



Xylazine: Educational One Pager

Background Information

Xylazine, a non-opioid veterinary tranquilizer has increasingly been identified in the illicit drug supply.¹ Specifically, drug trafficking organizations have added xylazine to illicit opioid (heroin), synthetic opioid (fentanyl) and stimulants (methamphetamine and cocaine). Additionally, people who use drugs may intentionally add xylazine to a *speedball*, which is a combination of an opioid and a stimulant. Street names of xylazine include *zombie drug*, *tranq*, *tranq dope*, *sleep-cut* and *Philly dope*.

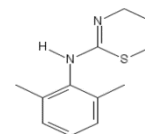
Although xylazine is not detectable to the naked eye, it is detected by toxicology laboratory diagnostics. Xylazine's molecular formula is $C_{12}H_{16}N_2S$.² The increasingly exacerbated fatal and nonfatal overdoses have led to an increased utilization of emergency medical response and emergency department visits among people who use drugs. There are no known reversal agents for xylazine approved for human use. If you suspect that someone has overdosed and was exposed to xylazine but has not responded to administered naloxone, begin rescue breathing and immediately contact 911.

Xylazine 101 for First Responders and Physicians

Presentation of Symptoms

Injecting xylazine or drug mixtures with xylazine may trigger soft tissue injuries that progress to necrotic tissue. Additionally, people who use xylazine may present with symptoms that include dry mouth, drowsiness, hypertension and tachycardia followed by hypotension, bradycardia, hyperglycemia, reduced heart rate, hypothermia, coma, respiratory depression and dysrhythmia.³ The following is a presentation of some overdose symptoms when xylazine is mixed with illicit drugs:

- Xylazine + opioid: Exacerbates the sedation and respiratory effects of opioids
- Xylazine + heroin: Increases the euphoric effect of heroin
- Xylazine + synthetic opioid (i.e. fentanyl): Decreases respiratory function



Indicated Treatment

Naloxone should always be administered in every overdose case because xylazine is frequently mixed with opioids. The administered naloxone will reverse the opioid-related pharmacological effects, but not the xylazine-related pharmacological effects. Therefore, first responders and physicians should consider the possibility of xylazine exposure when a patient presenting with an overdose is not responding to naloxone by screening for xylazine and providing indicated respiratory and cardiovascular supportive measures.⁴

This document is supported by the Centers for Disease Control and Prevention (CDC) of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$8,400,000 with 100 percent funded by CDC/HHS. The contents are those of the author and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.

^{1,2} Drug Enforcement Administration. (2022, November). Xylazine. Retrieved from Drug Enforcement Administration Diversion Control Division Drug & Evaluation Section: https://www.deadiversion.usdoj.gov/drug_chem_info/Xylazine.pdf

³ U.S. Department of Justice and Drug Enforcement Administration. (2022, December 21). *The Growing Threat of Xylazine and Its Mixture with Illicit Drugs*, DEA Joint Intelligence Report. Retrieved from Drug Enforcement Administration: <https://www.dea.gov/documents/2022/2022-12/2022-12-21/growing-threat-xylazine-and-its-mixture-illicit-drugs>

⁴ Food and Drug Administration. (2022, November 8). FDA warns about the risk of xylazine exposure in humans. Retrieved from: <https://www.fda.gov/media/162981/download>