

## Light and Vision



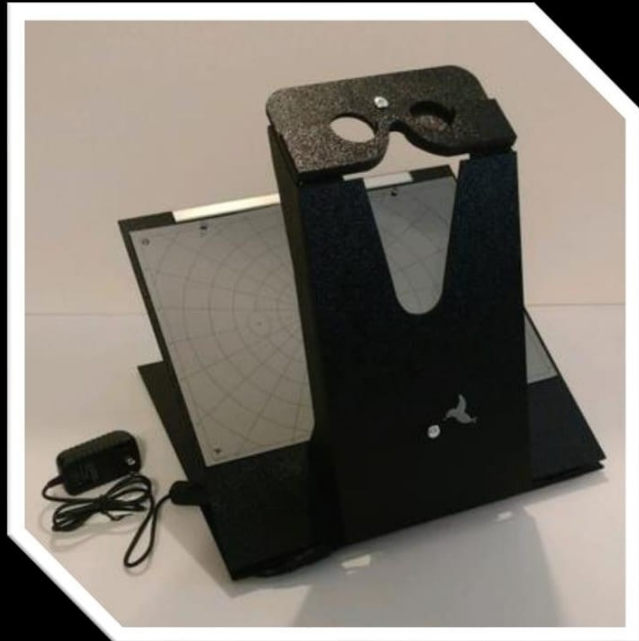
**Shining Light on Vision  
and Consciousness**

**Rehabilitation for  
Streff Syndrome  
Using Syntonics  
and  
Nutraceutical Support**

**Visual Field and Subjective  
Improvements in Visual Symptoms  
Associated with Traumatic  
Brain Injury Using Optometric  
Phototherapy Alone: A Case  
Report**

**End of the Road: A Case Report**

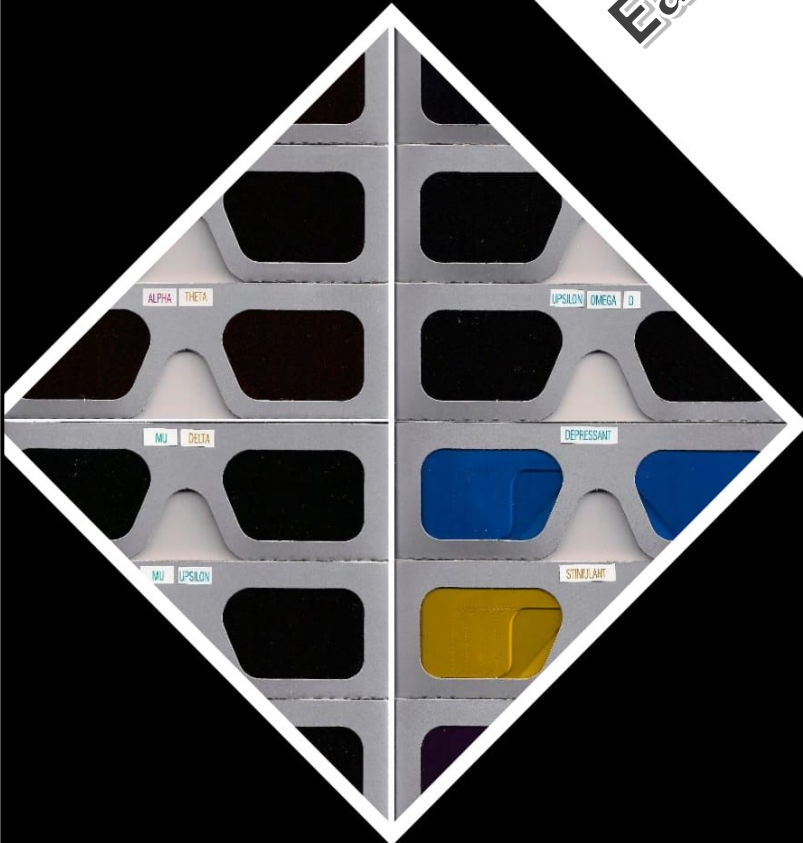
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# The President's Message

Hello CSO members,

I am humbled, honored, and proud to represent the College of Syntonic Optometry as President for the 2024-2025 term. With the heightened awareness and interest in phototherapy, I am fortunate to be taking the reins during this exciting time.

Thanks to the tireless efforts of Dr. Dick O'Connor, Irene Wahlmeier, and Ron Wahlmeier we had a successful Annual Meeting in St. Pete Beach, Florida this past May, with much interest and energy in advancing CSO's presence in new arenas. We provided the 101, 201, and General Meeting education courses over 3 days, with outstanding speakers and high-level content.

The Board of Directors and I are strongly committed to serving our membership. With Dr. Larry Wallace's guidance, we will continue to provide cutting-edge education.

We are supporting research to advance our understanding of Syntonic Phototherapy thanks to the efforts of Dr. Randy Schulman, Dr. Steve Curtis, and Dr. Cathy Stern.

Dr. Danielle Bianco created an online platform so CSO members can access mentors every month to present their syntonic case studies and have their questions answered.

Thanks to Dr. Alia Santoyo-Johnson our Fellowship Program has been updated with new resources for applicants.

Dr. Cynthia Matyas is putting together our Journals and working to increase communication with our members.

Dr. Clifford Fukushima is spearheading the creation of a white paper to define Syntonic Phototherapy.

Our Executive Board is using the three pillars of strategic planning, Collaboration, Engagement, and Sustainability, to advance the clinical application of high-quality and effective Syntonic Phototherapy.

We are dedicated to creating more value for our members, enhancing their experiences, increasing member satisfaction, attracting new members, and collaborating with national and international associ-

ations to increase awareness of Syntonic Phototherapy.

If you are interested in serving on one of our CSO committees, please reach out to me.

Our 2025 Annual Meeting is already in the planning stages to once again provide you with outstanding education. It will be held in Tucson, Arizona at the Lowes Ventana Canyon Resort, May 14-17, 2025. For more details, visit [www.csovision.org](http://www.csovision.org).

I am dedicated to successfully accomplishing our agenda for this year and will continue to serve the members of the College of Syntonic Optometry.

~ Brenda Montecalvo, OD, FOVDR, FAAO, FCSO

An advertisement for COMRA. It features a close-up of a woman's face as she uses a handheld device on her eye. The device has a blue and black design with a yellow diamond-shaped icon. The text "FOR YOUR FAMILY, FOR YOUR PRACTICE" is in a white box at the top left. The COMRA logo is at the bottom left. The contact information "GARRETT MURRIN (561) 922-8053" and "SCAN ME!" with a QR code are at the bottom right. The website "COMRA-THERAPY.COM" is written vertically on the right side.

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# Shining Light on Vision and Consciousness

Glen Swartwout, O.D., N.D., F.I.C.A.N., FCSO

Syntonics Light Frequencies stimulate biological responses including autonomic, endocrine and immune photo-energetic regulatory pathways as well as visual responses which are the dominant qualia of human consciousness. The simple act of closing our eyes demonstrates how much of our sensorium is visual. We are learning more every year about the mechanisms of how our photo-energetic regulator medicine helps patients achieve autonomic syntony, endocrine rejuvenation, and immune modulation. But what do we really know about the nature of consciousness?

## Vision Is Consciousness

The mysteries of consciousness remain among the greatest challenges in conventional science. 90% of biologists apparently have no choice but to believe that they themselves are philosophical zombies. They see consciousness as an epiphenomenon of electrical activity in the brain, even though the brain is flatlined during veridical Near Death Experiences (NDEs).

When asked for their deepest insight about the nature of vision, neuroscientists point to the visual cortex and claim that “the sky is inside the skull.” As clinical vision scientists, finding practical solutions for the real world problems of visual dysfunctions demands that we transcend such absurd proclamations of limited insight by the high priests of ivory tower academia. When a child with esophoria is up to bat playing baseball, they may swing too early and strike out because they project their effigy of the ball closer than it truly is...

## Vision is Motor

We know very well that in the mathematical science of psychophysics, the visual horoptor is projected from the cyclopean eye. We know that as Skeffington long proclaimed, “Vision is Motor” and that active creation of the perceived effigy of our visual experience is expressed through the locus of that cyclopean eye which is not defined by any anatomical structure of the bio-body suit made of ordinary matter. The cyclopean eye is located somewhere between and behind the two biological eyes, and closer to the dominant eye. We even know that with our transformational work in syntonics, including nascentizing and other vision therapy modalities to enhance binocular integration that the location of that cyclopean eye centers closer to the midline of the bio-body suit.

## Fundamental Questions

While leading academics ponder how the measurable electric correlates of vision in the cortex become per-

ceived as vision, they are failing to even contemplate the most fundamental questions about the full range of conscious states and functions, from the everyday projection of visual space, to free will, to out-of-body vision, which is veridical and omnidirectional, not limited by the apertures of the biological eyes.

Let’s dive right into the deep end of the thought pool, and contemplate some visionary hypotheses about the top mysteries of vision and consciousness:

## What is the nature of free will?

The electrical signal associated with an act of the will is problematic in conventional neuroscience because it occurs *after* the subjective experience of making a choice. I propose that this is because while the body comes from the past, the spirit comes from the future. In quantum dynamic research, the action of each quantum appears to be determined by a negotiation between its past history and future potentialities. Your spirit is certainly more of the fullness of your transcendent immortal self now than it was when you were conceived, or when you were born out of the womb of Alpha Omega light into the fullness of the solar spectrum. I must share something syntonics taught me about that:

## Epigenetic Adaptation: Memory of Stress

I have encountered three sytonic patients who expressed strong negative reactions to Alpha Omega always describing an association with revulsion, heat, and fire. Virtually every other patient expresses experiences like stress relief, warmth, comfort, relaxation, attraction, pulsing, and gently falling even though the sytonizer is horizontal. Since this is the light frequency domain that illuminates our first 9 months of life during gestation, I asked these patients what they knew about their perinatal history. Every one of them described a history of local infection, fever, sepsis, antibiotics, and surgical intervention in the womb while they were in residence... Obviously after such a traumatic experience, the conscious association with these frequencies changed its meaning, overpowering the normally relaxing physiological effects. This is an example of how our epigenetic programming can change from expressing the genes of health to the genes of disease. In retrospect, it would be interesting to explore Perception Reframing biofeedback (using EVOX voice frequency and galvanic skin interaction based software from ZYTO) with such patients to change the meaning of Alpha Omega frequencies at a cellular level in order to restore a healthy epigenetic response pattern. Those patients tested deficient in Alpha Omega,

and yet were not able to tolerate looking at it. In general, when we do syntonics therapy, we are stimulating the bulk of the optic nerve fibers, which in total carry two thirds of the nerve current to the brain. This sustained frequency specific photo-energetic signal provides a powerful stimulus for restoring a healthy functional pattern of epigenetic activity, especially when amplified by a conscious state of healing intent. Our goal is to release adaptations to past stresses, even if it is inherited generationally, and restore greater flexibility and adaptability to navigate new challenges in real time.

### **Autonomic Response to Visual Stress**

When slides are shown randomly, with some being stressful and others not stressful, the stress response is also measurable *before* the slide is shown. Using high speed computers, it has been confirmed that the physiological response, a loss of syntony in the autonomic nervous system, occurs even before the random number generator in the computer determines which slide will be shown. Also, of significance is that the response is not first measured in the nervous system or the brain, but in the heart. There are more nerve fibers carrying information from the heart to the brain than from the brain to the heart.

The heart reacts to stressful visual stimuli before the light enters the eyes... How can this be, and what does it mean?

In our waking state of consciousness, we are having an 'In Body Experience,' and the 'ghost in the machine' is embedded in the bio-body suit, including in visual cortex. The condensate minerals that make up the spirit body collocate with ordinary matter without displacing it. They are attracted to zones of high coherence such as the pi electron fields of DHA, DNA, and living water. They are repelled by areas of disorder such as acidity and oxidation.

### **Vision is Visionary**

I propose that the motoric act of projecting our visual space world by the spirit body through the cyclopean eye projects that image into the immediate past. The spirit is immortal and trans-dimensional, so in reference to time, the soul comes from the future.

The ancient Egyptians reasoned that what we see clearly is in front of us, and our consciousness sees the past clearly, so our spirit must come from the future. The ancient Greeks clearly understood that the ray of vision is projected outward from the eye.

In Oriental Medicine, sensation is associated with the Metal Element. That includes the lungs where we breathe in the non-metallic spirit minerals in the air that are part of the earth field, and are paramagnetic like molecular Oxygen with which they may be invisibly associated.

Recall that spirit *means* breath.

### **The Assemblage Point: Eye of the Soul?**

The spiritual center in the thorax that is functionally analogous to the cyclopean eye is the assemblage point. It is located to the right of the sternum, and is displaced in different directions in association with susceptibility and expression of different types of disease. I propose that the assemblage point is the focal point through which the sensory information enters into the lungs, which are intriguingly shaped like the wings of an angel, and are centered to the right of the midline since the heart takes up space in the left thorax.

### **The Heart of the Matter**

The next stop for those inspired minerals is to travel to the heart, the center of the most powerful magnetic field in the body, measurable dozens of feet away. In Ayurvedic Medicine, the Heart chakra is in the center. Visualize this powerful engine at the core of the body's biofield, with three concentric spheres around it, intersecting the body at the three chakras above and below.

The heart's magnetic field is powerful enough to transform the paramagnetic spirit minerals of the earth into diamagnetic spirit minerals that now identify themselves as part of the organism. Spirit minerals in all living systems are diamagnetic, producing protective, defensive Meissner fields that oppose externally applied fields.

The heart's powerfully pulsing magnetic field is where I propose that the freshly recruited spirit mineral field experiences the gestalt of perception and meaning of the sensory qualia of that moment. All of the diverse qualia are carried within the condensate field as phonons. They resonate at the speed of sound, and without any resistance since the condensate is superconductive. That is why the gestalt imprinted in that moment can continue to resonate indefinitely as memory. This common function of photonic frequency information along with auditory and tactile frequencies, the shape forms of smell and taste, as well as the interoceptive flows of kinesthesia, proprioception, and emotions, all resonating together as phonons within the unified non-local and trans-dimensional field of a condensate solves the infamous 'binding problem' of consciousness.

### **Centering & Identification**

In Oriental Medicine, the only organs that are directly connected to all of the electrical meridian pathways are the heart and the eyes. We know that the heart and eyes are the first visible organs in fetal development. The retina produces the most powerful electrical dipole of any tissue which acts as the photovoltaic source which powers the electronegative brain. Dr. Spittler's research with frogs at the College of Syntonics Optometry found that the most powerful body battery was between the brain

and the electropositive liver. The liver meridian travels directly up the optic nerve to the retina. We know the retina is the source of the brain's electrical power because 2/3 of the nerve current entering the brain is from the two optic nerves. When the eyes open in the morning, the temperature in the brain rises several degrees and it takes a few minutes for a homeostatic increase in cerebral circulation to restore the normal temperature.

### **Thinking**

After the initiation of the spirit minerals in the Fire Element, the Earth Element strings these gestalts of meaning into linear experiences and thoughts. This is associated with the anatomically linear organs of the spleen and pancreas, as well as the stomach, the meridian of which links to the fovea, the center of our sequential visual attention.

This psycho-energetic and photo-energetic process is associated with the throat chakra at the top vortex of the first of three spheres centered on the heart.

### **Will**

Then the Water Element relates to memory from the past, and to the will which offers a 2 dimensional planar map of options for navigating into the future.

This process is associated with the 3rd chakra, the vortex at the base of the first sphere around the heart.

The Water Element is also the seat of the yin, the inherited spirit essence from our ancestors, carrying their epigenetic memories and adaptations to the stresses they encountered.

We know from Homeopathic Medicine that these deep heritable epigenetic adaptations can take 30 years to penetrate to a level that can be transferred generationally. They can be identified as specific Miasmatic patterns.

The first case that made this more than a theory to me was a mature woman with an unusual lifelong skin problem. She reported that her elderly mother had the same symptom pattern only much more severe. My patient had not communicated with her mother in several decades, so as she began to experience improvement in her symptoms with our Accelerated Self-Healing program, she was quite surprised to get a call from her mother out of the blue... She was even more surprised to hear that the reason she was calling was to share the good news that her lifelong health problem had finally improved, despite having done nothing to cause the change. Because the condensates of the spirit body that collocate with the DNA function non-locally and trans-dimensionally through Josephson tunnels, or wormholes, like vision does, the daughter's healing had been communicated trans-generationally to her mother.

Like Syntonics, all forms of photo-energetic regulatory medicine provide surprisingly transformational solutions. Suppressive medicines work by blocking photo energetic functions. As a cell's access to light becomes progressively blocked, the cell loses its vision and awareness of its location in the organism, so it dedifferentiates through degrees of vision impairment we call hyperplasia, metaplasia, dysplasia, and anaplasia until the cell is blind and we call it neoplasia, or a cancer cell. When cellular vision is restored, even errors in the DNA sequencing can be restored to coherence with healthy cells thousands of cell layers away...

Natural medicine, including Syntonics, promotes healing by stimulating photo energetic functions. In the words of Nobel Laureate Albert Szent-Gyorgyi, "Every Vitamin, Mineral, Enzyme and Hormone responds to specific frequencies of light by changing its functional activity about 500%." Source: [mentorshipu.com/albert\\_szent-gyorgyi](http://mentorshipu.com/albert_szent-gyorgyi)

### **Visualization: The Crowning Jewel of Consciousness**

Finally the Wood Element represents vision with its full 3-D information processing essential for directing of action with its potential for creativity, and the deriving of the fullness of meaning leading ultimately to the development of wisdom. All five elements are of course active simultaneously in a continuous cycle, with sensory feedback being essential to the accurate and efficient process of visually guided action in space. Spatially in the bio-body suit, the cycle forms a counterclockwise spiral, and it is with great fascination that I conclude that temporally, the cycle is projected into the past as vision via the cyclopean eye and enters as meaning from the future via the assemblage point.

This process is also associated with the third eye chakra at the top of the second sphere around the heart. It relates closely with the cyclopean eye and navigation in space. The 2nd chakra is at the base of the same sphere and relates to navigation of the social realm. This entire sphere is associated with navigation and the wood element.

The outermost sphere is associated with the metal element and the sensorium. It is the hull of the cosmic vessel which is the soul.

### **Is relativity related to consciousness?**

Einstein's Nobel Prize was awarded for his work on the photoelectric effect, not for his theory of relativity which is based on some fundamental errors of assumption. The conclusion about the relationship between consciousness and relativity is that relativity is a fiction created by consciousness. Assuming that multiple observers must see light travel at the same speed is incorrect. Research over time even showed that the fundamental speed of light as measured in our local cosmic ether was actually changing. It only stopped changing when the powers of scien-



tism chose to define the speed of light as a fixed value. That means that the speed of light is now a theory rather than a fact that can be measured.

When the Michaelson-Morely experiment failed to show an anisotropic effect on the measured speed of light, the false conclusion was adopted that this disproved the existence of the ether, the medium through which light travels. Every wave is carried by a medium. The assumption was made that the ether, if it exists, must be a material medium and that it must be stationary in relation to the fixed stars. Even if the ether has a material structure at the level of the Planck units thought to make up the so-called 'vacuum' of 'empty' space, why would they not flow in bulk locally with cosmic entities such as the earth? Conceiving space as a vacuum or emptiness belies the known presence in that space of tremendous energy. In 'empty' space, a veritable sea of virtual particles flicker in and out of existence, such as pairs of matter and anti-matter particles. An alternate understanding of these pairs is that they are merely a single particle cycling alternately forward and backward in time. I prefer the alternate term plenum, meaning fullness, and I consider that energetic presence is not local. It is precisely non-local in nature. It is a field of potential energy and creation like the field of consciousness. I think it is the very field of consciousness. It was the misunderstanding of the results of the Michaelson-Morely experiments that led to Ein-

stein's notion of space-time replacing both space and time as true dimensions, and reifying them into creations of the mind that can be shaped and altered by consciousness. Eventually, clearer thinking will prevail and the error of relativism in science will be corrected. Until then, the powers that be will hold dogmatically to their faith beliefs in the so-called 'standard model' of science, and true progress will be thwarted...

Can we not see that the fullness of space is the visual field of its creator? Are we not said to be "made in God's image"? When we look at macroscopic view of the shapes and structures of the cosmos, and compare it to the shapes and structures of the brain, we see a remarkable fractal similarity. The shapes of the neurons and vasculature in the brain are observed by leaders in live cell microscopy to be the product of symbiotic fungal species which are endobionts living as active collaborators in the extracellular space of our bodies, just as the bacterial mitochondria are in the internal milieu of our cells. All animal life is considered to be descended from fungi, and fungal spores are considered to be the only living organisms capable of surviving space travel.

As healers with the superpower of light bending, Syn-tonists know that we bend light by changing its speed in the material medium of a lens. We know that star light bends when it travels through the plasma in the atmosphere of the sun's limb. If that slowing of light's speed was caused by gravity as proposed in relativity, it would be easily measurable out to several solar radii away from the sun. It is not. Plasma is a light-bending medium that acts as a lens. Consciousness can act as a truth-bending medium that creates fiction. Our primary work with vision is to help people develop their capacity for veridical perception... to see the truth. The leading cause of blindness in the world is spiritual blindness. Restoring robust visual function is a powerful solution.

When I was in second grade, I was a C student. I was becoming nearsighted. I suffered from frequent high fevers and I was the smallest in my class. I was failing to thrive on every level. The following summer, my father put me through vision therapy. For me, it was like someone turned the lights on. From 3rd grade on, I got straight A's. I chose to wear counter-stress low plus lenses in my free time, and stopped the myopic progression. I still had serious health challenges, and a very intermittent exotropia. In my fourth year of optometry school I found out that I also had IOPs in the upper 20s and baring of the blind spot. The Ophthalmology professor who diagnosed my glaucoma said that with vision loss starting already at age 25, I would likely be blind before the age of 50 even with the best standard medical care. Knowing my background as the top student ever to attend SUNY, he recommended that I do my own research to identify and treat the underlying causes instead. Following that mis-



sion to save my own vision, by age 30 I discovered that I was dying of mercury poisoning. Once I corrected that through Biological Dentistry, Naturopathy and European Biological Dentistry, the final element that restored normal homeostasis in my eyes with IOPs of 15 OU was

Syntonics. It was a session with indigo light that brought forth such an experience of relief that I cried uncontrollably with joy. That was the epigenetic signal I needed to complete that part of my healing journey.

### About the Author:

Rev. Dr. Glen Swartwout graduated Magna

Cum Laude with honors in Environmental Earth Sciences and Chemistry from Dartmouth College, and received his doctorate at the top of his class in Vision Science with honors in Optics as well as Leadership, being inducted into both Beta Sigma Kappa and the Gold Key Honor Societies at the State University of New York in Manhattan, where he trained at the largest outpatient vision clinic in the world. He holds academic honors and awards in environmental sciences, chemistry and optics. He served as Editor, Vice President and President of the American Optometric Student Association serving 4000 international student doctor members. His first professional office was in Tokyo, Japan where he initiated innovations and transfer of technologies for vision enhancement and 3D television that are in global application today. He is an international bestselling author with over 50 professional papers, over a dozen books, and software programs used by thousands of healing arts professionals.

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# Visual Field and Subjective Improvements in Visual Symptoms Associated with Traumatic Brain Injury Using Optometric Phototherapy Alone: A Case Report

Aaron Nichols, OD, FAAO, FOVDR

## Abstract:

**Background:** Traumatic brain injury (TBI) affects many people and is known to have visual sequela, notably light sensitivity. Patients with these visual symptoms have varying degrees of symptoms and exam findings. With the validation of the Brain Injury Symptom Survey (BIVSS), it can be used for diagnostic purposes and monitoring for changes throughout treatment. Additionally, kinetic color visual fields are beneficial in tracking progression of patients through a rehabilitation program.

**Case Report:** A 31-year-old female presented to the clinic following a concussion during a motor vehicle accident. She initially presented to the clinic and performed vision therapy from 2021 to 2022 for approximately one month before discontinuing therapy. She remained symptomatic and presented to the clinic in February 2024. Her BIVSS was 40, she had symptoms of light sensitivity and

exhibited compressed automated Functional Color Field Tester (kinetic color visual fields), enlarged blind spots, and ill-sustained pupillary constriction (i.e., Alpha Omega Pupil). She performed optometric phototherapy (O.P.) using Upsilon Omega, Mu Upsilon, and Delta Omega over five months, improved her BIVSS, improved her blind spot measurements, and expanded her color fields on the automated Functional Color Field Tester.

**Conclusion:** O.P. clinically improves patients' symptoms and visual deficits, but little research demonstrates these improvements. The present case shows the subjective and objective improvements made with O.P. alone.

## Introduction:

According to the Centers for Disease Control (CDC), traumatic brain injury (TBI) affects approximately 1.5 million people annually. Of the 1.5 million sufferers, motor vehicle accidents are the most common cause of TBI.

Test	February 2024	May 2024	June 2024	July 2024
<b>Ill-sustained pupillary constriction (Alpha Omega Pupil)</b>				
Right Eye (in seconds):	4	6	6	6
Left Eye (in seconds):	5	7	6	6
<b>Visual Acuity Distance:</b>				
Right Eye:	20/25	20/20	20/20	20/20
Left Eye:	20/25	20/20	20/20-1	20/20-1
<b>Visual Acuity Near:</b>				
Both Eyes:	20/32	20/25	20/20-2	20/20
<b>Brain Injury Vision Symptom Survey</b>				
Total Score:	40*	37	33	26
<b>Light Sensitivity (BIVSS):</b>				
Normal Indoor Lighting is uncomfortable - too much glare:				
Outdoor light too bright – have to use sunglasses:	3**	2	1	0
Indoor fluorescent lighting is bothersome and annoying:	2	3	2	2
	3	2	2	1

\* The total score of the BIVSS is added-up to provide an overall score for all categories: eyesight clarity, visual comfort, doubling, light sensitivity, dry eyes, depth perception, peripheral vision, and reading. The patient responds to a 0-4 questionnaire on each assessment. The answers range from never (0) to always (4), respectively.

\*\* The patient responds to a 0-4 questionnaire on each assessment. The answers range from never (0) to always (4), respectively.

**Table 1:** Objective and subjective measurements showing the changes from the beginning (February 2024) of the O.P. throughout the patient's treatment period up until July 2024.



Additionally, TBI can be debilitating and lead to hospitalizations and even death.<sup>1</sup> Individuals with TBI can commonly have vision deficits or symptoms.<sup>2</sup>

A common symptom for patients with TBI is photophobia. In a systematic review, Merezhinskaya et al. found that approximately one-third of patients (30.46%) had photophobia. It was statistically significant that the number of patients with photophobia decreased to 13.51% between 1 and 3 months. However, patients can still suffer up to twelve months and beyond.<sup>3</sup> TBI-induced photophobia has been much researched via dynamic pupillometry and its role in photosensitivity; it is common and significant for the TBI population to suffer from photophobia more than visual normal patients.<sup>4-7</sup>

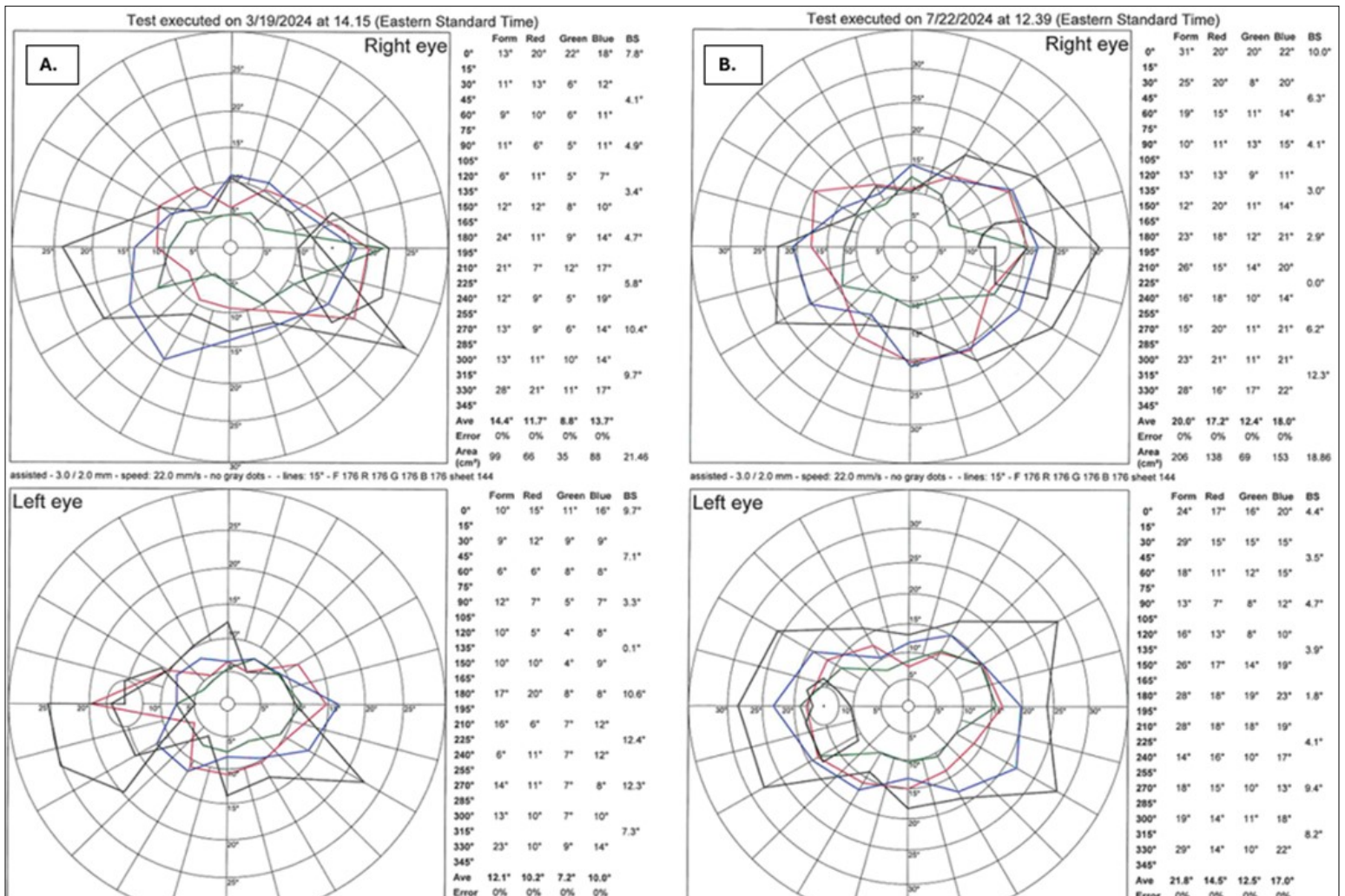
Subjectively, the Brain Injury Symptom Survey (BIVSS) assesses a patient's photophobia symptoms. It is a validated survey that can help predict the visual symptoms associated with TBI. The questions regarding photophobia were significantly worse than those of a visually normal population base.<sup>8</sup>

The current case report is a demonstration of the functional and subjective improvements in a patient who sustained TBI from a motor vehicle accident. Due to an inability to participate in vision rehabilitation, the patient utilized only optometric phototherapy (O.P.).

### Case Report:

A 31-year-old female suffered a traumatic brain injury from a motor vehicle accident on September 8, 2019. She subsequently had visual sequela following the accident. She was diagnosed with a traumatic brain injury (ICD-10 code of S06.0X0S) by her physical medicine and rehabilitation physician. She presented to the clinic in December of 2021, and following her testing, she enrolled in vision rehabilitation. However, she only completed four sessions between December 2021 and the end of January 2022. Despite being symptomatic and not noting improvements in her early program, she self-discontinued the program.

In February 2024, she still complained of visual symptoms and noted they had worsened over the approximate-



**Figure 1:** Automated Functional Field Tester Printouts. **A.** The initial automated functional field tester was measured on March 19, 2024. The field shows the visual field with the right eye field on the top and the left eye on the bottom. The table on the right of the photo shows the point at which each presentation of the target was identified. The bottom row presents an average (in degrees) of the visual fields for each measured isopter. **B.** The final visual field measured on July 22, 2024, shows an expansion of the color isopters and a more normalized blind spot (i.e., smaller is better).

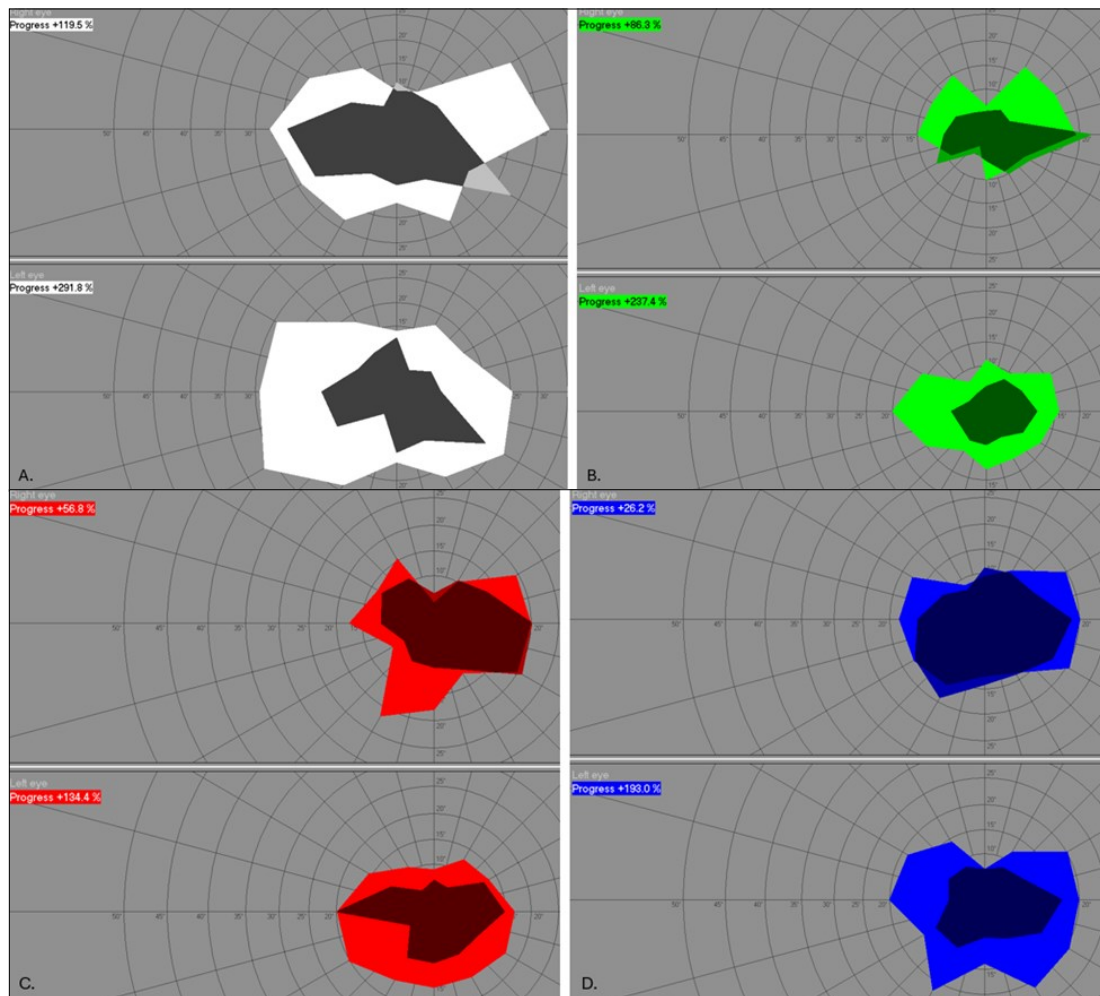


ly two-year period. She had positive symptoms on her Brain Injury Vision Symptom Survey (BIVSS) due to visual comfort and light sensitivity (indoors and outdoors), among other categories. In particular, she noted her indoor photophobia was a 3 (i.e., frequently, on a 0-4 Likert scale).

Her health history was positive for TBI, depression, and anxiety. She was taking Zoloft, Adderall, Wellbutrin, and Rexulti. She reported no history of tobacco, alcohol, or social drug use. Her ocular history and family ocular history were negative for diseases.

She returned to the clinic in late February 2024, with similar complaints from the previous evaluation in 2021. Her pertinent examination findings are in Table 1. The physician ordered an automated functional field tester (FCFTester) and a visual-evoked potential. Her visual fields were compressed or constricted with enlarged blind spots (Figure 1a). Due to her visual deficits and symptoms, the author recommended vision therapy, tinted lenses (e15 blue tint available from Chadwick Optical, Schwenksville, PA, USA), and O.P.. With her schedule, vision therapy was not feasible, and she elected to begin O.P. only. Following her consultation one month later, she began O.P. using Upsilon Omega followed by Mu Upsilon, performing it four to five times weekly for twenty minutes (10 minutes with each filter) per session. Additionally, there were delays with her insurance approving her tinted lenses, and she did not wear the tinted glasses in the initial six weeks.

She returned in May, with improvements on the FCFTester, and her objective and subjective measures improved (Table 1). Again, there were delays with her insurance approving her tinted lenses; therefore, she did not receive the tinted lenses. However, she noted continued improvements in her BIVSS (Table 1), particularly with light sensitivity. She continued O.P. at home for several weeks using the same filters (i.e., Upsilon Omega and Mu Upsilon). She would call or return if she noted any side effects.



**Figure 2:** The comparison of each color isopter for both the right and left eyes while the patient was using Upsilon Omega and Mu Upsilon Filters (February 2024 to June 2024). The visual field shows the expansion of the color isopters in percentage. All the color isopters expanded throughout treatment: **A.** white isopter (right and left eye percentage change: +119.5 and +291.8, respectively), **B.** green isopter (right and left eye percentage change: +86.3 and +237.4, respectively), **C.** red isopter (right and left eye percentage change: +56.8 and +134.4, respectively), and **D.** blue isopter (right and left eye percentage change: +26.2 and +193.0, respectively).

Her visual fields continued to expand at her follow-up in June 2024. She continued to suffer from light sensitivity and noted a lack of energy. Her insurance approved her glasses, and she received her tint clip with her prescription eyeglasses at this visit. However, even though she was continuing to improve, she noticed a decrease in her energy levels (i.e., reduced energy). The doctor replaced Upsilon Omega with Delta Omega, and she continued with home-based O.P. for several weeks, performing four to five times a week for 20 minutes per session.

She returned to the clinic in July 2024, for her first follow-up since changing the filters. She reported that she had not begun to wear her new glasses and continued to wear her old ones. With the new filter, she did not report feeling a difference with the light, but she continued improving. Her BIVSS improved to below the anticipated threshold ( $\leq 31$ ), and her (or add visual to above fields) fields showed areas of compression and expansion, depending on the color isopter and eye tested (Figure 3). With her symptomatic improvement and overall expansion

sion of her visual fields (Figure 4), she continued with Delta Omega followed by Mu Upsilon.

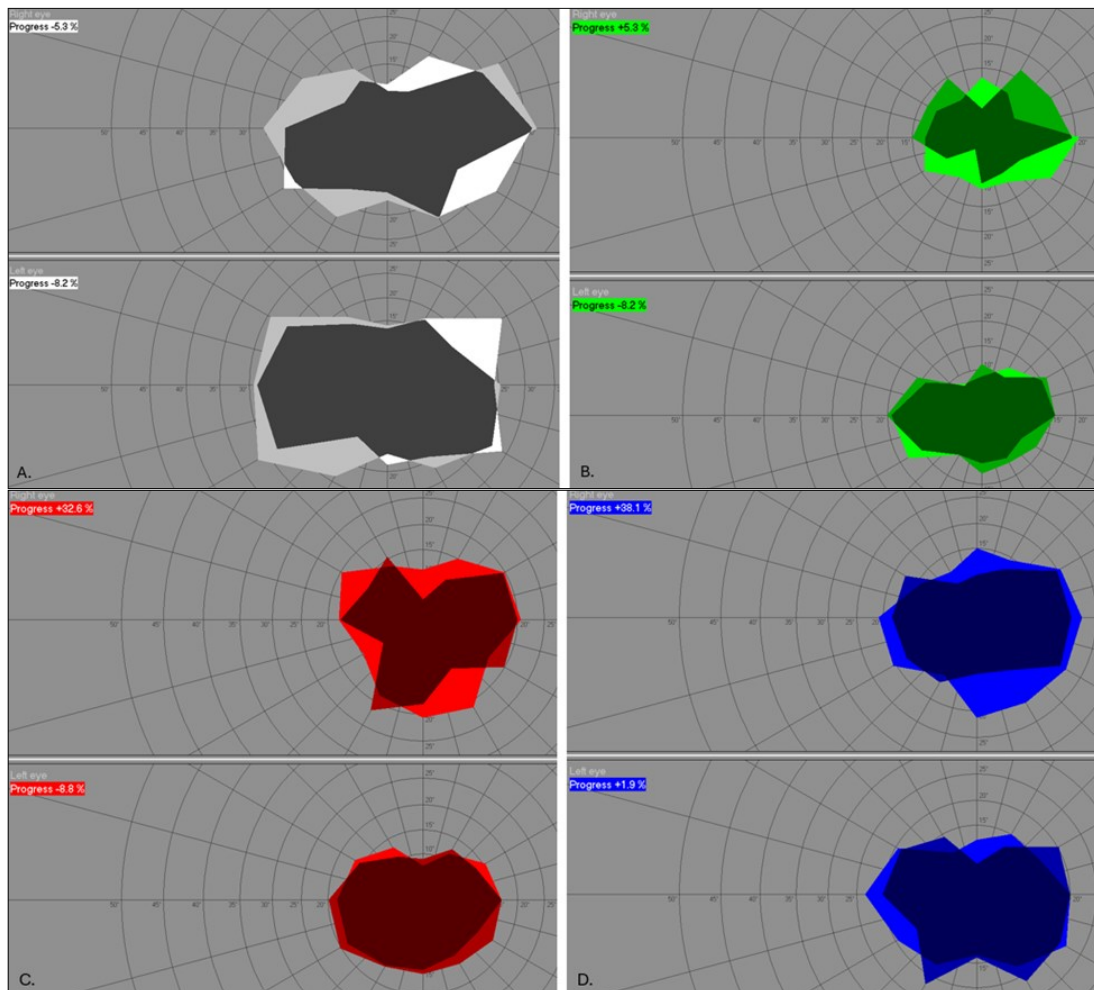
Additionally, she showed improvements in her blind spots (i.e., a decrease in the percentage) from the initial visual field to the most recent field. Despite the improvements, she continued to show signs of convergence insufficiency (receded near the point of convergence and moderate exophoria at near greater than four prism diopter difference from distance) and symptoms. If her symptoms do not resolve at the future follow-up schedule at the end of August 2024, she is considering vision therapy or prism glasses for symptom and objective improvements.

### Discussion:

O.P. is another tool for optometrists who provide vision rehabilitation. Currently, no known placebo-controlled or randomized clinical trials have investigated the efficacy of O.P. in the traumatic brain injury population. Without prospective studies, the current case demonstrates that O.P. benefits the TBI population's objective and subjective improvements.

Other case reports discuss the use of O.P. in TBI patients and demonstrate functional and subjective improvements. However, other case reports have used vision rehabilitation with O.P.<sup>9,10</sup> Although these cases utilized O.P. to demonstrate a paradigm shift, there is no way to tell the actual effects of O.P. The case above helps advocate for using O.P. as a stand-alone treatment option. The patient yielded improvements; although O.P. did not fully resolve their symptoms or improve all objective measures, this case provides evidence advocating for O.P. and further research in the TBI population.

Automated Functional Field Tester software (FCFT) (available through Bernell Corporation, Mishawaka, IN, USA) is a kinetic visual field. Optometrists use this visual field test to monitor the progression of patients during their rehabilitation. Recently, normative trends were investigated for the FCFT. Although it is not normative data, it can still estimate the visual field measures expected in a healthy normal adult population (e.g., non-

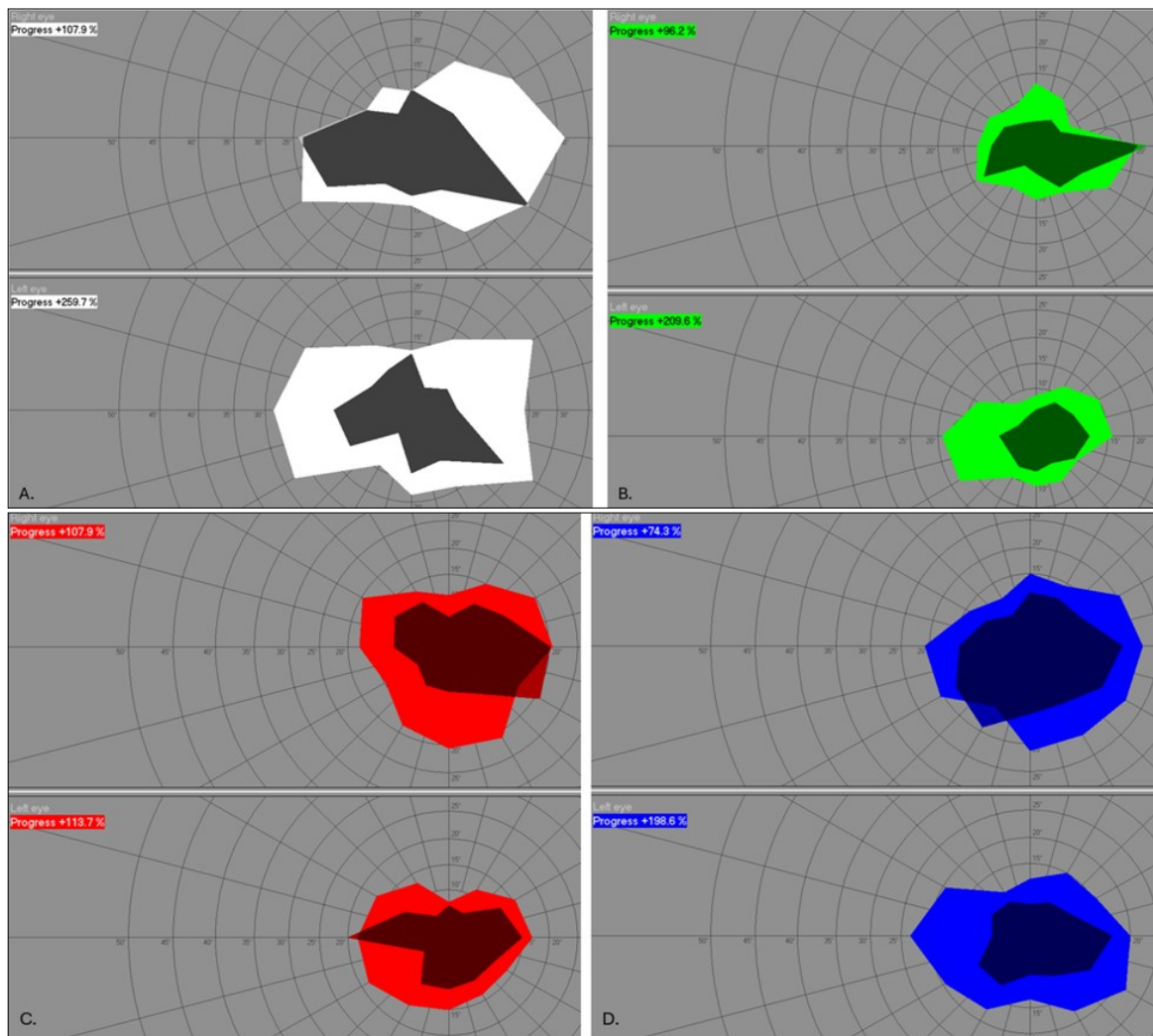


**Figure 3:** The Automated FCFTer expansion of the color isopters from June 2024 to July 2024 with the change of the filters from Upsilon Omega to Delta Omega. The patient continued with Mu Upsilon. It can be noted there are some areas of expansion and some areas of compression with the new filter. The different isopters are shown below with their respective changes in percentage: **A.** white isopter (right and left eye percentage change:  $-5.3$  and  $-8.2$ , respectively), **B.** green isopter (right and left eye percentage change:  $+5.3$  and  $-8.2$ , respectively), **C.** red isopter (right and left eye percentage change:  $+32.6$  and  $-8.8$ , respectively), and **D.** blue isopter (right and left eye percentage change:  $+38.1$  and  $+1.9$ , respectively).

TBI). The FCFT of the current patient had a generalized contraction of the color isopters (red, green, and blue) and the form field (white isopter) versus the anticipated results in non-TBI adults.<sup>11</sup> Throughout O.P., the patient expanded their visual field in both eyes (Figures 3 and 4). Additionally, the patient demonstrated enlarged blind spots at the initial evaluation. The patient above showed more normalized blind spots OU (Figure 5) during treatment. Visual field expansion in this case is consistent with an earlier case report of an adult TBI patient who utilized vision rehabilitation and O.P.<sup>9</sup>

O.P. was recently studied in the strabismus and amblyopia population.<sup>12</sup> Although the populations differ between TBI and strabismus and amblyopia, qualitative electroencephalography (qEEG) results demonstrated that O.P. improves the interhemispheric synchronization of patients with visual dysfunctions. Aside from improving synchronization, the expansion of FCFT increases more and is of higher significance than healthy controls. Pa-





**Figure 4:** The changes to the Automated FCFTester from the initial visual field (February 2024) to the visual field measured in July 2024. All of the isopters remained expanded as was found when the patient was using Upsilon Omega. The changes to the color isopters and their respective percentage changes can be found below: **A.** white isopter (right and left eye percentage change: +107.9 and +259.7, respectively), **B.** green isopter (right and left eye percentage change: +96.2 and +209.6, respectively), **C.** red isopter (right and left eye percentage change: +107.9 and +113.7, respectively), and **D.** blue isopter (right and left eye percentage change: +74.3 and +198.6, respectively).

tients with visual dysfunctions expand their visual fields more than healthy normals.<sup>12</sup> Future qEEG and investigating the clinical results of the FCFT studies should examine the changes in the visual system with TBI and O.P.

The pupil is used as an objective biomarker for photosensitivity in the TBI population; photosensitivity has been demonstrated in dynamic pupillometry<sup>4-7</sup> and found to be significant versus normal (i.e., non-TBI) patients. However, an ill-sustained pupillary constriction, i.e., Alpha Omega Pupil, is less studied and reported. The College of Syntonic Optometry teaches the measure of an Alpha Omega pupil via a transilluminator and subjective grading. Additionally, the College teaches the correlation between enlarged blind spots and an Alpha Omega pupil. The patient demonstrated an ill-sustained pupillary constriction (i.e., Alpha Omega Pupil) that improved throughout their treatment (Table 1). With the changes to

their Alpha Omega pupil and blind spots, this case represents an example of the correlation between improved pupillary responses and blind spot measurements. However, there is sparse data in the literature assessing the Alpha Omega pupil objectively. One case-control study better represents an ill-sustained pupillary constriction in two age-matched patients.<sup>13</sup> With newer technology and the improvement noted in the case above (i.e., long sustained pupillary constriction), further research should investigate the role of an ill-sustained pupillary constriction and light sensitivity in the TBI population while using O.P. Additionally, there is a need to further investigate the correlation between pupillary changes and blind spot measurements in prospective studies.

#### Conclusion:

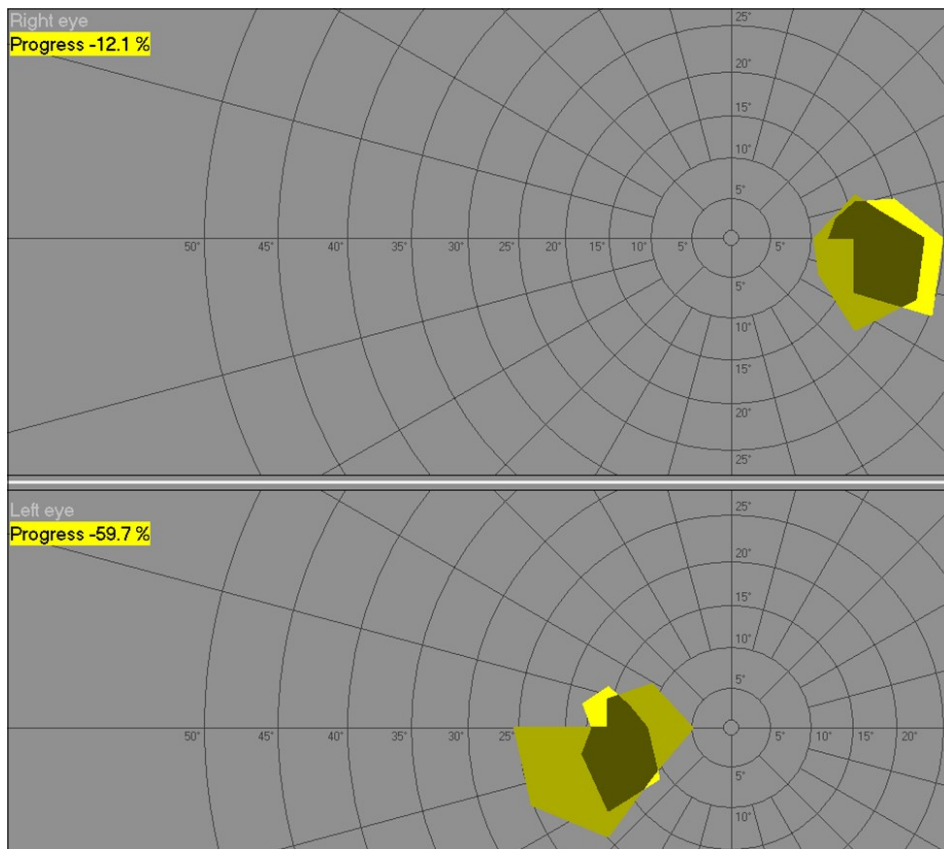
In conclusion, O.P. showed subjective and objective changes in a patient with a traumatic

brain injury patient. This case report advocates that a more extensive study prospective study or retrospective analysis to assess the efficacy of this treatment for photophobia and subjective deficits in the TBI population is warranted.

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**Figure 5:** The blind spot decreased in percentage from the initial visual field in March of 2024 to the final visual field in July 2024. The decreased percentage is the anticipated result.

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## About the Author:

Dr. Nichols has a passion for teaching, lecturing, and research. He has a clinical interest in behavioral optometry, traumatic brain injuries, and optometric phototherapy.

His passion for research has grown since his residency days. He helped create the Optometric Phototherapy Investigator Team (O.P.I.T.). This team of doctors consists of private practice optometrists who have partnered with some of the optometry schools to help provide evidence and promote the use of optometric phototherapy. The team has published their first study in the Vision Development and Rehabilitation Journal and is currently assisting clinical trials at their private practices and at Ohio State University and State University of New York.







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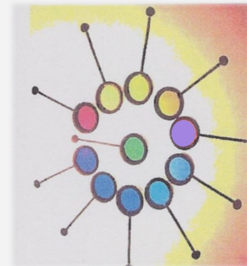


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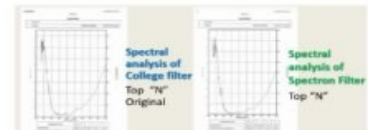
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# Rehabilitation for Streff Syndrome Using Syntonics and Nutraceutical Support

Fern Fujimoto OD, MAED, MSO, EPAO, FCSO

## INTRODUCTION:

Streff syndrome is considered psychogenic and is involuntary in nature; therefore, some consider it a type of “self-limited amblyopia”. It is not ocular physiologically but rather a visual processing problem of the brain as a maladaptive response to stress. This non-malingering syndrome is characterized by focusing difficulty, tunnel vision, and pupils struggling to properly adjust to light. It is frequently associated with periods of extreme stress with hallmarks of irritability, withdrawal from activities, crying, aggressive behaviour, regressive behaviour, or refusal to attend school.

Traditional optometric therapies include low plus readers or multifocals, or vision therapy aimed at peripheral awareness, focusing, and eye movement skills. This case presents another possible therapy - syntonics combined with nutraceuticals.

## HISTORY:

In April 2022, an 11-year-old girl presented with a recent onset of reading problems. Her father brought a video recording of her struggles. The behaviours on the video were reminiscent of a low-vision patient - moving closer and farther, turning her head side-to-side to visually scan a page. Her dad was aware of her social anxieties and her recent negative behavioural issues - lying, disobeying at home, and emotional bouts of crying or anger after school. The trigger for this incident may have been a parental illness and surgery.

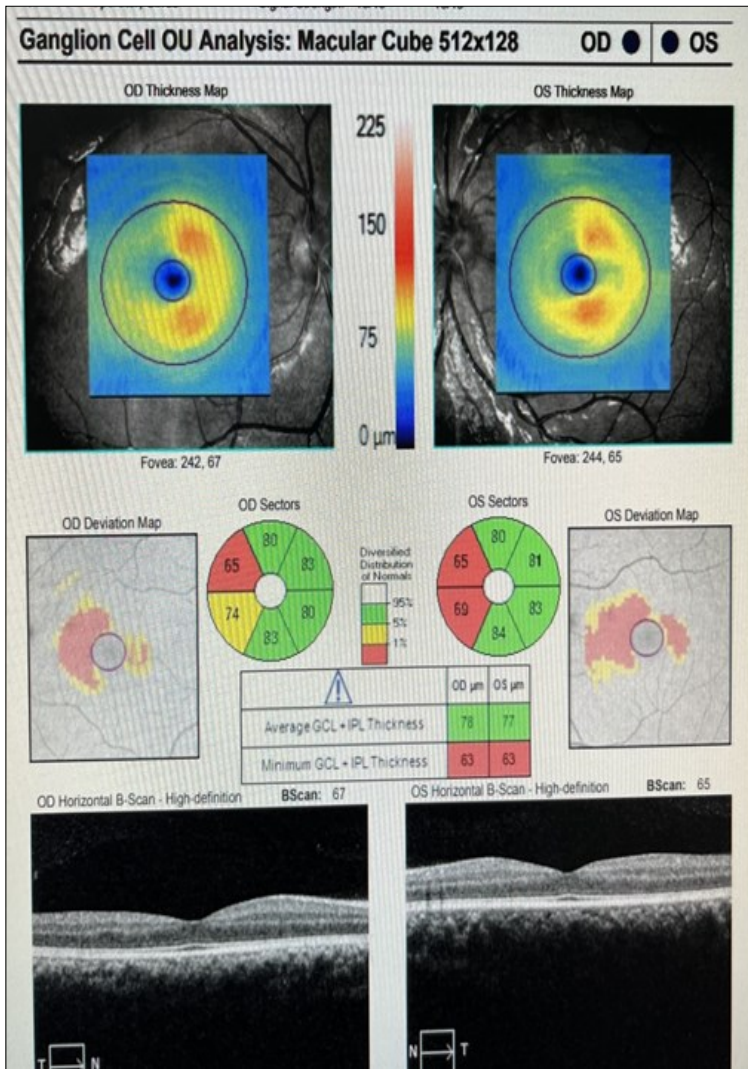
She is currently in grade 6 having reported ongoing problems with glare and brightness on digital devices, preferring paper and books to screens.

Previous history from 2021 Toronto Vision Institute included small angle esotropia OS 1-2 PD, eccentric viewing OS, stable BCVA OD 20/25, OS 20/40-20/50. Head turn to the right side was noted 2017 - 2021. Patching was attempted in 2017 without success.

There was one reported incident in 2020 of a fall from a monkey bar, without a diagnosis of concussion. However, she does have a history of physical and emotional trauma as a small and malnourished 3.5-year-old orphan, before her adoption from Africa. Only medication was a nasal spray but also uses a multivitamin and occasional fish oil.

## TEST RESULTS:

Test	Baseline April 5, 2022	Final September 21, 2022
VA aided	OD 20/25 0.50M OS 20/40 0.62M	OD 20/25 - 20/20 OS 20/25 - 20/20-
Refraction (cycloplegic)	OD +0.25/ - 0.75 X 005 20/30 OS +0.50 / -0.50 X 165 2030-	
Keratometry	OD 44.50 X 180 / 45.25 OS 45.00 X 180 / 46.00	
Accommodative Amplitude	OD +4.75 (using .62M) OS +3.50 (using 1.00M)	OD +10.25 OS + 8.50
DISTANCE H V	2xo BI: x/3/2 BO x/30/10 0-1 BD OS BD OD 5/2 BU OS 5/1	
NEAR H & V	2 xo BI x/12/4 BO x/26/9 1-2 BD OS BD OD 5/4 BU OS 6/2	
Randot	200"	70"
Fixation disparity	H distance mild OS XP, near Ortho *intermittent suppression OS distance and near	
Brightness test	Inconclusive (difference then same after 2 minutes)	
FF 76	No gross neurological defect	
C24-2	Unreliable	
Ocular Health	Macula, fundus, and ONH WNL OU	
Functional Fields	Enlarged blind spot and very reduced fields from 5-20 degrees	Normal: see following page
OCT	Thin retina on raster and GCC	



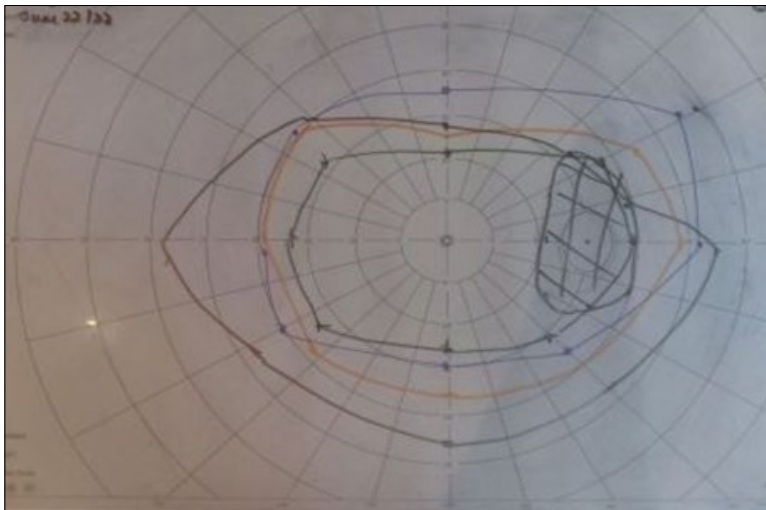
**OCT RESULTS RASTER and GCC:**

OD thin parafoveal thickness temporally compared to nasally, OS normal raster

GCC (ganglion cell complex); abnormally thin OD with OS being worse especially nasally.

**DIAGNOSIS:** Streff syndrome

**FUNCTIONAL FIELDS:**



**DISCUSSION:**

Despite this 11-year-old's self-reported vision problems, no other testing supported her complaints. The Humphrey visual fields, brightness test, and negative Marcus Gunn pupil were normal; therefore, a neurological consult was not warranted. It was not malingering, since non-therapeutic "tricks" did not improve her symptoms. To the patient, it was real and affected performance on many levels: academically, socially, and emotionally.

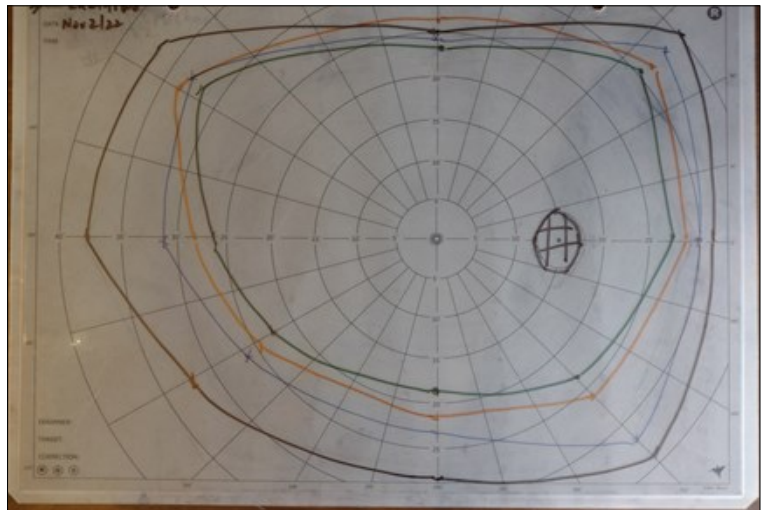
Functional visual fields revealed a very restricted field. Her pupils were responsive to light but redilated quickly (classic AO pupil). She exhibited and reported social, academic and emotional stress, which are all classic signs of Streff syndrome.

After 3.5 months of home syntonics, her visual functioning improved as reflected in reports from both home and school. She was reading with a normal posture again which was her father's major presenting concern. Her photophobia resolved. The parents noticed a sudden and drastic positive change in attitude at home at <1 month. No longer did she come home crying after school. She was more confident socially, and generally calmer and more cooperative.

Additionally, her amblyopic eye vision improved from 20/40 to 20/20- OS at her 4 month follow up. She achieved better stereoacuity from 200" to 70". Her functional visual fields normalized as did her blind spot. Accommodative amplitude improved more than doubling.

The original plan was to start home vision therapy training once syntonics was completed. However, since amblyopia, stereoacuity, functional fields, accommodation all improved, no further vision therapy was indicated.

The parents' request for referral to Sick Kids for electrodiagnostics was cancelled. The daughter's psychosocial life, academic life and visual functioning had improved. We had met the parents' objective through optometric syntonics phototherapy combined with nutraceuticals.





## TREATMENT PROTOCOL:

### 1. Syntonics:

Chronic protocol that consists of 10 minutes of Alpha Omega followed by 10 minutes of Mu Delta

### 2. Supportive nutraceuticals:

Vision Essence (Early Defence), Fish oil, Vitamin B complex, Vitamin D, and continued multivitamin.

## SYNTONICS

Alpha Omega helps with emotional fatigue and in this case worked beautifully to calm her down as reported by both parents. This was the primary goal in this therapy. Mu Delta alone in this case appeared to be an effective amblyopia therapy without need for any stronger more stimulating frequencies.

Traditionally, Alpha Delta/Mu Delta is promoted for amblyopia. Since Alpha Delta can be too stimulating if already agitated, I wanted to calm her nervous system down first with more balancing frequencies.

Although her exophoric visual stance may have been corrected with Mu Upsilon, since it helps with convergence, I felt that the roots were probably longstanding based on her traumatic early life history. Therefore I chose to use the chronic protocol first.

Syntonics' more traditional "amblyopia therapy" (using Alpha Delta/Mu Delta) was not warranted. There was no regression in best corrected vision OS at one month after cessation of syntonics treatment. In fact, at her yearly recheck, her BCVA remains stable at post-treatment levels.

## NUTRACEUTICALS and The EYE

Nutraceuticals and "food as medicine" are the cornerstones to all my therapies, from neurorehabilitation, age related macular degeneration, to dry eye. I tell my patients that we want to make our house out of bricks, not straw.

Infant malnutrition alters growth and development resulting in neurologic, cognitive and behavioural complica-

tions. (#11, #15) This patient's OCT revealed thinned ganglion cell layer OD<OS. This is not surprising considering her malnutrition before the age of 6. Based on neuroplasticity and lifetime neurogenesis research, I concentrated on the eye and brain carotenoids with EFA and vitamin B complex. These all could be supportive to the existing diminished retinal structures and assist both normal brain structure and function, especially in a young growing child.

## MPOD

MPOD (macular pigment optical density) is a test of relative carotenoids in the retina. The retinal carotenoids include lutein, zeaxanthin and mesozeanthin, and are correlated to eye function. Macular pigments support a myriad of retinal functions including better clarity of vision, better contrast sensitivity, reduced glare disability, and faster retinal processing speeds. (#8)

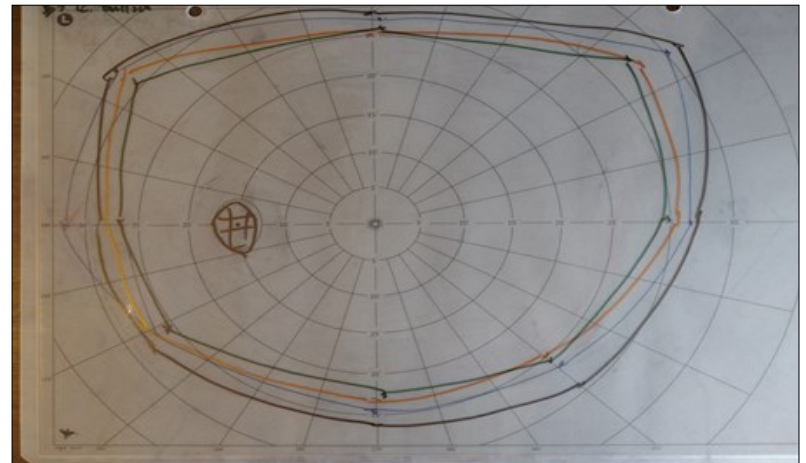
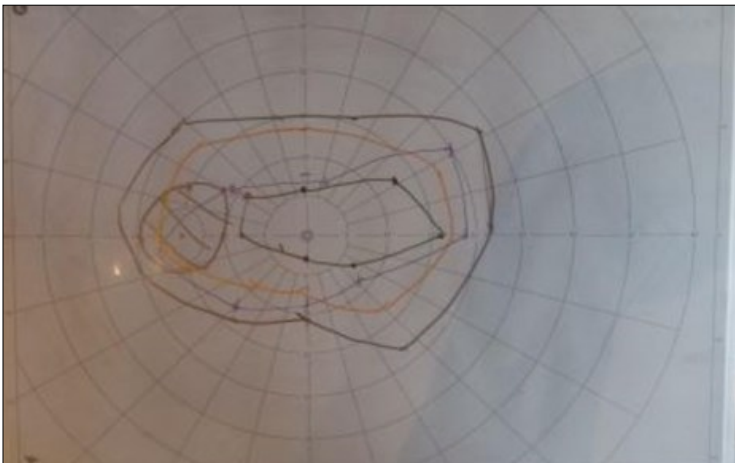
Additional to the function benefits, macular carotenoids help to protect the retinal cells from oxidative damage. It is found in IPL, OPL, R/C with limited amounts found in the RPE, and is thought to be protective to the retinal ganglion cells and receptors. Thus, it functions as a natural yellow filter neutralizing harmful high energy blue light but also scavenges free radicals through its antioxidant properties.

Carotenoids have been linked to improved academic performance in children, less computer vision syndrome, and reduced dry eye complaints. (#13, #14)

Studies conclude that MPOD is modifiable and is correlated to better function, at all ages, including the following groups: on mothers and infants (#6), university students (#7,8), and seniors.

Not only is MPOD important in neurological development in an infant or growing child (#6, #15), but has been shown to prevent or slow progression in seniors with macular degeneration in the infamous AREDS study.

MPOD can be raised even in highly performing subjects. University baseball teams studies show measurable im-



provements in sporting statistics. Dr Lisa Renzi-Hammond theories that ocular carotenoids reduce glare discomfort and disability, shorten photostress recovery times, enhance chromatic contrast, and increase visual range, plus enhanced brain carotenoids also increase temporal processing speeds. (#8) In another study, University students who would presumably be more difficult to show improvements, did show cognitive improvements in spatial memory, reasoning ability, and complex attention. (#7)

***MPOD is modifiable through diet or supplementation, at all ages, and symptomatic relief is subjectively and objectively obtainable for both the eye, and the brain.....***

### ***MPOD: The Eye and Brain Connection***

The direct correlation between eye and brain is being born out in numerous studies. For example, University of Waterloo Dr. Melanie Campbell's research on retinal tau protein has been demonstrated as early indicator of brain diseases like alzheimers. (#2). University of Georgia's Liza Renzi-Hammond study reveal positive changes in brain structure (myelin volume) with corresponding positive functional changes as MPOD increases (#9). Lutein and zeaxanthin are found in the frontal lobe, visual cortex and cerebellum, thus, visual skills like improved processing speeds are correlated to faster reaction times which is under cerebellar control. MPOD has been positively correlated with cognitive functioning globally but also, processing speed, and visual-spatial abilities.

Perhaps carotenoids assist neurogenesis in infants; but, may also help to preserve neural tissue later in life. (#15, #9) *“nutrition has been proposed as a factor that can preserve brain structure in aging through reduction of mechanisms that lead to neuropathology, such as oxidative stress and inflammation ... Preserved brain structure in turn affects cognitive functioning and rates of cognitive decline”*. *“... L and Z are the primary carotenoids in brain tissue, they are likely related to neural structure and functioning. L and Z stabilize cell membranes by binding together lipid bilayers. Degradation of structural barriers such as cell membranes may lead to increased diffusivity and decreased white matter integrity. Thus, if carotenoids such as L and Z contribute to the stability and integrity of cell membranes, perhaps they also act as buffers against white matter decline in aging.”* (#9) That is, carotenoids perhaps help both structure and function of the brain.

A recent study found 5 nutrients deficit in alzheimer's patients. Lutein, zeaxanthin, vitamin A, lycopene, and vitamin E. (#12) It is interesting to note that all these are lipid soluble vitamins.

Dr. Bredesen's research has linked statin use as a risk factor for alzheimer's.

Dr. Dale Bredesen is an neurologist, researcher of neurodegenerative diseases, and is the Author of “End to Alzheimers”. He recommends a multi-dimensional approach

to rebuilding your brain that includes diet, exercise, sleep, stress reduction; but also, optimization of hormones, AIC and trophic support (especially vitamins B,D). He advocates for elimination of toxins, heavy metals, chronic inflammation, and infections like Lyme or HSV. His views go against the grain of modern medicine by suggestion that the brain can be rehabilitated and even have improvement in brain volume (as shown in hippocampus areas on MRIs).

### ***Essential Fatty Acids (EFA)***

Dr.Micheal Tolentino is a Harvard trained vitreo-retinal specialist renowned for his work on developing anti-VEGF therapy. His research suggests that the 3 retinal carotenoids protect the retina from oxidative stress created by the retinal EPA fatty acids; therefore, recommends the simultaneous use of EFA in conjunction with carotenoids. Since this lecture years ago, I will always recommend this regime.

Essential fatty acids are by definition obtained only from diet. DHA (Docosahexaenoic Acid) and EPA (Eicosapentanoic Acid) help neural structure, biochemistry and physiology. Infant formula has omega 3, ALA (Alpha-Linolenic Acid), and DHA in infant formula to assist visual, neurologic, and cerebral development. Mood disorders appear to have a positive correlation with EFA resulting in some therapists to include EFA with medications. (#4) Studies on neurological changes with brain structure, and function is being used to treat dementia patients. Neuroplasticity of the brain has been shown into adult years. Both ends of the biologic spectrum have shown benefits of EFA structurally and functionally.

The reverse is also true. Deficits in omega 3 (anti-inflammatory) and/or an excess of omega 6 (pro-inflammatory) have pathological consequences.

Dr Daniel Amen is an American psychiatrist, author, and neuroscientist. What sets him apart from other psychiatrists is his use of SPECT brain scan analysis which reveals blood flow, or lack thereof, in the brain. Dr. Amen's methods may not be universally accepted; however, his demonstrations of positive changes in SPECT scan analysis after using his methodology is compelling. The 3 supplements that he cites are critical to optimal brain function a multivitamin, omega 3 fatty acids, and vitamin D.( #16 -18)

### ***VITAMIN B***

Vitamin B's are known to affect brain chemistry; therefore, mood and other functions. (#5) In the elderly, deficiency has been associated with cognitive decline and memory loss, which is reversible. In children, ADHD improvement has been shown with supplementation. Finally, B complex are useful in treating peripheral neuropathy since they support a healthy nervous system.

Even a deficiency in one of the B vitamins can cause health issues. B12 is well known for its affect on anemia and blood; therefore, have far reaching systemic affects beyond the brain. B vitamins act as coenzymes in a myriad of reactions in every cell of your body, and as such each one is important to have in your diet. As such an important nutrient, I support it's use in my patients for neuro-rehab for its physical benefits on the brain and nerves themselves, with benefits on mood, and even attention and focus.

## CONCLUSION:

I believe that nutritional supplementation is supportive to any brain and eye therapies. Since part of the syntonics mechanism of action is thought not only to affect brain function, and possibly vasodilation and blood flow, I assume that providing the nutritional building blocks to maintain, support or regenerate structures will be of benefit epigenetically. Not only for the eye but also for the brain in any rehabilitation protocol.

## FINAL WORD:

At a more philosophical level, we are “light beings”. Light controls our biology through conversion to neuro-electric signals to our brain. Light influences our vascular system through chromophores in our blood and vascular endothelium. Our cells communicate using biophotons. Light is converted into our food via photosynthesis. Quantum physics theorizes that all matter is created from potential energy or virtual photons which lead to the physicist, David Boehm's quote “ all matter is frozen light”

We would not exist without Light.....

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## About the Author:

Dr. Fern Fujimoto graduated from the School of Optometry, University of Waterloo in 1987.

She has practiced traditional optometry for over 30 years with a high level of expertise in retinal disease and contact lenses RGP gas permeable lenses for Keratoconus.

Dr. Fujimoto has been described as a “holistic optometrist”.

Her passion for learning has expanded into research and practical applications in Eye and Nutrition as it relates to general health; Eye and its link to brain health as an emerging science; Photobiomodulation; “Dry Eye disease; and myopia control.





# End of the Road: A Case Report

Cade Kowallis, O.D., FCSO

Many of us use Syntonics on our vision therapy patients with great success. However, sometimes we do not think of other ways that we can use the power of Syntonics. I was introduced to Syntonics in a roundabout way in January of 2020. At this time, I had been struggling with some of my vision therapy patients and was at my wits end on how to help them progress. When I first learned about Syntonics, it was through another optometrist that had been at a sports vision conference and was introduced to different colored “googles”. These googles made him be able to stretch farther and better than he could before. I thought that was an interesting concept and that it might be something to use during therapy to better stimulate a patient while doing exercises.

In looking up color light therapies I came across the College of Syntonic Optometry. I went into the library and started reading the old case reports and my interest was piqued as to the results that were described in these cases. I started to study how to use Syntonics and what the different filters did. It was at this point that I purchased some syntonic lights and filter glasses to experiment with, first trying it on myself then on a few select patients that I did not know what else to do with.

It was at this time that I tried it on patient MR. She was a 9-year-old at the time she initially came into my clinic on March 27, 2018 with an infection and corneal ulcer on her left eye. Her mother had been recently hospitalized with a severe infection in her leg that ended up having to amputate because of the severity. This family situation caused her parents to not notice the infection in her eye.

When I saw her, she had a 2 mm corneal ulcer right below the center of the pupil. I immediately put her on antibiotics which helped to get rid of the infection, but she subsequently developed neovascularization of the cornea post infection. She battled reinfections of the eye for another 6 months with continued flares of the neovascularization and an eventual mat of neovascularization that seemed like it was going to be a permanent fixture. I tried numerous treatments from brimonidine to help constrict the vessels, heavy steroids, and finally an amniotic membrane with little success in each treatment. The treatments would sometimes help the vessels recede temporarily with a resurgence only a short time later. It was at this point that the parents were wanting to go to a corneal specialist. I had a previous patient with a similar problem that I had sent a few years prior to the specialist and all he had done was a steroid treatment that had no effect and this patient's cornea did not improve with his

treatments. I had learned about Syntonics around one year prior to trying it on MR and had read in the black book after taking the 101 course about treating corneas with Syntonics. I told the mother that we would try this treatment and if it had no effect, I would then refer her to the corneal specialist for evaluation.

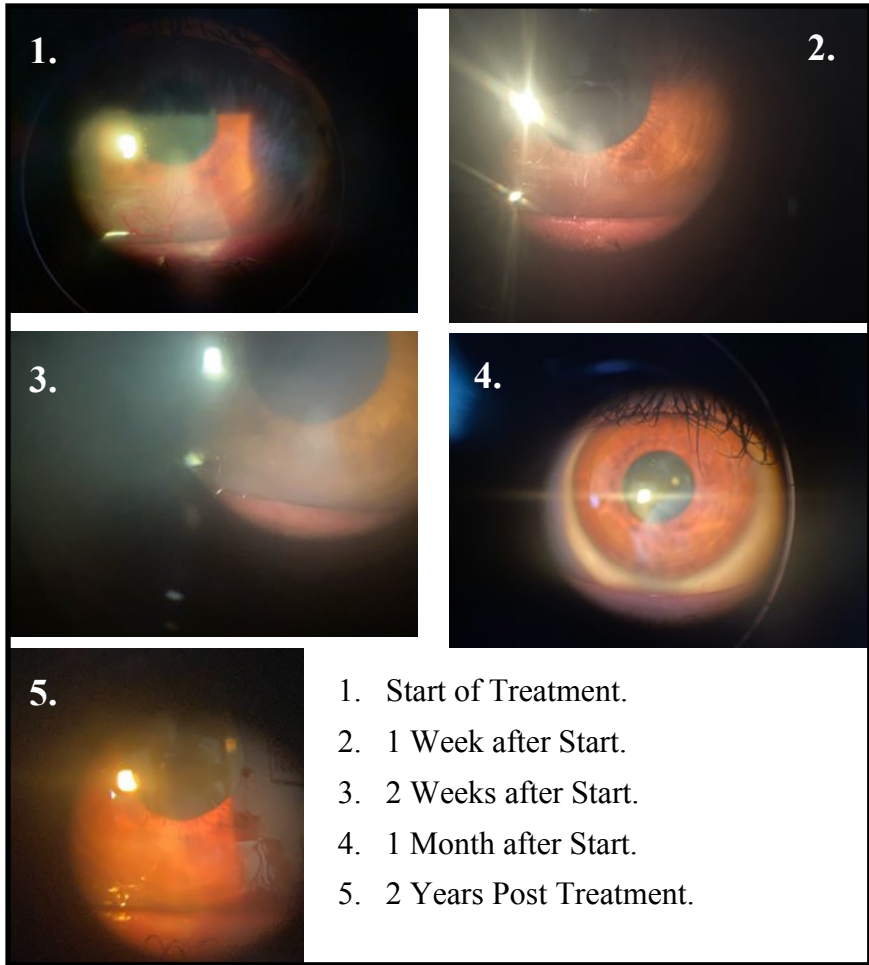
I started treatment in August of 2021. I applied a focal light around 2 inches from the eye with Alpha Delta first to help stimulate mitochondrial function and stimulate fluid clearance and Mu Delta to help stimulate a physiological balance. I had her come in three days a week for treatment for one month. I documented with photos every week progression with the following pictures.

Her corneal edema and neovascularization significantly decreased over the month of treatment. Most of the neovascularization resolved with just a trace amount seen by the end of treatment. Also, corneal clouding and edema significantly decreased.

At this point, I discontinued treatment and had her follow up in six months. She had no reoccurring infection and the edema and neovascularization continued to decrease over time. She had a small glasses prescription in the eye at this point that was prescribed. She was again educated to follow up in 6 months unless she had a reoccurrence of infection. She followed up in six months and again just had a small glasses RX in the left eye. She had no reoccurrence of infection and the corneal showed a small amount of continued progress. At this time, I had her follow up in one year for her annual eye exam.

She returned for this annual exam two years after initial treatment with Syntonics and showed no glasses RX in the eye and a complete resolution of the neovascularization. Shortly before receiving my fellowship, I had her return for a photo of the eye to show the progression over time.

In Syntonics, we often do not think to use this powerful tool in these types of cases. The power that we have with these type of conditions is immense. As WM Henning has said, “The body is self-correcting but needs some assistance.” The use of Syntonics in this case provided that self-correction that this patient needed and the results of that self-correction is now very evident. Not all cases are going to end up as good as this case but it is important to not downplay the role that Syntonics can play in assisting and correcting abnormalities with the eyes.



1. Start of Treatment.
2. 1 Week after Start.
3. 2 Weeks after Start.
4. 1 Month after Start.
5. 2 Years Post Treatment.

## About the Author:



Dr. Cade Kowallis grew up in the Uinta Basin and graduated from Union High School. He went to Undergraduate at Utah State University in Logan, Utah where he received a Major in Biology and a minor in German. Upon graduation he attended Southern College of Optometry in Memphis Tennessee where he graduated Cum Laude.

Upon Completion of Optometry school him and his wife Kelsie and their five kids moved back to Roosevelt to join back with the practice.

In 2024, Dr. Cade received his fellowship in Syntonic Optometry from CSO. He enjoys the added benefits that it can offer patients.

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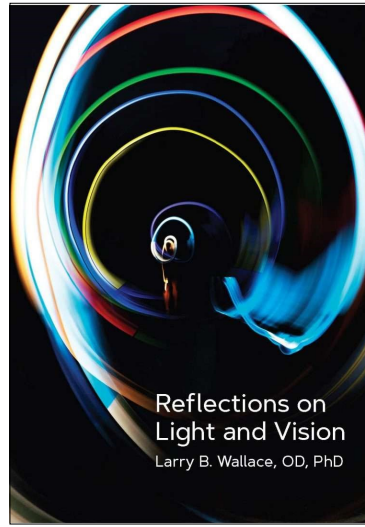
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# Book Review

## *Reflections on Light and Vision*, by Larry Wallace, OD, PhD, FCSO

I was quite fortunate to be asked to write a book review on my friend and mentor's most recent book. I was filled with excitement as I saw it advertised on the OEP website as a pre-order this past spring. This book is meticulously organized and it beautifully demonstrates his journey into holistic optometry, consisting of 14 chapters, a dedication, an introduction, and references, each adding insight into the next. For the reader, the book is a brilliant snapshot into his skillful and magnificent mind.



"I believe that vision is a miraculous gift" is a direct quote from his introduction and demonstrates his passion for vision and learning. Dr. Wallace shares his personal story of lessening his myopia through the Bates method and his time with Cornell University's Basketball team utilizing the Pepper Stress Therapy. He details his passion for the therapeutic application of light and color and describes how the mind and body are one and can be attained through a holistic vision approach. He discusses his path into total mind-body integrations via learning and/or collaborating with The Optometric Extension Program, Dr. Skeffington, Dr. Ray Gottlieb, Dr. Charlie Butts, and Dr. John Downing. Dr. Wallace discusses other strategies to enhance and maximize vision through Pepper Stress Therapy, Dr. Ray Gottlieb's "attention and memory training", and Dr. Bates's method. His quote, "...bringing someone's subconscious efforts to their awareness helps them consider the impact of their actions..." demonstrates this.

As the education director of the College of Syntonic Optometry and faculty, Dr. Wallace shares his extensive knowledge and wisdom in several chapters on Syntonic Phototherapy. He details the historical background, origins, further theories, diagnostic testing, Syntonic Syndromes, Biotyping, and endocrinology. These chapters are so detailed, concise, and brilliant, that it feels as if they should be COPE-approved. He also mentions many of the practitioners, "thought leaders", and researchers that have "led the way" in light medicine and photobio-modulation. Many of which, were speakers at the International Vision and Light Conference.

If you are a regular at the International Conference on Light and Vision like me, then you know that one of the

best parts is the Advances in PhotoMedicine given by Dr. Wallace and Dr. Gottlieb. Dr. Wallace discusses heart rate variability (HRV), pupillography, and the electromagnetic field. He details the importance of measuring autonomic imbalance in Syntonic phototherapy. He also has a chapter in which he discusses the Hess test and its importance in guiding non-surgical treatment for paralytic eye muscles. Dr. Wallace discusses Sara Cobb's AcuLight Method to treat refractive errors, and shares cases demonstrating focal application of syntonic frequencies. There are chapters dedicated to the CoMra laser device, the Photon Stimulator, sound therapy via tuning forks, Mind Alive, and microcurrent. All of which serve a beneficial place in an optometrist's tool kit. Dr. Wallace states, "Light and Color have the power to heal, but they can also become health hazards", and this is demonstrated in one of his chapters. He discusses Network Physiology and lighting in environments.

Dr. Wallace concludes his book detailing his expansive concept of vision and holistic philosophy that pushes him to continually learn and develop new concepts to better help serve his patients. He also describes some of his conclusions, which he states are continually developing. I will end the book review with a few of my favorite quotes. He states: "...defining vision is relative to consciousness" and "Transducing the sun's energy throughout our visual system is one way to support our biological and emotional functions". Another brilliant quote from his conclusions is: "...the interconnected nature of vision and light is illustrated by the fact that our outer vision is never separate from our inner vision or memories". He ends the book by stating: "Light is both energy and information and can be used to treat and heal".

*Reflections on Light and Vision* is an excellent book geared for any mode of optometry, it is educational, informative, insightful, and magnificently written. It is now officially required reading as a part of the fellowship process for the College of Syntonic Optometry.

In Light and Love,

Namaste.

Alia Santoyo, OD FCSO





# Awards and Accomplishments



## 2022 Fellowship Awards

Steve Curtis, O.D., FCOVD, FNORA, FCSO (left) and Randy Schulman, O.D., FCOVD, FCSO (right).



## 2022 Charlie Butts Award

Danielle Bianco, O.D., FCSO



## 2023 Charlie Butts Award

Phil Bugaiski, O.D., FCOVD, FCSO



## 2023 Certificate of Gratitude

Robert Fox, O.D., FOVD, FCSO (left). Shown with Dr. Ray Gottlieb (right).



**2023 International Fellowship Award**

Teresita (Tess) Reyes Yambot, O.D., MAED, MSO, EPAO, FCSO (Philippines) on right.  
 Dr. Larry Wallace shown on screen in back.



**2023 International Fellowship Award**

Priya Pandey OD, FCSO, MCOptom-UK, FCSO (India) on left. Shown with Dr. Cathy Stern (right).



**Screen shot of the Examining Board for Priya Pandey.**

Front: Rob Fox, O.D., Larry Wallace, O.D., Cathy Stern, O.D.  
 Back: Ray Gottlieb, O.D., John Pulaski, O.D., and Simon Grbevski, B Optom.  
 Upper Right Corner is Priya Pandey.







**2023 Riley Spitler Award**

Steve Curtis, O.D., FCOVD, FCSO on left.  
Shown with Dr. Ray Gottlieb (right).



**2024 Charlie Butts Award**

Randy Schulman, O.D., FCOVD, FCSO.  
Shown in the background is Dr. Hans Lessmann.



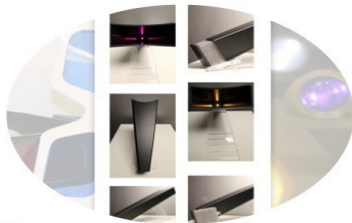
**2024 Fellowship Award**

Cade Kowallis, O.D., FCSO on right.  
Shown with Dr. Ray Gottlieb (left).



# Members In The News...

Congratulations to  
Cathy Stern, OD, FCOVD, FNORA, FCSO  
Recipient of the **Skeffington Alexander Award**  
at ICBO August 2024



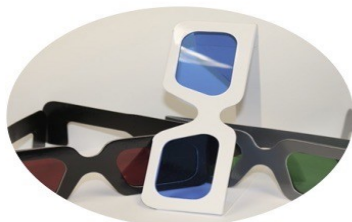
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## UPCOMING EVENTS

### Syntonic Phototherapy 101

November 9-10, 2024: The College of Syntonic Optometry is offering the 101 course in November at the office of Dr. Rob Fox. It is taught by Dr. Fox and Dr. Pulaski.

This is a two-day course providing practical education and theoretical knowledge including the history and basic concepts of Optometric Syntonic Phototherapy, pupil assessment, convergence near point, functional visual field assessment and case syndromes with practicum. It includes a one year complimentary membership to the College and the Black Book, a reference manual.

### 92nd International Conference on Light and Vision

Syntonic Phototherapy 101      May 14-15, 2025

Syntonic Phototherapy 201      May 15, 2025

General Conference              May 16-17, 2025

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Loews Ventana Canyon Resort  
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