prescriptions designed around her "refractive error". I do not believe anyone has looked beyond the lenses and asked the questions, "Why did she develop her refractive condition?" "What is the value of this optical condition to the way this patient uses vision?" This can give insight into the way this person has used vision up till now, which is the way she will try to continue to use her vision if she can.

My experience has been that in many cases of head trauma patients who had marginally successful visual performance in the past can no longer cope following their accident. All too often we focus on the accident and it distracts us from the overall visual performance of the patient. Many people may have injuries of similar severity and we never see them as patients because their visual systems serve them well and they are able to heal and re-program. In cases such as we see here, it may be that strategies that once served our patient no longer suffice.

I would suggest that based on her age and distance refractive condition, she has never developed efficient use of her vision in transition from near to distance and that she has had vision care based on an optical compensation model.

Much of what has been done here appears to be compensatory in nature. Her strategies are all in an effort to manage light input by restricting it. This is true of the hat, working under the table, etc.

Compensation may be the only thing this patient will accept or understand, but I don't believe it will suffice for her.

The best lenses, at least in the long run, may turn out to be plus spheres, maybe with a separate pair designed for near work only. Rather than restricting the light information in an effort to develop useable signal, the simple nearpoint plus may help her improve the signal and so diminish the importance of the noise. In terms of the bifocal style, the FT-35 has its optical center below the O.C. of the distance portion. This means there will be a jump when switching from the distance lens to the near lens. A FT-40, FT-45, or Exec has the same optical center for distance and near. This means there is no optical discontinuity when switching to use either lens. This can be an enormous advantage, especially when dealing with someone who is struggling to hold her visual world together. The no-line is also monocentric, but has numerous distortions and ground on yoked prism. There are better solutions than the no-line.

To be more certain of the near lens, I would need some kind of meaningful near findings such as the 14A and 14B (near cross cylinder) and near retinoscopy, but I suspect that the near net of around +3.00 is too great for her to accept. Based on the information here I would try +0.75 sph in the distance portion with about a +1.50 add. The principle here is that the least strong lens that establishes the maximum rapport at the working distance is usually the most useful.

The next thing that jumped out was the deep sense of injury this patient must be dealing with. She is no longer able to make sense of what she once did with relative ease and is treated by medicine as if nothing is wrong. She is hurt in what seems to be a trivial incident, her whole world visually disintegrates and no one believes her.

I purposefully chose the word disintegrate. All her sensory experiences now lack integration and she is not able to make consistent sense of the world she lives in. Much of life must seem like a bad MTV video. The trouble is that in her case when she switches channels, she gets another view, but it is as awful as the last. No wonder she keeps trying to tell the only doctor who seems to understand or even believe what is happening to her. She is desperate for help.

She doesn't need to have any of her behaviors broken down. She is broken already. In spite of the trivial nature of the original insult, her world is shattered. In any therapy the idea is to bring about healing. In therapy, I would proceed carefully, showing her what she can do, noting what is difficult and working from what she can do towards what she will be able to do in small and manageable increments. I would particularly advise against disruptive techniques. Although they work in some cases, they may drive a patient from therapy.

For an introduction to her experience, A.R. Luria's book, The Man With a Shattered World, was co-written by patient and doctor about a man with a brain wound. While not an exact parallel to what we have here, it speaks well to the experience of brain injury.

All this being said, this patient is extraordinarily lucky to have found a caring doctor who does not dismiss her experiences, but rather does his best to understand them and through her experiences to understand and to help her. This is especially true in light of her experiences seeking care in the past. I hope these insights prove valuable.

Robert Copeland reply:

My first thought when I read Dr. Lewis' comments was "boy did he hit the nail on the head and I missed an important facet of testing". Reviewing my notes I remember the reason: BR was very light sensitive and avoided any kind of lights shined at her. I did attempt stress point retinoscopy at the initial visit, but her avoidance made it impossible to quantify any sensible findings. I might add, that my class was one of the first classes to learn Streak Retinoscopy at Illinois College of Optometry. We were quite proud of being ahead of the curve with this new technology. When I was on the clinic staff at the Pennsylvania College of Optometry, where they were still teaching spot retinoscopy, I was introducing the interns to streak retinoscopy. In fact they nicknamed me Streak Copeland since Jack Copeland was the inventor of the streak retinoscope. Equally interesting, as I got more involved with developmental Optometry, I returned exclusively to using a spot retinoscope. I agree with Dr. Lewis that this instrument, of all we have at our disposal, is probably the most diagnostic both from a quantifying aspect and a quality of vision aspect.

Dr. Lewis assessment of BR's prior vision performance and possible lens prescriptions and lens designs had not crossed my mind. They make sense to me now and I wish I had thought of them. I think with hindsight my lack of nearpoint retinoscopy and not using 14A and 14B (fused and unfused Cross Cylinder) findings may have may have been useful to balance my inability to get a retinoscope finding). The fact that BR's visual world disintegrated was obvious to me. My problem was I was not sure of a solution that would make her whole again. I felt vision therapy was the correct course, and behavior improvements seemed to confirm this.

Comments After Part 1 Appeared in Clinical Curriculum News, August 2003

By: Paul Harris, O.D.

I will take the liberty of paraphrasing Paul's comments. He also questioned my lack of a retinoscope finding. He also mentioned his experience with the use of filters in the case of a head trauma patient that he treated. Paul also questioned my use of the expression that some findings got worse and others improved.

OPTOMETRIC EXTENSION
PROGRAM FOUNDATION, INC.

110 OLD PADONIA RD, SUITE 300
COCKEYSVILLE MD 21030
TEL. 410-561-3791 FAX 410-252-1719
Email: TheresaBABO.OEP@verizon.net

BALTIMORE ACADEMY FOR
BEHAVIORAL OPTOMETRY

2004 OEP/BABO Clinical Curriculum Course Schedule

2004 February 7-8	Essentials of Behavioral Vision Care, Phoenix, Arizona
2004 February 25-29	The Art & Science of Optometric Care –A Behavioral Perspective Phoenix, Arizona
2004 March 13-14	Examining Infants and Children Through Age Three Phoenix, Arizona
2004 March 25-28	VT/Strabismus & Amblyopia, Grand Rapids, Michigan
2004 April 21-25	VT/Visual Dysfunctions Phoenix, Arizona
2004 April 29- May 3	The Art & Science of Optometric Care –A Behavioral Perspective Baltimore, Maryland
2004 June 3-6	VT/Learning Related Visual Problems, Grand Rapids, Michigan
2004 July 15-19	VT/Visual Dysfunctions, Grand Rapids, Michigan
2004 Aug 7-8	Essentials of Behavioral Vision Care, Baltimore, Maryland
2004 September 9-13	The Art & Science of Optometric Care –A Behavioral Perspective Grand Rapids, Michigan
2004 October 2-3	Examining Infants and Children through Age Three, Baltimore, Maryland
2004 November 4-7	VT/Learning Related Visual Problems, Phoenix, Arizona
2004 December 2-6	VT/Visual Dysfunctions, Baltimore, Maryland

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