UTSW/Parkland BioTel EMS TRAINING BULLETIN
July 10, 2017

EMS TB 17-002
Carfentanil

Purpose:

1. To alert UTSW/Parkland BioTel EMS System Providers about the extreme danger to patients, bystanders and first responders of carfentanil, fentanyl and other synthetic opioids.
    a. This is for educational/awareness purposes, not for technical guidance on the handling/processing of carfentanil, fentanyl, U-47700 or related substances.

Background:

1. Carfentanil is a synthetic opioid that is up to 10,000 times more potent than morphine, 100 times more potent than fentanyl, and 50 times more potent than heroin.
2. Its only legitimate use is as a tranquilizer/analgesic for large mammals, such as elephants.
3. It has been linked recently to a number of overdose deaths in the United States, alone and mixed with other street drugs, e.g. in mixtures called “Grey Death”.
4. *Exposure to minute quantities of carfentanil (and related synthetic opioids) poses an extreme toxicity risk for first responders, including EMS Providers.* This image depicts a potentially lethal fentanyl dose – the toxic dose of carfentanil would be approximately only ***1/100th*** of this:

Adapted from: DEA Fentanyl: A Briefing Guide for First Responders

5. Exposure routes: inhalation, ingestion, injection or absorption through skin/mucous membranes.
6. All first responders – including Law Enforcement Officers, firefighters and EMS Providers – must maintain a high level of situational awareness and follow rigorous safety procedures whenever carfentanil or other synthetic opioids may be present.

Recommended Procedures:

1. **EXERCISE EXTREME CAUTION:**
    a. Scene safety:
        i. Avoid handling or touching even minute quantities of any substance that might be carfentanil or a related substance – follow agency SOPs for Hazardous Materials
            1. Do not eat, drink or smoke if a fentanyl-related substance is suspected
        ii. NOTE: ANY white or gray powder may contain carfentanil, fentanyl or similar drugs
        iii. NOTE: Pills or capsules resembling Oxycontin, Xanax or other pharmaceuticals may contain carfentanil, fentanyl or related substances
        iv. NOTE: Fentanyl-related substances may be present in liquids and on blotter paper
    b. Minimum PPE for emergency patient care if a fentanyl-related substance is suspected:
        i. Nitrile gloves
        ii. N-95 respirator (fit-tested)
        iii. Sturdy eye protection

iv. Paper coveralls or suit and shoe covers
v. Naloxone (via autoinjector or syringe) should also be immediately available

2. **BE AWARE OF SIGNS/SYMPTOMS OF EXPOSURE (OPIOID "TOXIDROME"):**
   a. Sedation, drowsiness, disorientation, respiratory depression/arrest, clammy skin, pinpoint pupils and/or death, often within minutes of exposure
   b. Be aware of the potential "fentanyl footprint" in your jurisdiction (clusters of overdoses and overdose deaths within the past 48-72 hours)
3. **REDUCE ACCIDENTAL EXPOSURE RISK:**
   a. Remove victim, bystanders, yourself and other first responders from toxic environment
   b. Decontamination:
      i. Follow agency SOPs for personnel, equipment and apparatus decontamination
      ii. Personnel who may have been exposed without proper PPE should undress and shower, using soap and water, as soon as possible
         1. Grossly contaminated clothing should be bagged and destroyed
      iii. Areas of possible skin contact should be washed immediately with soap and water
         1. Do NOT use alcohol-based cleansers, which may increase drug absorption
      iv. If the route of exposure is ingestion **AND** victim is conscious, wash out victim's eyes and mouth with cool water
4. **INITIATE BLS AND ALS CARE:**
   a. Assess and support ABCs:
      i. Initiate immediate CPR if cardiac arrest has occurred
      ii. Maintain airway patency: positioning, suction, adjuncts (NPA or OPA); advanced airway, if needed (ALS Providers only)
      iii. Support respiration with assisted ventilation and 100% oxygen
   b. Administer naloxone (ALS Providers and trained/credentialed BLS Providers):
      i. Administer 0.4 to 2 mg naloxone IN, IM or IV/IO:
         1. Pediatric dose: 0.1 mg/kg, up to 0.4 mg maximum per dose
      ii. Repeat naloxone doses may be needed, up to a possible cumulative total of 10 mg
      iii. The EMS Medical Director will inform BioTel EMS agencies if an increased naloxone "minimum carry" requirement becomes necessary
   c. Treatment endpoint: improved respiratory status and sustained SpO_2 at least 94%:
      i. Complete reversal to full wakefulness is not necessary, but monitor for recurrent respiratory depression and the need for additional naloxone dose(s)
   d. Potentially exposed first responders should be monitored for signs/symptoms of toxicity
   e. Initiate transport to an appropriate hospital E.D., monitoring ABCs and vital signs en route
   f. Contact BioTel as soon as possible (mandatory)

Summary:

1. Carfentanil and related substances pose extreme danger of accidental exposure for EMS Providers, who must be familiar with the immediate actions needed to reduce that danger.

Resources (accessed 8 July 2017):

1. **2014-2017** UTSW/Parkland BioTel Altered LOC, Cardiac Arrest and Poisoned Patient/Overdose EMS System Protocols, naloxone drug sheet
2. **2018-2020** UTSW/Parkland BioTel Universal Care (Adult & Pediatric), Altered Mental Status, Cardiac Arrest, Eye Injury, and Poisoned Patient/Overdose CPGs, and naloxone drug sheet (under development)
3. DEA Fentanyl: A Briefing Guide for First Responders (2017)
4. DEA Fentanyl Roll Call Video (2017)
5. DEA Carfentanil: Officer Safety Alert (2016)
6. DEA Schedules Deadly Synthetic Drug U-47700 (2016)
7. American Heart Association 2015 CPR and ECC Guidelines Update, Part 10: Special Circumstances – Opioid Overdose Treatment (2015)

- ***UTSW/Parkland BioTel EMS Providers may contact BioTel or the EMS Medical Direction Team at any time with questions or concerns about this Training Bulletin or its content***