



Fentanyl Exposures and Cleanup

This information is for people preparing to enter an area where fentanyl, or a drug with similar chemical structures to fentanyl (an analogue), may be present. If fentanyl or an analogue is discovered after entering an area, the health risk is minimal, but law enforcement should be contacted to dispose of the drug(s). They can assess the area for safety at that time. Once first responders declare an area safe for the public to enter, there is little to no risk of developing illness from fentanyl or fentanyl-like drugs that were or are present.

This information is not meant for first responders such as law enforcement, fire department, or emergency medical services (EMS) personnel. Their risk for exposure, while minimal under most circumstances, is different compared to the public entering an area after the area has been released by first responders. For more information, see these resources:

- "Preventing Occupational Exposure to Emergency Responders" (www.cdc.gov/niosh/topics/fentanyl/risk.html))
- <u>"ACMT and AACT Position Statement: Preventing Occupation"Fentany and Fentanyl Analog Exposure to Emergency Responders"</u> (www.acmt.net/ Library/Positions/Fentanyl PPE Emergency Responders .pdf))

About fentanyl, carfentanyl, and fentanyl analogues

Fentanyl and drugs like fentanyl (carfentanyl, alfentanyl, sufentanil) are in a class of pain-reducing drugs called opioids.¹ Others in this class include morphine, heroin, and oxycodone. They produce pain relief when used in proper doses. At high doses, they can cause coma and decreased breathing. Fentanyl is potent (100 times more powerful than morphine), and carfentanyl is even more so (about 10,000 times more powerful than morphine).^{2,3}

Fatal opioid overdoses receive frequent media coverage and are a public health issue. Fentanyl, and drugs like fentanyl, are sometimes used as street drugs and are frequently mislabeled as heroin.⁴ Due to their strength, people are concerned that they may be affected by these drugs even if they come into contact with a small amount.^{5–7}

Currently, there is no credible evidence that anyone has been sickened simply by entering an area where fentanyl was present, or even by having fentanyl get on their skin. In the available cases where law enforcement officers were affected after skin exposure, their symptoms were not consistent with effects expected from opioids.^{1,8} For this reason, the medical community considers their reactions were not from opioid exposure, but rather the result of some other cause.⁹

Fentanyl Exposures and What You Can Do

Skin Exposure: Fentanyl skin patches deliver a continuous dose of fentanyl through the skin over a period of several days. Because skin does not absorb fentanyl well, skin patches are specifically designed to increase absorption of fentanyl. Even so, the patches do not quickly provide a large dose. For example, if both hands are covered entirely with fentanyl patches, it would take 14 minutes to provide a single dose.⁸ Skin absorption of powdered fentanyl, or fentanyl-like drugs, is significantly lower than absorption from skin patches.

What you can do -

- Do not touch any powder thought to be fentanyl or any items that are possibly contaminated with fentanyl with bare hands. Wear nitrile gloves if such items must be handled.
- If skin is exposed to powder, brush it off gently and wash the skin with soap and water. Avoid alcohol-based hand sanitizers until skin is washed with soap and water. Alcohol may increase absorption through skin.⁸

Eye Exposure: One case exists of a veterinarian becoming sick after splashing carfentanyl into his eyes.

What you can do -

 Prevent splash exposure by wearing a face shield or other similar level of protection, such as mask and goggles.¹⁰

Inhalation Exposure: Fentanyl is known to evaporate very poorly; fentanyl analogues have a similar chemical structure and are expected to evaporate poorly.¹¹ Fentanyl powder on carpets or hard surfaces should not get into the air to a level where it could be harmful.

What you can do -

- If airborne fentanyl is suspected, do not enter until it has been adequately ventilated (typically 24 hours).
- To prevent airborne fentanyl; do not use a vacuum, blow a fan on, or otherwise disturb an area that may contain fentanyl.

Cleanup Advice

For property where a visible amount of fentanyl-containing powder or liquid is present have a professional with hazardous waste training clean the premises.

To clean property with known or suspected fentanyl contamination (powder or liquid):

- Use appropriate eyewear (goggles), respiratory protection (properly fit-tested N95 mask or similar level of protection), nitrile gloves, and a HEPA-filtered vacuum.
- Wash hard surfaces with water and household cleaner such as Simple Green, Mr. Clean, Pine-sol, or an equivalent cleaning product. Change the water frequently to prevent spreading contamination. Rinse surfaces with clean water after washing.
- Vacuum carpet, upholstery, and fabric surfaces with a HEPA-filtered vacuum, and also use adequate respiratory protection.

Resources Cited

- 1. Nelson LS, Olsen D. OPIOIDS. In: Hoffman RS, editor. Goldfrank's toxicologic emergencies. New York, N.Y.: McGraw-Hill Education LLC.; 2015.
- 2. Leen JLS, Juurlink DN. Carfentanil: a narrative review of its pharmacology and public health concerns. Can J Anaesth 2019;66(4):414–21.
- 3. Mather LE. Clinical pharmacokinetics of fentanyl and its newer derivatives. Clin Pharmacokinet 1983;8(5):422–46.
- 4. Armenian P, Vo KT, Barr-Walker J, Lynch KL. Fentanyl, fentanyl analogs and novel synthetic opioids: A comprehensive review. Neuropharmacology 2018;134(Pt A):121–32.
- 5. DEA Warning To Police And Public: Fentanyl Exposure Kills [Internet]. [cited 2019 May 6];Available from: https://www.dea.gov/press-releases/2016/06/10/dea-warning-police-and-public-fentanyl-exposure-kills
- 6. Police: 3 Ohio Nurses Treated for Fentanyl Exposure [Internet]. US News & World Report. [cited 2019 May 28];Available from: https://www.usnews.com/news/best-states/ohio/articles/2017-08-12/police-3-ohio-nurses-treated-for-fentanyl-exposure
- 7. Mettler K. 'I was in total shock': Ohio police officer accidentally overdoses after traffic stop [Internet]. Washington Post. 2017 [cited 2019 May 28];Available from: https://www.washingtonpost.com/news/morning-mix/wp/2017/05/16/i-was-in-total-shockohio-police-officer-accidentally-overdoses-after-traffic-stop/
- Moss MJ, Warrick BJ, Nelson LS, et al. ACMT and AACT Position Statement: Preventing Occupational Fentanyl and Fentanyl Analog Exposure to Emergency Responders. J Med Toxicol 2017;13(4):347–51.
- 9. Faust JS, Boyer EW. Opinion | Opioid Hysteria Comes to Massachusetts Courts [Internet]. The New York Times. 2018 [cited 2019 May 6];Available from:

https://www.nytimes.com/2018/01/23/opinion/opioid-fentanyl-hysteria-massachusetts.html

- 10. George AV, Lu JJ, Pisano MV, Metz J, Erickson TB. Carfentanil—an ultra potent opioid. The American Journal of Emergency Medicine 2010;28(4):530–2.
- 11. Gupta PK, Ganesan K, Gutch PK, Manral L, Dubey DK. Vapor Pressure and Enthalpy of Vaporization of Fentanyl. Journal of Chemical & Engineering Data 2008;53(3):841–5.

Minnesota Department of Health | Site Assessment and Consultation Unit 625 Robert Street N. | PO Box 64975 | St. Paul, MN 55164-0975 Phone: 651-201-4897 or toll-free 1-800-657-3908 Email: health.hazard@state.mn.us | www.health.state.mn.us

7/24/2019

To obtain this information in a different format, call: 651-201-4897.

This information sheet is the product of a joint project between the Minnesota Department of Health (<u>https://www.health.state.mn.us/communities/environment/hazardous/index.html</u>) and the Minnesota Poison Control System (<u>http://www.mnpoison.org/</u>).