



# Point-of-care Concussion Therapy

Technology ID

20180342

## Treats concussions with light therapy

A wearable technology uses light therapy to speed brain recovery in a new, point-of-care concussion therapy. The adjustable headgear device, designed like a helmet, provides homogeneous, low-level, near-infrared light for application to the entire head, speeding concussion recovery by helping the brain produce more of the energy needed for healing. The wearable device provides compensating intensity for a uniform field through different parts of the skull. It offers a custom fit and is adjustable for hair density.

## New treatment for traumatic brain injury and concussion

In a traumatic brain injury, acceleration and deceleration within the cranial vault leads to tearing and stretching of nerve fibers. Alteration of ionic balance and mitochondrial dysfunction makes it difficult for the cells to function while also limiting energy available for healing. Currently accepted therapies for traumatic brain injury are passive; limited to rest and then physical therapy for symptoms. This new medical device can be used in an outpatient setting and may help patients return to work/school faster while improving quality of life.

## Phase of Development

- Prototype developed. Refining prototype for use in safety study in animals.

## Benefits

- Speeds brain recovery
- May help patients return to work and school faster; improve quality of life
- Non-invasive
- Painless

## Features

- Active treatment for traumatic brain injury and concussion
- Homogeneous, low-level, near-infrared laser light therapy
- Low-level laser light therapy helps mitochondria recover sooner after injury
- Compensating intensity enables uniform field through different parts of the skull
- Wearable technology
- Custom fit; adjustable for hair density
- Outpatient or in-home use

## Applications

- Concussion
- Mild traumatic brain injury

## Researchers

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## Category

Engineering & Physical  
Sciences/Instrumentation,  
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