

For those living with long-term brain injuries, a new therapy may offer a path forward

After years of worsening symptoms linked to repeated head trauma, a former college athlete is exploring red-light therapy as a possible path toward healing.



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SACRAMENTO, Calif. — Rico Petrini remembers the early days of high school football — the excitement, the intensity and the hits that came with playing linebacker. Back then, he said, getting “your bell rung” was something teammates laughed about.

“I probably had at least 8 to 10 concussions in high school,” Petrini said. “We used to laugh about, oh, he’s seeing stars.”

Football was more than a sport for him. He studied it, lived it, and eventually drew the attention of more than 100 colleges. He chose Oregon State, but by the time he stepped onto the field there, he said the damage had already piled up.

“I was up to probably 25 concussions, and I had had 3 hospitalized,” Petrini said.

He remembered walking onto the practice field, taking his first hit, and then “going to puke in a corner” because of disorientation, balance issues, and migraines. He said he was taking 1,200 mg of Advil a day to push through the pain.

He developed vision problems, stomach pain, sleep disruption, and anxiety. He said he doesn’t remember large portions of his playing years because he spent so much time playing while concussed.

The one time he recalled being pulled from a game came after someone watching from above noticed he was running in circles at the 50-yard line. Three days later, he said, he was back at practice.

“Mentally, for me, when you play at that level, you develop so much mental toughness that you almost don’t even feel pain,” he said.

Years of hits and injuries eventually ended his hopes of a professional football career. A 49ers doctor told him he had one of the worst knees he had ever seen, Petrini said.

He built a life after football — a career, a home, a family. But everything shifted in 2021, when he reached his 40s and faced a major family crisis. Stress began to overwhelm him, and symptoms he couldn’t explain grew worse.

“I was having restless leg syndrome where I was literally tearing holes in my sheets,” he said.

He described sweating without warning, massive head pressure, tinnitus, light and sound sensitivity, and depression.

Eventually, he said he began having suicidal thoughts.

“I was thinking about driving off the bridge that crosses the Sacramento River... like a choice you’d make on what I want

from Starbucks."

He sought help.

Doctors reviewing his scans told him the damage to his left frontal lobe was so severe that a neurologist unfamiliar with his history thought he might have survived a gunshot wound.

[Dr. Margaret Naeser](#), a research professor of neurology at Boston University School of Medicine, has studied traumatic brain injuries and chronic traumatic encephalopathy, or CTE. She described CTE as a progressive neurodegenerative disease caused by repeated trauma to the brain — not a single injury, but years of impacts.

"There are four stages," Naeser said. "As it goes over time, the whole brain is covered" with abnormal protein deposits called hyperphosphorylated tau.

There is no cure and no way to diagnose CTE in a living person. Official diagnosis can only be made after death through brain tissue examination.

In an effort to regain control of his life, Petrini enrolled in a University of Utah study using red-light therapy developed by [Vielight](#).

"Our devices are all recognized to be low-risk general wellness, said [Dr. Lew Lim](#) the CEO of Vielight. The

treatment shines red and near-infrared light through the scalp — and, in one device, [through the nose](#) — to stimulate mitochondria and help brain cells heal.

Petrini said he didn't realize how impaired he was until undergoing the study's tests. He couldn't walk a straight line or complete a figure-8 pattern. On memory tests, he said he could recall only one or two images out of eight.

After about two weeks of treatment, he said he began noticing improvements in sleep, energy and cognition. By six months, he said, "it was like game day."

For Petrini, the results offered something he wasn't sure he'd feel again — hope.

"I think that the biggest thing the red-light therapy gave me was hope," he said.

He said he shares his story for others who feel trapped by similar symptoms.

"They're scared. Their families are scared... They're living in silence. They're suffering needlessly because they don't know what to do about it," he said.

When asked what he would tell his younger self, Petrini reflected on how his view of football has changed.

"I used to say everything I got out of it was worth what I paid, and I don't believe that now," he said.

He thinks about walking his daughter down the aisle someday or seeing his son thrive in his career. "Is that four years or eight years of playing a sport worth a lifetime of the pain?"

He believes advancements in science may one day change the future for athletes. And he hopes better safety practices and treatment protocols will prevent others from experiencing what he has.

If you or someone you know is struggling with thoughts of suicide, call or text **988** for immediate help.

Watch more: [Previewing the Sac-Joaquin Section High School football Championships with Joe Davidson](#)

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