Fentanyl Awareness

Emergency Response Safety
What is Fentanyl

- A powerful synthetic opioid drug similar to morphine and heroin, first synthesized in 1959
- **50** to **100 times** more potent than morphine
- Can be present in a variety of forms (e.g. powder, tablets, solutions, etc.)
- Fentanyl powder may be white, pink, purple, blue, or green
- **Inhalation** of airborne powder or incidental ingestion is most likely to lead to **harmful** effects
• Hundreds of Fentanyl Analogs, such as: 4-fluoroisobutyryl fentanyl, furanyl-fentanyl, acryl-fentanyl, acetyl-fentanyl, carfentanil, and 3-methylfentanyl (Schedule II).
• Many are even more potent than Fentanyl
• Other synthetic Opioids: AH-7921 and U-47700 (Schedule I)
• Illicit Fentanyl is most commonly found in counterfeit pill form made to look like prescription medications (Oxycodone, Xanax).
Based on 1st quarter 2017 DEA lab analysis:

There were 230 identifications of fentanyl, fentanyl-related substances, and other synthetic opioids. Fentanyl accounted for approximately 58% of the identifications. The next most prominent fentanyl-related substance, furanyl fentanyl, accounted for 26% of the identifications. No new opioids were identified this quarter. Of the 134 fentanyl identifications, fentanyl was found as the only controlled substance in approx. 28% of the identifications and was found in combination with heroin in approx. 61% of the identifications.

Other controlled substances identified with fentanyl this quarter include U-47700, alprazolam, heroin, ketamine, and cocaine.

Source: DEA Fentanyl Book (2021)
Routes of Exposure

- **Inhalation**: most likely route of exposure, fine particulates in the air inhaled through the mouth or nose.

- **Absorption**: though fentanyl has poor absorption qualities, it can be absorbed through the skin, especially through open sores or wounds.

- **Injection**: contaminated items such as needles, shards of glass, and metal or plastic fragments can puncture the skin and introduce the fentanyl to the body.

- **Ingestion**: least likely route of exposure that would require first responders to consume a contaminated food item. General hygiene would mitigate this threat.
Lethal Dose Through Your Skin?

18,000 cm² of skin with an average permeation rate of 61 ng/cm²/hr

Manage your airway!

If you try really really hard....you can do anything!

"Only you can control your future!" ~ Dr. Seuss
Operationally Realistic Dose

Fentanyl (100%) completely covering a 5cm x 5 cm portion of the palm of the hand for 15 minutes

15 minute dose  
75 ng

AnalgesicAnesthetic  
2.5 µg 25 µg

Common Bolus  
125 µg

LD50  
2.55 mg

The major route of entry remains the respiratory tract – PROTECT YOUR AIRWAY! While fentanyl is a dermal penetration threat, the primary route of entry is by inhalation. By applying appropriate risk control measures, the dermal threat is readily mitigated.
Symptomology & Treatment

- Slowed breathing or NO breathing
- Drowsiness or unresponsiveness
- Constricted or pinpoint pupils
- Disorientation
- Skin rash
- Clammy skin
- Cyanosis

- Maintain Airway
- Administer Naloxone as needed
- Seek medical care
Use NARCAN Nasal Spray (naloxone hydrochloride) for known or suspected opioid overdose in adults and children. Important: For use in the nose only. Do not remove or test the NARCAN Nasal Spray until ready to use.

1 Identify Opioid Overdose and Check for Response
   - Ask person if he or she is okay and shout name.
   - Shake shoulders and firmly rub the middle of their chest.
   - Check for signs of opioid overdose:
     - Will not wake up or respond to your voice or touch
     - Breathing is very slow, irregular, or has stopped
     - Center part of their eye is very small, sometimes called "pinpoint pupils"
   - Lay the person on their back to receive a dose of NARCAN Nasal Spray.

2 Give NARCAN Nasal Spray
   - Remove NARCAN Nasal Spray from the box.
   - Peel back the tab with the circle to open the NARCAN Nasal Spray.
   - Hold the NARCAN nasal spray with your thumb on the bottom of the plunger and your first and middle fingers on either side of the nozzle.
   - Gently insert the tip of the nozzle into either nostril.
     - Tilts the person's head back and provides support under the neck with your hand. Gently insert the tip of the nozzle into one nostril, until your fingers on either side of the nostril are against the bottom of the person's nose.
   - Press the plunger firmly to give the dose of NARCAN Nasal Spray.
     - Remove the NARCAN Nasal Spray from the nostril after giving the dose.

3 Call for emergency medical help, Evaluate, and Support
   - Get emergency medical help right away.
   - Move the person on their side (recovery position) after giving NARCAN Nasal Spray.
   - Watch the person closely.
   - If the person does not respond by waking up, to voice or touch, or breathing normally another dose may be given. NARCAN Nasal Spray may be dosed every 2 to 3 minutes, if available.
   - Repeat Step 2 using a new NARCAN Nasal Spray to give another dose in the other nostril. If additional NARCAN Nasal Sprays are available, repeat step 2 every 2 to 3 minutes until the person responds or emergency medical help is received.

For more information about NARCAN Nasal Spray, go to www.narcanalspray.com, or call 1-844-4NARCAN (1-844-462-7226).
Reducing Illicit Drug Exposure: Safety Measures for First Responders

SELECTING YOUR PERSONAL PROTECTIVE EQUIPMENT (PPE)

Take protective measures when illicit drugs are present.

■ MINIMAL EXPOSURE:
No amount of suspect illicit drug products are visible.

- Nitrile Gloves

■ MODERATE EXPOSURE:
Small amounts of suspect illicit drug products are visible.

- Nitrile Gloves
- Safety Goggles/Glasses
- Wrist/Arm Protection
- Disposable N, P, or R-100 filtering facepiece respirator or reusable elastomeric N, P, or R-100 respirator

■ HIGH EXPOSURE:
Large amounts of suspect products are visible.

- Entry not recommended: Refer scene to special operations response workers, such as local HAZMAT team.
## Personal Protective Equipment

PPE is directly dependent on level of contamination

<table>
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<tr>
<th>PPE defined:</th>
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<tr>
<td><strong>PPE:</strong></td>
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<tr>
<td>Personal Protective Equipment</td>
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<tr>
<td><strong>Personal PPE:</strong></td>
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<tr>
<td>Nitrile gloves, safety glasses, N-95 dust mask, disposable paper suit or coveralls, shoe covers</td>
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<tr>
<td><strong>Level C PPE:</strong></td>
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<tr>
<td>Chemical resistant suit, air purifying respirator, gloves, booties</td>
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<tr>
<td><strong>Level B PPE:</strong></td>
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<tr>
<td>Chemical resistant suit, self-contained breathing apparatus, gloves, and boots.</td>
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<td><strong>Level A PPE:</strong></td>
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<tr>
<td>Level “A” suit and a self-contained breathing apparatus</td>
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Source: DEA Fentanyl Book (2021)
Examples of Level D PPE for first responders
- Nitrile gloves
- eye protection
- particulate respiratory protection
- smock / work uniform (long sleeve recommended

Basic Decon:
- Dispose of gloves, smock and facemask
- Wash Hands, face, and exposed skin thoroughly with soap & water *
- Launder clothing separately
- Decon equipment as needed by washing with soap & water or cleaning with a neutralizer

* Do not use hand sanitizer or alcohol wipes.
Example of level C PPE as used in Clandestine Drug Labs:
- taped seams
- butyl gloves
- chemical resistant boots
- chemical resistant suit
- APR
Example of level B PPE as used in Clandestine Drug Labs:
- taped seams
- butyl gloves
- chemical resistant boots
- chemical resistant suit
- SCBA
Example of level A PPE as used in Clandestine Drug Labs:

- inner gloves
- inner boots
- coveralls / work uniform
- SCBA
- fully encapsulating chemical resistant suit
Decontamination for minimal exposure
Level D PPE
Dry Decontamination for minimal exposure Level C / B PPE

Buddy System or Self Decontamination
Decontamination for gross exposure: Level B / A PPE

Decontamination Line /
Team Decontamination
FIELD SAMPLING / ANALYSIS
QUESTIONS?
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