

Training Manual: Overdose/Poisoning Recognition and Response

“If you are using drugs you are probably going to be there when someone overdoses – and that’s less awful if you’re carrying naloxone”
(community member after using naloxone)

This training manual is intended to support registered distribution sites for Manitoba’s Take Home Naloxone program.

Acknowledgements: This training manual was adapted from the *Toward the Heart* Training Manual¹ <https://towardtheheart.com/> with permission from the British Columbia Centre for Disease Control.

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Thank you for taking the time to review this training manual which provides information about responding to a drug overdose or poisoning. For additional information about the Manitoba Take-Home Naloxone program, see www.manitoba.ca/naloxone

Who should use this training manual?

This training manual is intended to support staff at Manitoba Take Home Naloxone Program distribution sites to develop the knowledge and skill to offer training to take home naloxone kit recipients.

If you received a naloxone kit and don't know how to use it, or have questions about how to use naloxone, please connect to one of the distribution sites for information and training. This manual also contains links to [training videos and resources](#) that may be helpful to you.

Health care providers or others who administer naloxone in the course of their work will have professional or workplace standards of practice that may not be covered in this manual. The training covered in this manual is designed to support lay/community responders, or members of the public who voluntarily provide emergency assistance to a person they believe to be experiencing and overdose/drug toxicity.

Learning Objectives

After reviewing this training manual, you will understand:

- 1) Factors that can increase or decrease the risk of drug toxicity
- 2) How to recognize depressant (including opioid) and stimulant drug toxicity
- 3) How to respond to an apparent opioid toxicity, including:
 - a) how to communicate with 911 and why it is important to call
 - b) how to prepare and administer naloxone
 - c) how and when to evaluate and when to administer further doses of naloxone
 - d) how to put someone in the recovery position
 - e) How to support the person after they regain consciousness or normal breathing

This training manual is focused on naloxone administration. Performing cardiopulmonary resuscitation (CPR) is also an important part of responding to an overdose/poisoning. The steps of CPR (e.g. rescue breathing and chest compressions) are introduced in this manual, but mastery of these skills requires full CPR training. [Heart and Stroke Foundation of Canada Edition \(2020\) Guidelines](#)² is the recommended source for CPR information.

Other information and resources for operating a take home naloxone distribution site can be found at the program webpage at www.manitoba.ca/naloxone

Introduction to the Manitoba Take-Home Naloxone Program

The Manitoba Take-Home Naloxone kits contain:

- instruction sheet (French and English)
- alcohol Swabs
- gloves and a breathing mask to protect the responder
- four Vanish Point® syringes
- four ampoules of naloxone for injection
- four ampoule breakers



Free take-home naloxone kits are available to members of the public who are at risk of opioid overdose (toxicity), and family or friends who may witness opioid toxicity. Manitoba take-home naloxone kits are not available for occupational health needs, and is not a source of workplace naloxone for health, institutional, residential or educational providers or facilities.

Basics of Psychoactive Substances

Psychoactive substances are substances that affect how the brain works and can change mood, awareness, thoughts, feelings, or behavior. They can be classified based on the effect they have on the body³. The diagrams on the right show the classification of some common substances.

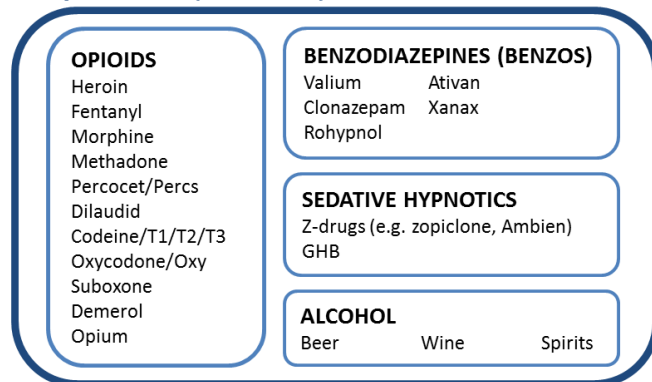
Depressants (or downers) tend to slow the body down (including breathing) and can make people sleepy.

Opioids are a special class of depressant. They may be prescribed or used illegally to reduce pain, manage opioid dependence or produce a state of euphoria/relaxation. Common opioids include heroin, fentanyl, morphine, methadone, codeine and oxycodone.

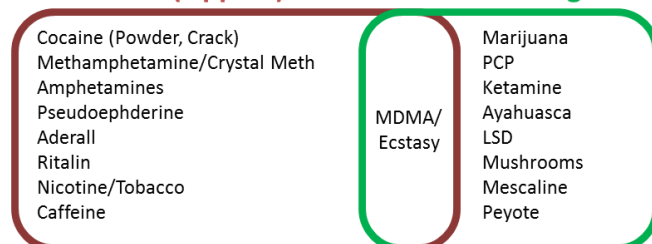
Stimulants (or uppers) tend to speed the body up (including heart rate) and can make people feel more alert. Common stimulants include cocaine, methamphetamine and nicotine.

Hallucinogens are drugs that can cause hallucination and alter perception.

Depressants (Downers)



Stimulants (Uppers)



Most people have taken depressants and stimulants at some point in their life, and many use them regularly, for example alcohol (ethanol) and coffee (caffeine).

Overdose, Poisoning, and Drug Toxicity: Terminology

The terms “overdose”, “poisoning”, and “drug toxicity” are used interchangeably at times but they have different underlying meanings. The term “overdose” implies that a person took too much of a known substance, either intentionally or unintentionally in error. However, street drugs are often poisoned with additives and adulterants (e.g. fentanyl or benzodiazepines) that people had no intention to consume⁴. Therefore, the terms “poisoning” or “drug toxicity” are often more accurate for describing the harms people experience from these substances. Terms like “poisoning” and “drug toxicity” also reduce stigma, since they explain what a substance is *doing* to a person’s body, rather than implying blame when a person for consumes a substance incorrectly. This is important, because stigma and blame are powerful influencers, and may prevent people from seeking help, using substances around other people, or having naloxone on hand.

Although the people we serve may use the term “overdose,” this manual primarily uses the term “drug toxicity” in reference to overdose and poisoning.

Risk Factors and Prevention

What is drug toxicity?

Drug toxicity (overdose/poisoning) is when the body is overwhelmed by exposure to a toxic amount of a substance or combination of substances. The body becomes unable to maintain or monitor functions necessary for life, like breathing, heart rate, and body temperature regulation³. Not everyone who experiences drug toxicity will die; however, there can be long-term medical impacts, such as brain damage from lack of oxygen.

Anyone can experience drug toxicity regardless of their substance use history (including prescription substances). Drug toxicity risk is complicated and depends on the interaction of several factors. Drug toxicity risk can increase or decrease depending on the substance(s) taken, how the substance is taken, the setting where use occurs, and characteristics of the individual. Risk is very individualized. If several different people use the same amount of the same substance, it might affect each of them differently.

One of the most common risk factors is lower tolerance for a drug, which can occur because someone is new to use, or has not been using as much recently (e.g. has recently been released from prison or detox/treatment or hospital).

Anyone can experience drug toxicity regardless of their substance use history.

Risk Factor – The Substance(s) Taken

Mixing

Taking more than one substance (including alcohol and over the counter and prescription

medications) over a short period of time substantially increases drug toxicity risk. In fact, the majority of unintentional fatal overdoses involve multiple substances, including alcohol and prescribed medications.

People may mix substances because they are unaware of the risk, or because it intensifies their high. Taking more than one downer (including opioids, alcohol and prescription benzodiazepines [benzos] like Xanax) increases the risk of drug toxicity. All drugs in the depressant (downer) class decrease the rate of breathing; taking more than one drug in this class can stop the body from breathing altogether.

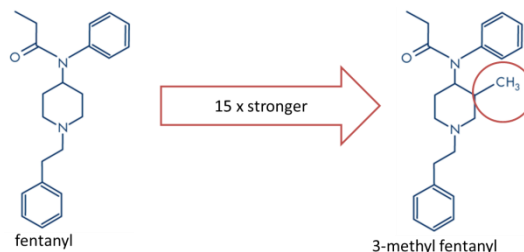
Despite common beliefs, stimulants will not cancel out the effects of depressants. In fact, people who consume speedballs (a mixture uppers and downers, e.g. cocaine + opioid consumed/injected at the same time) are at higher risk because the body has to process more drugs. Stimulants cause the body to use up more oxygen and depressants reduce the breathing rate³.

Quantity Taken

Drug toxicity can occur if the drugs taken (including alcohol) build up faster than the body can break them down (metabolize). This can occur by taking too much, or too frequently, or by being unaware of how long a specific drug lasts in the body. Some drugs are harder to measure a specific dose (e.g. gamma hydroxybutyrate [GHB], fentanyl) or may have varying time release mechanisms (immediate vs. extended). Most benzodiazepines and some opioids like methadone stay in the body longer than naloxone. Many opioids come in both immediate release and sustained release formulations – however, the rate at which the drug is “available” may differ depending on the route of administration (e.g. injecting a sustained release medication may have a more toxic effect than swallowing it³). Finally, the actual amount of the active drug may vary depending on how much it has been cut or buffed, making it hard to determine quantity from sample to sample⁴.

Strength and Poisoning

Substances can have unknown content/adulterants due to processing and available market supply (e.g. fentanyl sold as heroin/down). Other substances can be added before sale to the consumer either to expand the amount of product or to enhance the effects of the drugs. However, sometimes drugs are not cut prior to sale. A specific substance can have “analogues” – substances that have similar chemical structure but may differ in strength. For example, some analogues of fentanyl (e.g. carfentanyl) are stronger, while others are less strong⁵. It is impossible to tell what is present in the drugs you purchase without scientific equipment.



[Fentanyl drug profile | www.emcdda.europa.eu](http://www.emcdda.europa.eu)

THE SUBSTANCE(S) TAKEN

Risk Factor	Overdose/Poisoning Prevention Tips
Mixing	<ul style="list-style-type: none"> • use one drug at a time • if you intend to mix, use opioids before alcohol or benzos, and reduce the amount of each substance you take • let people around you know how much and what you are taking • injection use of both opioids and stimulants is associated with significantly higher risk of fatal drug toxicity
Quantity Taken	<ul style="list-style-type: none"> • wait before taking another dose, knowing it can take longer to feel the effects of some drugs • not all opioids are created equal - practice caution when substituting or transitioning from one opioid for another
Potency/ Quality/Cut	<ul style="list-style-type: none"> • test your drugs by doing small amount at first, “two in the arm is better than one in the ground, [in the grave]”. • take the tourniquet off before depressing plunger, stop half way to see the effects, inject less if it feels too strong.

Risk Factor – The Way the Substance is Taken

Regardless of how you take a drug, if you use enough of that drug in a short period of time drug toxicity (overdose) is possible. However, some ways of taking drugs are more likely to result in an overdose than others. In general, the faster a drug hits blood stream (i.e. injecting or smoking), the greater the risk of overdose. A fast injection into the vein will affect the body more quickly and intensely than ingesting (i.e. taking by mouth or swallowing); however, you can still overdose even if you don’t inject³.

Regardless of how you take a drug, if you use enough of that drug in a short enough period of time, drug toxicity is possible.

THE WAY THE SUBSTANCE IS TAKEN

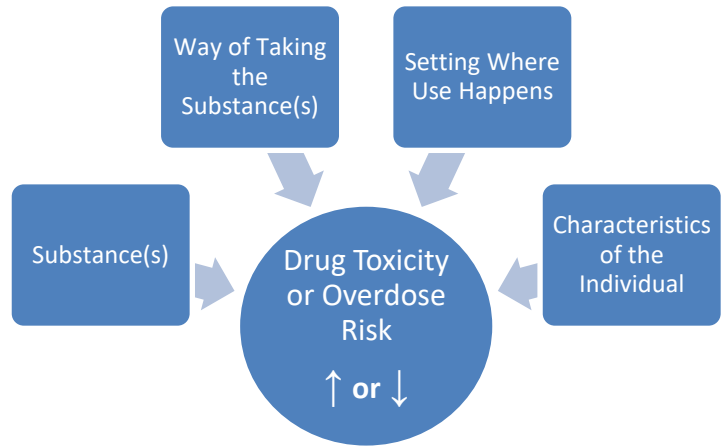
Risk Factor	Overdose/Poisoning Prevention Tips
Route of Administration	<ul style="list-style-type: none"> • Be careful when changing routes – you may not be able to handle the same amount. • Consider transdermal (e.g. place in armpit), snorting, smoking or ingesting rather than injecting.

Risk Factor – Individual Characteristics

Tolerance

Individuals have lower tolerance (and higher risk of overdose) when they have:

- taken a break from using (or have not been using as much or as often as usual)
- recently been in detox/treatment
- recently been incarcerated
- recently been in hospital
- recently started using drugs
- lung, liver and other health issues (e.g. asthma, Chronic Obstructive Pulmonary Disease (COPD), Hepatitis C)



Health Status

The health of an individual can increase risk for drug toxicity. For example, the following conditions can increase risk³:

- liver, kidney, and respiratory problems (e.g. hepatitis, COPD, asthma, smoking)
- compromised immune system (e.g. HIV)
- high blood pressure, heart disease, diabetes
- infections
- sleep deprivation, dehydration, malnourishment
- mental health status
- recent history of overdose/poisoning

INDIVIDUAL CHARACTERISTICS

Risk Factor	Overdose/Poisoning Prevention Tips
Reduced Tolerance	<ul style="list-style-type: none"> • use less • go slow • do testers (try a small amount first) • change route of administration (injecting to snorting or swallowing drugs) until tolerance is developed
Health Status	<ul style="list-style-type: none"> • eat, drink fluids like water, sleep • seek health care regularly as appropriate • use less when you have been sick, lost weight, or feeling down – doing more to “feel better” is a risk factor for overdose

Risk Factor – Setting of Use

Research shows using alone or in an unfamiliar environment can increase the risk for a fatal drug toxicity. Potential for risk is created and heightened by social environments; lack of stable shelter, colonialism, having to inject in public, poverty, irregular drug supply, incarceration, and unsupported mental health all put people at greater risk for overdose/poisoning^{3,6}.

General Prevention Messages

- Call 911 (or your local emergency response number) if you witness or experience an overdose. The *Good Samaritan Overdose Protection Act* provides some legal protection for people who call 911 in a drug toxicity. For more information see [Good Samaritan Overdose Protection Act](#).
- Get naloxone and overdose training before using – bring a friend. Naloxone kits are available at no-cost at many sites located throughout the province. For locations, visit <https://www.gov.mb.ca/health/publichealth/naloxone-finder.html>
- Be aware that benzodiazepines, tranquilizers, and many other types of sedatives found in the illegal drug market don't respond to naloxone.
- Do not use drugs alone or behind a locked door. Have a designated responder: Stagger use with friends so someone can respond/call 911 if needed.
- Use a less direct route when you take drugs. Injecting a drug is the most direct and dangerous route.
- If you mix drugs, reduce the amount of each drug you take and use the most unpredictable drug first, e.g. use opioids before benzos or alcohol.
- Use one drug at a time, test your drugs every time by doing a smaller than usual test amount first. Consider getting your drugs checked by a drug checking service.
- Wait before taking another dose – some drugs take longer to take effect.
- The amount of naloxone in a take-home kit may not be enough to reverse very powerful overdoses, such as those caused by fentanyl-like drugs.
- Be aware that many drugs are being adulterated with strong opioids, even stimulants like cocaine and methamphetamine.
- Use in a space where you are safe and don't have to rush.
- Administer naloxone if someone appears to overdose. It will not cause harm, and if the overdose is due to a mixture of substances, naloxone will temporarily take any opioid out of the picture.
- Use Canada's National Overdose Response www.nors.ca service for online overdose prevention and confidential, nonjudgmental peer support while you are using substances, rather than use alone. Call (**Canada only**): [1-888-688-NORS\(6677\)](tel:1-888-688-NORS(6677)).

Drug Toxicity Recognition and Response

Drug toxicity (overdose/poisoning) is when the body is overwhelmed by exposure to something, in this case a toxic amount of drug or combination of drugs which cause the body to be unable to maintain or monitor functions necessary for life. These are functions like breathing, heart rate, and regulating body temperature.

Stimulant Toxicity

If an individual ***is conscious*** and experiencing “over-amping”, or mental distress (i.e. crashing, anxiety, paranoia) linked to stimulant use and sleep deprivation from stimulant use⁷:

- stay calm, remain with them, encourage them not to take any more substances, and move away from activity and noise
- give water or other non-sugary, non-caffeinated drink to help replace lost electrolytes (Do not over-hydrate.)
- place a cool wet cloth on forehead, back of neck, armpits

If the individual has symptoms of ***stimulant toxicity***, including rigid or jerking limbs, in and out of consciousness, seizures, rapidly escalating temperature and pulse, or chest pains – this is a medical emergency⁷. Call 911 immediately. The person needs immediate medical attention!

While waiting for the ambulance to arrive:

- Stay with the individual for support, encourage hydration, and stay calm.
- Do not give them anything by mouth if they are unconscious.
- If they are having a seizure make sure there is nothing around them that can hurt them. Do not put anything in their mouth or restrain them.

*If the individual has symptoms of stimulant toxicity, including rigid or jerking limbs, in and out of consciousness, seizures, rapidly escalating temperature and pulse, or chest pains – this is a medical emergency. **Call 911 immediately.***

There is no antidote to stimulant toxicity. Naloxone has no effect on stimulants. If the heart has stopped, provide CPR. Tell medical professionals as much as possible so they can give the right treatment to prevent organ damage and death.

Opioid Toxicity

Opioid toxicity may involve the following signs and symptoms:

- **slow, shallow, irregular or no breathing** – less than one breath every five seconds
- **unresponsive** – can't be woken up (*If the person is unconscious and not responding and you think an opioid was used, it's time to give naloxone*)

- unusual snoring, gurgling sounds, choking
- blue lips or nails; pale, cold, or clammy skin
- tiny pupils

What is naloxone?

Naloxone, is an antidote to an opioid overdose/poisoning. It may temporarily reverse the life-threatening effects of opioid toxicity. It does not work for non-opioid drug toxicity (like cocaine, ecstasy, methamphetamine, or alcohol)⁸.

However, if an overdose/poisoning involves multiple substances, including opioids, naloxone helps by temporarily removing the opioid from the equation. You can give naloxone by injection into a muscle, or intranasally (sprayed into the nostril). In Manitoba, the Take Home Naloxone program supplies injectable naloxone – a detailed description of how to administer an intramuscular injection of naloxone will follow this section of the manual.

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 allowing the brain to restore breathing (see Figure 1)⁸. Naloxone acts fast (usually within 2-3 minutes), and the protective effect lasts for 20 to 90 minutes, although it is possible for naloxone effects to decline in as little as 5 minutes⁸. The body will have broken down some of the opioids during that time, but naloxone does not destroy the opioids. If large doses of highly toxic opioids (like fentanyl), or long-acting opioids (like methadone) are involved, or the individual has liver damage, more doses of naloxone may be needed. In Manitoba, each take-home naloxone kit contains four doses of naloxone.

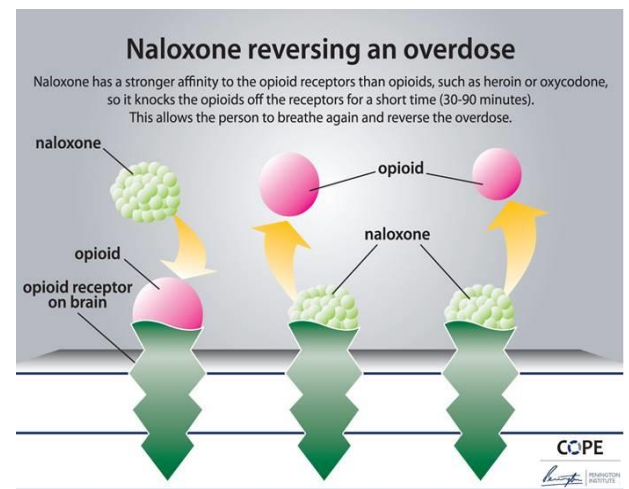


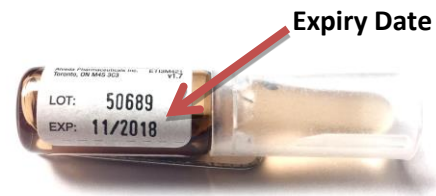
Figure 1

It is always important to call 911 when someone experiences drug toxicity, and to stay with the person.

Naloxone is light sensitive, so should be stored out of the sunlight and at room temperature. See more about [Caring for Your Naloxone Kit](#).

Naloxone acts fast, (usually within 2-3 minutes), and the protective effect lasts for about 20 to 90 minutes.

Check the expiry dates of the naloxone periodically; it lasts about two years. If the naloxone gets close to the expiry date, you should properly dispose of the naloxone and recycle/reuse the other components of the kits where possible. The expiry date can be found on a sticker on the outside of the kit, or on the ampoule (Figure 2).



Responding to Opioid Toxicity

Brief instruction on how to recognize and respond to opioid toxicity can be found on the insert inside the naloxone kit and on the training poster [How to Respond to Opioid Toxicity \(manitoba.ca\)](http://manitoba.ca). The steps involved in responding to an opioid overdose will now be described in greater detail.

Stimulate: If Unresponsive call 911

If you suspect someone is in opioid toxicity, start by stimulating them to confirm that they are unresponsive. **Shout** at them – use their name if you know it. Pinch their or shake their shoulders. You should always tell someone what you are going to do before you touch them. If the person does not respond, then it is a medical emergency. **Call 911 or your local emergency response number.**

If you are alone, you can put the phone on speaker. 911 dispatchers will walk you through the steps of managing a drug toxicity– including how to perform CPR. See additional information on the [Good Samaritan Drug Overdose Act](#) which provides legal protection from certain drug possession charges when calling 911 in an overdose/poisoning event.

Assess Airway and Breathing

Is the person breathing? Look for the chest to rise. The normal respiratory rate is 1 breath every 5-6 seconds or 10-12 breaths per minute⁹. Check the person's mouth for any obstructions. Items like gum, dentures, or a syringe cap could be preventing the person from breathing properly. Remove any obstructions. Check for other signs of poor breathing like blue/grey skin, lips or nails. If they are breathing normally, support them until emergency services arrive.

- If the person is not breathing normally, or if you are not sure, continue next steps to give naloxone.
- If the person is breathing normally but is not awake or responding, stay with them until emergency services arrive.

Prepare Naloxone and Administer Muscular Injection

If your distribution site has health care professionals on staff, they can assist with training staff on intramuscular injections and landmarking.

Naloxone comes in glass ampoules that need to be snapped open. Hold the ampoule by the top and swirl to bring all the medication to the bottom. Gently but firmly bend away from the coloured dot on the neck to break the ampoule open. The plastic amp breaker can be slid on to protect your fingers. You can watch a video on how to open a naloxone ampoule here:

<https://youtu.be/3o-E26rmWA?t=2m10s>

Note – if you have another responder available, they should be doing CPR in the meanwhile.



Draw up all of the liquid into the syringe – make sure the needle tip is at the bottom of the ampoule so you get all the medication. To remove the air, turn the syringe so the needle is pointing up and push the plunger in until most of the air is gone. It is OK to leave a little air because you are injecting into a muscle.

Landmarking for Intramuscular Injection

The **vastus lateralis** is the preferred injection site. The vastus lateralis muscle extends from about one hand's breadth above the knee to one hand's breadth below the greater trochanter of the femur (the bony prominence at the outer top of the leg – approximately at the groin level). The vastus lateralis injection site is at front outer aspect of the middle section of the muscle (if you imagine the muscle in three sections)¹⁰⁻¹².

The **deltoid** is also an acceptable site but more difficult to landmark, especially if a person is very small. The top of the deltoid muscle is just under the lower edge of the acromion process (the bony point you can feel at the end of the shoulder), and the bottom is around the level of the arm pit. The injection site is in the center of the deltoid, which is about 3-5 cm below the acromion process in the center upper arm/shoulder muscle¹⁰⁻¹².

Firmly put the needle straight into injection site at a 90-degree angle. The needle can go right through clothes if you are able to landmark with the person dressed. Push the plunger in until you hear it click – this is the needle retracting into the syringe.

For more detailed information see the following references:

Elselvier (January 2024). Medication Administration: Intramuscular injection acute care. <https://elsevier.health/en-US/preview/intramuscular-injections-acute-care>

Thompson River University, Pressbooks BC Campus (2018). Clinical Procedures for Safer Patient Care. Chapter 7.5 Intramuscular Injections.

<https://pressbooks.bccampus.ca/clinicalproceduresforsaferpatientcaretrubscn/chapter/7-5-intramuscular-injections/>

Chippewa Valley Technical College (2023). Nursing Skills, Chapter 18.6, Administering Intramuscular Injections. <https://wtcs.pressbooks.pub/nursingskills/chapter/18-6-administering-intramuscular-medications/>

Training kits are available by order to THN distribution sites to support training for take home naloxone kit recipients (including individual or group training events). This provides an opportunity for THN recipients to practice or observe: opening a water ampoule using the ampoule breaker; drawing up the contents into the syringe; and observing the automatic retraction of the needle when the plunger is fully depressed (safety-engineered needles).

Provide CPR

CPR includes chest compressions and rescue breaths until first responders arrive [cycles of 30 compressions: 2 breaths]. The 911 operator can help instruct to give CPR².

If there is an Automated External Defibrillator (AED) nearby it can also be used. The AED can tell if the person's heart is still beating, and can shock the heart if required².

If you do not have naloxone, you may still save the life of someone who has overdosed on opioids if the overdose was very recent. Stimulate to confirm they are not responsive, and call 911. Check their airway, and provide CPR [30 chest compressions: 2 breaths] until first responders arrive.

Ventilations or Rescue Breathing

A mask is available in the Take Home Naloxone kit to provide a barrier – you can use a piece of clothing instead if you do not have a mask. To give breaths, keep the person's head tilted back, pinch their nose, and give them two normal sized breaths between cycles of 30 chest compressions². You should be able to see their chest rise with each breath. Opioid toxicity slows breathing, decreasing oxygen to the brain. By doing rescue breathing you help keep oxygen going to the person's brain until the naloxone takes effect.



Chest Compressions

To give chest compressions to an adults, place the heel of one hand on the breast bone in the center of the chest between the nipples, place your other hand on top of the first hand, push hard and fast 30 times, about two inches deep, and let the chest come all the way up between pumps².

Evaluate

Naloxone can take two to three minutes to work, so waiting between doses is important⁸. Monitor the person to see if they respond to the naloxone. Do they start breathing again? Do they regain consciousness? Keep providing CPR (30 chest compressions: 2 breaths).

If the person has not regained consciousness or started breathing normally within two to three minutes then you can give another dose of naloxone by injection into the same muscle area.

Monitor the person for two to three minutes after each dose is given. If the person does not regain consciousness, repeat the same process with a third dose of naloxone, and continue with further doses (if available) until you run out of Naloxone⁸. Most opioid toxicities will be reversed with one or two doses of naloxone, but occasionally may require more naloxone than is in the kit. Poisonings that are not caused by opioids will not respond to naloxone. Calling 911 is important for these reasons.

While naloxone is a safe medication, individuals who are dependent on opioids may experience unpleasant withdrawal symptoms like pain, sweating, agitation and irritability. For this reason, it is recommended to start with one dose of naloxone and wait two to three minutes before providing subsequent doses.

The Recovery Position

If you have to leave an unconscious/unresponsive person at any point, put them in the recovery position. This helps to keep the airway clear from their tongue or vomit allowing them to breathe properly. Slowed breathing can cause the lungs to fill up with excess fluid – if you are not actively working on an individual (giving CPR or administering naloxone) put them in the recovery position.



To put someone in the recovery position, hold the leg and arm on the side of their body closest to you and **roll them away from you**¹³. In the picture above, it is the **right leg** and the **right arm** that get bent to prevent the person from rolling onto their stomach. The airway is kept clear with the head being supported by the hand¹³.

Aftercare

It is important to stay with someone after giving naloxone because:

- The person may have no memory of overdosing or receiving naloxone when they wake up. Gently explain to them what happened.
- The person may experience withdrawal symptoms and want to take more drugs. The person should be discouraged from using more opioids or other drugs for at least two hours. Symptoms of withdrawal sickness will start to wear off in half an hour. Using more opioids will be a “waste”. While naloxone is in their system it blocks opioids from getting to receptors and they will continue to feel sick; using more opioids will also make the overdose/poisoning more likely to return when the naloxone wears off (after 20-90 minutes)⁸.
- It is helpful to be there to tell the emergency response team as much as you know – what drugs the person took, and what actions you have taken so far.

Responding to a non-opioid depressant drug toxicity

People who have been using street opioids may also be exposed to benzodiazepines (benzos) and benzo-like drugs like etizolam, or even animal tranquilizers like xylazine^{4,14}. These substances have been showing up in the illegal drug supply in Manitoba, especially mixed with opioids, and it's hard to know if they are in **people's** drugs. **Naloxone can temporarily reverse the effects of opioids, but does not reverse the impacts of sedatives such as benzodiazepines, etizolam, or xylazine⁸.**

Sedatives and opioids may have similar effects and overdose or poisoning may look the same, but mixed substance toxicity is complex and requires medical attention¹⁴. Naloxone administration may remove the opioids from the picture and the person may begin breathing again, but the sedatives may cause them remain unconscious.

In someone with a tolerance to opioids, too much naloxone can cause withdrawal (e.g. vomiting, sweating, severe pain) and may make the situation worse¹⁴. Take home naloxone is a tool to support care while waiting for emergency medical services to arrive. It is always important to call 911 when managing a drug toxicity, even if you have naloxone.

Benzos and etizolam or xylazine mixed with opioids are keeping people sedated for longer. In these situations, it is important to focus on whether the person is getting enough oxygen, not whether they are awake¹⁴. If they are breathing, help them into the recovery position and stay by their side.

Dependence to and withdrawal from benzodiazepines or etizolam may occur after using them for as little as a few weeks¹⁴. Increasing exposure to benzodiazepines puts many people who use drugs at risk for withdrawal symptoms. These can include agitation, sleeplessness, and irregular body functions (e.g. heart rate, blood pressure, temperature, urinary function) which may be difficult to tell from opioid withdrawal or stimulant toxicity¹⁴.

Chest Compressions and Rescue Breathing

Most overdose response programs recommend giving rescue breaths because opioids affect breathing first. If a person stops breathing, the heart will eventually stop. Therefore, getting oxygen into the body is the first priority (rescue breathing) but circulating that oxygen through the body (chest compressions) is also necessary. The longer the person goes without oxygen, the more likely the heart will stop². For these reasons, this training manual introduces rescue breathing **and** chest compressions as part of a comprehensive response to opioid overdose.

It is important to note that chest compressions and rescue breathing are challenging skills that take time to master. These skills are developed through CPR training. Overdose/Poisoning Recognition and Response training is designed to be brief and low-threshold, and focuses on the administration of naloxone. CPR training is encouraged in addition to Overdose/Poisoning Recognition and Response training. However, CPR training takes longer, and is generally less accessible – so is not required in order to be eligible for a free take-home naloxone kit. When someone calls 911 (or local emergency response number) in a drug toxicity emergency, the dispatcher will support the person who called by providing instructions on rescue breathing and chest compressions.

Caring for your Naloxone Kit

People who receive take-home naloxone kits should be encouraged to store their naloxone at room temperature, and the naloxone ampoules should be kept out of direct sunlight⁸. There is a growing evidence that naloxone may be stable for short periods through a wide temperature range, including as low as -20C up to +30C¹⁵. However, if the ampoule freezes this may cause hairline cracks, and the naloxone may become contaminated with bacteria or oxidize.

- During hot weather avoid leaving your naloxone in a car for an extended period of time.
- If you carry naloxone in the winter keep your naloxone kit near your body such as in a pocket or attached to your belt under your jacket or coat. Do not leave your kit in a backpack outside or in a car for a long time where temperature may be sub-zero for extended periods.

People whose kits were exposed to extreme heat (e.g. +30 C) or cold (e.g. -20 C or colder) for more than 24 hours should have their kits replaced. If there is any doubt, it is safest to replace the kit¹⁵.

If the **only naloxone available is known to have been outside recommended temperatures** (or is past its expiry date) **use it**¹⁵. It may not be as effective but **do not delay** and wait for additional help to arrive. If someone is having an opioid overdose/poisoning they need naloxone as soon as possible.

Legal Considerations

Liability related to various aspects of naloxone is a common concern. There are no known cases of legal action related to naloxone in Canada. A bystander who provides voluntary emergency first aid, including administration of naloxone, is protected from liability by the Manitoba [Good Samaritan Act](#).

Note: this is different from the **Good Samaritan Drug Overdose Act**.

The Good Samaritan Drug Overdose Act

This enactment amends the Controlled Drugs and Substances act to exempt persons seeking medical or law enforcement assistance for themselves or others at an overdose from being charged for simple possession or for violation of pre-trial release, probation order, conditional sentence or parole related to simple possession, if the evidence in support of that offence was obtained or discovered as a result of seeking assistance or remaining at the scene. This applies to any person at the scene upon arrival of assistance, including the person who overdosed.

A bystander who voluntarily provides emergency first aid, including administration of naloxone, is protected from liability by the Manitoba Good Samaritan Act.

The law does not provide protection from charges for, selling illegal drugs (trafficking), offences other than drug possession, any outstanding warrants or arrests and violation of pre-trial release, probation order, conditional sentence, or parole for an offence other than simple possession. For more information see: [About the Good Samaritan Drug Overdose Act - Canada.ca](#)

Naloxone Scheduling in Manitoba

Naloxone is available without a prescription. In December 2020, Manitoba became the fourth province in Canada to unschedule naloxone and make this lifesaving drug more accessible to Manitobans. This means that any retailer, not only pharmacies or a registered health care provider, may now sell and/or distribute naloxone. For more information visit the College of Pharmacists of Manitoba webpage at: [Regulation Amendment Increases Public Access to Naloxone | College of Pharmacists of Manitoba \(cphm.ca\)](#)

The Good Samaritan Drug Overdose Act protects people from drug possession charges if they witness or experience an overdose and call 911 for help.

For the Manitoba Take-Home Naloxone Program, the change in naloxone scheduling means that regulated health care providers are no longer required at the point of naloxone distribution, and some types of community-based organizations are eligible to apply to become a distribution site. For more information about applying to become a take home naloxone distribution site, see www.manitoba.ca/naloxone

Naloxone Administration Training Videos and Resources

Please note that chest compressions may not be included in the overdose response steps covered in these videos.

For the Public:

- Naloxone Saves Lives (12:49 min) <https://vimeo.com/164669763>
- Naloxone Wakes You Up (*youth focused*) (6:29 min) <https://vimeo.com/180116125>
- SAVE ME Steps to Save a Life (3:21 min) <https://vimeo.com/185012011>
- How to open an ampoule <https://youtu.be/3o-E26rmWA?t=2m10s>

Additional Training Resources:

- British Columbia, Toward the Heart website, Quick Learn: Naloxone Administration (15-25 minute interactive lesson) <https://towardtheheart.com/naloxone-course>
- Opioid Response Training by St John Ambulance <https://sia.ca/en/oprt>

Learning Objectives Checklist

☑ TOPIC	IMPORTANT DETAILS
<input type="checkbox"/> Overdose/Poisoning Prevention	<ul style="list-style-type: none"> • MIXING: opioids with downers OR opioids with uppers (Prevention: don't mix, or if you do, stagger use, use (unpredictable) drugs before alcohol) • TOLERANCE: taking drugs, after periods of non-use or lower use e.g. jail, detox/abstinence, hospital, new use (Prevention: use less at these times) • QUALITY OF STREET DRUGS: unpredictable (Prevention: do testers, go slow, use a consistent reliable dealer) • USING ALONE: behind closed locked door when no-one knows (Prevention: tell someone before you use, leave door unlocked) • HEALTH: liver, breathing problems, lack of sleep, dehydration, infections (Prevention: eat, drink, sleep, see doctor, take medications as prescribed)
<input type="checkbox"/> Signs and Symptoms of Opioid Overdose or Poisoning <i>(Naloxone only works for <u>opioid</u> OD – NOT for non-opioid depressants like alcohol or benzos BUT if you don't know, <u>naloxone won't hurt</u>)</i>	<ul style="list-style-type: none"> • e.g. carfentanil, fentanyl, heroin, "down", morphine, oxycodone, hydroprmorphone, codeine • opioid OD = too much drugs, breathing slows, not enough oxygen to the brain (less than 1 breath every 5-6 seconds) • Key feature: UNRESPONSIVE & SLOW/SHALLOW/IRREGULAR BREATHS • May also observe: (1) blue lips/ fingernails; (2) snoring/gurgling
<input type="checkbox"/> Signs and Symptoms of Stimulant Toxicity or 'overamping'	<ul style="list-style-type: none"> • e.g. crystal meth, cocaine, crack, MDMA (ectasy), caffeine, nicotine • chest pains, dizziness, rapid heartbeat, extreme agitation, lots of sweat or no sweat, seizures/convulsions, foaming at the mouth, paranoia, delusions, psychosis • MEDICAL EMERGENCY – CALL 911 – NALOXONE WON'T WORK
RESPONDING TO AN OPIOID TOXICITY	
<input type="checkbox"/> CONFIRM UNRESPONSIVE	<ul style="list-style-type: none"> • Stimulate with: noise (shout, use their name), pain (ex. sternal rub) – Remember, tell person what you are doing before you touch them
<input type="checkbox"/> CALL 911 or local emergency response number	<ul style="list-style-type: none"> • Put person in the recovery position if you have to leave them alone. The Good Samaritan Drug Overdose Act protects the caller from simple drug possession charges
<input type="checkbox"/> CHECK BREATHING AND CLEAR AIRWAY	<ul style="list-style-type: none"> • Assess for signs of breathing. Clear airway (is there anything in their mouth?).
<input type="checkbox"/> GIVE INTRAMUSCULAR NALOXONE <i>(demonstrate if possible)</i>	<ul style="list-style-type: none"> • Swirl ampoule, snap top off, draw up all of the naloxone, remove most of the excess air • Inject into large muscle – THIGH, or upper arm • Inject at 90°, push plunger until you hear a click (needle will retract)
<input type="checkbox"/> GIVE BREATHS AND CHEST COMPRESSIONS	<ul style="list-style-type: none"> • If the person is barely breathing or not breathing: tilt head, lift chin, pinch nose and give 2 breaths • Commence cycles of 30 chest compressions to 2 rescue breaths • 911 will review these instructions
<input type="checkbox"/> EVALUATE EFFECTS (for 2-5 minutes) & GIVE MORE NALOXONE IF NEEDED	<ul style="list-style-type: none"> • Continue to give breaths FOR 2-3 MINUTES OR until they respond (are breathing again on their own). • After 2- 3 minutes, if still unresponsive, give another dose of naloxone • Continue CPR and naloxone administration every 2-3 minutes until person breathing OR paramedics arrive OR you run out of naloxone (continue CPR only)
<input type="checkbox"/> AFTERCARE AND CARING FOR NALOXONE	<ul style="list-style-type: none"> • Naloxone usually wears off in 20-90 minutes. Person will not remember overdosing – explain what happened • If person does NOT go to hospital, monitor at least 2 hours and do NOT allow them to take more opioids (could OD again). Naloxone should be stored out of the light at room temperature (15-30 C). Be aware of the expiry date – it is on the ampoule

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Statement Against the Discrimination of People Who Carry Naloxone

This statement is in support of the rights of people who carry naloxone or have it in their possession to be free from discrimination and harmful assumptions about their conduct.

People in Manitoba can access take-home naloxone kits in three key ways;

1. Naloxone can be purchased by any person in a pharmacy or retail store that makes naloxone available for sale
2. Naloxone (including intranasal form) is also available for free for First Nations and Inuit clients covered by the Federal Non-Insured Health Benefits Program.
3. Naloxone can be accessed free of charge by any person at risk of opioid overdose/poisoning, or by their family or friends, from a participating Manitoba take-home naloxone distribution site

A person who carries or has access to naloxone should not be discriminated against because of assumptions based on what carrying naloxone might mean. Take-home naloxone kits are not evidence of problematic drug use, addiction, drug trafficking, child abuse, or child neglect. Many people who have naloxone kits carry them because of their concern for others.

A naloxone kit in a person's possession or in the home should not be used as evidence to obtain a search warrant, detain and/or search a person, apprehend children, evict a person from residence, confiscate the kit, or any other discriminatory harm.