



HR1000 Helmet

**Light Therapy Treatment to Increase ATP
and Blood Flow to the Brain**



Delivers up to 26 Joules cm² 3cm below the Pia of the Brain

***Medical Studies, Rental and Purchase Information at:
www.transcraniallighttherapy.com***

Specifications:

Overall Dimensions: 10.5" x 8.5" x 7.5" with 6 light panels: 2.5" x 2.5" each

Light Output: 2 colors and 2 programs computer controlled 15 and 30 minutes

60 Red High Output LEDs @ 660nm = 660,000 mcd

144 Near Infrared High Output LEDs @ 850nm & 940nm = 49 Watts/sr

Comparison to other Dermillume Devices

The Dermillume HR1000 LED Helmet has been optimized for cranial applications by the inclusion of very recently available high-powered LEDs, and a third NIR wavelength (850nm). It is based on the HR1000, FDA market approved for professional and over-the-counter use. (July 27, 2005, K051681)

Helmet Description

6.35 x 6.35 cm (2.5 x 2.5 inch) panels are attached to the inner surface of a sports helmet to position the LEDs approximately 2.5 cm (1 inch) from the scalp surface. This ensures comfortable treatments and prevents accidental skin burns. The arrays are operated through a hand-held software-controlled panel and uses standard 120 Volt power. The array automatically turns off at 15 or 30 minutes (as selected by user).

Helmet Power Delivery

Jagdeo, Adams, Brody, and Siegel used a cadaver skull with the soft tissue attached to determine LED light penetration to the brain. Their findings were Frontal Lobe 2.1%; Temporal Lobe .9%; Occipital Lobe 11.7%.

Power delivered from Helmet			Power Delivered to scalp		Energy deposited	
total LED area (cm ²)	W (total)	mW/cm ²	Scalp Area illuminated (cm ²)	Power at scalp (mW/cm ²)	Fluence at scalp (J/cm ²)	Estimated Fluence at 3 cm below Pia Occipital Lobe (J/cm ²)
241.94	49.00	202.54	394.63	145.8	223.50	26.15
Power delivered from Helmet			Power Delivered to scalp		Energy deposited	
total LED area (cm ²)	W (total)	mW/cm ²	Scalp Area illuminated (cm ²)	Power at scalp (mW/cm ²)	Fluence at scalp (J/cm ²)	Estimated Fluence at 3 cm below Pia Frontal Lobes (J/cm ²)
241.94	49.00	202.54	394.63	145.8	223.50	4.7
Power delivered from Helmet			Power Delivered to scalp		Energy deposited	
total LED area (cm ²)	W (total)	mW/cm ²	Scalp Area illuminated (cm ²)	Power at scalp (mW/cm ²)	Fluence at scalp (J/cm ²)	Estimated Fluence at 3 cm below Pia Temporal Lobes (J/cm ²)
241.94	49.00	202.54	394.63	145.8	223.50	2.01

The Dermillume HR1000 LED Helmet delivers energy in the range of most Transcranial Laser studies (2.9J cm²) in a safe, reproducible treatment suitable for use both at the clinic and at home, allowing treatment one or more times daily.

It may be suitable for NIR treatment alone or as an adjunct to treatments with other modalities for instance with traumatic brain injury, stroke or depression.

Some of the Many Medical Research Articles on the Web:

Turning On Lights to Stop Neurodegeneration: The Potential of Near Infrared Light Therapy in Alzheimer's and Parkinson's Disease

Daniel M. Johnstone, Cécile Moro, Jonathan Stone, Alim-Louis Benabid, and John Mitrofanis

Transcranial LED therapy for cognitive dysfunction in chronic, mild traumatic brain injury: Two case reports

Margaret A. Naeser, Anita Saltmarchec, Maxine H. Kregela, Michael R. Hamblind, Jeffrey A. Knight

NEUROLOGY

Self-Administered Light Therapy May Improve Cognitive Function after Traumatic Brain Injury

New Rochelle, NY, March 17, 2011-At-home, daily application of light therapy via light-emitting diodes (LEDs) placed on the forehead and scalp led to improvements in cognitive function and post-traumatic stress disorder in patients with a traumatic brain injury (TBI), according to a groundbreaking study published in Photomedicine and Laser Surgery, a peer-reviewed journal published by Mary Ann Liebert, Inc. The article is available free online.

Light Therapy May Aid Traumatic Brain Injury

Charles Bankhead
Staff Writer, MedPage Today
March 20, 2011

Shining light on the head: Photobiomodulation for Brain Disorders

Michael R. Hamblin, Show more <http://dx.doi.org/10.1016/j.bbacli.2016.09.002>

Review of transcranial photobiomodulation for major depressive disorder: targeting brain metabolism, inflammation, oxidative stress, and neurogenesis

Paolo Cassano; Samuel R. Petrie; Michael R. Hamblin; Theodore A. Henderson; Dan V. Iosifescu

Additional medical research at www.transcraniallighttherapy.com



“My 82-year-old husband had been suffering from some dementia and depression. He also had problems addressing envelopes. After using the Light for six weeks, he is much less depressed, has started working out at the gym, and can address envelopes with good hand writing. He still has a little trouble recalling some words, but feels they come faster.” Update: (3 Months) “He is doing well. No changes.” *Linda Carmicle Ph.D LPC, Dallas, TX*

“We have had few opportunities to utilize the helmet but the few times we did we noticed much more alertness. I would like to purchase it from you because going forward we will need it for some time. The age of my son is 30 and he has Anoxia so anything we can do to generate any part of the brain would be really welcome.” Update: (3 months) “I continue to use it every day. He is conscious more of the time and responsive in specific ways such as moving his head and making eye contact more frequently. And yes, I would definitely recommend this device for patients who are experiencing any internal brain issues.”

Virginia Kibler PhD LPC, Parker, CO



“Baby Francis has mild atrophy in the outer layer of the brain. He became much more alert once the mother started using the light. After 4 months, he is happy, crawling, standing and trying to walk. He is interactive and responds with smiles. Looking back at pictures you can see a definite positive change after she started using the light.”

Karen Corcoran RN, Onalaska, WI

“Our young patient with autism has been using the Transcranial Therapy with promising results. He has been using this in conjunction with detoxification and homeopathic medicines. We have noticed an increase in speech ability, cognition, memory function, and smoother more normal social interactions as well as improved sleep.”

James R. Bowman, MD, ND, DNHC, Stevens Point, WI



“I have had MS for 20 years. I started treatment with the Helmet on December 26, 2016 and noticed that my thought processes were clearer and I was becoming more alert by January 02, 2017. I have continued to improve; my memory is getting better and my balance is also improving. I am growing more hair which is a nice side effect of the Helmet.”

Gwen Puent, MSW LICSW, LaCrescent, MN

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