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To: Ohio EMS providers, EMS agencies, and EMS medical directors
From: Carol A. Cunningham, M.D., FAAEM
State Medical Director, Ohio Department of Public Safety, Division of EMS
Date: September 21, 2016
RE: The Evolution of Heroin Abuse within the Opioid Crisis

The national opioid crisis has recently become more challenging due to an increase in the incidence of potent substances being mixed with heroin. Most notably, this includes fentanyl, carfentanil, synthetic opioids (e.g. W-18), and methamphetamine. These substances often require a shift in the paradigm of patient and responder safety and naloxone administration. For the EMS community and non-medical first responders, the advent of these high potency opioids is cause for heightened situational awareness and a reiteration of the importance of personal protective equipment (PPE).

What we know at this time:

1. The appropriate level of PPE should be utilized with all patient encounters, including those with a suspected or confirmed opioid overdose.
2. There have currently been no incidents of EMS providers or first responders exhibiting the signs and symptoms induced by narcotics following an exposure to opioids present on scene.
3. Fentanyl is 50-100 times more potent than morphine. It is legally manufactured in an injectable and oral liquid, tablet, and transdermal (worn as a patch) forms.
4. Carfentanil is 10,000 times more potent than morphine. Carfentanil is legally used to sedate large animals. In the concentration in which it is manufactured (3 mg/ml), an intramuscular dose of 2 ml of carfentanil will sedate an elephant.
5. W-18 is 10,000 times more potent than morphine. W-18 has recently been found by law enforcement personnel in Canada and in the United States.
6. Methamphetamine is being added to heroin by drug dealers to enhance the user's "high" and with the erroneous assumption that this stimulant may counteract the respiratory depression associated with opioids. Clinically, the respiratory depression from the opioid will be unchanged and will occur. However, following the administration of naloxone and reversal of the opioid, the effect of the methamphetamine may be exhibited with an amplified level of agitation and restlessness in the patient.

What we do not know at this time:

1. The concentration of carfentanil that is being added to heroin is variable and unknown.

Mission Statement

"to save lives, reduce injuries and economic loss, to administer Ohio's motor vehicle laws and to preserve the safety and well being of all citizens with the most cost-effective and service-oriented methods available."

2. There is currently little information on the effects, absorption, or bioavailability of the powdered form of carfentanil via topical contact to mucosal tissues or inhalation routes.
3. The volume of methamphetamine that is being added to heroin is variable and unknown.
4. The incidence of W-18 contributing to an overdose in Ohio will be difficult to identify and track due to the fact that synthetic opioids are usually not detected by routine drug screens.

As the landscape of the opioid crisis in Ohio evolves, the Ohio Department of Public Safety, Division of EMS suggests the consideration of the following actions:

1. Contact your local hospitals, emergency care centers, coroners, and public health agencies to obtain data on the incidence and trends of opioid overdoses in your jurisdiction that involve high potency opioids and/or methamphetamine or other amphetamines.
2. EMS medical directors may wish to provide flexibility within their EMS opioid overdose protocols to permit higher and/or more frequently administered doses of naloxone for the reversal of respiratory depression due to high potency opioids.
3. For those jurisdictions that are experiencing an increased incidence of overdose involving high potency opioids, consider the utilization of additional PPE that is appropriate to the patient scenario and the scene. This may include, but is not limited to, donning a second pair of latex gloves (or using nitrile gloves), a simple face mask, or eye protection.
4. For those jurisdictions that are experiencing an increased incidence of overdose involving methamphetamine, EMS providers should review their EMS and/or HAZMAT protocols for methamphetamine. While methamphetamine cannot be visually identified within a powder, the presence of ephedrine (over-the-counter cold tablets), containers of ethyl ether (engine starting fluid) or muriatic acid, and Pyrex dishes are some of the key items use to make methamphetamine and may be clues that the scene is also a methamphetamine lab.

As stated previously, there are many factors that remain unknown regarding the high potency opioids and their impact upon the safety of the patient and their caregivers. The Ohio Department of Public Safety, Division of EMS will communicate any recommendations from our national EMS organizations and healthcare stakeholders to Ohio EMS if and when they become available. In the meantime, please remember and adhere to the common thread of seasoned advice and wisdom that should be mandatory for all patient encounters. The donning of the appropriate level of personal protective equipment should be implemented each and every day with or without the presence of a healthcare crisis.

Personal protective equipment only works if you wear it. Thank you for your ongoing dedicated service to Ohio and stay safe!