



Naloxone Access: A Practical Guideline for Pharmacists

Authors:

Bethany A. DiPaula, PharmD, BCPP

James J. Gasper, PharmD, BCPP

Jeff Gold, PharmD, BCPP

Julie C. Kissack, PharmD, BCPP, FCCP

Raymond C. Love, PharmD, BCPP, FASHP

Sarah T. Melton, PharmD, BCPP, CGP, BCACP, FASCP

Theodore Pikoulas, PharmD, BCPP

Talia Puzantian, PharmD, BCPP

Mark E. Schneiderhan, PharmD, BCPP

Christopher Stock, PharmD, BCPP

Heidi Wehring, PharmD, BCPP

This toolkit is intended to highlight both the evidence base available as well as strategies of clinical decision making used by expert clinicians. The content reflects the views and practice of the authors as substantiated with evidence-based facts as well as opinion and experience.

© 2020 CPNP. This is an open access article distributed under the terms of the [Creative Commons Attribution-Non Commercial 3.0 License](https://creativecommons.org/licenses/by-nc/3.0/), which permits non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Contents

Background.....	2
Patient Selection.....	2
How It Is Supplied	2
Prescribing and Dispensing	3
Naloxone Storage Information	5
Supporting Laws and Regulations	5
Frequently Asked Questions	5
For More Information	6
Intranasal Naloxone Patient Information Sheet	7
Intramuscular Naloxone Patient Information Sheet	8
References.....	9
CPNP Contact Information	9

Background

Drug overdoses are occurring at an alarming rate in the United States. Many overdoses have been linked to opioid analgesics, which may have been obtained from community pharmacies. While overdose rates remain high, there has been some plateauing due to factors such as the wide-spread availability of naloxone. Pharmacists should be prepared to routinely offer and educate about naloxone.

Patient Selection

Naloxone should be considered for all patients exposed to opioids regardless of the source. The risk of a potentially fatal opioid overdose is a hazard of the drug and the drug combinations that are used. This applies to those who take opioids for pain, those who misuse them, and those who might be at risk for accidental exposure.

Additional overdose risk factors include the following:

- Concurrent use of benzodiazepines or alcohol^{1,2}
- History of opioid addiction or other substance use disorder³
- Comorbid mental illness³
- Obtaining prescriptions from multiple pharmacies and prescribers⁴
- Daily opioid doses exceeding 100 mg of morphine equivalents³⁻⁶
- Receiving a methadone prescription⁷
- Recent emergency medical care for opioid poisoning/intoxication/overdose⁸
- Recent release from incarceration/prison/jail⁹
- Recent discharge from opioid detoxification or abstinence-based program¹⁰
- Comorbid renal dysfunction, hepatic disease, or respiratory diagnoses (smoking/COPD/emphysema /asthma/sleep apnea/other)

Naloxone is a bystander-administered medication, and the request for naloxone may come from caregivers or friends.

How It Is Supplied

Naloxone for take-home use can be supplied as an intramuscular (IM) injection or as an intranasal (IN) spray. Both formulations are effective. The intranasal formulation can be dispensed as a commercially available product or a kit that requires assembly. In many cases, the commercially produced naloxone nasal spray may be preferred by patients and caregivers due to cost and ease of assembly/administration. There is also an IM auto-injector. Pharmacists should note that dosing and administration instructions vary among the formulations.

Intranasal Spray

IN nasal spray: commercially available as a twin pack with directions for administration included



Figure 1. IN nasal spray

IN kits should contain: 2 naloxone 2 mg/2 ml prefilled syringes, 2 atomizers, step-by-step instructions for responding to an opioid overdose, and directions for naloxone administration.



Figure 2. Intranasal kit *Used with permission. San Francisco Department of Public Health. Naloxone for opioid safety: a provider's guide to prescribing naloxone to patients who use opioids. January 2015.*

Intramuscular Injection

IM kits should contain: 2 naloxone 0.4 mg/ml vials, 2 IM syringes, step-by-step instructions for responding to an opioid overdose, and directions for naloxone administration.



Figure 3. Intramuscular kit *Used with permission. San Francisco Department of Public Health. Naloxone for opioid safety: a provider's guide to prescribing naloxone to patients who use opioids. January 2015.*

IM auto-injector: commercially available as a twin pack with directions for administration included. Generic auto-injector now available.



Figure 4. IM auto-injector

Prescribing and Dispensing

Intranasal

Naloxone 4 mg/0.1 ml nasal spray, 2 pack single spray devices

SIG: Spray entire contents of device into 1 nostril upon signs of opioid overdose. Call 911. May repeat $\times 1$.

Intranasal

Naloxone 2 mg/2 ml prefilled syringe, 2 syringes

SIG: One spray into each nostril upon signs of opioid overdose. Call 911. May repeat x1.

Atomizer No. 2

SIG: Use as directed for naloxone administration

Intramuscular

Naloxone 0.4 mg/ml single dose vial, 2 vials

SIG: Inject 1 ml IM upon signs of opioid overdose. Call 911. May repeat x1.

Syringe 3 ml 25G x1 inch No. 2

SIG: Use as directed for naloxone administration

Intramuscular Auto-injector

Naloxone 2 mg/0.4 ml,

No. 1 twin pack

SIG: Use one auto-injector upon signs of opioid overdose. Call 911. May repeat x1.

Acquisition and Reimbursement

The single-dose vial, prefilled syringe, IM syringes, commercial nasal spray, and auto-injector are available from pharmacy wholesale distributors. The atomizers for IN kit are available from medical supply vendors, and in some cases, can be purchased directly from the pharmacy wholesaler.

Table. Nasal Atomizer Vendor Contacts

Vendor	Item No.	Contact
Teleflex	MAD 300	919-544-8000
Amazon	MAD Nasal Atomization Device	

Medicaid, Medicare, and many private insurance companies will pay for naloxone. However, at present, health plans do not have a viable way to pay for the atomizer, which lacks any unique identifier, such as an NDC number.

To cover the cost of the atomizer, some pharmacies are charging patients directly. In other cases, the atomizers are included with the drug at no additional charge. Some pharmacies have been successful billing for the atomizer under durable medical equipment (DME). New Mexico provides a reimbursement code for the entire kit, including the pharmacist’s time.

Naloxone Storage Information

- Store naloxone in an easily accessible place in the original package at room temperature. Avoid light exposure.
- The shelf life of naloxone is generally 12 to 18 months. If stored properly, naloxone should be effective until at least the expiration date on the packaging.
- Do not insert naloxone into the prefilled syringe until ready to use. Once inserted, it expires within 2 weeks.
- Monitor the expiration date on naloxone and replace before it expires. When there are no other alternatives, expired naloxone can be administered but may not be as effective.

Supporting Laws and Regulations

State laws to support naloxone access fall under three categories:

- Good Samaritan: protects individuals who call for help at the scene of an overdose from being arrested for drug possession.
- Liability protection/third party administration: protects the prescriber, pharmacist, and the bystander who may be administering the naloxone. It also allows bystanders to be prescribed naloxone for use on opioid overdose victims.
- Collaborative practice agreement/Standing Order: allows pharmacists to dispense naloxone to at-risk individuals without a traditional hand-written/faxed prescription. It may be done with individual physicians or on a statewide basis. Recent study found that states with laws allowing patients to obtain naloxone directly from pharmacy without an additional prescription demonstrated a significant decrease in opioid-related mortality after the legislation was enacted.

All 50 states and the District of Columbia have approved legislation which expands community access to naloxone. The Network for Public Health Law has an updated [summary of state laws](#).¹¹

Frequently Asked Questions

What are signs of opioid overdose?

- Skin is pale and/or clammy to the touch.
- Body is limp.
- Fingernails or lips have a blue or purple cast.
- Patient is vomiting or making gurgling noises.
- Patient is unarousable.
- Breathing is very slow or stopped.

What is rescue breathing?

Rescue breathing involves essentially breathing for someone else. By providing rescue breathing during an opioid overdose, the rescuer can potentially prevent the patient from developing organ damage. See the patient information sheets for details on how to administer rescue breaths.

If someone is unwilling or unable to administer rescue breathing then compression-only CPR should be initiated.

How quickly does naloxone work?

Naloxone works within 2 to 5 minutes, depending on how naloxone has been administered.

How long should a bystander remain with the overdose victim after naloxone has been administered?

Bystanders should remain with the overdose victim until help arrives. Naloxone only has a 30 to 90-minute duration of action. Patients who have overdosed on a long-acting opioid may initially respond and then succumb to overdose symptoms again. It is important to remain with the patient to continue to provide support and additional doses of naloxone (if required) until help arrives.

Is naloxone effective in treating other types of overdoses?

No, naloxone is only effective in reversing an opioid overdose. At times, it may be difficult to distinguish opioid overdose symptoms from other overdoses or illnesses. Therefore, it is important to immediately seek medical help and administer naloxone, if it is possible someone has had an opioid overdose.

What happens if you administer expired naloxone?

The amount of active ingredient in a naloxone formulation does not appear to be affected by prolonged storage or by temperature extremes therefore administration of expired naloxone remains an acceptable use of the drug if an in-date product is not available.

Can the intranasal naloxone be assembled in advance?

The shelf life of the assembled prefilled syringe is only 2 weeks; therefore, it is recommended that the atomizer is attached to the syringe but the naloxone is not inserted until ready to administer.

Can naloxone be administered to pregnant women?

Yes, in an opioid overdose, naloxone can and should be administered to a pregnant woman. However, there is risk for opioid withdrawal.

Does naloxone reverse overdoses due to fentanyl and fentanyl analogues?

Yes, naloxone is effective in reversing overdoses by high potency opioids such as fentanyl and carfentanyl, however more than two doses of naloxone may be necessary. In geographic areas where high potency opioids have entered the drug supply chain, the provision of additional doses of take-home naloxone may be required.

For More Information

- www.prescribeprevent.org
- [Overdose rescue/naloxone long-format training. August 23, 201217](#)
- [SAMHSA Opioid Overdose Prevention Toolkit17](#)

Intranasal Naloxone Patient Information Sheet

Common brand names: Narcan

Uses: Naloxone is used to treat an opioid overdose. Naloxone can stop the effects of opioids for a short time.

Tell family/friends where naloxone is stored and how to use it in case of an opioid emergency.

Signs of an opioid overdose

Slowed breathing or stopped breathing, blue or gray lips and fingernails, pale and/or moist skin, unable to wake up or respond.

How to Use IN Naloxone

If you think someone may have overdosed on an opioid:

Step 1. Call 911.

Step 2. Give naloxone.

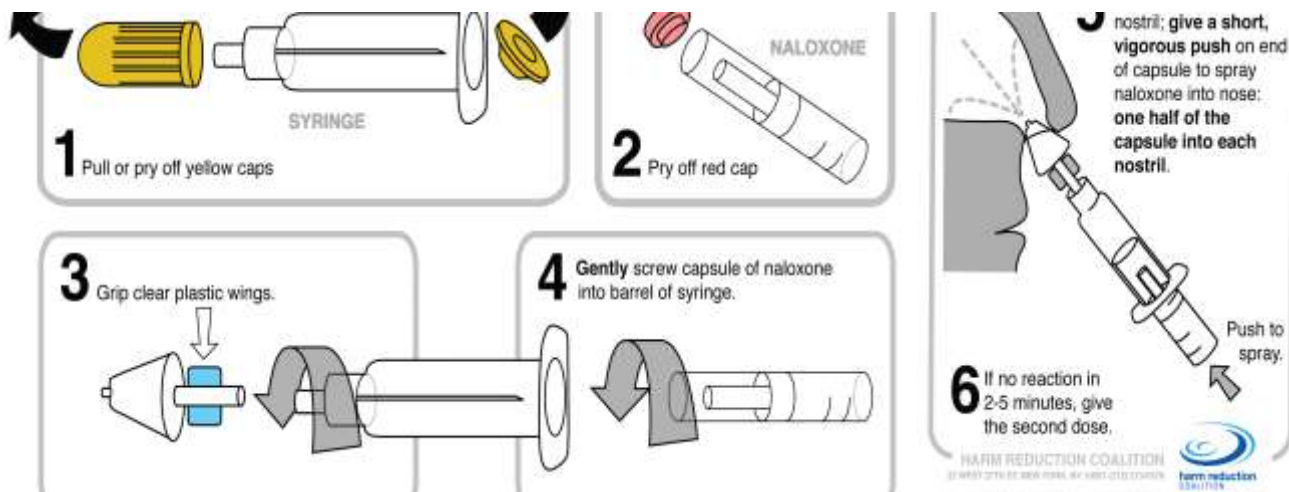


Image by Harm Reduction Coalition. <http://harmreduction.org/issues/overdose-prevention/tools-best-practices/od-kit-materials/>. Updated October 2014.

Step 3. Give a second dose of naloxone in 2 to 3 minutes if there is no response to the first dose.

Step 4. Follow the 911 dispatcher's instructions or perform rescue breathing if comfortable doing so.

Rescue Breathing

The key steps of rescue breathing include the following:

Step 1. Make sure nothing is in the person's mouth.

Step 2. Tilt the head back, lift chin, and pinch nose shut.

Step 3. Give one slow breath every 5 seconds; chest should rise.

Side effects

Anxiety, sweating, nausea/vomiting, or shaking. This is not a complete list of possible side effects. If you notice other effects not listed, contact your doctor or pharmacist.

Intramuscular Naloxone Patient Information Sheet

Uses: Naloxone is used to treat an opioid overdose. Naloxone can stop the effects of opioids for a short time.

Tell family/friends where naloxone is stored and how to use it in case of an opioid emergency.

Signs of an opioid overdose

Slowed breathing or stopped breathing, blue or gray lips and fingernails, pale and/or moist skin, unable to wake up or respond.

How to Use IM Naloxone

If you think someone may have overdosed on an opioid:

Step 1. Call 911.

Step 2. Give naloxone.



1 Remove cap from naloxone vial and uncover the needle



2 Insert needle through rubber plug with vial upside down
Pull back on plunger and take up 1 mL



3 Inject 1 mL of naloxone at a 90 degree angle into a large muscle (upper arm/thigh, outer buttocks)

Images in Public Domain. San Francisco Department of Public Health. Naloxone for opioid safety: a provider's guide to prescribing naloxone to patients who use opioids. January 2015.

Step 3. Give a second dose of naloxone in 2 to 3 minutes if there is no response to the first dose.

Step 4. Follow 911 dispatcher's instructions or perform rescue breathing if comfortable doing so.

Rescue Breathing

The key steps to rescue breathing include the following:

Step 1. Make sure nothing is in the individual's mouth.

Step 2. Tilt the head back, lift chin, and pinch nose shut.

Step 3. Give one slow breath every 5 seconds; chest should rise.

Side effects

Anxiety, sweating, nausea/vomiting, or shaking. This is not a complete list of possible side effects. If you notice other effects not listed, contact your doctor or pharmacist.

References

1. Jones CM, Mack KA, Paulozzi LJ. Pharmaceutical overdose deaths, United States, 2010. *JAMA*. 2013;309(7):657-9. DOI: [10.1001/jama.2013.272](https://doi.org/10.1001/jama.2013.272). PubMed PMID: [23423407](https://pubmed.ncbi.nlm.nih.gov/23423407/).
2. Hirsch A, Proescholdbell SK, Bronson W, Dasgupta N. Prescription histories and dose strengths associated with overdose deaths. *Pain Med*. 2014;15(7):1187-95. PubMed PMID: [25202775](https://pubmed.ncbi.nlm.nih.gov/25202775/).
3. Bohnert ASB, Valenstein M, Bair MJ, Ganoczy D, McCarthy JF, Ilgen MA, et al. Association between opioid prescribing patterns and opioid overdose-related deaths. *JAMA*. 2011;305(13):1315-21. DOI: [10.1001/jama.2011.370](https://doi.org/10.1001/jama.2011.370). PubMed PMID: [21467284](https://pubmed.ncbi.nlm.nih.gov/21467284/).
4. Gwira Baumblatt JA, Wiedeman C, Dunn JR, Schaffner W, Paulozzi LJ, Jones TF. High-risk use by patients prescribed opioids for pain and its role in overdose deaths. *Jama Intern Med*. 2014;174(5):796-801. DOI: [10.1001/jamainternmed.2013.12711](https://doi.org/10.1001/jamainternmed.2013.12711). PubMed PMID: [24589873](https://pubmed.ncbi.nlm.nih.gov/24589873/).
5. Zedler B, Xie L, Wang L, Joyce A, Vick C, Kariburyo F, et al. Risk factors for serious prescription opioid-related toxicity or overdose among Veterans Health Administration patients. *Pain Med*. 2014;15(11):1911-29. DOI: [10.1111/pme.12480](https://doi.org/10.1111/pme.12480). PubMed PMID: [24931395](https://pubmed.ncbi.nlm.nih.gov/24931395/).
6. Dunn KM, Saunders KW, Rutter CM, Banta-Green CJ, Merrill JO, Sullivan MD, et al. Opioid prescriptions for chronic pain and overdose: a cohort study. *Ann Intern Med*. 2010;152(2):85-92. DOI: [10.7326/0003-4819-152-2-201001190-00006](https://doi.org/10.7326/0003-4819-152-2-201001190-00006). PubMed PMID: [20083827](https://pubmed.ncbi.nlm.nih.gov/20083827/).
7. Ray WA, Chung CP, Murray KT, Cooper WO, Hall K, Stein CM. Out-of-Hospital Mortality Among Patients Receiving Methadone for Noncancer Pain. *Jama Intern Med*. 2015 Mar 1;175(3):420-7. DOI: [10.1001/jamainternmed.2014.6294](https://doi.org/10.1001/jamainternmed.2014.6294). PubMed PMID: [25599329](https://pubmed.ncbi.nlm.nih.gov/25599329/).
8. Darke S, Marel C, Mills KL, Ross J, Slade T, Burns L, et al. Patterns and correlates of non-fatal heroin overdose at 11-year follow-up: findings from the Australian Treatment Outcome Study. *Drug Alcohol Depend*. 2014;144:148-52. DOI: [10.1016/j.drugalcdep.2014.09.001](https://doi.org/10.1016/j.drugalcdep.2014.09.001). PubMed PMID: [25278146](https://pubmed.ncbi.nlm.nih.gov/25278146/).
9. Leach D, Oliver P. Drug-related death following release from prison: a brief review of the literature with recommendations for practice. *Curr Drug Abuse Rev*. 2011;4(4):292-7. PubMed PMID: [21834754](https://pubmed.ncbi.nlm.nih.gov/21834754/).
10. Zanis DA, Woody GE. One-year mortality rates following methadone treatment discharge. *Drug Alcohol Depend*. 1998;52(3):257-60. PubMed PMID: [9839152](https://pubmed.ncbi.nlm.nih.gov/9839152/).
11. Legal interventions to reduce overdose mortality: Naloxone access and overdose Good Samaritan laws [Internet]. [cited 2015 Mar 19]. The Network for Public Health Law. Available from: <https://www.networkforphl.org/asset/qz5pvn/legal-interventions-to-reduce-overdose.pdf>
12. Opioids: Addiction, overdose, prevention (naloxone) and patient education [Internet]. [cited 2017 Oct 13]. Prescribe to Prevent. Available from: http://prescribetoprevent.org/pharmacist-solutions/naloxoneceu_vuri_ce/
13. New Mexico Pharmacist prescriptive authority of naloxone rescue kits (NRKs), as intended to support and pursuant to, New Mexico Board of Pharmacy Regulation [Internet]. [cited 2015 Mar 19]. New Mexico Regulation & Licensing Department. Available from: http://www.rld.state.nm.us/uploads/FileLinks/e3740e56e0fe428e991dca5bd25a7519/NRK_Protocol_BOP_Dale_Tinker.pdf
14. Collaborative drug therapy agreement for naloxone medication in opioid overdose reversal [Internet]. [cited 2016 Jun 7]. Washington State Hospital Association. Available from: <http://www.stopoverdose.org/docs/cdtasample.pdf> CBHS pharmacist prescribing naloxone protocol [cited 2015 Mar 19]. San Francisco Department of Public Health. Available from: <http://prescribetoprevent.org/wp-content/uploads/SF-DPH-CPA-Naloxone-Protocol-Bup-Methadone-PT.pdf>
15. Bratberg J. Partnering with pharmacists: Naloxone prescribing and dispensing to prevent overdose deaths [Internet]. [cited 2015 Mar 19]. PCSS-O Training. Available from: <http://pcss-o.org/event/partnering-with-pharmacists-naloxone-prescribing-and-dispensing-to-prevent-overdose-deaths-aoaam/>
16. Overdose rescue / Naloxone long-format training [Internet]. [cited 2015 Mar 19]. DOPE Project / San Francisco Department of Public Health. Available from: <http://harmreduction.org/wp-content/uploads/2012/02/DOPE-narcan-group-curriculum.pdf>
17. Substance Abuse and Mental Health Services Administration. SAMHSA Opioid Overdose Prevention Toolkit. HHS Publication No. (SMA) 13-4742. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2013. Available from: <http://store.samhsa.gov/shin/content/SMA16-4742/SMA16-4742.pdf>
18. Pruyn, Justin Frey, Benjamin Baker, Michael Brodeur, Carla Graichen, Heather Long, Haiyan Zheng & Michael Winter Dailey (2019) Quality Assessment of Expired Naloxone Products from First-Responders' Supplies, *Prehospital Emergency Care*, 23:5, 647-653
19. Lai, D., Pham, A.T., Nekkar Rao, P.P. et al. The effects of heat and freeze-thaw cycling on naloxone stability. *Harm Reduct J* 16, 17 (2019). <https://doi.org/10.1186/s12954-019-0288-4>

CPNP Contact Information

College of Psychiatric and Neurologic Pharmacists

Mail: 8055 O Street, Suite S113
 Lincoln, Nebraska 68510

Phone: 402-476-1677

Email: info@cpnp.org

Website: cpnp.org