

JUNE 2025

# Vielight News

Accelerating photobiomodulation.

Real human skull  
Light penetration  
Demonstration

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## Vielight Lab | Light penetration demonstration

At the [Vielight Lab](#), we acquired a real human (adult female) skull from Osto International to test the optical properties of light energy through the skull's calvaria with the Vielight Neuro 4.

While 810nm near-infrared (NIR) light is known for its superior tissue penetration ([Harvard Study](#)), delivering meaningful therapeutic energy demands high irradiance, stability, and precision – all enabled by advanced LED engineering.

At Vielight, our patented Vie-LED® technology was developed specifically for this purpose. It delivers an **optimal irradiance** (200–300 mW/cm<sup>2</sup>, up to 1000 mW per LED) with minimal heat, ensuring both efficacy and safety.

The result: 810nm light from the [Vielight Neuro](#) visibly passing through the calvaria, a feat made possible by cutting-edge photonic engineering.

This demonstration will be repeated with a human skin mimicking phantoms and the Vielight Neuro Pro 2, which has double the irradiance of the Vielight Neuro 4.

## Newsletter Highlights

Real human skull  
Light penetration  
Demonstration

Neuro Pro 2  
Protocols Guide

Published research  
with the Velight  
Neuro Gamma in  
TBI: An Overview

  
VIELIGHT



## NEURO PRO 2 | PROTOCOLS GUIDE

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These brain photobiomodulation protocols pertain specifically to the [Neuro Pro 2](#).

The Gracefire protocols represent a groundbreaking evolution in brain photobiomodulation. Expanding beyond the traditional Alpha (10 Hz) and Gamma (40 Hz) frequencies, these protocols are designed to enhance brain network synchronization and coherence, foundational elements for cognitive health and emotional balance.

By targeting broader neural connectivity, Gracefire protocols aim to foster deeper integration between key brain regions, leading to more robust and versatile cognitive outcomes. Read more about the Gracefire Protocols: [Link](#)

An infographic titled 'TBI CLINICAL RESEARCH RESULTS' and 'RESEARCHER INTERVIEWS'. It features a grid of icons representing different aspects of the study: 43 participants, mTBI, age range 18-69, and a photo of a football player. The Vielight Neuro logo is also present.

### Vielight Neuro Gamma in TBI: An Overview

University of Utah researchers studied the Vielight Neuro Gamma for brain injuries, using its patented intranasal/transcranial PBM technology.

In a study of **49 participants with mTBI or RHAEs**, results suggested PBM may help improve physical performance.

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