

# Research: New Near-Infrared Light Improves Depression

David Jahr March 15, 2016



Illustration: Taylor Tuteur -- Researchers examine evidence finding a unique method, high-powered, near-infrared light (NIR) penetrates through the skin and skull to ignite molecular regeneration among damaged brain cells.

**Co-author Dr. Theodore Henderson reports Major Depressive Disorder (MDD) may be targeted with a new treatment that improves brain metabolism, inflammation, oxidative stress and neurodegeneration.**

([Newswire.net](#) -- March 15, 2016) Lakewood, Colorado --Combing hundreds of scientific studies, including citations from 60 published in peer-reviewed journals, researchers assembled a comprehensive review of a new treatment for Major Depressive Disorder (MDD) that involves a unique application of a high-powered, near-infrared light (NIR).

According to the study co-author Theodore Henderson, MD, PhD, brain cells with low metabolism, inflammation, oxidative stress and neurodegeneration may cause MDD, and each of these conditions are improved with “transcranial photobiomodulation” (PBM). The argument and explanation for the molecular regenerative process was studied by Paolo Cassano; Samuel R. Petrie; Michael R. Hamblin; Theodore A. Henderson; Dan V. Iosifescu, and titled **“Review of transcranial photobiomodulation for major depressive disorder: targeting brain metabolism, inflammation, oxidative stress, and neurogenesis.”**

The study, [available here](#) as published in *Neurophotonics*, March 2016 and is cited in the National Library of Congress (Pubmed).

“First we reviewed the mechanisms of action by which the NIR might improve symptoms of depression, and then presented the clinical evidence for their use as a treatment for MDD and other comorbid psychiatric syndromes,” said Dr. Henderson, who is advancing psychiatric investigation and treatments from his practice, based in Denver, Colorado. “Not only did we find further evidence to support the efficacy of transcranial PBM for the treatment of depression, but it has applications for improving anxiety, cognitive functioning, and reversing signs of traumatic brain injury.”

The review also highlighted that the required equipment and low number of applications shown to be effective point to potential for wide dissemination, as it has also been found to be safe, with no skin irritation. The method, currently in the patent process, has yet to receive FDA approval.

Dr. Henderson, who co-founded [Neuro-Laser Foundation](#), also noted that highly-regarded neuroscientist Larry Morries, DC was instrumental in this study. Through Dr. Morries, the researchers found the most recent case studies on actual patients receiving the NIR treatment who were troubled by depression due to traumatic brain injury (TBI). The following studies were foundations to understanding the effectiveness of NIR reaching the brain, and affecting behavioral changes. (Published in *Neuropsychiatric Disease and Treatment*, Summer, 2015):

- **Near-infrared photonic energy penetration: can infrared phototherapy effectively reach the human brain?** Henderson TA & Morries LD. — The study showed high-powered, multi-watt infrared light achieved at least 3 cm penetration into the brain. This included wavelengths of 980 and 808 nm with 9-13 Watts average power. No thermal skin irritation occurred, and skin temperature change was negligible.
- **Treatments for traumatic brain injury with emphasis on transcranial near-infrared laser phototherapy .** Morries LD, Cassano P, Henderson TA. — The second study found that a specific high-powered, near infrared light can effectively re-energize damaged brain cells after penetrating the skin and skull. All the patients in the study reported significant clinical improvement in their condition with no negative side effects.

**The Neuro-Laser Foundation (NLF)** is a non-profit organization, based in Denver, Colorado, dedicated to

transforming lives of those distraught with various psychiatric and neurological conditions, some resulting from traumatic brain injury (TBI). Building on more than 30 years of studying the effects of near-infrared light on cells and tissues, the Foundation is advancing technology and treatment approaches that will increase quality of life factors for people impacted by traumatic brain injury.

**Theodore A. Henderson, MD, PhD**, specializes in the diagnosis and successful treatment of complex psychiatric cases. Through advanced investigation methods, and applying treatments at the forefront of science, Dr. Henderson's research has been recognized globally and in numerous peer-reviewed journals. He is guest editor for *PLOS One*, *Journal of the American Medical Association*, *Journal of Nuclear Medicine* and the *Journal of Neuropsychiatry and Clinical Neurosciences*. Dr. Henderson is the co-Founder of [Neuro-Laser Foundation](#) and [Neuro-Luminance](#). Learn more by calling 720-493-1101.

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## About Neuro-Laser Foundation

The Neuro-Laser Foundation is a non-profit organization based in Denver, Colorado, dedicated to advancing technology and treatment that will increase quality of life for people impacted by traumatic brain injury and other complex psychiatric conditions. Learn more at [TBI.care](#).

## Neuro-Laser Foundation

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