Firefighters Response to Suspected/Confirmed Opioid Overdose

Developed by the Leeds, Grenville and Lanark District Health Unit
in collaboration with Lanark County, the United Counties of Leeds Grenville, Lanark County EMS, Leeds Grenville Paramedic Service, and the Lanark County and the Leeds-Grenville Fire Services Coordinators

Adapted from BC Emergency Health Services: Intramuscular Injections of Naloxone by First Responders or Emergency Medical Responders in a Suspected or Confirmed Opioid Overdose 2017

PURPOSE

To provide guidance to firefighters (first responders) in responding to a suspected or confirmed opioid overdose. The goal is to prevent death and disability in this vulnerable population by providing supportive care, CPR if needed, and reversing the opioid overdose with naloxone, if available.

DEFINITIONS

Naloxone: an opioid antagonist reverses an opioid overdose and restores breathing

Opioid: Any morphine-like synthetic narcotic that produces the same effects as drugs derived from the opium poppy (opiates), such as pain relief, sedation, constipation and respiratory depression.

BACKGROUND

Opioids, including Tylenol 3's, Morphine, Percocet, Dilaudid, and Fentanyl Patches, are prescribed frequently to manage pain. People who are prescribed opioids may become dependent requiring more and more drugs for the same or less effect. Opioids are also used occasionally, either alone or in a group setting.

Taking too much opioid can lead to an overdose with a risk of death. For the occasional user, even a small amount can cause an overdose because the brain has not built up a tolerance for opioids. This also happens if a regular user stops taking opioids for a time then restarts.

Recently the opioid problem has intensified because of the increased presence of cheaper, illicit fentanyl and its analogues. Illicit fentanyl, a powder, is made in underground labs where production is not controlled. The drug is being sold as fentanyl, or is cut into other drugs, or replacing them, making it difficult for users to know exactly what they are taking. The consumption of a small amount of fentanyl (or one of its analogues) can increase the risk of overdose and potentially death.

While anyone using illicit drugs is at risk, youth who by nature are more curious and take more risks, may have no tolerance level for these types of drugs, and therefore one use puts them at risk of an overdose, and potentially death.

Several provinces, including Ontario, are experiencing an increase in opioid overdoses linked to illicit fentanyl and its analogues. Overdoses linked to opioids (and others probably linked to opioids) are also occurring in Lanark, Leeds and Grenville.

Many health care providers, community organizations, first responders and police are involved in the four pillars of prevention, treatment, harm reduction, and enforcement activities to decrease and mitigate problematic opioid use and its associated health, social, workplace, learning, and family problems. (Leeds Grenville Lanark Opioid Overdose Cluster Plan, 2017)

Opioid overdose
Opioid drugs such as morphine, heroin, methadone, oxycodone, and fentanyl cause harm in overdose because they bind to opiate receptors in the brain that control breathing and cause the individual to stop breathing. Within minutes of stopping breathing the individual experiences severe hypoxia which shortly causes brain damage, followed by cardiac arrest.

Response to an Opioid Overdose
Appropriate response to a suspected or confirmed opioid overdose includes:

- ☐ **Assessing the status of the individual.**
- ☐ **Managing individual's airway and when required performing rescue breathing with pocket mask OR bag valve mask ventilation (BVM) and oral airway placement (for those trained).**
- ☐ **Performing complete CPR if there is an absent heart beat;**
- ☐ **Placing the individual in the recovery position once breathing is stabilized; and**
- ☐ **When available and necessary, a trained firefighter may administer naloxone.**

These skills can help keep someone alive until a higher level of care arrives. The goal of naloxone therapy in the prehospital setting is to restore effective breathing and oxygenation of the individual. A return of the individual's status to full wakefulness and complete temporary detoxification is not necessary.

What is Naloxone?
Naloxone is an antidote to opioid overdose. Taking too much of opioid drugs (like morphine, heroin, methadone, oxycodone, and fentanyl) can make breathing slow down or stop. Naloxone reverses this, restoring normal breathing and consciousness. Giving naloxone can prevent death or brain damage from lack of oxygen during an opioid overdose. It does not work for non-opioid overdoses (like cocaine, ecstasy, GHB, marijuana, benzodiazepines or alcohol). However, if an overdose involves multiple substances, including opioids, Naloxone helps by temporarily removing the opioid from the equation.

How does Naloxone work?
Both Naloxone and opioids bind to the same sites in the brain, and these sites affect breathing. However, Naloxone binds more tightly than the opioids, knocking the opioids off the receptors and restores breathing. Naloxone acts fast (usually within 5 minutes), and the protective effect lasts for 30 to 90 minutes. The body will begin to break down some of the opioids, but Naloxone does not destroy the opioids. So, if large doses, strong opioids (like fentanyl), or long-acting opioids (like methadone) are involved, or the individual has liver damage, another dose of Naloxone may be needed. Thus it is always important to have these individuals assessed and moved to the hospital emergency department promptly.

Are there risks associated with using Naloxone?
Naloxone may cause opioid withdrawal in those with opioid dependence. Withdrawal symptoms include pain, high blood pressure, sweating, agitation and irritability. In addition, it can be unsettling to come out of an overdose unaware of what has happened. Naloxone may cause headache in someone that has not taken opioids. People with health conditions (heart, liver, respiratory, etc.) and/or that have taken other substances need additional medical attention. Rarely some individuals develop acute pulmonary edema after reversal of their opiate overdose. Some

individuals may develop nausea and vomiting after Naloxone administration thus it is important to monitor the individual after administration and to place them in a position of recovery should they develop vomiting.

Policy

Firefighters may provide Naloxone to individuals with a suspected or confirmed opioid overdose when they have met the following requirements:

- ☐ have completed the training to assess for signs and symptoms of suspected opioid overdose, and the use of Naloxone nasal spray
- ☐ demonstrated an understanding of indications and contraindications for Naloxone administration and the ability to use Naloxone nasal spray appropriately; and
- ☐ agree to participate in the quality review, and implement the individual care records of the fire service.

This policy applies to the use of naloxone for all individuals with suspected or confirmed opioid overdose.

Procedure

Equipment for responding

- ☐ non sterile gloves
- ☐ pocket mask, BVM, or oral airway (user will select which type of devise based on level of respiratory management training and availability)
- ☐ Naloxone Nasal Spray 4 mg (if available, and the firefighter has been trained on its use)
- ☐ Naloxone Incident Documentation Form

Identification of individuals with suspected or confirmed opioid overdose

History – If possible obtain an opioid use history from the individual or bystander

- ☐ Current and past opioid use
- ☐ History of any previous overdoses
- ☐ History of substance misuse (including medications, alcohol, smoking)

Physical Assessment

Assess for the following signs of an opioid overdose :

- ☐ Level of consciousness - the person cannot stay awake, walk or talk, unresponsiveness
- ☐ Body is limp
- ☐ Slow or absent pulse
- ☐ Slow or absent breathing (< 8 breaths per minute), snoring or gurgling
- ☐ Pinpoint pupils or eyes rolled back
- ☐ Skin looks pale or blue, especially nail beds and lips, feels cold
- ☐ Vomiting

Responding to a Suspected/Confirmed Opioid Overdose	*Rationale*
First on the Scene	
1. Don appropriate Personal Protective Equipment	
2. **STIMULATE** the individual by talking loudly at them, **PERFORMING** a sternal rub and telling them to breathe	*Indicates arousal level and informs level of Consciousness assessment*
3. **ASSESS** the airway to clear it of vomitus or excess secretions	***Maintenance of an airway is of primary importance to assist with oxygenation***
4. If they remain unresponsive **PLACE** an oral airway of appropriate size (if trained to do so).	*Deeply unconscious individuals will tolerate an oral airway*
5. **BEGIN** artificial respiration using pocket mask/BMV (as trained and based on availability).	***Adequate oxygenation is essential for survival. This is key for opioid ODs. Airway is always the first step.***
6. **CHECK** for the presence of a pulse. If absent **COMMENCE** CPR	*Individuals with opiate overdose who are in cardiac arrest are so because of acute hypoxia. It is critical to ventilate and oxygenate these individuals if restoration of spontaneous circulation is to occur. Follow your usual cardiac arrest management principles with these individuals and apply the AED and shock as advised.*

Once the Responding Vehicle arrives with Others

7. Supporting First responder in # 1 to 6 above.
8. Giving Naloxone Nasal Spray 4mg**, if available,** by:
   - ☐ Confirming medication name, dosage and concentration, expiration date and ensure package has not been open and seal is intact
   - ☐ By removing from the box and peel back the tab with the circle to open.
   - ☐ Hold the Naloxone Nasal Spray with your thumb on the bottom of the plunger and your first and middle fingers on either side of the nozzle.
   - ☐ Tilt the person's head back and provide 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 nozzle are against the bottom of the person's nose
   - ☐ Press the plunger firmly to give the dose of Naloxone Nasal Spray
   - ☐ Remove the Naloxone Nasal Spray from the nostril after giving the dose
     See Product monograph in Appendix A

Maintenance of an airway is of primary importance to assist with oxygenation.
This will ensure a minimum of adverse effects and events in this individual population. (Refer to Appendix A, Naloxone drug monograph.)

9. Continue to **ASSIST** ventilation and keep the airway clear of vomitus and secretions. Be prepared to roll the individual on to their side to assist in clearing the mouth of vomitus and secretions.

Adequate oxygenation is essential for survival.

10. OBSERVE for return of respirations. If the individual begins breathing on their own place them in the recovery position. **Note:** Remember that a return to a full detoxified state is often not necessary in the pre-hospital environment. The goal is to restore adequate ventilation and oxygenation.	*It is important to document the response to Naloxone administration particularly the individual's respiratory rate in those individuals spontaneously breathing and level of wakefulness.*

What to do when the individual wakes up after the use of naloxone	***Rationale***
1. **REASSURE** and speak calmly to the individual explaining what has just happened. **PREVENT** the individual from injuring themselves. Be aware that some individuals will be agitated and attempt to leave the scene on waking up. Do not restrain individuals against their will but do attempt to redirect the individual to stay for further assessment.	*Individuals who regain consciousness may be disoriented and combative. Reassure and speak calmly to the individual explaining what has just happened. Prevent the individual from injuring themselves. Many chronic opiate users will be irritable after Naloxone administration as it displaces the opiate and users are suddenly slightly 'detoxed' and put in a mild withdrawal state. This does not last particularly long and most individuals will settle rapidly.*
2. In some cases individuals may become combative or violent. Call for law enforcement support as per protocol.	
3. Continue to monitor respirations and level of consciousness	*Adequate oxygenation is essential for survival.*
4. Calmly **REASSURE** the individual that the Naloxone will wear off in about 30 minutes and any opioids in their system may reach the receptors again. **REASSURE** them you are there to support them.	*Its important individual knows what could happen and that you are there to help them but they need ongoing monitoring and support that only a hospital can provide.*

5. **ADVISE** them that they need a higher level of care in the emergency department due to #4 and that the paramedics are on their way if they are not already present.

DOCUMENTATION

- ☐ Give a verbal report to the attending paramedics.
- ☐ Document the individual's signs of an overdose, age if known, time naloxone was given, nostril used (R or L) and the individuals response to naloxone.
- ☐ Complete the Incident Documentation Form (Appendix B) and provide to supervisor. This information is vital for individual safety monitoring and quality improvement feedback. A copy of this form will also be faxed to Health Unit for surveillance purposes.

APPENDIX A: Naloxone Monograph

Classification

- ☐ narcotic antagonist/antidote

Pharmacodynamics

- ☐ Reverses the effects of opioids including respiratory depression, sedation, hypotension
- ☐ Antagonizes the opioid effects by competing for the same receptor sites, especially the opioid mu receptor.
- ☐ Also shown to all three opioid receptors (mu, kappa and gamma) with the strongest binding to the mu receptor.

Pharmacokinetics

Nasal Spray

- ☐ Onset – 2-3 minutes
- ☐ Duration - 30 minutes

Indications

- ☐ to reverse respiratory depression/depressed mental status secondary to actual or suspected narcotic use - examples of other narcotics: morphine, meperidine (Demerol), heroin, codeine, oxycodone, fentanyl, hydromorphone (Dilaudid), diphenoxylate (Lomotil), propoxyphene (Darvon), and pentazocine (Talwin)

Contraindications

- ☐ allergy or known hypersensitivity to Naloxone

Precautions

- ☐ be prepared for individual combativeness
- ☐ in the chronic narcotic abuser, may precipitate withdrawal symptoms
- ☐ very short half-life; monitor individual closely and prepare to re-dose if deterioration occurs

Adverse Effects

- ☐ reversal of narcotic effect and combativeness
- ☐ signs and symptoms of severe drug withdrawal
- ☐ hypotension, hypertension
- ☐ nausea, vomiting, sweating, tachycardia
- ☐ Very rarely: ventricular fibrillation, asystole (see special notes)

Dosage

4mg Nasal Spray.

Care & Storage

- ☐ Store Naloxone at room temperature15°C to 25°C. May be stored for short periods up to 40°C. Do not freeze Naloxone Nasal Spray. Protect from light.

- ☐ Keep Naloxone nasal spray in its box until ready to use. Replace before the expiration date on the box.

Special Notes

- ☐ Naloxone is generally considered a very safe drug - however, potentially life-threatening problems (such as status seizures and asystole) occur very rarely in individuals treated. It is hypothesized that these episodes may be related to an acute withdrawal syndrome in chronic heavy users associated with reversal of opioid-induced epinephrine blockade rather than to a direct intrinsic effect of Naloxone. This effect is not expected at the doses allowed by this protocol.
- ☐ Administration of Naloxone to a comatose individual who has taken other medications/substances may result in a partial elevation of the level of consciousness and/or combativeness.
- ☐ Naloxone administration may cause improved spontaneous respiratory effort without complete reversal of opiate effects and without full return to consciousness.

Adapted from BC Emergency Health Services (2017)

APPENDIX B: Incident Documentation

(Please complete this form after Naloxone has been administered)

1	**Incident Number:**
2	**Name of First Responder who gave Naloxone:**
3	**Fire Department & Station Number:**
4	**Supervisor Name:**
5	**Supervisor Contact Information:**
	OVERDOSE DESCRIPTION
6	**Describe the person who overdosed:** a) **Sex**: □ male □ female □ unknown b) **Age**: □ under 12 □ 12-18 □ 19-30 □ 31-60 □ over 60 □ unknown
7	**When and where did the overdose occur?** a) **Date**: □ unknown b) **City**: c) **Location** □ private residence □ on the street □ vehicle □ hotel □ shelter □ supportive housing □ public washroom □ other:_____
8	**What drugs were reportedly used by the person who overdosed?** *(check all that apply)* □ heroin □ oxycodone □ methadone □ codeine □ morphine □ fentanyl □ alcohol □ dilaudid □ benzos □ GHB □ cocaine/crack □ crystal meth □ ecstasy □ unknown □ other:_____
	EMERGENCY RESPONSE
9	**What order did first responders arrive in?** Fire Fighters □ 1st □ 2nd □ 3rd □ did not come Paramedics □ 1st □ 2nd □ 3rd □ did not come Police □ 1st □ 2nd □ 3rd □ did not come
10	**What other actions were taken during the overdose?** ***(check all that apply)*** □ verbal stimulation □ sternal rub □ placed in the recovery position □ checked airway for obstruction □ checked pulse □ artificial respirations (pocket mask or BVM) □ gave chest compressions □ stayed with the person until paramedics arrived □ other:_____

	GIVING NALOXONE
11	**Was Naloxone given?** □Yes or □ No
12	**How long did the spray of Naloxone take to work (minutes)?** □ less than 1 min □ 1-2 min □ 2-3 min □ more than 3 min □no effect
13	**Did the person who overdosed and received Naloxone experience any negative events?** □ experienced withdrawal symptoms (□ *mild* □ *moderate* □ *severe)* □ was aggressive □ other:_____
14	**Was the person who overdosed told that** a) **Naloxone wears off in approximately 30 minutes?** □ yes □ no □ unknown b) **Overdose can return so avoid using for a few hours?** □ yes □ no □ unknown
	YOUR EXPERIENCE
15	**Did the person who overdosed survive?** □ yes □ no
16	**Was the person who overdosed transported to hospital?** □ yes □ no
17	**Is there anything else you would like us to be aware of?** □ yes (*Specify below)* □ no
	****ANSWER THE NEXT QUESTIONS ONLY IF <u>YOU</u> GAVE THE NALOXONE SPRAY***
18	**Was this your first time giving Naloxone?** □ yes □ no
19	**Did you feel confident giving Naloxone?** □ yes □ no
20	**What (if anything) would prepare you better for responding to an overdose?** □ yes (*Specify below)* □ no Adapted from BC Emergency Health Services (2017)

Please complete this form after Naloxone has been administered.
Fax to confidential Health Unit fax # 613-345-4687