



Medical Direction and Practices Board

WHITE PAPER

Overdose Treatment

BACKGROUND

In 2014, the Maine Legislature enacted a law which allows public safety personnel (law enforcement officers and firefighters) to administer intranasal (IN) naloxone (Narcan) to patients suffering from a suspected opiate overdose.

The law does not change the practice for EMS providers, which is directed through the protocols that are developed and approved by the Medical Direction and Practices Board (MDPB).

The purpose of this paper is to provide an understanding about the scope of the overdose problem and the MDPB's review of EMS treatment protocols.

Drug abuse and overdose is a national public health emergency. Throughout the U.S., on a daily basis, almost 7,000 patients are treated in Emergency Departments for the misuse or abuse of drugs; and on average, 105 people die as a result. Since 2009, there have been more people killed in Maine from drug overdoses than motor vehicle crashes. In 2013, the number of highway fatalities was 145 and the number of drug induced deaths was 176, the majority of which (105 in 2013) were pharmacy opioids.

TREATMENT

Opioids (also known as opiates or narcotics) work by attaching to specific receptors in the central nervous system that reduce the patient's perception of pain; however, they also may cause reduced respiratory drive, drowsiness, confusion, nausea, and changes in mental status. Simply put, overdose patients die because they stop breathing – so treatment for these patients includes: 1) ventilation, and 2) reversing the effects of the opioid.

EMS providers at all levels are trained and equipped to provide life-saving airway control. Providers at the advanced life support have the ability to administer naloxone by IV, IM, IO, or IN. ALS providers are trained to titrate the naloxone administration only as needed to improve the patient's respiratory drive. They give the least amount of naloxone needed to improve breathing without inducing complete narcotic reversal. From the EMS Run Reporting System, we know that 99.3% of all emergency calls in 2013 were handled by an advanced life support provider before arrival at the emergency department.

Managing an airway requires training, practice, and resources that law enforcement and firefighters may not have.

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Naloxone works by blocking the opiate receptors and in so doing, put a patient into withdrawal from the narcotic. Acute reversal of opiate overdose is not without complications, including the following:

- Chest pain, tachycardia, irregular heartbeat that can precipitate myocardial ischemia;
- Hypertension;
- Cough, wheezing, feeling short of breath;
- Pulmonary edema;
- Severe nausea or vomiting than can result in aspiration;
- Severe headache, agitation, anxiety, confusion;
- Seizures;
- Acute narcotic withdrawal.

These potential complications can occur even with titrated doses of naloxone; however, they may increase in frequency with larger doses. Acute withdrawal from opioids can precipitate confusion, agitation, and a risk for violence; especially in patients that have combined the use of opioids with other substances.

The effect of naloxone lasts about 30 minutes, while the effect of the narcotic may last for several hours. This means that when the dose of naloxone wears off, the patient's overdose symptoms may recur, especially in situations in which the patient has used long acting opioids.

Many overdoses are complicated by the fact that patients take several different drugs and substances at once. Naloxone only works to reverse the effects of narcotics; it does not work on other drugs such as benzodiazepine (Valium, Versed), anti-depressants, bath salts, cocaine, methamphetamine, and marijuana. Whether overdose patients get naloxone or not, they often require emergent oxygenation and ventilation. BLS airway management is often sufficient.

PATIENT CARE

The life-threatening complications of an overdose are respiratory suppression, hypoxia, and decreased ventilation. As such, these patients require immediate oxygenation and ventilation. While the administration of naloxone may reverse the opioid effects, until this reversal takes occurs, a patient may not be adequately oxygenated. For this reason, overdose patients should be treated and transported by EMS to the closest hospital.

Giving naloxone alone (without immediate airway management) is not enough. Whether naloxone is given or not, these patients require airway management. Immediate airway management (without naloxone) is a safe and appropriate alternative.

To some it may appear that the legislation allowing police and firefighters to provide naloxone creates a discrepancy between the care provided by these individuals versus the care that is provided by EMTs. However, remembering that what an overdose patient really needs is airway management, ventilation, and oxygenation, the consensus of the MDPB is that the current EMT protocols are actually a *better* means of caring for these patients.

The MDPB is in the process of reviewing the Maine EMS Treatment Protocols and in so doing will be considering the most appropriate treatment for overdose patients by all EMS provider levels.