

Life scientists identify drug that could aid treatment of anxiety disorders

February 21 2013, by Stuart Wolpert

(Medical Xpress)—The drug scopolamine has been used to treat a variety of conditions, including nausea and motion sickness. A new study by UCLA life scientists suggests that it may also be useful in treating anxiety disorders.

Researchers found that the drug can help boost the effectiveness of a common treatment for [anxiety disorders](#) known as exposure therapy. In exposure therapy, a subject with a phobia or anxiety is repeatedly exposed to the object or situation they fear, in a non-threatening setting. The goal of this treatment is to ultimately lessen and eliminate the fear [?] in essence, make it "extinct."

However, fear-[extinction](#) memories formed during this type of therapy tend to be weak because they are tied to the non-dangerous context. Subjects have a tendency to relapse when they again encounter the source of their anxiety in a different environment.

"Extinction has one Achilles heel that at present has not quite been pierced [?] namely, extinction learning is highly dependent on the environment or context in which it occurs," said Michael Fanselow, a UCLA professor of psychology and the senior author of the study. "This makes memories formed during extinction highly fragile and susceptible to fear-recovery or relapse in any non-extinction environment."

In their new study, published Feb. 15 in the journal *Biological Psychiatry*, Fanselow and his colleagues attempted to overcome this

challenge by administering [scopolamine](#) in conjunction with the exposure therapy.

"We took an entirely novel [theoretical approach](#) by targeting extinctions' context-dependency and attempting to unbind extinction from its contextual bond," said Fanselow, who holds UCLA's Eleanor Leslie Term Chair in Innovative Neuroscience. "Using a non-invasive and readily translatable pharmacological agent, scopolamine, to block cholinergic transmission and hence, contextual processing, we discovered that fear-recovery after extinction could be thwarted."

Fanselow and his team were able to disrupt contextual processing in rats during anxiety-extinction by using low doses of the drug.

"This finding provides groundbreaking evidence that changing the nature of extinction learning, rather than its magnitude, can produce profound improvements in the prevention of relapse," Fanselow said.

The research, while still preliminary, suggests that scopolamine may be an effective pharmacological adjunct to [exposure therapy](#).

Provided by University of California, Los Angeles

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