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Researchers Discover Possible Multivalent Vaccination Against Polydrug Overdose

ROCKVILLE, MD — New research on opioid use disorder shows that a combination of vaccines could be an effective therapeutic against polydrug overdose. Researchers investigated the efficacy of co-formulating four monovalent vaccines into a new vaccination regimen. The research was presented at the 2023 annual meeting of the [American Society for Pharmacology and Experimental Therapeutics](#) (ASPET).

According to the studies, individuals with opioid use disorder often administer polydrug street mixtures containing multiple opioids and non-opioids, leading to detrimental health outcomes.

“Different conjugate vaccines can be co-formulated as multivalent vaccines to provide protection against polydrug use by different classes of drugs,” the researchers explained, “and suggest a potential therapeutic to reduce overdose related to polydrug use.”

A previous study administered four monovalent vaccines against four types of opioids at different injection sites without reducing each vaccine’s efficacy in mice. A study that was recently conducted co-formulated these monovalent vaccines in a single syringe that was injected into Sprague Dawley rats.

The results show that the co-formulated quadrivalent vaccination reduced opioid drug distribution to the brain to a greater extent than co-administering individual vaccines at different injection sites. In addition, adding a stimulant conjugate vaccine as a pentavalent formulation did not decrease the efficacy of the quadrivalent vaccine against opioids.

This work was supported by the National Institute on Drug Abuse Grants. The [National Institute on Drug Abuse](#) is the largest supporter of the world’s research on substance use and addiction.

About ASPET

The American Society for Pharmacology and Experimental Therapeutics (ASPET), founded in 1908, is an international 4,000-member non-profit pharmacology society that advances the science of drugs and therapeutics to accelerate the discovery of cures for disease. ASPET members conduct basic and clinical pharmacological research in academia, industry, and the government. ASPET publishes four journals with the most recent discoveries in pharmacology and related fields. ASPET supports the dissemination and use of pharmacological research to promote the best available science in developing regulations and legislation. ASPET is headquartered in Rockville, Md. Learn more at aspet.org. Visit aspet.org to learn more.