
Xylazine

Introduction

The illicit opioid supply has become increasingly unpredictable. Over the last 10 years, fentanyl and its derivatives have found their way into this supply and have become key contributors to the continued increase in overdose deaths. One of the most concerning and persistent additives is xylazine, known on the street as “tranq.” Here, we will cover the basic pharmacology of xylazine, why it’s so concerning, what to look out for if you suspect it, and how to counsel your patients.

What Is Xylazine?

Xylazine is a non-opioid veterinary anesthetic not approved for human consumption. However, it has been illicitly combined with opioids. Some believe that xylazine is added to opioids to enhance and prolong their sedative and euphoric effects.

- *Usage method:* Xylazine is available in liquid and powder form, although it is rarely used on its own. It is almost always combined with opioids that can be injected, smoked, or sniffed. Some seek out xylazine for its sedating effects, though usage is often inadvertent, as xylazine is usually added to opioids without the knowledge of the person buying and using the drug.
- *Mechanism of action:* Predominantly acts as an alpha-2 agonist.
- *Duration of effects:* The profound sedation caused by xylazine, especially in synergy with opioids, can last for hours.
- *Elimination rate:* While fentanyl has a short half-life and is quickly eliminated, xylazine’s effects last longer. People often wake up after using xylazine already in opioid withdrawal and with powerful cravings to use again.
- *Testing:* Xylazine test strips have been developed and are available to the public through harm reduction programs.
- *History:* Xylazine first tainted the opioid supply in the early 2000s in Puerto Rico. Philadelphia, Pennsylvania, has become a major distribution hub, with nearly all street-sold opioids there containing xylazine. Although it’s most commonly found in the Northeast, xylazine has been detected in the drug supply throughout the US with growing prevalence.

Why Should We Be Concerned?

- *Synergistic sedative effects:* When combined with opioids, xylazine produces profound sedation, increasing the risks to the user for becoming a victim of theft or physical and/or sexual assault.
- *Health risks:* Xylazine causes significant hypotension and bradycardia, and the resulting drop in blood flow can lead to loss of consciousness and hypoperfusion. Unlike overdoses due to opioids, there are no antidotes to reverse xylazine toxicity.
- *Wound complications:* Repeated exposure to xylazine causes severe peripheral wounds—usually in extremities, sometimes far from the site of injection. Wounds can become ulcerated or necrotic, and require surgical debridement or even amputation. They may result from decreased perfusion and oxygenation secondary to the severe hypotension and bradycardia induced by xylazine.

Recommendations for Professionals

- *Treatment:* Treat opioid use disorder as xylazine is rarely used on its own and is usually mixed with opioids. Patients not using illicit opioids are unlikely to encounter xylazine.
- *Overdose handling:* Give naloxone in overdose situations. While it won’t reverse xylazine’s effects, it will reverse the overdose of any opioids that were also consumed.
- *Recognition:* Suspect xylazine intoxication when overdose victims are not fully revived after receiving naloxone. Provide supportive care in the meantime while xylazine is eliminated from the body.
- *Physical exam:* Do a thorough skin exam on patients using illicit opioids whenever possible and refer to wound care specialists if needed.

Counseling Patients

- *Awareness:* Make sure patients are aware of xylazine’s dangers.
- *Drug testing:* Encourage your patients to check any opioid that they intend to use for the presence of xylazine using xylazine test strips. They are widely available for purchase and through some harm reduction organizations.
- *Self-inspection:* Encourage patients to check their own skin and seek care if they notice any wounds.
- *Usage method:* Intravenous use seems to cause worse wounds, so encourage patients who are actively using to switch their route of administration.
- *Preparedness:* Make sure your patients have naloxone available.