

Naloxone: Frequently Asked Questions

The medication naloxone is a safe, highly effective rescue medicine for opioid overdose, a leading cause of death worldwide. Naloxone is administered in most countries today by health professionals and, in a growing number of places, by trained peers. This fact sheet is meant to answer frequently asked questions about how naloxone works and possible consequences of its use.

We always encourage you to call professional emergency services in the event of an overdose.

How does naloxone work?

Naloxone, also known by the brand name Narcan, is a safe and effective medication that can reverse the effects of opioid overdose. It is most often injected into a person experiencing an overdose. It attaches to the same parts of the brain that receive heroin and other opioids, and it blocks the opioids for 30-90 minutes to reverse the respiratory depression that would otherwise lead to death from overdose.

Does naloxone only work for overdose cases caused by opioids?

Yes. Naloxone only reverses the effects of opioids such as heroin, methadone, morphine, opium, codeine, or hydrocodone. It does not counter the effect of other types of drugs, such as benzodiazepines (drugs including diazepam, midazolam, or alprazolam), antihistamines (like pheniramine or phenergan), alcohol, or other sedatives (drugs such as phenobarbital) or stimulants such as cocaine and amphetamines.

But if the person is not breathing it will not hurt to administer naloxone. If there is an opioid involved they will likely start breathing again—though they will still be sedated from the other drugs. Many overdoses happen due to mixing opioids with other drugs, which is a common practice.

In the worst case scenario, naloxone will simply do nothing, but in the best case scenario it will save a life.

Will naloxone hurt someone?

Serious side effects of naloxone are very rare. The most common side effect is opioid withdrawal, since naloxone ejects the opioids from their receptors in the brain. The risk of withdrawal increases with larger doses of naloxone as well as the strength of a person's drug dependency. Common opioid withdrawal symptoms include aches, irritability, sweating, runny nose, diarrhea, nausea, and vomiting.

Still, the potential complications of opioid overdose are more alarming, including lung and heart problems, brain damage caused by prolonged lack of oxygen, and eventually, death. Giving someone naloxone will help restore breathing and lessen the risk of these outcomes.

Will naloxone make you high?

No. The only effect of naloxone is to reverse the effect of opioids. It cannot make you high: if you are not using opioids, an injection of naloxone would feel the same as an injection of water. Naloxone has no potential for abuse or dependency.

Can naloxone cause overdose?

No. It is not possible to overdose on naloxone. If a large dose is given to a person with opioids in their system, they may experience symptoms of withdrawal.

Can you overdose on buprenorphine? Will naloxone stop such an overdose?

Yes. It is possible to overdose on buprenorphine, a medicine used in opioid substitution treatment. There is, however, less risk of overdose than with other opioids.

Most buprenorphine overdoses involve intravenous injection and/or combination of buprenorphine with other drugs, particularly sedatives, benzodiazepines or neuroleptics. Unfortunately, naloxone doesn't work as well for buprenorphine as it does for most other opioids. This has to do with the ways the brain's receptors react to these drugs. A slow, continuous infusion of naloxone seems to work best for overdoses of these drugs, but this is not practical outside of a healthcare setting.

Although buprenorphine has resulted in a small number of overdose cases, countries where buprenorphine is widely available to treat opioid addiction—such as France—have seen a sharp reduction in overdose fatalities overall, as shown in the chart below.

Will naloxone work even if someone has previously used it?

Yes. You cannot develop tolerance to naloxone, so it can be used in every opioid overdose situation no matter how many times a person has overdosed in the past. People may respond to naloxone differently each time but this is often more likely due to how old the naloxone is, how it has been stored, what type of drugs the person took and in what dose or combination.

Is naloxone the same as naltrexone?

No. Naltrexone is like naloxone but it lasts much longer, generally about 24 hours. It is sometimes used in the treatment of drug or alcohol dependence.

Naloxone is sometimes used in combination with buprenorphine in drug dependence treatment—that medication is commonly known by its brand name, Suboxone. The naloxone is added to discourage injection of buprenorphine.

Can naloxone be safely used if it is expired?

Naloxone loses its impact over time as well as from too much heat or cold, or exposure to sunlight. Expired naloxone will not hurt the victim, but probably does not work as well as new naloxone.

Harm reduction programs should dispose of expired naloxone or use it for demonstration and training purposes. They should also encourage participants to exchange expired naloxone for a new supply. If an overdose victim is given expired naloxone because that is all that is available, the victim may require additional doses (beyond the typical dose of 1-2 mL for injectable naloxone) as a result of decreased potency. The victim should be monitored carefully and other evidence-based approaches, such as rescue breathing, should be used until the person revives or additional medical help arrives.

To make sure it lasts as long as possible, naloxone should be kept in a dark and dry place between 25°C/80°F and 5°C/40°F if possible. But it is important to have it at hand when an overdose might happen.

Are there other ways to use naloxone besides injecting it?

Yes. However, in most countries, only the injectable form of naloxone is available.

There is a more concentrated form of naloxone (that contains more of the active ingredient per mL), which can be administered as a nasal spray, but unfortunately, it is not sold in most countries, and is much more expensive where available. Don't try pouring naloxone into the victim's nose or mouth: Trying to make someone who has overdosed and is unconscious swallow naloxone (or any liquid) can be dangerous, as it might go into their lungs. In any case, this won't work because not enough naloxone will be absorbed.

What is the safest needle to use for injecting naloxone?

What kinds of needles are available will vary from place to place. Experts recommend using a thicker, longer needle designed for injecting into muscles. This is typically 22-gauge and 3cm or longer that can easily be injected into the upper arm or thigh. These larger needles also allow you to save time by injecting through someone's clothes if necessary. However, laypeople have reported successful naloxone reversals using smaller needles as well.

Why is naloxone not included on my country's list of essential medicines?

While naloxone is included in the World Health Organization's Model List of Essential Medicines, each country devises its own list of essential medicines. Many do include naloxone, but some do not. This could be an oversight, as naloxone use might be uncommon in your country. You may be able to advocate with medical authorities to add it your country's list, using the WHO model list to add strength to your argument.

The World Health Organization's Model List of Essential Medicines can be found at who.int/medicines/publications/essentialmedicines/en/

Is naloxone legal to carry?

The answer to this question depends on what country you are in. Laws on naloxone differ from one place to the next, and it is necessary to research what your local laws are. If naloxone is available by prescription in your country, it can be helpful to carry a copy of that prescription in case you are stopped by police. It can also be useful for programs that provide naloxone to drug users to include a doctor's note. Such programs should also be prepared to provide new kits to drug users who have their naloxone taken by police.

How much should naloxone cost?

Most harm reduction programs offer naloxone to drug users for free. How much naloxone costs, however, varies depending on what company manufactures it and on in what country you are located. Naloxone is a generic medication, so while its price is not affected by patents, market issues such as supply and demand may influence cost. The injectable form of naloxone, however, is typically less than \$2 per dose.

For more information on where to get naloxone, plus a list of suppliers, visit naloxoneinfo.org.