Naloxone:
Preventing Opioid Overdose in the Community

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DISCLOSURES

I have no relevant disclosures or conflicts of interest to declare.
LEARNING OBJECTIVES

1. Discuss the epidemiology of opioid overdose.
2. Identify how to avoid, recognize, and act on opioid overdoses.
3. Discuss the role and safety of prescribing and distributing naloxone.
Drugs Involved in U.S. Overdose Deaths, 1999 to 2017

- Synthetic Opioids other than Methadone, 29,406
- Heroin, 15,958
- Natural and semi-synthetic... (not fully visible)
- Cocaine, 14,556
- Methamphetamine, 10,721
- Methadone, 3,295
New York State Overdose Crisis

Figure 1
Fentanyl-related deaths among overdose deaths involving opioids in New York State, outside New York City, 2015-2017

Figure 2
Top 10 counties with highest fentanyl-related deaths among overdose deaths involving opioids for New York State, outside New York City, 2015-2017 (based on decedent’s county of residence)

NYS DOH Data Brief: February 2019
Fentanyl Related Deaths in New York State
Fentanyl involved in 57% of overdose deaths in 2017 up from 44% in 2016
New York State Overdose Crisis

Figure 6
Fentanyl-related deaths with other substances among overdose deaths involving opioids for New York State, outside New York City, 2015-2017

NYS DOH Data Brief: February 2019
Fentanyl Related Deaths in New York State
Overdose Prevention, Recognition, and Response Basics

Image credit: still from “Worth Saving” https://vimeo.com/16876465
What Are Opioids?

Natural, synthetic and semi-synthetic opioids:

- Heroin
- Morphine
- Codeine
- Methadone
- Oxycodone (Percocet, Oxycontin, Roxicodone)
- Hydrocodone (Lortab, Vicodin, Norco)
- Oxymorphone (Opana)
- Hydromorphone (Dilaudid)
- Buprenorphine (Suboxone/Subutex/Zubsolv)
- Fentanyl and fentanyl analogs (acryl, furanyl, acetyl, carfentanyl, etc.)
- Many others

NOT Opioids:

- Cocaine or crack
- Methamphetamines
- Benzodiazepines (Xanax, Valium, Ativan, Klonopin)
- Promethazine (Phenergan)
- Seroquel
- Gabapentin (Neurontin)
- Muscle Relaxers (Soma, Flexeril)
- Alcohol
- K2
- PCP
An Overdose Is A Continuum

Opioids suppress the drive to breathe in the brain
Carbon dioxide levels increase
Oxygen levels decrease
Process takes time
There is time to respond, but no time to waste

1. • Slow breathing
2. • Breathing stops
3. • Lack of oxygen may cause brain damage
4. • Heart stops
5. • Death
Opioids attaching to receptors

The brain has many, many receptors for opioids. An overdose occurs when too much of an opioid, such as heroin or oxycodone, fits in too many receptors slowing and then stopping the breathing.
How to Avoid An Overdose: Risk Factors

- Mixing Drugs
- Variation in strength and content of ‘street’ drugs (purity), or strength/dosage of pharmaceuticals
- Switching mode of admin (snorting to injecting, eating pills to snorting, etc.)
- Tolerance changes (getting out of jail, leaving treatment, relapsing)
- New/experimenting users, no tolerance or dependence
- Using alone
- Physical Health (liver functioning, weight loss, asthma, immune system problems, dehydration, malnutrition, etc.)

Image credit: Heroin (top) Harm Reduction Coalition, DOPE Project, others from internet
Counseling about OD Prevention

- Know your tolerance
- Know your supply
- Control your own high
- Be aware of the risks of mixing drugs
- Try not to use alone or have a trusted friend to check on you
- Make a plan
- Use drug testing resources if possible
Counseling around Fentanyl

• “Assume fentanyl" and anticipate that it could be present at any time.

• Universal precautions: go slow, do a test dose, do not use alone, stagger use with others, avoid mixing drugs if possible

• Scare tactics not useful or helpful messaging
What Is Naloxone?

- A safe medication that reverses opioid overdose and blocks opioids for **30-90 minutes**
- Available with or without an individual prescription
- Not a controlled substance
- No known negative effects and **DOES NO HARM**, well studied, no potential for abuse, no allergic reactions
- Can wake someone up within several minutes
Naloxone reversing an overdose

Naloxone has a stronger affinity to the opioid receptors than opioids, such as heroin or oxycodone, so it knocks the opioids off the receptors for a short time (30-90 minutes). This allows the person to breathe again and reverse the overdose.

# Recognizing An Opioid Overdose

<table>
<thead>
<tr>
<th>High/sedated</th>
<th>OVERDOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscles become relaxed</td>
<td>Deep snoring or gurgling (death rattle) or wheezing</td>
</tr>
<tr>
<td>Speech is slowed/slurred</td>
<td>Blue or grayish skin tinge- usually lips and fingertips darken first</td>
</tr>
<tr>
<td>Sleepy looking</td>
<td>Pale, clammy skin</td>
</tr>
<tr>
<td>Will respond to stimulation like yelling, sternum rub, pinching, etc.</td>
<td>Heavy nod, will not respond to stimulation</td>
</tr>
<tr>
<td>Nodding out</td>
<td>Breathing is very slow, irregular, or has stopped/faint pulse</td>
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</tbody>
</table>
Overdose Response

1. Check responsiveness
2. Administer naloxone
3. Alert EMS
4. Rescue Breathing/CPR
5. Recovery Position
6. Aftercare
PULP FICTION:

Naloxone is never injected into the heart. The injectable form of naloxone is injected either intravenously or intramuscularly.

In the film, the overdosing person is given an “adrenaline shot to the heart.” This is not real, it is fiction, and not, nor has it ever been the proper treatment for an overdose.

Image credit: still from Quentin Tarantino’s “Pulp Fiction,” Miramax, 1994
Step 1: Check Responsiveness

• Try **shake and shout** to wake them up

• If no response, **grind knuckles** into their chest bone (sternal rub) for 5-10 seconds

• If the person still does not respond, they could be experiencing an OD
Step 2: Administer Naloxone

Opioid antagonist (‘blocker’) which reverses opioid overdose

Can be administered intravenously, intramuscularly, subcutaneously or intranasally

Only works for about 20-90 minutes

Causes sudden withdrawal in the opioid dependent person – an unpleasant experience

Doesn’t get a person “high” and is not addictive

Has no effect if an opioid is not present
Naloxone reversing an overdose

Naloxone has a stronger affinity to the opioid receptors than opioids, such as heroin or oxycodone, so it knocks the opioids off the receptors for a short time (30-90 minutes). This allows the person to breathe again and reverse the overdose.

How to give naloxone:
There are 4 common naloxone products. Follow the instructions for the type you have.

**Nasal spray**
This nasal spray needs no assembly and can be sprayed up one nostril by pushing the plunger.

**Auto-injector**
The naloxone auto-injector needs no assembly and can be injected into the outer thigh, even through clothing. It contains a speaker that provides step-by-step instructions.

**Nasal spray with assembly**
This requires assembly. Follow the instructions below.

1. Take off yellow caps.
2. Screw on white cone.
3. Take purple cap off capsule of naloxone.
4. Gently screw capsule of naloxone into barrel of syringe.
5. Insert white cone into nostril; give a short, strong push on end of capsule to spray naloxone into nose. ONE HALF OF THE CAPSULE INTO EACH NOSTRIL. Push to spray.
6. If no reaction in 3 minutes, give second dose.

**Injectable naloxone**
This requires assembly. Follow the instructions below.

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 into an upper arm or thigh muscle.
4. If no reaction in 3 minutes, give second dose.

Image credit: SFDPH Opioid Safety materials [www.prescribetoprevent.org](http://www.prescribetoprevent.org)
Administering additional naloxone:

A second dose of naloxone (any type) can be administered after 2 minutes of non-responsiveness.

Administering a second dose before 2 minutes is a common mistake as people often panic, especially with fentanyl-related overdoses that cause rapid onset of respiratory depression. It may exacerbate withdrawal symptoms to administer excess naloxone.
Step 3: Calling 911

As you determine that the person is unresponsive, have someone call 911 and state that the person is NOT BREATHING, UNRESPONSIVE, POSSIBLE OVERDOSE.

Person can refuse transport if conscious and over 18.

Step 4: Clear the airway/Rescue Breathing

Rescue breathing is one of the most important steps in preventing an overdose death and often overlooked.

It’s important that the person’s airway is clear so air can get into their lungs.

Place the person on their back, place your hand under their neck and tilt their chin up. Check to see if there is anything in their mouth blocking their airway, such as gum, pills, patches, food, etc. If so, remove it.

Use a mouth shield or breathing mask if you have one.
How to Give Rescue Breathing

• Tilt the head back, pinch nose
• Start with 2 quick breaths
  o If the chest doesn’t rise, reposition head, check mouth for food, gum, etc. and try again
• Then give one breath every 5 seconds
  o Give normal sized breaths
Step 5: Recovery Position

Put person in a supported position on their side to prevent choking on vomit:

- Any time you have to leave the person alone (even after administering naloxone)
- Person responds to naloxone and is not okay

Image Credit: Joanna Berton Martinez and Mary Wheeler, used with permission by the Harm Reduction Coalition
The Wake-Up:

People wake up from an overdose differently.

Violent reactions to waking up from an overdose are rare, and associated with being given too much naloxone, or waking up in disorienting environments (ER, first responders/police presence, etc)

Often, the person does not realize that they had overdosed, keep them calm and explain what happened.

Make sure they do not try to ingest more of any drug.
Step 6: After-care and Support

- The effects of naloxone only lasts between 20 – 90 minutes.
- It is very important that someone stay with the person and wait out the risk period just in case another dose of naloxone is necessary. Encourage medical attention.
- Naloxone can cause uncomfortable withdrawal feelings since it blocks the action of opioids in the brain.
- Long-acting opioids present the greatest risk of “re-sedation” or a return of the overdose, so it is important to get further assistance for the person if they have taken any long-acting opioid (like methadone) or to watch them for a while after the wake up.
Good Samaritan Law

New York’s “911 Good Samaritan Law” provides protections from charge and prosecution for drug and alcohol possession for the victim and those who seek help during an overdose.
NY State Good Samaritan Law

• **Protects (only):**
  – Individual who is overdosing
    And
  – Person who calls 9-1-1

• **Prevents prosecution for:**
  – Drug possession of up to 8 oz of a controlled substance
  – Alcohol (for underage drinkers)
  – Marijuana (any amount)
  – Paraphernalia offenses
  – Sharing of drugs (in NY sharing can be a “sales” offense)
NY State Good Samaritan Law

• **Does not offer protection if:**
  
  – Previous conviction for class A-1, A-2, B felony possession (B = over \(\frac{1}{2}\) lb of marijuana)
  
  – Open warrant for arrest
  
  – Currently on probation or parole*
  
  – Other crimes on scene
Where to Get Naloxone: OOPPS

• NYS DOH funded programs (Opioid Overdose Prevention Programs) that train and provide naloxone to community members under a ‘standing order’
  – Standing order allows approved overdose trainers to train community members under the supervision of a clinical director when the prescriber is not present

• Over 400 OOPPs in NYS
  – Syringe Access Programs
  – Homeless shelters
  – Hospitals
  – Universities
  – LGBTQI+ Centers
Prescribing Naloxone

Many pharmacies dispense naloxone, either under a standing order or by prescription.

- **N-CAP**: Funded by NYS, covers up to $40 in naloxone co-payments with health insurance coverage.
Peer/Community Distribution of Naloxone

Does it work?

In towns in Massachusetts overdose rates were lowered by 24 - 46% by having naloxone in the community - the more the better.

Will drug users use it as a safety net or encourage risky behavior?

Drug users who used naloxone to reverse overdoses did not use more opioids after receiving kits.

CLINICAL INQUIRY FOR: HIV • HCV • STD • PEP • PrEP

cei line
1-866-637-2342

ASK AN EXPERT
Call for a clinical inquiry for your patient with an STD, HIV, HCV, or those in need of PEP or PrEP

www.ceitraining.org
866-637-2342
QUESTIONS?

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