

# Overdose just by touching fentanyl? Highly unlikely, experts say

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Experts agree that the powerful synthetic opioid fentanyl and its even deadlier relatives pose potential hazards to police and emergency responders who come in contact with the drugs.

But there is also concern that the risks are being overblown, potentially creating unnecessary stress for emergency workers.

Sometimes quoting law enforcement sources, media outlets are routinely stating that just touching fentanyl can cause an overdose or even death - a contention that medical toxicologists say is scientifically impossible.

"I hope this doesn't turn into hysteria," said Andrew Stolbach, an emergency physician and medical toxicologist at Johns Hopkins University in Baltimore. "I don't want this to make people afraid of doing their jobs."

Fears of death from a touch were stoked in May when local and national media (including the Philadelphia Inquirer, The Washington Post and The New York Times) reported the story of an East Liverpool, Ohio, police officer. He said that after searching the car of suspected drug dealers, he suffered a life-threatening overdose after simply brushing powder presumed to be a form of fentanyl off his shirt. He passed out and needed four doses of the opioid-reversal medication naloxone to save him.

"That sort of incidental exposure would not cause such severe opioid

toxicity," said Joseph D'Orazio, a Temple University emergency physician and medical toxicologist.

Echoed Stolbach, "It's just not plausible that getting a small amount of fentanyl on your skin is going to cause significant opioid toxicity. You don't absorb enough drug fast enough to get toxicity that way."

Writing in the online magazine Slate, Jeremy Samuel Faust, an [emergency physician](#) at Brigham and Women's Hospital in Boston, tried to imagine a scenario in which the Ohio officer could have accidentally inhaled or swallowed fentanyl - routes known to be potentially life-threatening. "But the amount that could have transferred from the ... shirt to the fingers to the mouth or nose," Faust wrote, "would not be a clinically significant quantity, even accounting for fentanyl's potency."

Faust added that he doesn't think the officer or anyone at his police department is lying. "These police officers are at the front lines of an extremely challenging fight, and it is understandable that they would be freaked out by this event."

Still, Faust said, the huge dose of naloxone needed to revive the officer suggests it was "treating the wrong illness." And the media's uncritical embrace of the story indicates "an interesting new hysteria, for lack of a better term, about opioids."

The leader of the nation's war on drugs may be fueling the reaction. In May, the U.S. Drug Enforcement Administration issued a news release titled "DEA Warning to Police and Public: Fentanyl Exposure Kills" along with a video of two Atlantic County, N.J., detectives who were "exposed to a very small amount of fentanyl."

"I thought that was it. I thought I was dying," one detective says on the video.

Patrick Trainor, a spokesperson for the DEA's Philadelphia office, said that ultra-potent forms of fentanyl such as carfentanil - which is legitimately used to tranquilize elephants and other large animals - are deadlier than the anthrax used in the mysterious bioterrorism attacks in 2002. Anthrax-tainted letters killed five people and sickened 13.

"They are worse (than anthrax) in our opinion," Trainor said in an interview. "You have a drug like carfentanil that's 10,000 times stronger than heroin. Just touching it, is that going to kill you? Probably not. But do you want to take the risk?"

In its 20-page briefing guide for [emergency responders](#), the DEA declares that "it would only take 2 to 3 milligrams of fentanyl to induce respiratory depression, arrest, and possibly death." That amount is "about the same as five to seven grains of table salt."

Toxicologist Stolbach added some context: "Yes, two to three milligrams of fentanyl would be sufficient to make most people stop breathing if it found its way into the bloodstream. However, fentanyl just isn't absorbed through skin into your blood quickly or efficiently enough to make this kind of dose possible from incidental contact. Fentanyl is absorbed much better by inhalation and through (mucous membranes) but we feel like these routes of exposure are much less likely with routine precautions and good common sense."

Stolbach heads a committee formed by the American College of Medical Toxicology that will soon issue recommendations for protecting emergency responders from occupational exposure to fentanyl and its cousins.

But guidelines already exist, built on the twin pillars of proper protective equipment and good judgment. Depending on the situation, that equipment may range from gloves, safety glasses and a dust mask all the

way to hazmat suits with breathing gear.

"Fentanyl can be handled safely with proper training and equipment," says the DEA guide for emergency responders.

The rub, of course, is that the opioid epidemic is unprecedented and evolving. In the U.S. in 2015, opioid overdoses killed 33,091 people, including 9,580 who used forms of [fentanyl](#), according to federal data.

The National Institute for Occupational Safety and Health, the worker protection agency, says it "does not have enough empirical evidence to provide specific guidance for protection from exposure during every possible law enforcement operation."

The uncertainties should prompt prudence, not panic, said Temple's D'Orazio.

"Everyone is extrapolating what would happen without a lot of scientific evidence," he said. "But we don't need to jump to the conclusion that a little drug on your skin means you'll require numerous doses of naloxone and potentially die."

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