

# A common hypertension treatment may reduce PTSD symptoms

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There are currently only two FDA-approved medications for the treatment of posttraumatic stress disorder (PTSD) in the United States. Both of these medications are serotonin uptake inhibitors. Despite the availability of these medications, many people diagnosed with PTSD remain symptomatic, highlighting the need for new medications for PTSD treatment.

The renin-angiotensin system has long been of interest to psychiatry. Some of the first drugs targeting this system were the [angiotensin converting enzyme](#) (ACE) inhibitors and angiotensin receptor blockers (ARBs), commonly prescribed treatments for [high blood pressure](#).

In the 1990's, multicenter studies evaluating ACE inhibitors suggested that they improved quality of life as well as other medical outcomes, but these medications did not prove to be sufficiently effective for the treatment of psychiatric disorders to become established treatments.

Recently, however, investigators at Emory University observed that individuals diagnosed with PTSD, and who happened to also be treated with ARBs or ACE inhibitors, exhibited fewer PTSD-like symptoms.

This led the researchers to investigate the underlying mechanisms using an animal model of PTSD in order to expand upon this clinical finding.

Dr. Paul Marvar, first author and Assistant Professor at The George Washington University, explains their findings, "Our current preclinical

results show that the ARB losartan, given acutely or chronically to mice, enhances the extinction of fear memory, a process that is disrupted in individuals with PTSD. Overall these data provide further support that this class of medications may have beneficial effects on [fear memory](#) in PTSD patients."

Fear extinction is a process by which a memory associated with fear is gradually 'overwritten' in the brain by a new memory with no such association. For example, exposure therapy is a form of [fear extinction](#), whereby repeatedly exposing a patient in a safe manner to a feared object or situation slowly reduces or eliminates their fear. A medication that could potentially enhance the extinction of fear would be welcome to the millions of individuals who continue to suffer with symptoms of PTSD.

"It is exciting to see the renin-angiotensin being explored in new ways in the search for new treatment for PTSD," commented Dr. John Krystal, Editor of *Biological Psychiatry*. "There is a tremendous need for more effective treatments for PTSD symptoms."

Future studies are still necessary before clinical use could be recommended, but there is hope that by targeting this pathway, it may provide a safe and powerful adjunctive novel therapy for the treatment of PTSD.

**More information:** The article is "Angiotensin Type 1 Receptor Inhibition Enhances the Extinction of Fear Memory" by Paul J. Marvar, Jared Goodman, Sebastien Fuchs, Dennis C. Choi, Sunayana Banerjee, Kerry J. Ressler ([DOI: 10.1016/j.biopsych.2013.08.024](https://doi.org/10.1016/j.biopsych.2013.08.024)). The article appears in *Biological Psychiatry*, Volume 75, Issue 11 (June 1, 2014)

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