

If you buy something using links in our stories, we may earn a commission. [Learn more.](#)

EMILY MULLIN SCIENCE JAN 5, 2024 5:00 AM

# They Had PTSD. A Psychedelic Called Ibogaine Helped Them Get Better

Ibogaine, a plant-based psychoactive drug, drastically reduced symptoms of depression and PTSD in veterans with traumatic brain injuries.

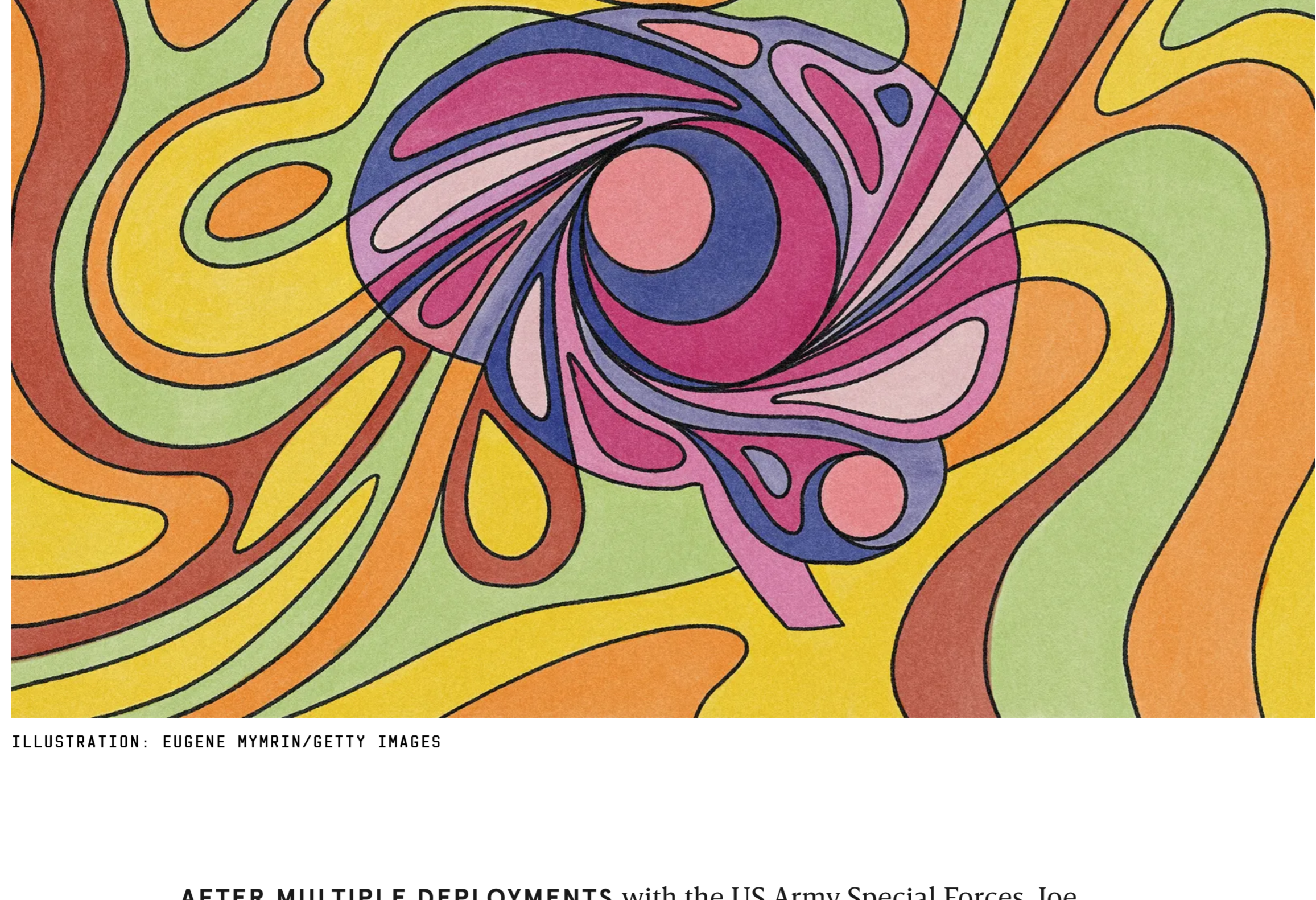
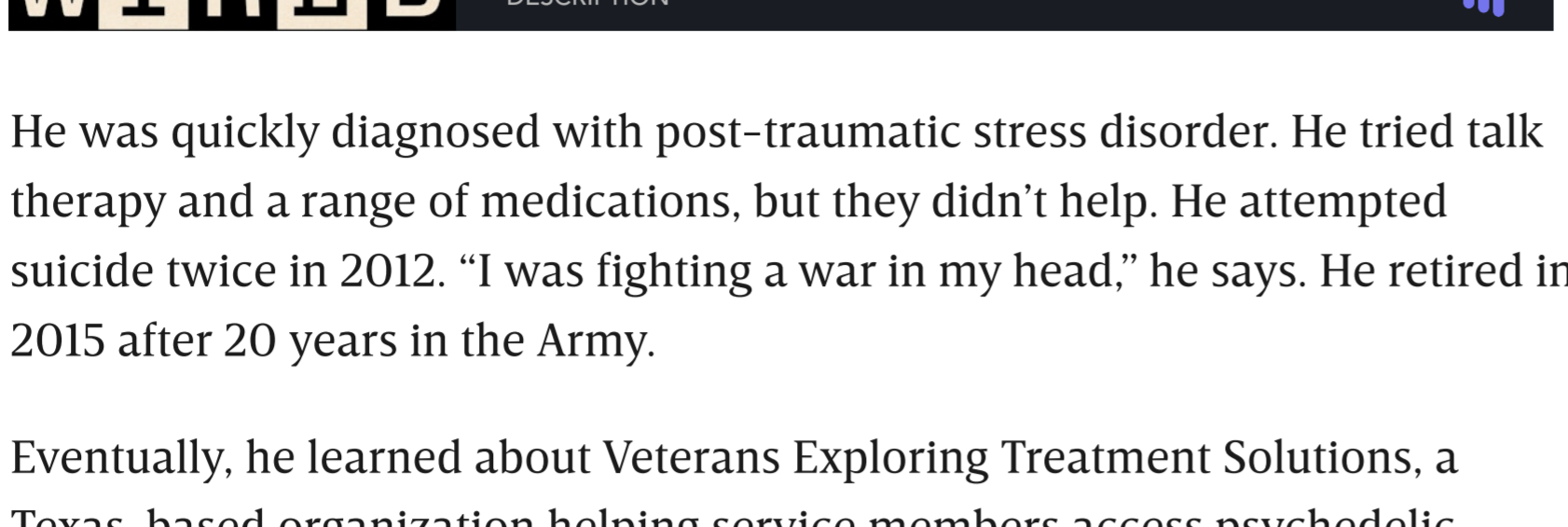


ILLUSTRATION: EUGENE MYRIN/GETTY IMAGES

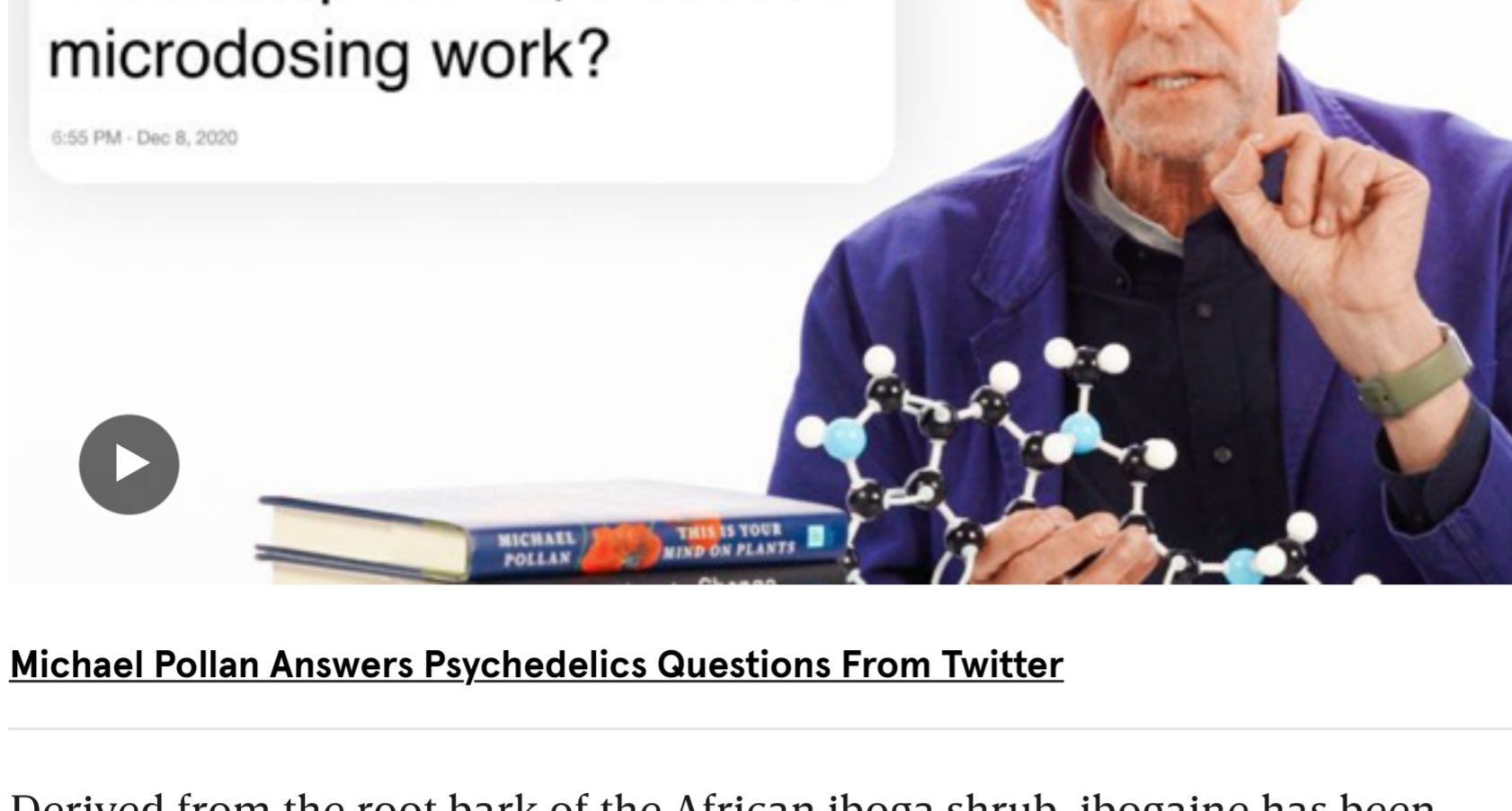
**AFTER MULTIPLE DEPLOYMENTS** with the US Army Special Forces, Joe Hudak returned home in 2011 changed by his time in Iraq, Afghanistan, and South America.



He was quickly diagnosed with post-traumatic stress disorder. He tried talk therapy and a range of medications, but they didn't help. He attempted suicide twice in 2012. "I was fighting a war in my head," he says. He retired in 2015 after 20 years in the Army.

Eventually, he learned about Veterans Exploring Treatment Solutions, a Texas-based organization helping service members access psychedelic treatments in countries where such drugs are legal or unregulated. In 2022, the group paid for him to fly to Mexico to be part of a [study sponsored by Stanford University](#), testing a psychoactive drug called ibogaine.

FEATURED VIDEO



Michael Pollan Answers Psychedelics Questions From Twitter

Derived from the root bark of the African iboga shrub, ibogaine has been used for centuries by the Pygmy tribes in Central Africa in spiritual and healing ceremonies. It is illegal in the US and many other places.

Hudak was one of 30 special operations veterans with traumatic brain injuries and severe psychiatric symptoms who took an oral dose of the drug. After treatment with ibogaine, they experienced an average reduction of 88 percent in PTSD symptoms, 87 percent in depression symptoms, and 81 percent in anxiety symptoms. The effects lasted for at least a month, when the study period ended. The results are [published today](#) in the journal *Nature Medicine*.

"I had all these voices in my head that would yell at me and shame me," Hudak says. "What ibogaine did was cut out those extraneous voices." He suddenly had more life, more energy. He could be present for his 7-year-old son. A friend from high school remarked that Hudak seemed like his old self again.

Veterans are already at a high risk of developing psychiatric conditions because of their combat experiences, and physical trauma to the head, such as from blast explosions, can compound that risk. Antidepressants and anti-anxiety medications are commonly prescribed, but they don't address the underlying brain injury.

At the beginning of the ibogaine study, 23 of the participants met the criteria for PTSD, 14 for an anxiety disorder, and 15 for alcohol use disorder. In their lifetimes, 19 participants had suicidal ideations and seven had attempted suicide. Their mental illness was so disabling that it interfered with their cognition, mobility, self-care, and daily activities. Like Hudak, they had previously tried multiple treatments. A month after taking ibogaine, the veterans' average disability ratings improved, decreasing from 30.2 to 5.1 on the World Health Organization's disability assessment scale. Cognition showed the greatest boost.

"We don't have good solutions for any mental health problems once they get into the treatment-resistant realm," says Nolan Williams, an associate professor of psychiatry and behavioral sciences at Stanford who led the study. "If you could profoundly reverse disability, it would change the game."

There's been a resurgence of interest in recent years into using psychedelics to treat severe mental illness. In 2019, the US Food and Drug Administration approved a nasal spray version of [ketamine](#), better known as a party drug, for treatment-resistant depression. And in December, the Multidisciplinary Association for Psychedelic Studies [filed an application with the FDA to approve MDMA](#), also known as ecstasy, in combination with therapy to treat PTSD.

Ibogaine has been investigated for its [potential to treat addiction](#), but its use has also been [linked to several deaths](#). The drug can cause a type of very fast heart rhythm, which clinicians were able to head off by giving participants magnesium via an IV.

The drug produces a dreamlike phenomenon, and people who take it often describe experiencing a slideshow of their lives. They're able to see events from a third-person perspective and reevaluate those memories in a different way. "That is very unique to ibogaine," Williams says. Veterans in the study reported that the drug helped them unpack their previous traumas. No psychotherapy occurred during treatment, but participants were monitored in a clinic since ibogaine's effects can last for around 10 hours.

During treatment, the veterans reported side effects such as headaches and nausea. But there were no instances of serious side effects, including heart problems. Afterward, they returned to Stanford for post-treatment assessments. Hudak is still doing well more than a year after the treatment.

"These are really big effect sizes for patients who are pretty sick and hard to treat," says Conor Liston, a professor of neuroscience and psychiatry at Weill Cornell Medicine who wasn't involved in the study.

How exactly ibogaine and other psychedelics improve mental health, though, is still a bit of a mystery. One hypothesis is that they facilitate plasticity, or the remodeling of connections in the brain. "Formation of new connections or synapses between brain cells may be playing some important role in the therapeutic effects," Liston says.

Ibogaine is also thought to act on the protein SERT, the serotonin transporter, which is the target of selective serotonin reuptake inhibitors, or SSRIs, commonly used to treat depression.

Ibogaine's effect on cognition is also unclear. The Stanford group is studying the veterans' brain scans for clues into how the drug led to cognitive improvements in working memory, processing speed, and other areas.

Amy Badura Brack, a professor of psychology at Creighton University who studies PTSD, is cautious about the results. "Although the results have large effect sizes, most psychological studies will show improvement with any intervention," she says. The study was also small and didn't include a placebo arm or a group that received standard treatments for comparison.

In addition to the powerful effect of taking the drug, all the participants were on a trip to Mexico, which could partly explain their immediate gains. "Many of us have psychological and even subtle neurological improvements after a period of rest and relaxation," she says.

How long the drug's effects last is still an open question. Williams says his group has continued to track the veterans for a year and plans to publish that data in the near future. He says the results of this small study support launching larger trials of the drug, which he hopes will be able to happen in the US.

"I think we've got work to do to prove it," Williams says. "but the signal of what we found here is really exciting."

RECOMMENDED NEWSLETTER

**Science**

Your weekly roundup of the best stories on health care, the climate crisis, genetic engineering, robotics, space, and more. Delivered on Wednesdays.

WEEKLY

Enter your email

[SIGN UP](#)

Used consistent with and subject to our [Privacy Policy](#) & [User Agreement](#). Read [terms of Sign-up](#).

You Might Also Like ...

- **In your inbox:** Our [biggest stories](#), handpicked for you each day
- How one bad CrowdStrike update [crashed the world's computers](#)
- **The Big Story:** How soon [might the Atlantic Ocean break?](#)
- Welcome to [the internet's hyper-consumption era](#)
- **Olympics:** Follow all our coverage from Paris this summer [here](#)

**Emily Mullin** is a staff writer at WIRED, covering biotechnology. Previously, she was an MIT Knight Science Journalism project fellow and a staff writer covering biotechnology at Medium's OneZero. Before that, she served as an associate editor at MIT Technology Review, where she wrote about biomedicine. Her stories have also... [Read more](#)

STAFF WRITER ✕

TOPICS: NEUROSCIENCE PSYCHEDELIC MENTAL HEALTH PTSD DEPRESSION DRUGS

READ MORE

MOST POPULAR

- GEAR**

**Give Your Back a Break With Our...**

BY JULIAN CHOKKATTU
- SECURITY**

**USPS Text Scammers Duped His Wife, So He Hacked Their Operation**

BY MATT BURGESS
- SECURITY**

**'Sinkclose' Flaw in Hundreds of Millions of AMD Chips Allows Deep, Virtually Unfixable Infections**

BY ANDY GREENBERG
- SCIENCE**

**Does Jewelry and Big Hair Slow...**

BY RHETT ALLAIN

MOST POPULAR

- GEAR**

**Give Your Back a Break With Our...**

BY JULIAN CHOKKATTU
- SECURITY**

**USPS Text Scammers Duped His Wife, So He Hacked Their Operation**

BY MATT BURGESS
- SECURITY**

**'Sinkclose' Flaw in Hundreds of Millions of AMD Chips Allows Deep, Virtually Unfixable Infections**

BY ANDY GREENBERG
- SCIENCE**

**Does Jewelry and Big Hair Slow...**

BY RHETT ALLAIN

**The Benefits of Ozempic Are...**

There's mounting evidence that GLP-1 drugs have health benefits beyond diabetes and weight loss, for conditions ranging from addiction to Parkinson's—and scientists are evolving theories of why.

EMILY MULLIN

**The Race for the Next Ozempic**

The next wave of obesity drugs could help people lose even more weight—and make some pharma companies a fortune.

EMILY MULLIN

**How Do You Get Drugs to the...**

A common parasite could one day deliver drugs to the brain. Here's how scientists are turning *Toxoplasma gondii* from foe into friend.

BILL SULLIVAN

**Pancreatic Cancer Turns Off a K...**

New research finds out how one of the world's most aggressive cancers is able to spread so quickly.

MARTA MUSSO

**Hospitals Around the World Are Struggling in the Aftermath of the Great IT Meltdown**

Doctors find themselves without critical systems and diagnostic tools—and face the daunting reality that a full recovery could take days—after CrowdStrike's botched deployment of a Windows update.

DAVID COX

**The Highly Infectious FLIRT Variants Behind the Summer Covid Wave**

The latest dominant Covid variants have stronger infectiousness than their predecessors and the ability to evade vaccine-induced antibodies.

RITSUKO KAWAI

**Public Health Experts Want Coca-Cola and the Olympics to Break Up**

Scientists, activists, and ordinary petitioners want the Olympics to break with Coca-Cola, comparing it to the tobacco companies that long sponsored the Games. They aren't holding their breath.

ISABEL FRASER

**The Bird Flu Threat Keeps...**

Human cases keep ticking up, are very likely to be underreported, and offer the virus the opportunity to learn how to spread from person to person.

EMILY MULLIN

LIMITED-TIME OFFER

\$30 \$5 for 1 year

+ FREE stickers.

W I R E D

SUBSCRIBE

W I R E D

WIRED is where tomorrow is realized. It is the essential source of news and ideas that make sense of a world in constant transformation. The WIRED conversation illuminates how technology is changing every aspect of our lives—from culture to business, science to design. The breakthroughs and innovations that we uncover lead to new ways of thinking, new connections, and new industries.

MORE FROM WIRED  
Subscribe  
Newsletters  
FAQ  
WIRED Staff

Editorial Standards  
Archive  
RSS  
Accessibility Help

REVIEWS AND GUIDES  
Reviews  
Buying Guides  
Mattresses  
Electric Bikes  
Fitness Trackers  
Streaming Guides

Coupons  
Submit an Offer  
Become a Partner  
Groups Connect  
Code Guarantee

Advertise  
Contact Us  
Customer Care

Jobs  
Press Center  
Condé Nast Store

User Agreement  
Privacy Policy  
Your California Privacy Rights