



# Spotlight on: CereScan - Near Infrared Light Therapy



**Y**ou may have seen CereScan's name in the news lately. The Littleton-based brain-imaging company has been gaining attention as it prepares to release the results of a six-week study that could literally change the game for those suffering from traumatic brain injury (TBI) and concussions, and may help other diseases, including Alzheimer's, that affect the brain.

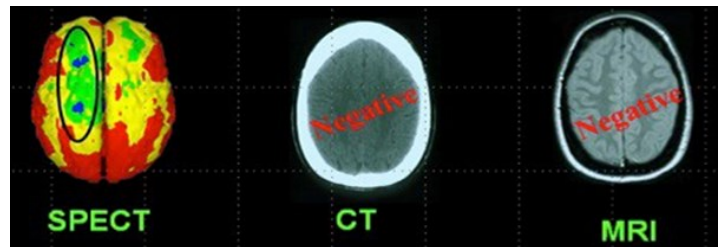
With the help of the Colorado Neurological Institute, CereScan has just concluded an IRB-approved study on the application of near-infrared (NIR) light as a therapy for traumatic brain injury. The application of NIR to the head is transcranial, passing through the skull to bathe the brain in both red and near infrared light, acting as a vasodilator to increase blood flow to the concussed area. The study was designed by six MDs and PhDs and completed under the supervision of two independent physicians using very precise controls.

 **We're essentially providing a Viagra®-like treatment to the concussion.** 

"The light generates a photomolecular reaction, creating nitric oxide when it hits the blood," says John Kelley, Chairman and CEO of CereScan. "This is the same molecule that is used in nitroglycerin and the treatment of erectile dysfunction. We're essentially providing a Viagra®-like treatment to the concussion."

Twelve military veterans, all of whom had suffered a mild to moderate traumatic brain injury, participated in the small, proof-of-concept study. Each subject received three treatment sessions each week for six weeks. Each treatment session lasted 20 minutes, making the total amount of treatment over the course of the study just six hours.

In addition to the military personnel taking part in the study, CereScan followed the same treatment protocol with former Denver Broncos tight end, Jeb Putzier, who spoke about the difficulties associated with his TBI and his treatment in [this interview on Denver's 9 News](#). Like many current and former NFL players, chronic traumatic encephalopathy (CTE) – a progressive degenerative disease of the brain found in people with a history of repetitive brain trauma, resulting in abnormal protein build-up and inhibiting proper brain function – has become a very real concern.



**A SPECT scan can provide a more accurate picture of what is happening in the brain in a way a CT scan or MRI cannot.**

Kelley and his team are optimistic that NIR therapy may open a new door to how these individuals are treated and the prognosis for a more positive outcome.

"The objective is to give people a chance while they're still alive, rather than head into the downward spiral we see with chronic brain injuries," Kelley says. "CereScan's role is to discover, locate, verify and provide measurements and provide hope while players are alive. Near Infrared light could provide one set of therapies allowing us to discharge these deposits of dangerous proteins."

CereScan's diagnostic technology works by taking accurate pictures of the functioning areas of the brain. It can pinpoint the exact segments that are not functioning properly. In this way, CereScan is able to detect chronic damage from traumatic brain injuries and concussions, as well as identify other diseases like Parkinson's and Alzheimer's. In many cases, these symptoms cannot be diagnosed through a more conventional method like MRI. As the data from the study are analyzed, the hope is that CereScan will be able to not only diagnose, but *treat* patients with NIR therapy.

# Spotlight on: CereScan - Near Infrared Light Therapy



CereScan CEO, John Kelley

According to Kelley, CereScan counts nearly two dozen former NFL players among their patients. They have also treated NHL and Olympic athletes. However, this is only the tip of the iceberg. He hopes to see the therapy become widely used in the VA system to treat military personnel returning from war and is in the process of pursuing grants to fund larger studies on veterans. This type of funding

takes time, and that is something that many potential patients do not have.

“The proof-of-concept study, which incorporates a six-week treatment protocol, was funded by the Tug McGraw Foundation and contributions from other private donors.” Kelley says. “When you have 22 military veterans committing suicide a day and others not being productive members of society due to TBI, why not try to do something medically correct as quickly as possible? We’re running concurrent paths for funding of the next study to get the best possible data as fast as possible.”

of the therapies used for dementia.”

“There are really big implications on the Alzheimer’s side as well, and we’re sitting right in a position to make a difference.”

You can learn more about CereScan and the work they are doing by visiting [www.cerescan.com](http://www.cerescan.com).



Near Infrared Light Therapy is a non-invasive therapy that may provide a potential breakthrough in the treatment of Alzheimer’s and Parkinson’s disease.

There are really big implications on the Alzheimer’s side as well, and we’re sitting right in a position to make a difference.

Kelley and the CereScan team also believe NIR therapy could provide a potential breakthrough in the treatment of Alzheimer’s and Parkinson’s disease.

“Could improved blood flow have a positive impact on avenues for disease? The answer is yes,” he says. “Results from recent animal studies show this may, in fact, be one