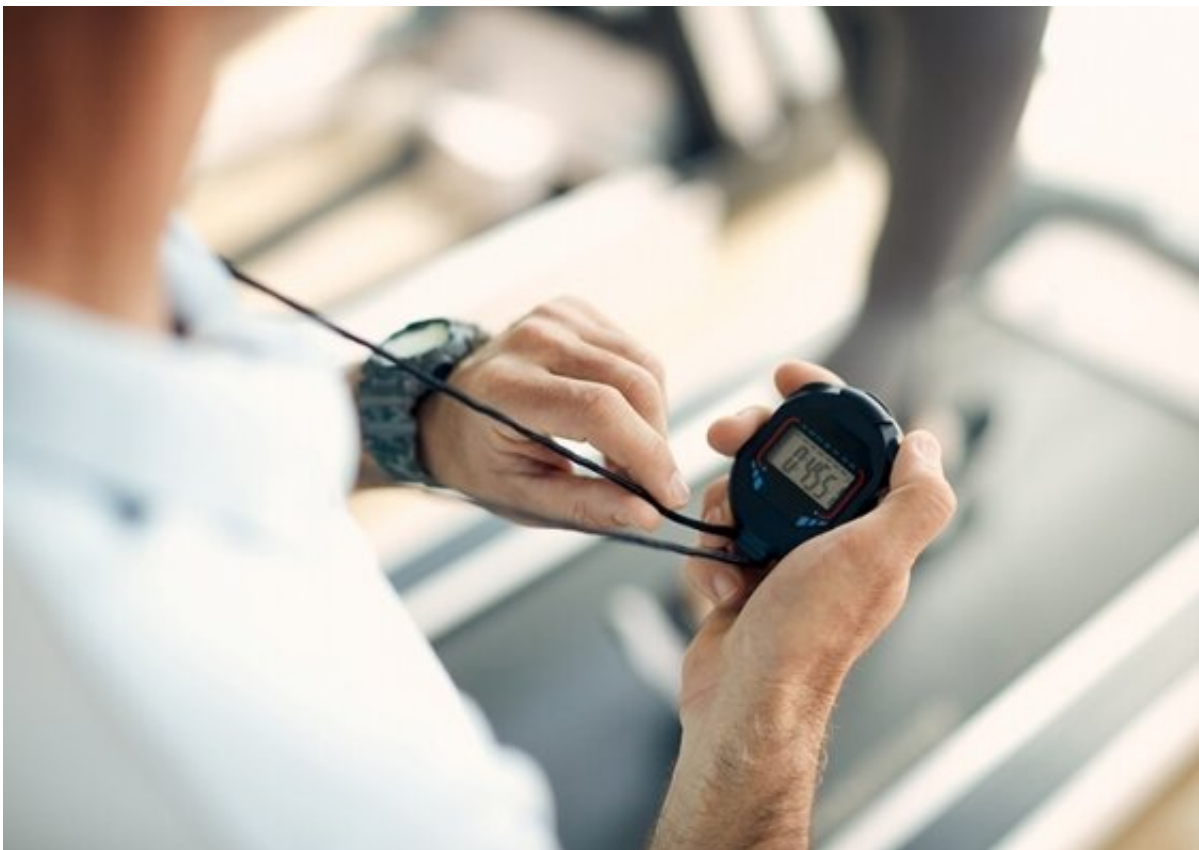


Ten minutes of aerobic exercise with exposure therapy found to reduce PTSD symptoms

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Ten minutes of aerobic exercise has led to patients reporting greater reduction of PTSD symptoms six months after treatment ended. Credit: Shutterstock

Exposure therapy is one of the leading treatments for post-traumatic

stress disorder (PTSD), but up to a half of all patients don't respond to it.

But now a study led by UNSW Sydney psychologists has found that augmenting the therapy with 10 minutes of aerobic [exercise](#) has led to patients reporting greater reduction to PTSD symptom severity six months after the nine-week treatment ended.

In the first known single-blind randomized control trial of its kind, researchers in Sydney recruited 130 adults with clinically diagnosed PTSD and assigned them to two groups. People in both groups received nine 90-minute exposure therapy sessions. At the end of each session, one group was put through 10 minutes of aerobic exercises, while members of the control group were given 10 minutes of passive stretching.

People in the aerobic exercise group on average reported lower severity of PTSD symptoms—as measured on the CAPS-2 scale—than those who had their exposure therapy augmented by stretching exercises at the six-month follow-up. Interestingly, there were no clear differences between the two groups one week after the treatment program ended, suggesting the benefits take time to develop.

The findings were reported in *The Lancet Psychiatry*.

Extinction learning

Scientia Professor Richard Bryant oversaw the clinical research which ran between 2012 and 2018. He says the goal of exposure therapy in treating PTSD is extinction learning, where a patient learns to equate something that up until now they have associated with the trauma, with a feeling of safety.

For example, a person who has experienced [sexual violence](#) may associate some of the stimuli that were present at the time of the trauma—such as night-time, [sexual activity](#), the smell of aftershave etc.—with threat. Exposure therapy would focus on these triggers and try to demonstrate they offer no threat, with the hope that after repeated, gradual exposure, extinction learning is embedded in the brain of the sufferer.

"Extinction learning is not unlearning the bad experience," Prof. Bryant says. "It's a new learning that inhibits the old learning."

"Past studies have shown that very brief bouts of aerobic exercise can be helpful because they actually promote extinction learning in rats, and have also been shown to promote it in humans under experimental conditions."

But the theory hadn't been tested in clinical conditions until now. Prof. Bryant and colleagues say they think brief, intense exercise promotes a particular growth molecule in the brain called Brain-Derived Neurotrophic Factor, or BDNF.

"Why that's really important is it actually promotes [synaptic plasticity](#) in the brain, which is really important for learning. And we know that this underpins extinction learning. So if we can get this BDNF more active in the brain, at the time of exposure therapy, theoretically, that should lead to better extinction."

More studies needed

To Prof. Bryant's knowledge, this is the first time the benefits of aerobic exercise in conjunction with exposure therapy have been observed in a clinical setting. But despite being pleasantly surprised by the results, he says the study needs to be replicated a number of times before this

therapy tweak is recommended, [standard practice](#), or is used to treat other psychological conditions.

"I'd really like to emphasize that this is the first trial that's shown this in an anxiety disorder and I don't think we should get too excited by it," he says.

"But as with all of these things, you always need multiple trials to actually have any faith in it. So I'm certainly not telling people to run out and start doing exercise after all your [exposure therapy](#), because I think it's premature after one trial. But having said that, this is very encouraging."

Prof. Bryant says there is a large trial replicating the method happening in Melbourne at the moment which he and his peers will be watching with interest.

More information: Richard A Bryant et al, Augmenting trauma-focused psychotherapy for post-traumatic stress disorder with brief aerobic exercise in Australia: a randomised clinical trial, *The Lancet Psychiatry* (2022). [DOI: 10.1016/S2215-0366\(22\)00368-6](https://doi.org/10.1016/S2215-0366(22)00368-6)

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