



OFFICE OF THE DIRECTOR OF POLICE
THE UNIVERSITY OF TEXAS SYSTEM
TRAINING BULLETIN 018



Synthetic Opioids Update
August 1, 2017

I. PURPOSE

The purpose of this training bulletin is to provide University of Texas System Police (UTSP) personnel an update on the current trends in synthetic opioids.

This training bulletin shall be read in conjunction with ODOP/UTSP Training Bulletin #17 “Opiates/Antidotes” dated December 5, 2016.

II. BACKGROUND

The dramatic increase of usage of illicit fentanyl and other potent opioids prompts this advisory to help UTSP employees who may be potentially at risk for exposure to these ultra-potent synthetic opioids. Every day, LE operational personnel identify and seize illegal drugs such as methamphetamine, heroin, and marijuana. Due to increased regulation of prescription drugs and tamper-resistant formulations of prescription opioids such as oxycodone, morphine, and fentanyl, opioid abusers are turning to dangerous illicit production of heroin mixed with ultra-potent synthetic opioids, most of which are fentanyl derivatives. These ultra-potent synthetic opioids are less expensive and readily available; coupled with the inconsistent mixing of very potent opioids, this explains the sudden increase of unintentional overdoses and deaths of drug abusers across the country.

III. ULTRA-POTENT SYNTHETIC OPIOIDS

Ultra-potent synthetic opioids derived from fentanyl are not new. Pharmaceutical fentanyl is a synthetic (i.e. produced in a chemical lab) rapid-acting pain reliever approved for treating severe pain; it is 50 to 100 more times more potent than morphine. Abuse of fentanyl initially appeared in the mid-1970s and has increased in recent years. In 1974, Janssen Pharmaceutica synthesized carfentanil which is 10,000 times stronger than morphine and 100 times stronger than fentanyl. Carfentanil is not approved for human use. Carfentanil (trade name Wildnil®) is intended for veterinary use as a sedative or anesthetic for large animals such as elephants. Clandestine labs illegally manufacture a variety of illicit drugs including fentanyl and its more potent derivatives such as carfentanil, acryl- and furanyl-fentanyl, among others. Drug dealers mix ultra-potent synthetic opioids with heroin, cocaine, and other drugs to cut their supply costs while at the same time increase their euphoric effect to market their product as “high quality.” If carfentanil is used, it can produce



Photo Courtesy of Paige Sutherland,
New Hampshire Public Radio

physical effects in humans with as little as one microgram. To put that amount in perspective, the average weight of a single grain of sand weighs approximately 50 micrograms. The photo provides a visual of the dose of heroin, fentanyl, and carfentanil needed to kill the average adult.

IV. OCCUPATIONAL RISKS

Law enforcement officers, emergency medical technicians (EMTs) and paramedics, canine handlers, canines, customs and TSA inspectors, and laboratory workers may be exposed to ultra-potent synthetic opioids during the course of their work. Law enforcement officers, customs and TSA inspectors, canine handlers, and canines may be exposed to illicit drugs mixed with ultra-potent synthetic opioids during screenings at ports of entry, during enforcement operations, while physically patting down a person or inspecting their personal items, during collection and handling of evidence and decontamination of equipment. In response to a downed employee(s), EMTs and paramedics may be secondarily exposed to ultra-potent synthetic opioids from the environment or from contaminant on the downed employee. Laboratory workers may also be exposed while opening or handling contaminated evidence collection containers and packages or through accidental exposure during laboratory testing.

V. SAFETY CONSIDERATIONS

Ultra-potent synthetic opioids come in many forms and may resemble cocaine or heroin. Ultra-potent synthetic opioids may be pressed and formed into tablets, crushed into a powder, or dissolved in a liquid. Opioids can be inhaled (powder or mist), ingested, or absorbed through the skin. When presented with an increased potential for exposure to these opioids, personnel who risk coming in contact with these substances must use protective clothing and equipment identified through a risk assessment.

Law enforcement operating procedures should be assessed and modified, as needed, to address the types of hazards presented by these opioids. Containers and packages may be contaminated on the outside and should not be handled without gloves. Opening containers and field testing suspected material may increase risk of exposure and is not recommended. Samples sent to the laboratory for analysis must have clear indications on the submission paperwork that the item is suspected of containing fentanyl or opioids. This will alert laboratory personnel to take the necessary safety precautions during the handling, processing, analysis, and storage of the evidence.

If exposed to opioids, employees may show signs and symptoms within minutes of exposure such as pinpoint pupils (may later become dilated), confusion, dizziness or disorientation, reduced respiratory function or failure, nausea/vomiting, low blood pressure, slow heart rate or cardiac arrest, coughing, sedation, lethargy, coma, and potentially death. Due to their aggressive sniffing and smaller size, canines are particularly at risk of acute symptom onset and/or death from exposure to opioids.

VI. FIRST AID RESPONSE

The safety and health of our UTSP personnel is paramount. If personnel or canines exhibit symptoms of exposure, seek medical attention immediately.

For Humans: Naloxone is a life-saving medication that can stop or reverse the effects of an opioid overdose. Administering naloxone quickly can counter the overdose effects, usually within three minutes. Additional doses may be repeated as needed to attain and/or maintain effect. If naloxone is not available, provide rescue breathing or life-saving efforts until emergency services arrive. Bystanders and rescuers should try to identify route of exposure and be careful not to expose themselves during life-saving efforts.

Ultra-potent synthetic opioids may require higher doses of naloxone to reverse the effects of overdose. The Food and Drug Administration (FDA) has approved several formulations of naloxone. In recent years, naloxone has been widely used extra-label as a 2 mg intranasal spray using a needleless syringe and atomizer. In 2014, the FDA approved a 0.4 mg intramuscular auto-injector naloxone device known as Evzio®. In November 2015, the FDA approved a 4 mg naloxone intranasal spray device known as Narcan®. In February 2017, the FDA approved a 2 mg dose Narcan® nasal spray device.

Due to the current nature of the overdose epidemic, the UTSP Medical Director has determined either the 2 mg extra-label intranasal spray or the 2 mg or 4 mg Narcan Nasal Spray are the most appropriate means of administration of naloxone by non-healthcare providers.

For Canines: Although the FDA has not approved the use of naloxone for animals, any drug approved for humans can be used extra-label for non-food producing animals so long as it is administered by or on the lawful order of a veterinarian who oversees the animal's care.

Veterinarians have legally and safely used injectable naloxone as an extra-label drug to reverse overdoses of opioids in hospital settings. Injectable naloxone in the form of an auto-injector is effective in treating canine opioid overdoses. In emergencies, human formulas of naloxone nasal spray may be considered to reverse opioid overdose in canines, but dosing and administration must be coordinated with the treating veterinarian. Further studies are needed to measure the effectiveness of naloxone nasal spray in canines.

The use of naloxone (in a human/canine) does not take the place of seeking emergency medical care since the effects of opioids may last longer than the naloxone. Anyone receiving naloxone should seek or be provided immediate medical care, i.e., call 911.

Routes of Exposure and Actions:

Eye exposure:

- Immediately remove the individual from the source of exposure and prevent exposure by others
- Call 911
- Immediately flush eyes with large amounts of tepid water for at least 15 minutes
- Evaluate respiratory function and pulse
- Administer naloxone per protocol if symptoms are present
- Provide rescue breathing or life-saving efforts, if needed, until emergency services arrive
- Seek medical attention immediately

Ingestion exposure:

- Immediately remove the individual from the source of exposure and prevent exposure by others
- Call 911
- Ensure the airway is open and unblocked
- Do not induce vomiting
- Evaluate respiratory function and pulse
- Administer naloxone per protocol if symptoms are present
- Provide rescue breathing or life-saving efforts, if needed, until emergency services arrive
- Seek medical attention immediately

Inhalation exposure:

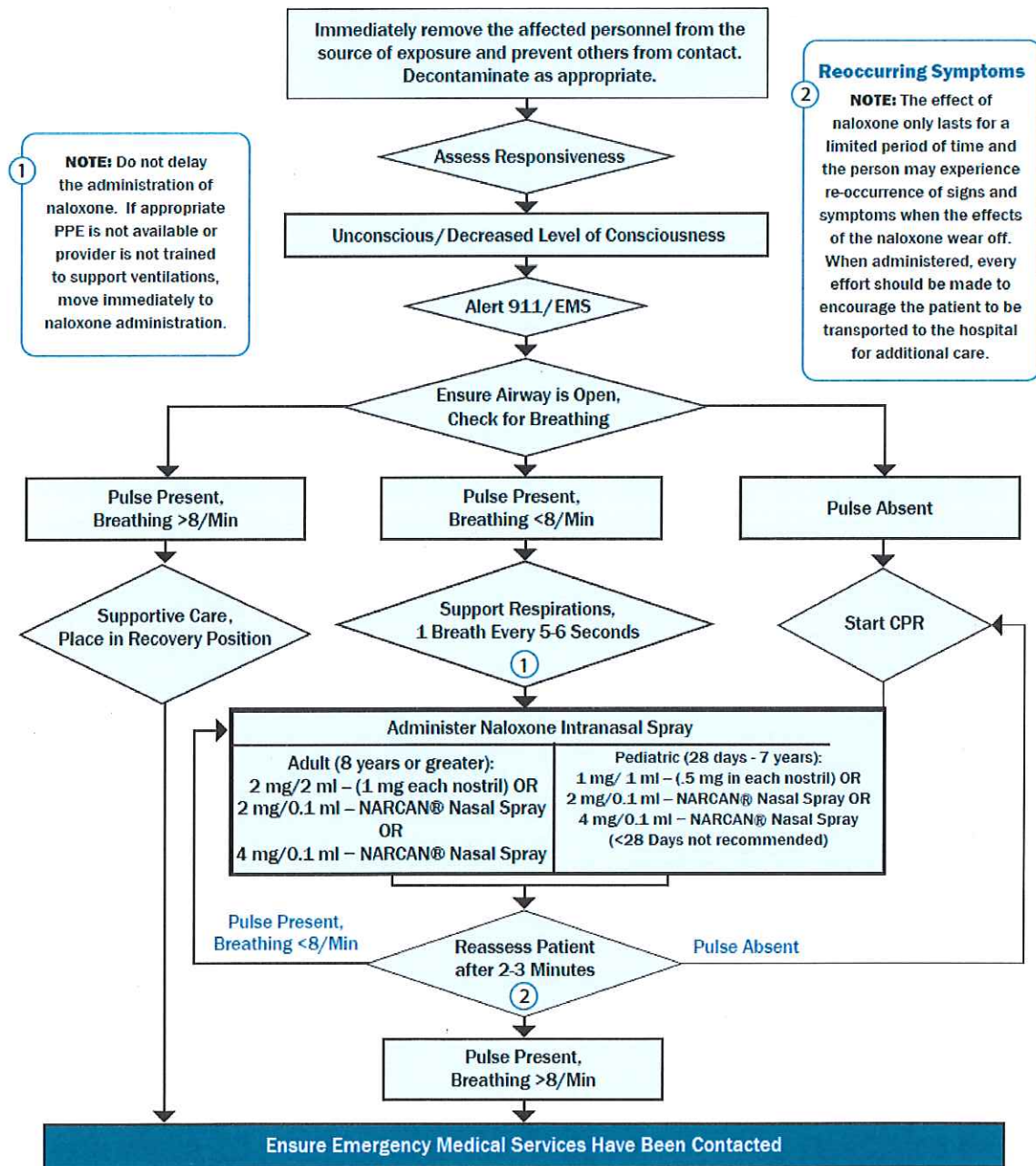
- Immediately remove the individual from the source of exposure and prevent exposure by others
- Call 911
- Ensure the airway is open and unblocked
- Evaluate respiratory function and pulse
- Administer naloxone per protocol if symptoms are present
- Provide rescue breathing or life-saving efforts, if needed, until emergency services arrive
- Seek medical attention immediately

Skin exposure:

- Immediately remove the individual from the source of exposure and prevent exposure by others
- Call 911
- Decontaminate per National Institute for Occupational Safety and Health (NIOSH) recommendations
- Remove all clothing down to undergarments and bag clothing
- Rinse contaminated skin with copious amounts of water (and soap, if available)
- Ensure the airway is open and unblocked

- Administer naloxone per protocol if symptoms are present
- Monitor respiratory function and pulse
- Provide rescue breathing or life-saving efforts, if needed, until emergency services arrive
- Seek medical attention immediately

VII. NARCAN PROTOCOL



VIII. ADDITIONAL RESOURCES/REFERENCE MATERIALS

Institution police departments should refer to the following resources for additional information. This training bulletin, composed by Dr./Inspector Alex Eastman, Medical Director, Office of Director of Police, relied on these references:

1. Centers for Disease Control and Prevention: [NIOSH-Fentanyl: Preventing Occupational Exposure to Emergency Responders](#). Retrieved May 11, 2017.
2. Centers for Disease Control and Prevention: [HAN-Influx of Fentanyl-laced Counterfeit Pills and Toxic Fentanyl-related Compounds Further Increase Risk of Fentanyl-related Overdose and Fatalities](#). Retrieved May 11, 2017.
3. Drug Enforcement Administration: [Fentanyl](#). Retrieved May 11, 2017.
4. Rao, R. B. and Nelson, L.S. *The New Opioid Epidemic: Prescriptions, Synthetics, and Street Drugs*, Emergency Medicine Journal, February 2017, pp. 64 – 70. DOI: 10.12788/emed.2017.0010
5. The National Institute for Occupational Safety and Health: [Fentanyl](#). Retrieved May 11, 2017.
6. National Association of Boards of Pharmacy: [Naloxone Nasal Spray Approved by FDA for Use in Prevention of Opioid Overdose Deaths](#). Retrieved May 11, 2017.
7. Dodman, N. [Naloxone \(Narcan®\) for Dogs and Cats](#). Retrieved May 11, 2017.
8. [How Much Does a Grain of Sand Weigh?](#) Retrieved May 11, 2017.



Michael J. Heidingsfield
Director of Police



MYTHS AND FACTS:

Fentanyl* Exposure, Protection, and Treatment

Information for the DHS workforce from the Office of Health Affairs and the Occupational Safety and Health Program

EXPOSURE

MYTH: Touching even a small amount of fentanyl can result in opioid overdose, coma, or death.

► **FACT:** Incidental skin contact with fentanyl is extremely unlikely to harm you.

- Fentanyl can be present in a variety of forms (e.g., powder, tablets, capsules, solution, and rocks).
- Inhalation of airborne powder is MOST LIKELY to lead to harmful effects but is less likely to occur than skin contact.
- Do **NOT** touch your mouth, nose, eyes or any skin after touching any potentially contaminated surface.
- Fentanyl can be removed from skin with soap and water. Do **NOT** use alcohol-based hand sanitizers or wipes. (Alcohol-based products may increase the skin's adsorption of fentanyl.)

MYTH: First responders frequently experience opioid symptoms from contact with fentanyl overdose victims or contaminated environments.

► **FACT:** Most first responders' encounters with overdose victims and contaminated environments do not present a significant drug exposure threat to responders.

- Reports of responders falling ill after skin exposure to fentanyl have not been validated with details or evidence, and experts agree routine encounters do **NOT** present a significant risk of drug exposure.
- Commonly used controls and appropriate personal protective equipment (PPE) will protect responders where minimal amounts of powdered fentanyl are present.
- In non-routine situations, such as the presence of a high concentration of airborne powder and gross environmental contamination, first responders should separate themselves from the contaminant, report possible exposure, seek treatment, and call for HAZMAT.

PROTECTION

MYTH: PPE cannot protect the workforce from fentanyl exposure.

► **FACT:** Properly selected and worn PPE does protect the DHS workforce.

- Use a properly-fitted, NIOSH-approved respirator ("mask"), wear eye protection, and minimize skin contact when responding to a situation where small amounts of suspected fentanyl are visible and may become airborne.
- **AVOID** powdered gloves. (Powder particulates from the glove may absorb and spread contaminants to unintended surfaces.)

MYTH: The standard methods for dealing with suspicious substances don't apply to fentanyl.

► **FACT:** Existing precautions for the DHS workforce contacting or working near unknown, suspicious powdered substances are appropriate for most incidental encounters with fentanyl.

- Avoid direct contact when possible; wear the PPE identified in plans for the specific task or activity.
- Always wash your hands—**USING SOAP and WATER**—at the end of every tour and after handling a suspicious substance.
- Do **NOT** eat, drink, or smoke during or after handling a suspicious substance until you have washed your hands.
- For visible contamination of equipment or clothing, use established decontamination and notification procedures.

TREATMENT

MYTH: Naloxone can't save you from fentanyl's harmful effects.

► **FACT:** Naloxone (e.g., Narcan Nasal Spray™) is a safe medication that counteracts the harmful effects of opioids—including fentanyl and its analogues.

- If you suspect fentanyl exposure, do not delay the administration of naloxone (following DHS Policy Directive 247-01 and protocols).
- Individuals exposed to fentanyl may require more than one dose of naloxone, since it's only effective for a limited period of time. If signs and symptoms reappear, re-administer naloxone.
- Naloxone is not definitive medical care. If you suspect an opioid overdose or administer naloxone, call for emergency medical assistance so the patient can be transported to a hospital for additional care.
- If naloxone is **NOT** available, provide rescue breathing or life-saving efforts (CPR) until emergency services arrive.

MYTH: If I feel sick after encountering a powdered substance, I am experiencing a symptomatic fentanyl exposure.

► **FACT:** The signs and symptoms of fentanyl overdose are the same as all opioid overdoses: **slow breathing or no breathing • drowsiness or unresponsiveness • constricted or pinpoint pupils.**

- Signs and symptoms like dizziness, rapid heart rate, nausea and vomiting, or "feeling ill" can be seen with heat injuries, dehydration, or unrelated medical conditions.
- When in doubt, give naloxone and call for emergency medical assistance.

* Including fentanyl analogues such as carfentanil and other synthetic opioids.

References:

- Consult with your mission operations and Occupational Safety and Health program personnel for component-specific protective guidelines.
- DHS naloxone guidance documents. <https://go.usa.gov/xRfFm>
- Centers for Disease Control and Prevention: NIOSH-Fentanyl: Preventing Occupational Exposure to Emergency Responders. <https://www.cdc.gov/niosh/topics/fentanyl/risk.html>
- InterAgency Board's "Recommendations on Selection and Use of Personal Protective Equipment and Decontamination Products for First Responders Against Exposure Hazards to Synthetic Opioids, Including Fentanyl and Fentanyl Analogues" (August 2017). <http://bit.ly/2xd92PT>

11/06/2017

HealthAffairs@hq.dhs.gov



Homeland Security