# Blocking stress-induced cocaine addiction relapse

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Stress is a precipitating factor for craving and relapse in cocaine use disorder. A part of the brain known as the bed nucleus of the stria terminalis (BNST) has been linked to both anxiety and addiction.

Guanfacine, a drug that acts on both alpha2A-adrenergic autoreceptors and heteroreceptors in the BNST, decreases stress, drug craving and withdrawal symptoms in clinical trials. But whether it can reduce relapse rates is not known.

Reporting last month in the journal *Neuropsychopharmacology*, Rafael Perez, Danny Winder, Ph.D., and colleagues demonstrate in a mouse model that heteroreceptors are required for stress-induced "reinstatement" of cocaine-seeking behavior. This finding suggests that within the BNST alpha2A-adrenergic auto- and heteroreceptors may play opposing roles.

The researchers also found that low-dose guanfacine did not increase BNST activity but blocked stress-induced relapse, suggesting that at low doses, the drug does not engage heteroreceptors. Guanfacine should be further explored as a potential treatment for cocaine and other drug use disorders, they conclude.

**More information:** Rafael E. Perez et al. α2A-adrenergic heteroreceptors are required for stress-induced reinstatement of cocaine conditioned place preference, *Neuropsychopharmacology* (2020). DOI: 10.1038/s41386-020-0641-z

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