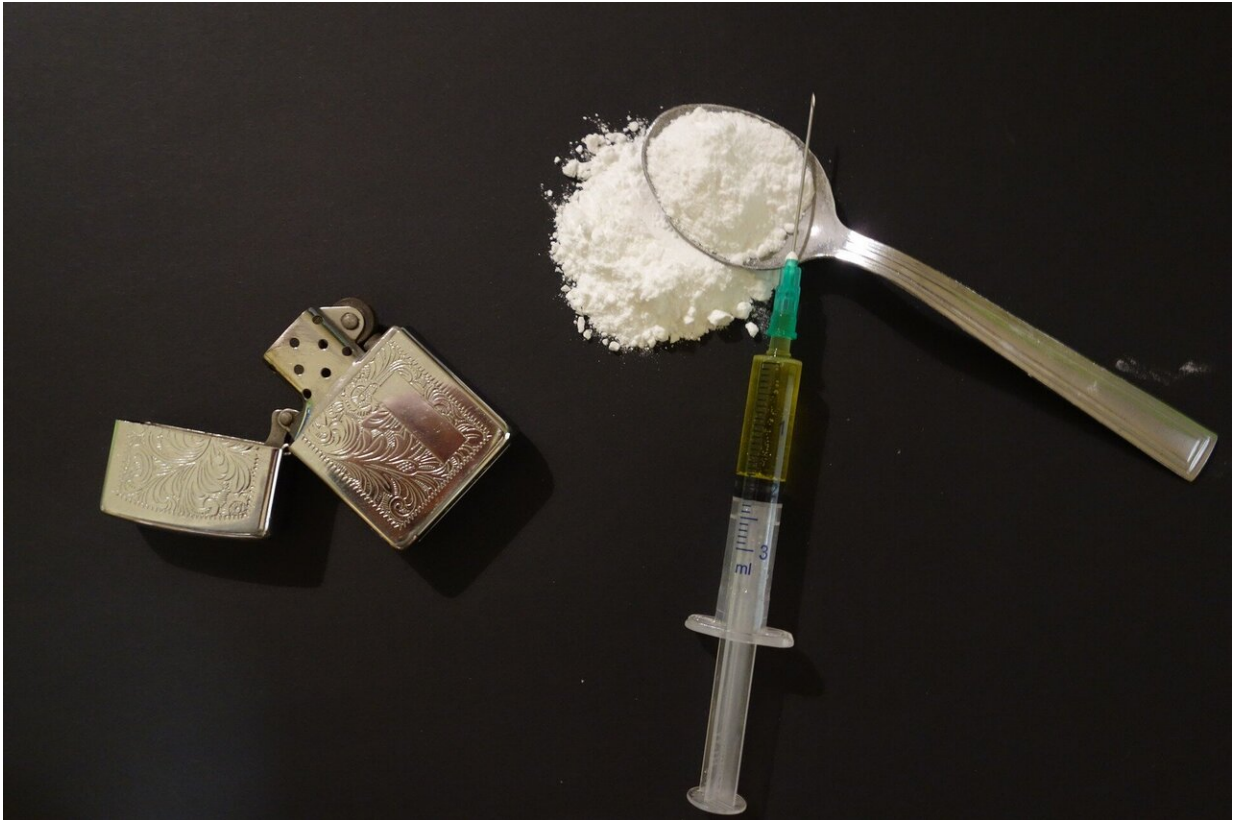


# Understanding the effects of fentanyl

February 9 2023, by Adithi Ramakrishnan

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Credit: CC0 Public Domain

Fentanyl is a highly addictive opioid drug that kills hundreds of Texans every year, according to the Texas Department of Health and Human Services.

Doctors can prescribe fentanyl to treat [severe pain](#) after surgery or for

late-stage cancer. Most recent cases of fentanyl [overdose](#) are happening with illicit fentanyl, according to the CDC.

Fentanyl can be mixed into cocaine and methamphetamines and can be found in [nasal sprays](#) or eye drops. It can also be mixed in counterfeit pills that look like other prescription opioids, according to the CDC. As a result, people can ingest fentanyl without knowing, leading to accidental poisoning and even death.

Depending on a person's weight and drug history, consuming even two milligrams of fentanyl—twice the weight of a paperclip—can be fatal.

## **How does fentanyl affect the brain and body?**

Fentanyl is 50 times stronger than heroin and 100 times stronger than morphine, according to the CDC. Once consumed, it enters the brain quickly, making it highly addictive.

Fentanyl activates two [brain](#) pathways that release dopamine, a chemical that can cause feelings of pleasure and euphoria, according to Colin Haile, a researcher at the University of Houston who led a team that developed a fentanyl vaccine.

Haile said fentanyl can also stimulate neurons in our brains that help control breathing. This can lead to symptoms like slow or weak breathing.

Other signs of [fentanyl](#) overdose include choking or gurgling sounds, falling asleep or losing consciousness and cold or discolored skin, especially in the lips and nails, according to the CDC.

The CDC says it can be hard to tell whether a person is experiencing an overdose, but that if you aren't sure, treat the situation like an overdose.

Call 911 immediately and if available, administer naloxone, a life-saving medication that can reverse opioid-related overdoses if used in time. Narcan is one brand of prepackaged naloxone nasal spray.

In addition, the CDC recommends keeping the person awake and breathing, laying them on their side to avoid choking and remaining with them until emergency assistance arrives.

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