

Xylazine, colloquially referred to as “tranq,” “tranq dope,” “sleep cut,” or “zombie drug,” is increasingly found in non-prescription drug samples across Pennsylvania and the nation.ⁱ Preliminary overdose data for 2022 indicates that xylazine contributed to 644 deaths across 38 counties in Pennsylvania, an increase of more than 1,000% since 2018. The effects of xylazine combined with opioids, specifically fentanyl, and may also be combined with non-opioid substances including cocaine and methamphetamine. The effects of xylazine combined with opioids and other substances present several serious health risks. Knowing how to respond to patients who use xylazine or experience xylazine dependence is important for medical professionals, particularly as it relates to overdose reversal, wound care, and withdrawal treatment.

WHAT IS XYLAZINE?

Xylazine is a sedative used in veterinary medicine.ⁱⁱ Xylazine is not approved by the Food and Drug Administration (FDA) for use in humans,ⁱⁱⁱ as it depresses the central nervous system, leading to drowsiness, amnesia, slowed breathing and heart rate, and dangerously low blood pressure levels.^{iv}

OVERDOSE REVERSAL

While there is no documented effective antidote for the effects of xylazine, naloxone should always be administered for all suspected overdoses as xylazine is most often used in combination with opioids, such as fentanyl, and naloxone will reverse the effects of any opioids that are present.^v

Xylazine in combination with opioids can produce compounded effects including bradycardia, hypotension, and sedation. Due to the sedative effects of xylazine, it may appear that the person is not responding to naloxone as they may not regain consciousness. After administering naloxone, it is important to watch for breathing to restart. If breathing does not resume, additional doses of naloxone may be necessary.^{vi} The extreme sedation that can be caused by xylazine emphasizes the need for rescue breathing and/or oxygen administration.^{vii} In addition to respiratory support, recommended supportive care includes glucose management and cardiovascular support.

Please note that a person who was revived may be in discomfort and agitated. If they do not wish to participate in further healthcare services, naloxone and other harm reduction supplies should be provided to them for future use. Providers and first responders are encouraged to learn more about xylazine and opioid overdose reversal best practices.^{viii} A training video regarding the proper administration of multiple forms of naloxone is available on the [Train PA website](#).

An individual who experienced an overdose needs your help immediately because without intervention, they may die within minutes. For providers' awareness, xylazine is most commonly mixed with fentanyl. Despite the common misconception, fentanyl does not absorb easily through skin. There is no danger from touching fentanyl or its analogs or touching surfaces where these substances may be present. Such incidental contact with fentanyl cannot cause drowsiness, illness, or overdose. Similarly, you cannot experience an overdose simply from being in an area where fentanyl may be present. Powdered opioids are not readily dispersed into the air; thus, there is no danger of breathing the air in an area where fentanyl may be present.

WOUND CARE

Injecting or otherwise ingesting substances containing xylazine can cause serious, recalcitrant skin ulcers and necrotizing wounds.^{ix} At this time, the etiology of these wounds has not been fully elucidated. It is essential that the wounds be appropriately treated to prevent serious infections and amputations. Not

all xylazine wounds require antibiotic treatment; however, if there is active purulence, surrounding erythema, or edema, antibiotics may be indicated.^x Avoid rubbing alcohol and hydrogen peroxide treatment; regularly cleanse wounds with soap and water; and cover wounds with nonadherent dressings, changed daily, if possible. Refer patients to a wound care specialist for debridement and pain management.^{xi} Medical providers should familiarize themselves with [harm reduction resources](#) for recognizing and treating xylazine-related wounds.

WITHDRAWAL AND SUD TREATMENT

Patients using illicit substances may not know if they were exposed to xylazine or fentanyl. Providers should be prepared to manage both xylazine and opioid withdrawal symptoms simultaneously. Xylazine withdrawal is not a well-defined syndrome and may include anxiety, irritability, restlessness, and/or severe hypertension.^{xii}

Updated protocols for xylazine withdrawal include treating with benzodiazepines and/or alpha-2 adrenergic agonists, clonidine, dexmedetomidine, tizanidine, guanfacine.^{xiii} Opioid withdrawal should be treated early using medications for opioid use disorder or opioid pain management to mitigate any discomfort that could exacerbate the xylazine withdrawal.^{xiv} For patients on opioid agonist therapy such as buprenorphine or methadone, changing from daily to twice daily dosing may increase the analgesic effect and enhance pain management.^{xv}

ADDITIONAL RESOURCES

- [Xylazine: Medical and Public Health Perspectives](#) – New England Journal of Medicine
- [First Responder Addiction and Connection to Treatment](#) Training Program
- Next Distro: [Xylazine Wound Care: A Guide! — NEXT Distro](#)
- Bulletin: [FDA Alerts Health Professionals to Risks to Patients Exposed to Xylazine in Illicit Drugs](#) (FDA)
- Fact Sheet: [Xylazine \(Tranq\) Exposure Among People Who Inject Substances in Philadelphia](#) (Philadelphia Department of Public Health)
- Online Training: [Xylazine: The New Drug Additive](#) (DDAP)
- [Xylazine-Induced Skin Ulcers in a Person Who Injects Drugs in Philadelphia, PA, USA - PMC \(nih.gov\)](#)
- Webinar: [Beyond the Alerts: Practical Guidance for Responding to Xylazine](#) (NASTAD)
- Webinar: [Toxicity of Xylazine and How it Impacts People Who Use Drugs](#) (COBRE on Opioids & Overdose)
- [Harm Reduction Coalition: Xylazine in the Drug Supply](#)

ⁱ <https://www.nytimes.com/2023/01/07/health/fentanyl-xylazine-drug.html>

ⁱⁱ <https://www.cdc.gov/mmwr/volumes/70/wr/mm7037a4.htm>

ⁱⁱⁱ Id.

^{iv} Id.

^v Maryland Department of Health. (2023). *Xylazine Information for Providers*.

^{vi} <https://nextdistro.org/resources-collection/xylazine-quick-guide>

^{vii} Id.

^{viii} <https://www.fda.gov/media/162981/download#:~:text=Signs%20and%20symptoms%20of%20acute%20xylazine%20toxicity%20may,bradycardia%2C%20hypothermia%2C%20miosis%2C%20or%20high%20blood%20glucose%20levels.>

^{ix} <https://www.cureus.com/articles/98408-xylazine-induced-skin-ulcers-in-a-person-who-injects-drugs-in-philadelphia-pennsylvania-usa#!/>

^x http://phila.gov/document/3154/PDPH-HAN_Update_13_Xylazine_12.08.2022.pdf/

^{xi} <https://www.health.ny.gov/publications/12044.pdf>

^{xii} <https://www.health.ny.gov/publications/12044.pdf>

^{xiii} Id.

^{xiv} Id.

^{xv} Id.