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2. Naloxone

# Naloxone

**Generic name:** naloxone [ *nah-LOX-one* ]

**Brand names:** [Narcan](#), [Rezenopy](#), [Kloxxado](#), [Zimhi](#)

**Dosage form:** Injectable solution (Zimhi 5 mg/0.5 mL), Nasal spray (Narcan 4 mg, Rezenopy 10 mg, Kloxxado 8 mg)

**Drug class:** [Antidotes](#)

Medically reviewed by [Melisa Puckey, BPharm](#). Last updated on May 22, 2024.

[Uses](#)   [Warnings](#)   [Before taking](#)   [Dosage](#)   [Side effects](#)   [Interactions](#)   [FAQ](#)

## What is naloxone?

Naloxone is an FDA approved medicine used to quickly reverse an [opioid overdose](#). Naloxone is a opioid antagonist that works by attaching to opioid receptors and therefore reverses and blocks the effects of other opioids.

Naloxone should be used as soon as possible to treat a known or suspected opioid overdose emergency if there are signs of slowed breathing, severe sleepiness or the person is not able to respond (loss of consciousness). Once naloxone has been given **the patient must receive emergency medical care straight away**, even if they wake up.

Naloxone is not a controlled substance, according to the US Drug Enforcement Administration (DEA).

Naloxone is available as a nasal spray ([Narcan](#) 4mg, [Rezenopy](#) 10 mg, [Kloxxado](#) 8mg) or an injection ([Zimhi](#) 5 mg/0.5 mL).

Narcan nasal spray became approved by the FDA on March 29, 2023 as is an over-the-counter (OTC) medicine that is available **without** a prescription. Other naloxone products are still prescription medicines, but in many states, these products are available from a pharmacist without a prescription from your doctor, under state [Naloxone Access Laws](#) or alternate arrangements.

Opioids are sometimes called a narcotic. Examples of opioids are [buprenorphine](#), [codeine](#), [fentanyl](#), [oxycodone](#) (Oxycontin), [heroin](#), [hydrocodone](#) (Vicodin, Lortab), [hydromorphone](#), [meperidine](#), [morphine](#), [methadone](#), [oxymorphone](#), and [tramadol](#).

## What is Naloxone used for?

Naloxone is used to treat a known or suspected opioid overdose emergency in children or adults. Signs of an opioid overdose may include:

- slowed breathing, or no breathing;

- very small or pinpoint pupils in the eyes;
- slow heartbeats; or
- extreme drowsiness, especially if you cannot wake the person from sleep.

Even if you are not sure an opioid overdose has occurred, if the person is not breathing or is unresponsive, give the naloxone right away and then seek emergency medical care.

Naloxone has different uses when used in multi-ingredient medications including buprenorphine with naloxone ([Suboxone](#), [Zubsolv](#), [Bunavail](#)) which is used to treat opioid addiction, and [naloxone with oxycodone](#) (Targiniq ER) which is used for pain.

## Warnings

In an emergency situation it may not be possible before you are treated to tell your caregivers about your health conditions or if you are pregnant or breast feeding. Make sure any doctor caring for you afterward knows that you have received this medicine.

A person caring for you can give the naloxone if you stop breathing or don't wake up. Make sure any person caring for you knows where you keep this medicine and how to use it.

Your caregiver must get emergency help after giving you this medicine. You may need another injection every 2 to 3 minutes until emergency help arrives.

Drinking alcohol can increase certain side effects of naloxone.

Naloxone may impair your thinking or reactions. Be careful if you drive or do anything that requires you to be alert.

If you are using any narcotic pain medication, the pain-relieving effects of the narcotic will be reversed while you are also receiving this medicine.

## Before taking this medicine

You should not be treated with this medicine if you are allergic to naloxone or any inactive ingredients in the injection or nasal spray.

If possible, before you receive naloxone, tell your doctor if:

- you have heart problems; or
- you are pregnant or breastfeeding.

Using naloxone while you are pregnant may cause [opioid withdrawal](#) effects in your unborn baby. **However, having an opioid overdose can be fatal to both mother and baby.** It is much more important to treat an overdose in the mother. You must get emergency medical help after using this medicine. **Be sure all emergency medical caregivers know that you are pregnant.**

**If you use opioid medicine while you are pregnant, your baby could become dependent on the drug.** This can cause life-threatening withdrawal symptoms in the baby after it is born. Babies born dependent on [opioids](#) may need medical treatment for several weeks.

In an emergency, you may not be able to tell caregivers if you are pregnant or breastfeeding. Make sure any doctor

caring for your pregnancy or your baby knows you received this medicine.

**i** [Naloxone pregnancy and breastfeeding warnings](#) (more detail)

## How is naloxone given?

Use naloxone exactly as prescribed by your doctor. Follow all directions on your prescription label and read all medication guides or instruction sheets.

If you are a caregiver or family member, read all instructions when you first get this medicine so you will know how to use it in an emergency. Ask your doctor or pharmacist if you have any questions.

## Naloxone injection instructions

- Each naloxone injection contains only **one dose** of medicine and cannot be reused.
- Place the patient on their back and when you are ready to inject, pull off cap to expose needle.
- Do not put your finger on top of the device. For a child under the age of 1 years old, pinch the thigh muscle while administering the dose.
- Hold naloxone injection by finger grips only and slowly insert the needle into the thigh.
- After needle is in thigh you should push the plunger all the way down until it clicks and then hold for 2 seconds.
- Right after the injection, using one hand with fingers behind the needle, slide the safety guard over the needle. You should not use two hands to activate the safety guard. Put the used syringe into the blue case and close the case.

## Naloxone nasal spray instructions

- Each naloxone nasal spray contains only **one dose** of medicine and cannot be reused.
- Lay the person on their back. Support their neck with your hand and allow the head to tilt back before giving the nasal spray.
- Remove the nasal spray from the box. Peel back the tab to open the nasal spray blister.
- Hold the nasal spray with your thumb on the bottom of the plunger and your first and middle fingers on either side of the nozzle. Do not apply any pressure until you are ready to give the dose.
- 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 nasal spray, then after giving the dose, remove the nasal spray from the nostril.

## After giving a dose of naloxone

- You need to get emergency medical help as soon as you have been given the injection or nasal spray.
- Tell the healthcare provider that you have given a dose of this medicine.
- Turn the patient on their side to place them in the recovery position after giving them the naloxone.
- If symptoms continue or return after using this medicine, an additional dose may be needed.
- If you are giving additional doses, use a **new** nasal spray or **new** injection every 2 to 3 minutes and continue to

watch the person closely until emergency help has arrived closely.

- You may need to perform CPR (cardiopulmonary resuscitation) on the person while you are waiting for emergency help to arrive.
- Using naloxone does not take the place of emergency medical care.

**i** [Naloxone patient tips](#) (more detail)

## Dosing information

### Usual Adult Dose for Opioid Overdose

Initial dose:

- 0.4 mg to 2 mg IV; alternatively, may give IM or subcutaneously
- If the desired response is not obtained, doses should be repeated at 2 to 3 minute intervals
- If no response is observed with a total dose of 10 mg, the diagnosis of opioid-induced or partial opioid-induced toxicity should be questioned

Auto-injector:

- Administer 0.4 mg (1 actuation) IM or subcutaneously into the anterolateral aspect of the thigh (through clothing if necessary)
- If the desired response is not achieved, a second dose may be administered after 2 or 3 minutes; additional doses may be administered every 2 to 3 minutes until emergency medical assistance arrives

Nasal Spray:

- Administer 1 spray intranasally into 1 nostril
- If the desired response is not achieved after 2 or 3 minutes, give a second dose intranasally into alternate nostril; additional doses may be administered every 2 to 3 minutes in alternating nostrils until emergency medical assistance arrives

Comments:

- IV route is recommended in emergency situations since it has the most rapid onset of action.
- The duration of action of some opioids exceed that of this drug, therefore, repeat doses may be needed; the need for repeat doses will depend on the amount, type, and route of administration of the opioid being antagonized.

### Usual Adult Dose for Reversal of Opioid Sedation

Initial dose:

- 0.1 to 0.2 mg IV at 2 to 3 minute intervals to the desired degree of reversal
- Supplemental doses administered IM have been shown to produce a longer-lasting effect

Intravenous Infusion:

- A concentration of 0.004 mg/mL may be administered by IV infusion; titrate in accordance with patient's response

Comments:

- For the partial reversal of opioid depression following the use of opioids during surgery, smaller doses of naloxone are usually sufficient; larger than necessary doses may result in significant reversal of analgesia and increases in blood pressure.

## Usual Pediatric Dose for Opioid Overdose

Neonates:

- Initial dose: 0.01 mg/kg IV, IM, or subcutaneously; repeat dose every 2 to 3 minutes as needed

Children:

- Initial dose: 0.01 mg/kg IV; if the desired response is not obtained, may give 0.1 mg/kg IV
- If the IV route is not available may give IM or subcutaneously in divided doses.
- Administer 0.4 mg (1 actuation) IM or subcutaneously into the anterolateral aspect of the thigh (through clothing if necessary); if the desired response is not achieved, a second dose may be administered after 2 or 3 minutes; additional doses may be administered every 2 to 3 minutes until emergency medical assistance arrives
- Under 1 year of age: Thigh muscle should be pinched while administering injection

Comments:

- Neonatal opioid withdrawal syndrome may be life-threatening and should be treated according to protocols developed by neonatology experts.
- To avoid precipitating opioid withdrawal symptoms, consider use of a naloxone product that can be dosed according to weight and titrated to effect.
- The duration of action of some opioids will exceed that of this drug, therefore, repeat doses may be needed; the need for repeat doses will depend on the amount, type, and route of administration of the opioid being antagonized.
- Patients should remain under continued surveillance; if a patient responds and relapses back into respiratory depression, additional doses should be given.
- Additional supportive and/or resuscitative measures may be helpful while awaiting emergency medical assistance.

## Usual Pediatric Dose for Reversal of Opioid Sedation

Neonates:

- Initial dose: 0.01 mg/kg IV, IM or subcutaneously at 2 to 3 minute intervals to the desired degree of reversal

Children:

- 0.005 mg to 0.01 mg IV at 2 to 3 minute intervals to the desired degree of reversal

Intravenous Infusion:

- A concentration of 0.004 mg/mL may be administered by IV infusion; titrate in accordance with patient's response

Comments:

- For the partial reversal of opioid depression following the use of opioids during surgery, smaller doses of naloxone are usually sufficient; larger than necessary doses may result in significant reversal of analgesia and increases in blood pressure.

 [Detailed Naloxone dosage information](#)

## What happens if I overdose?

Seek emergency medical attention or call the Poison Help line at 1-800-222-1222.

## What should I avoid while using naloxone?

Avoid leaving a person alone after giving him or her a naloxone dose. An overdose can impair a person's thinking or reactions.

## Naloxone side effects

Get emergency medical help if you have signs of an allergic reaction to naloxone: [hives](#); difficulty breathing; swelling of your face, lips, tongue, or throat.

Because naloxone reverses opioid effects, the administration may cause sudden withdrawal symptoms such as:

- [nausea](#), [vomiting](#), [diarrhea](#), stomach pain;
- fever, sweating, body aches, weakness;
- tremors or shivering, [fast heart rate](#), pounding heartbeats, increased blood pressure;
- goose bumps, shivering;
- [runny nose](#), yawning; or
- feeling nervous, restless, or irritable.

Sudden withdrawal symptoms in a baby younger than 4 weeks old may be life-threatening if not treated the right way. Symptoms include crying, stiffness, overactive reflexes, and [seizures](#). Call your doctor or get emergency medical help if you are unsure how to properly give this medicine to a baby.

This is not a complete list of side effects and others may occur. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

 [Naloxone side effects](#) (more detail)

## Related/similar drugs

### Narcan

Narcan (naloxone) nasal spray is used to treat opioid overdose. Includes dosage, instructions ...

### Reviews & ratings

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## Kloxxado

Kloxxado (naloxone hydrochloride) is used for the emergency treatment of opioid overdose. Includes ...

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## Zimhi

Zimhi is used for the treatment of an opioid emergency such as an overdose or a possible opioid ...

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**What other drugs will affect naloxone?**

Other drugs may interact with naloxone, including prescription and over-the-counter medicines, [vitamins](#), and [herbal products](#). Tell your doctor about all your current medicines and any medicine you start or stop using.

 [Naloxone drug interactions](#) (more detail)

## Does naloxone interact with my other drugs?

Enter medications to view a detailed interaction report using our [Drug Interaction Checker](#).

+

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## Ingredients

### Kloxxado nasal spray

**Active ingredient:** naloxone hydrochloride

**Inactive ingredients:** dehydrated alcohol (20% (w/w)), edetate disodium dihydrate, propylene glycol, purified water, and sodium hydroxide and hydrochloric acid to adjust pH. The pH range is from 4.0 to 5.5.

### Narcan nasal spray

**Active ingredient:** naloxone hydrochloride

**inactive ingredients:** benzalkonium chloride (preservative), disodium ethylenediaminetetraacetate (stabilizer), sodium chloride, hydrochloric acid to adjust pH and sterile water.

Narcan is not made with natural rubber latex.

### Rezenopy nasal spray

**Active ingredient:** naloxone hydrochloride

**Inactive ingredients:** glycerin, trisodium citrate dihydrate, hydrochloric acid, and sodium hydroxide to adjust pH, and purified water.

Rezenopy nasal spray is not made with natural rubber latex.

### Zimhi injection

**Active ingredient:** naloxone hydrochloride

**Inactive ingredients:** sodium chloride, hydrochloric acid to adjust pH, and water for injection.

Zimhi is not made with natural rubber latex.

## Storage

### Kloxxado

- Store at room temperature 68°F to 77°F (20°C to 25°C).
- Do not freeze. Do not expose to temperatures below 41°F (5°C) or above 104°F (40°C).
- Keep Kloxxado nasal spray in its box until ready to use. Protect from light.



## Narcan

- Store below 77°F (25°C) with excursions permitted up to 104°F (40°C).
- Do not freeze Narcan or expose it to excessive heat above 104°F (40°C).
- Keep Narcan in its box until ready to use. Protect from light.
- Replace Narcan before the expiration date on the box.
- Keep this medicine and all medicines out of the reach of children.

## Rezenopy

- Store Rezenopy nasal spray either in the refrigerator or at room temperature between 2°C to 25°C (36°F to 77°F).
- Do not freeze. Do not expose to excessive heat above 40°C (104°F). Keep it in its box until ready to use. Protect from light.
- Replace the nasal spray before the expiration date on the box.
- Keep out of the reach of children.

## Zimhi

- Store between 68°F to 77°F (20°C to 25°C). Do not expose to extreme cold or heat. For example, do not store in your vehicle's glove box and do not store in the refrigerator or freezer.
- Store the Zimhi syringe in its closed plastic case to protect from light.
- Check Your Stored Zimhi Often - The solution should be clear when viewed through the window on the device. If the solution is discolored (yellowish or brown color), cloudy or contains particles, replace Zimhi with a new one.

## Manufacturers

**Kloxxado** is distributed by Hikma Specialty USA Inc. Columbus, OH 43228

**Narcan** is distributed by Emergent Devices Inc., Plymouth Meeting, PA 19462 USA.

**Rezenopy** is manufactured by Summit Biosciences Inc.

**Zimhi** is a trademark of Adamis Pharmaceuticals Corporation. Manufactured for Adamis Pharmaceuticals, San Diego, CA 92130, USA. Distributed By USWM LLC, Louisville, KY 40241.

## Popular FAQ

Is naloxone a controlled substance?



Is naloxone an opioid antagonist?



How do I get free Narcan emergency kits?



How long does Narcan (naloxone) block opiates?



What are the different types of buprenorphine/naloxone?



How do you administer Narcan (naloxone)?



How does Narcan (naloxone) work in an overdose?



Is naloxone an addictive drug?



## More FAQ

- [What's the difference between naltrexone and naloxone?](#)

[View more FAQ...](#)

## References

1. [U.S. Department of Justice Drug Enforcement Administration: Drug and Chemical Information](#)
2. [National Institutes of Health: National Institute on Drug Abuse Naloxone DrugFacts](#)
3. [FDA Narcan Label](#)
4. [FDA Kloxxado Label](#)
5. [FDA Zimhi Label](#)
6. [Rezenopy Package Insert](#)
7. [CDC: Centres for Disease Control and Prevention, Livesaving Naloxone](#)
8. [DEA United States Drug Enforcement Administration: The Controlled Substances Act](#)

## More about naloxone

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- [Compare alternatives](#)
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- [Side effects](#)
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- [Patient tips](#)
- [During pregnancy](#)
- [Support group](#)
- [Drug class: antidotes](#)
- [Breastfeeding](#)

## Patient resources

- [Naloxone Nasal Spray patient information](#)

## Other brands

[Narcan](#), [Kloxxado](#), [Evzio](#), [Zimhi](#), ... +2 more

## Professional resources

- [Naloxone Hydrochloride monograph](#)
- [Naloxone \(FDA\)](#)
- [Naloxone Auto-Injector \(FDA\)](#)
- [Naloxone Injection \(FDA\)](#)
- [Naloxone Nasal Spray \(FDA\)](#)

## Other brands

[Narcan](#), [Kloxxado](#), [Evzio](#), [Zimhi](#), ... +2 more

## Related treatment guides


- [Reversal of Opioid Sedation](#)
- [Opioid Overdose](#)

## Further information


Always consult your healthcare provider to ensure the information displayed on this page applies to your personal circumstances.

[Medical Disclaimer](#)

### DRUG STATUS




Rx and/or OTC




[Pregnancy & Lactation](#)

Risk data available



**CSA Schedule\***

N/A Not a controlled drug



**Approval History**

Drug history at FDA



## User Reviews & Ratings

7.7 / 10

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## Images

Narcan (naloxone) 4 mg / 0.1 mL intranasal spray



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