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.

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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 disorder\(^3\)
- Comorbid mental illness\(^3\)
- Obtaining prescriptions from multiple pharmacies and prescribers\(^4\)
- Daily opioid doses exceeding 100 mg of morphine equivalents\(^3-6\)
- Receiving a methadone prescription\(^7\)
- Recent emergency medical care for opioid poisoning/intoxication/overdose\(^8\)
- Recent release from incarceration/prison/jail\(^9\)
- Recent discharge from opioid detoxification or abstinence-based program\(^10\)
- 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 ×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 ×1.
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 ×1.
Syringe 3 ml 25G ×1 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 ×1.

**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**

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Item No.</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teleflex</td>
<td>MAD 300</td>
<td>919-544-8000</td>
</tr>
<tr>
<td>Amazon</td>
<td>MAD Nasal Atomization Device</td>
<td></td>
</tr>
</tbody>
</table>

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.  

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.prescribetoprevent.org](http://www.prescribetoprevent.org)
- [Overdose rescue/naloxone long-format training. August 23, 2012](http://www.prescribetoprevent.org)
- [SAMHSA Opioid Overdose Prevention Toolkit](http://www.prescribetoprevent.org)
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.

**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)

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

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/e3740e560fe628e91dc5b0257519/NNR.Protocol_BOP_Dale_Tinker.pdf

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