



# The Emerging Threat of Xylazine

Catching Up With COSSUP, April 2023

## Background

Xylazine (also referred to as “tranq” or “tranq dope”) is a strong veterinary sedative that is increasingly being found in drug supplies. Xylazine is not an opioid, though its effects often mimic those of an opioid, including extreme sedation. Xylazine was first discovered as an adulterant to opioids in Puerto Rico approximately two decades ago and has periodically appeared in drug supplies in places along the East Coast, such as Philadelphia, Pennsylvania. In more recent years, the presence of xylazine has spread across the entire United States.

According to the University of North Carolina (UNC) Street Drug Analysis Lab, xylazine is most often found mixed with heroin or fentanyl, though it is also routinely found with cocaine and sometimes methamphetamine. The majority of people with substance use disorders (PWSUD) report that they do not want to use xylazine, and many people are unaware that xylazine is in their drugs. Currently, the biggest known risks of xylazine use are extreme sedation and severe injection-related wounds or skin and soft tissue infections (SSTIs). As xylazine is an emerging and rapidly expanding threat, much of what is currently known about its effects and possible treatment comes from field experts and veterinary literature. This article summarizes what is currently known about xylazine from these sources.

Xylazine’s extreme sedative effect often causes users to become completely unresponsive to any stimuli. This extreme sedation can often mimic the appearance of an opioid overdose, as people experience “nodding” or “falling out” (i.e., becoming completely or semi-unconscious) and slow/inconsistent breathing. Because xylazine is not an opioid, naloxone (the drug commonly used for reversing opioid overdose) does not work to bring someone out of unconsciousness caused by xylazine. Further, the sudden heavy sedation caused by xylazine can put PWSUD at risk for additional harm, such as theft, assault, or injury.

The second-largest known negative outcome associated with xylazine use is severe injection-related wounds or SSTIs. Unlike “traditional” wounds or SSTIs, xylazine-related SSTIs tend to be more difficult to treat and can appear in locations on the body other than sites where the person injected. Recent reports from the field indicate that xylazine-related wounds often appear on the body’s limbs and extremities (i.e., toes, fingers, hands, arms, legs) and are marked by impaired healing and necrotic tissue. Incoming reports also indicate that these SSTIs tend to develop quickly and do not respond to traditional treatment. This means that people with xylazine-related infections will likely require intensive and/or long-term care.

Unfortunately, PWSUD face barriers to adequate health care, particularly because of a lack of health insurance coverage and the perception of stigma in health care settings. Community-based organizations often address these barriers by providing on-site wound care for PWSUD, but these services typically rely on traditional treatment methods that are ineffective for xylazine-related wounds or infections. Because of the severity of wounds or infections, the existing barriers to adequate and timely wound care, and the difficulty of treating them in the field, there are increasing reports of people who use xylazine having their limbs or extremities amputated.

## Harm Reduction Recommendations and Training

Organizational and individual harm reduction efforts are necessary to protect the health of PWSUD who are exposed to xylazine in their drug supply. By providing better, repetitive access to wound care, health care facilities may see better outcomes in patients who use xylazine. A single physician visit may not fully treat a patient’s wound; accordingly, follow-up visits enable physicians to monitor healing and address any new needs.

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Notably, a disproportionately large portion of PWSUD also experience homelessness,<sup>1</sup> which may expose healing wounds to harmful environments, thereby impeding recovery or causing secondary infections. Repeated care visits with physicians allow for these developments to be promptly noticed and addressed. Further, PWSUD are more likely to seek out repeated medical services if they feel safe in the presence of, and receive appropriate treatment from, medical professionals; as such, health care facilities may benefit from increased training on patient care for PWSUD.

Someone who uses xylazine may be incapacitated for more than 8 hours, exposing them to several potential harms. If they are in a public setting, they may be vulnerable to theft, assault, or other victimization. They may also experience negative health outcomes as a result of remaining in one position for too long, especially if they nod off suddenly in a position that could prevent blood flow to their extremities. According to the National Harm Reduction Coalition, people who are with someone who uses a substance that may contain xylazine should move the individual to a safe location and stay with them until they are awake and responsive.<sup>2</sup> During this time, fundamental nursing techniques can be implemented to minimize harm resulting from prolonged time in sedentary positions. Remaining in one position for more than 2 to 3 hours can inhibit blood flow to the skin, causing painful bedsores to develop. Bedsores and skin injuries can also develop from lying on uneven, wrinkled, or wet surfaces.<sup>3</sup> To prevent the onset of these conditions, the person who was exposed to xylazine should be placed on a flat, padded, dry surface, avoiding the placement of weight on any bony prominences. The person should be positioned in some version of the “recovery position”—on their side with one arm out and one arm supporting their head, mouth angled downward, and chin pointed away from the throat, and rotated from side-to-side every 1 to 2 hours.<sup>4</sup> If possible, moisture such as sweat or urine should be wiped away regularly. Monitoring and rotating should continue until the individual is awake and responsive.

## Establishing Partnerships

Responding to the needs of individuals affected by unknown substances in the drug supply can be challenging because of a lack of scientific research, medical knowledge and care plans, and limited awareness of the risks involved within the community most affected. As drug trends continually change and unknown substances enter the drug supply, it is imperative that

communities engage in proactive partnership building and information sharing. Establishing networks of mutual aid can help the response to current trends but also provide a solid foundation for future responses. Communities should develop a collaboration of partners with a shared vision of healthy communities. Key partners include harm reduction outreach specialists who are working in the field, as they are the most knowledgeable about potential new substances and how they present within individuals after use. Medical professionals who can provide treatment, wound care specialists, public health nurses, emergency medical personnel, and emergency room and general practitioners are also key partners who can provide a range of care as well as up-to-date research, if available.

These partnerships can result in a cross-collaboration and information sharing process that delivers a person-centered, nonjudgmental approach to care. Training among partners and utilization of resource allocation are two activities that can stem from these partnerships. Outreach workers can share knowledge about access-to-care barriers, such as transportation and financial challenges, as well as about what people in the community are experiencing with the drug and their response practices. This can create understanding among medical providers about why patient adherence to continuous treatment plans can be challenging. Sharing information directly from the field and from medical staff members on signs and symptoms of injuries caused by xylazine can guide harm reduction practices among the population, as well as educate the field. For example, sharing information on the risk of positional asphyxia (described previously) can guide the creation of a bulletin for distribution to local physicians and to the community. In addition, exploring connections for the distribution of wound care supplies can help greatly.

## Testing Drugs and Planning for Future Drug Trends

In a rapidly changing drug market, thorough drug-checking services are a useful tool for identifying substances in the local drug supply and preparing for the morbidity and mortality associated with those substances.

While testing strips are helpful for individuals using drugs, more exhaustive drug-checking tools (e.g., mass spectrometry) can be helpful for entire communities and geographic areas. The UNC Street Drug Analysis Lab’s

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xylazine [dashboard](#) is one example of how a more exhaustive drug-checking tool can inform more directed and proactive responses to an increasingly toxic drug supply. On this dashboard, researchers display the findings from hundreds of analyzed drug samples across North Carolina, including counties that have recorded the most cases of detected xylazine and drugs which are most often adulterated with xylazine.<sup>5</sup> This information helps alert the areas that need to be cautious of xylazine-related morbidity and mortality, as well as the populations that would benefit the most from programming targeted at individuals who may be exposed to xylazine.

Responding to new drug trends is not without challenges due to lack of available resources, lack of knowledge or empathy as to the severity of the issue, or insufficient capacity to meet the needs of affected individuals. Experts working in the field with PWSUD expect the prevalence of xylazine in the drug supply to continue to increase. Similar to fentanyl, point-of-use tests for xylazine will likely become widely available. However, like fentanyl, positive tests for xylazine may occur so often that they do not deter use. Given this possibility, priority should be placed on educating health professionals, first responders, and families and friends of PWSUD to recognize the signs of xylazine exposure and facilitate appropriate harm reduction actions for the individual exposed. Communities should develop community-based partnerships that promote education, harm reduction practices, and treatment plans, which can prepare communities for the next trend.

## Endnotes

1. Doran, K. M., C. E. Fockele, and M. Maguire, 2022, "Overdose and Homelessness—Why We Need to Talk About Housing," *JAMA Network Open* 5(1): e2142685, <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2787718>.
2. National Harm Reduction Coalition, *Training Guide: Opioid Overdose Basics: Responding to Opioid Overdose*, 2023, available from <https://harmreduction.org/issues/overdose-prevention/overview/overdose-basics/responding-to-opioid-overdose/>.
3. Johns Hopkins Medicine, 2021, "Bedsore," Health: Conditions and Diseases, available from <https://www.hopkinsmedicine.org/health/conditions-and-diseases/bedsores>.
4. Harvard Health Publishing, 2017, "Emergencies and First Aid – Recovery Position," available from <https://www.health.harvard.edu/staying-healthy/emergencies-and-first-aid-recovery-position>.
5. University of North Carolina Street Drug Analysis Lab, *North Carolina Xylazine Report: Real-time Results From UNC Drug Analysis Lab*, 2023, available from <https://ncxylazine.streamlit.app/>.