

Emerging Concern: Lidocaine Adulterated “Purple Fentanyl” in the Midwest

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The opioid crisis continues to evolve in dangerous and unpredictable ways. This article highlights the emerging concern of “purple fentanyl,” which has been reported in the Midwest, including Kansas, Missouri, and neighboring states.^{1,2} Fentanyl and other synthetic opioids already have been linked to a high number of overdose deaths. For example, in 2024, more than 82,000 people in the United States died from opioid overdoses, with fentanyl being the primary contributor.³

According to the Midwest High Intensity Drug Trafficking Area (HIDTA) Threat Assessment, the Kansas City metropolitan area and the broader Midwest region remain vulnerable to fentanyl trafficking, with law enforcement seizing approximately 1,376 pounds of fentanyl in Kansas in 2024 alone.⁴ News reports have described law enforcement seizures of purple fentanyl powder and tablets in the Midwest between 2023 and 2025, in some cases linked to fatal overdoses.^{1,2} These fentanyl products often are adulterated with other dangerous substances, such as xylazine and benzodiazepines.^{5,6} More recently, lidocaine has emerged as an additional adulterant of concern. For example, an addiction treatment facility in Texas issued a public warning about purple fentanyl reportedly containing lidocaine.⁷

In cases of illicitly manufactured fentanyl identified in the Kansas City metropolitan area, the purple coloration may indicate the presence of lidocaine as an adulterant, based on reports that Drug Enforcement Administration laboratories have detected lidocaine in seized purple fentanyl samples.⁸ However, it is important to note that there is not always a direct correlation between drug color and specific adulterants. A Report suggests that lidocaine may be added to increase profitability and potentially intensify the perceived effects of fentanyl.⁹ In the past, the purple coloration in unregulated opioids was sometimes believed to be a marketing strategy or the result of harmless fillers. However, recent laboratory analyses have detected local anesthetics, particularly lidocaine, in fentanyl samples.^{9,10} Illicit drug suppliers have previously used lidocaine as a substitute for cocaine because it produces a similar numbing sensation while increasing the quantity of product available for sale. The growing presence of lidocaine in fentanyl is therefore concerning.

A report from Philadelphia indicates that lidocaine is increasingly being detected in opioids obtained outside medical settings.¹⁰ Researchers found that the prevalence of lidocaine and tetracaine in drug samples rose from approximately 3% in March 2024 to nearly 63% by March 2025, demonstrating how rapidly the illicit drug supply can change.¹⁰ Similarly, Palamar et al.⁹ reported in *JAMA Psychiatry* in 2025 that fentanyl across the United States frequently is adulterated with lidocaine and procaine,

suggesting a growing national trend. The same study also identified other “-caine” type local anesthetics, including bupivacaine and tetracaine, as fentanyl adulterants.⁹ Bupivacaine may be more cardiotoxic than lidocaine, while tetracaine has a longer duration of action. All these agents carry the risk of local anesthetic systemic toxicity.⁸ Additionally, a separate report from Los Angeles identified lidocaine as a bulking agent in 172 of 353 analyzed samples of illicitly manufactured fentanyl.¹¹

Pharmacologically, lidocaine functions as both a local anesthetic and an antiarrhythmic agent. It works by inhibiting voltage-gated sodium channels in neurons and cardiac cells.¹⁰ Toxic effects of lidocaine exposure may include numbness, bradycardia, hypotension, lightheadedness, confusion, anxiety, methemoglobinemia, respiratory depression, seizures, and allergic reactions.¹⁰ Several of these symptoms overlap with manifestations of fentanyl toxicity, including respiratory depression, which may complicate clinical recognition.

Clinicians should therefore consider several important points when evaluating suspected opioid overdoses. Lidocaine is not detectable on standard rapid urine drug screens commonly used in emergency departments. Although naloxone effectively reverses opioid toxicity, it does not treat lidocaine poisoning.¹² Patients exposed to fentanyl adulterated with lidocaine may develop seizures, hypotension, or ventricular arrhythmias, cardiovascular symptoms that are not typical of opioid overdose, which may obscure recognition of fentanyl as the underlying cause.⁹ Such cases may require additional emergency management.

The opioid crisis continues to evolve as new drug combinations emerge within the illicit drug supply. The potential rise of lidocaine-adulterated fentanyl, particularly in purple-colored formulations, is therefore noteworthy. We urge clinicians, toxicologists, and public health officials in Kansas and surrounding regions to remain vigilant, monitor suspected cases, and report relevant findings to the Drug Enforcement Administration. Clinicians also should educate patients about potential adulterants in illicitly manufactured fentanyl (Figure 1), which may help individuals seek care promptly if exposed.

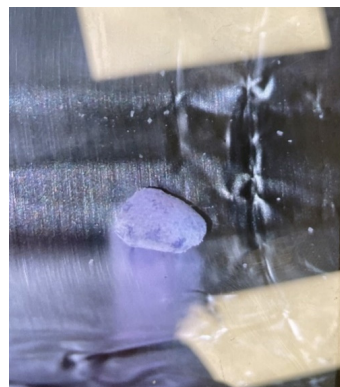


Figure 1. Purple fentanyl. We have included an illustrative image of purple fentanyl from work in the addiction treatment center. Permission taken from patient.

Current American College of Emergency Physicians opioid overdose guidelines suggest considering the possibility that a patient may be “not overdosing on an opioid, but rather some other substance.”¹³ However, these guidelines do not specifically address the growing concern of adulterants in illicit opioids. As a future direction, we recommend updating opioid overdose management guidelines to include awareness of potential adulterants such as lidocaine. Increased awareness of this hidden risk is essential for improving harm reduction and clinical response as the illicit drug landscape continues to evolve.

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