By[Larry Wallace, OD, PhD](https://www.healio.com/authors/lwallace)

Biography/Disclosures

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**BLOG: ODs can use syntonics to affect vision, circulation**

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Up to 60% of the human adult body is water — even more if one counts the intracellular fluid. The brain is nearly three-fourths water, and the eye, of course, is filled with and bathed in fluid.



**Larry B. Wallace**

Most people tend to think about this water within us as neutral or inactive, but in fact it plays many critical biological roles throughout the body, brain and visual system.

Cerebral spinal fluid (CSF), for example, bathes the central nervous system, serving as a shock absorber and helping to maintain the homeostasis of the brain. CSF circulates nutrients, filters chemicals and drains waste through the lymphatic system.

Although much of this fluid is in liquid form, some of it is in the fourth phase of water (beyond the traditionally accepted three phases of solid, liquid and vapor). This phase of water, a gel-like crystalline structure known as exclusion zone or structured water, extends from hydrophilic surfaces, including the epithelial lining of the ventricles of the brain. One of the main functions of structured water is to absorb photons and store their energy for metabolic processes.

After an injury to the brain, congestion of CSF can further compromise brain function and affect nearly every system in the body, in part by disrupting the hypothalamus and diminishing the production of neurohormones. Fluid stasis is implicated in [binocularity and oculomotor problems](https://www.healio.com/news/optometry/20200701/binocular-vision-problems-after-cataract-surgery-linked-to-prior-anomalies), as well as dysfunction of the parasympathetic nervous system and the non-image producing visual pathways. We know those pathways — which help with spatial awareness, balance, sleep and many other functions — are strongly affected by light.

As optometrists, we can use light to help restore healthy fluid circulation after a brain injury. [Syntonics, or optometric phototherapy](https://www.healio.com/news/optometry/20200508/blog-the-blue-light-effect-you-probably-never-thought-about), can stimulate the energetic pathways of the hypothalamus, activating the parasympathetic system to produce more CSF and relieve fluid stasis. Focalized light energy can also be applied to the cranial nerves or the extraocular muscles to affect vision and oculomotor skills more directly.

This is an exciting, emerging specialty about which there is much to learn. I encourage my colleagues to learn more about syntonics (Spitler) and structured water (Pollack) and the role they can play in optometric rehabilitation.

**References:**

* Pollack GH. *The Fourth Phase of Water: Beyond Solid, Liquid and Vapor.* Ebner and Sons, 2013.
* Spitler HR. *The Syntonic Principle: Its Relation to Health and Ocular Problems.* Resource Publications, Eugene, OR; 2011. Available at the College of Syntonic Optometry (CSOvision.org).

**For more information:**

**Larry B. Wallace OD, PhD,**is former president of the College of Syntonic Optometry and immediate past president of the International Light Association. He is the inventor and patent holder of the first microcurrent device to treat retinal disease. In addition to his private practice in Ithaca, N.Y., Wallace organizes workshops, lectures around the world and publishes articles on vision therapy, syntonics (colored light phototherapy) and preventive vision care.

Wallace will be teaching a course on the cerebral spinal fluid system and its role in neuro-optometric rehabilitation at the 2021 NORA virtual conference. For more information and to register, visit [www.nora2021.com](http://www.nora2021.com/).

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