Naloxone in Schools

Training for School Staff
Objectives

• Learn the signs and symptoms of opioid drug overdose
• Have the skills to administer naloxone
• Review the use of naloxone protocol in responding to a opioid drug overdose
WHAT IS THE RISK?
The Opioid Epidemic

• Young adults (age 18 to 25) are the biggest abusers of prescription opioid pain relievers, ADHD stimulants, and anti-anxiety drugs

(National Institute on Drug Abuse, National Institutes of Health, U.S. Department of Health and Human Services, 2016)
The Opioid Epidemic

• In 2014, 467,000 adolescents were current nonmedical users of pain reliever, with 168,000 having an addiction to prescription pain relievers

(Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, 2015)
Data on Opioid Use

Some states have more painkiller prescriptions per person than others.

Data on Opioid Overdose Deaths

Graph Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention, 2016
The Opioid Epidemic

• A trend exists for adolescents using prescription opioid agents to substitute heroin because it is significantly cheaper than pills (approximately half of the cost) and is often more readily available

(Fogger & McGuinness, 2015)
Heroin Use

Heroin Use Has INCREASED Among Most Demographic Groups

<table>
<thead>
<tr>
<th>Category</th>
<th>2002-2004*</th>
<th>2011-2013*</th>
<th>% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEX</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2.4</td>
<td>3.6</td>
<td>50%</td>
</tr>
<tr>
<td>Female</td>
<td>0.8</td>
<td>1.6</td>
<td>100%</td>
</tr>
<tr>
<td><strong>AGE, YEARS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-17</td>
<td>1.8</td>
<td>1.6</td>
<td>--</td>
</tr>
<tr>
<td>18-25</td>
<td>3.5</td>
<td>7.3</td>
<td>109%</td>
</tr>
<tr>
<td>26 or older</td>
<td>1.2</td>
<td>1.9</td>
<td>58%</td>
</tr>
<tr>
<td><strong>RACE/ETHNICITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic white</td>
<td>1.4</td>
<td>3</td>
<td>114%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.7</td>
<td>--</td>
</tr>
<tr>
<td><strong>ANNUAL HOUSEHOLD INCOME</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $20,000</td>
<td>3.4</td>
<td>5.5</td>
<td>62%</td>
</tr>
<tr>
<td>$20,000-$49,999</td>
<td>1.3</td>
<td>2.3</td>
<td>77%</td>
</tr>
<tr>
<td>$50,000 or more</td>
<td>1</td>
<td>1.6</td>
<td>60%</td>
</tr>
<tr>
<td><strong>HEALTH INSURANCE COVERAGE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>4.2</td>
<td>6.7</td>
<td>60%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>4.3</td>
<td>4.7</td>
<td>--</td>
</tr>
<tr>
<td>Private or other</td>
<td>0.8</td>
<td>1.3</td>
<td>63%</td>
</tr>
</tbody>
</table>

Heroin Addiction and Overdose Deaths are Climbing

Heroin-Related Overdose Deaths (per 100,000 people)


Opioid Overdose

- Opioid drug attaches to brain receptors that affect breathing
- Person slows breathing and eventually stops breathing
- Oxygen starvation eventually stops other vital organs like the heart, then the brain

(National Institute on Drug Abuse, 2014)
Overdose

Oxygen starvation leads to:

Unconsciousness

Coma

Death

Within 3-5 minutes without oxygen, brain damage starts to occur, soon followed by death

(Harm Reduction Coalition, n.d.)
# Overdose vs. High

<table>
<thead>
<tr>
<th>Opioid High</th>
<th>Opioid Overdose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relaxed muscles</td>
<td>Pale, clammy skin</td>
</tr>
<tr>
<td>Speech slowed, slurred, breathing</td>
<td>Speech infrequent, not breathing, very shallow breathing</td>
</tr>
<tr>
<td>Appears sleepy, nodding off</td>
<td>Deep snorting or gurgling</td>
</tr>
<tr>
<td>Responds to stimuli</td>
<td>Unresponsive to stimuli (calling name, shaking, sternal rub)</td>
</tr>
<tr>
<td>Normal heart beat/pulse</td>
<td>Slowed heart beat/pulse</td>
</tr>
<tr>
<td>Normal skin color</td>
<td>Cyanotic skin coloration (blue lips, fingertips)</td>
</tr>
<tr>
<td></td>
<td>Pinpoint pupils</td>
</tr>
</tbody>
</table>

(Adapted from Massachusetts Department of Public Health Opioid Overdose Education and Naloxone Distribution)
The 4 Rs
Recognize
Respond
Reverse
Refer
Recognize

Observe individual for signs and symptoms of opioid overdose

• Suspected or confirmed opioid overdose consists of:
  • Respiratory depression evidenced by slow respirations or no breathing (apnea)
  • Unresponsiveness to stimuli (such as calling name, shaking, sternal rub)
Suspicion of Overdose

Suspicion of opioid overdose can be based on:

• Presenting symptoms
• History
• Report from bystanders
• School nurse or staff prior knowledge of person
• Nearby medications, illicit drugs or drug paraphernalia
RESPOND
Respond

- Immediately call for help
  - Call for help
    - Dial 911
    - Request Advanced Life Support
Rescue Breathing

Perform rescue breathing if needed

1. Place the person on their back
2. Tilt their chin up to open the airway
3. Check to see if there is anything in their mouth blocking their airway, such as gum, toothpick, undissolved pills, syringe cap, cheeked Fentanyl patch
   - If present, remove it
Rescue Breathing

4. If using mask, place and hold mask over mouth and nose
5. Give 2 even, regular-sized breaths
6. Blow enough air into their lungs to make their chest rise
7. If you are using a mask and don’t see their chest rise, out of the corner of your eye, tilt the head back more and make sure the seal around the mouth and nose is secure
8. Breathe again
9. Give one breath every 5 seconds
Rescue Breathing

- If not using mask, pinch their nose with one hand and place your mouth over their mouth.
- Give 2 even, regular-sized breaths.
- Blow enough air into their lungs to make their chest rise.
- If you are not using a mask and don’t see their chest rise, out of the corner of your eye make sure you’re pinching their nose.
Naloxone

• Naloxone is a medication approved by the Food and Drug Administration (FDA) to prevent overdose by opioids such as heroin, morphine, and oxycodone

• Naloxone is the first line treatment for an opioid overdose

• Naloxone is the generic name of the medication
Currently not FDA-approved for nasal administration with an atomizer and requires assembly.

Photo sources: Amphastar Pharmaceuticals, 2016 and Teleflex, 2016
Naloxone is sold as brand name drugs: **Narcan** and **Evzio**
What is an opioid overdose?

The brain has many, many receptors for opioids. An overdose occurs when too much of any opioid, like heroin or Oxycontin, fits in too many receptors slowing and then stopping the breathing.

Graphic credit: Maya Doe-Simkins
Narcan reversing an overdose

Narcan has a stronger affinity to the opioid receptors than opioids like heroin or Percocet, so it knocks the opioids off the receptors for a short time. This allows the person to breathe again and reverses the overdose.
Administer Evizo (naloxone)

• Remove red safety guard when ready to use
• Place the black end against the middle of the patient's outer thigh, through clothing (pants, jeans, etc.) if necessary,
• Press firmly and hold in place for 5 seconds
• After use, place the auto-injector back into its outer case
• Do not replace the red safety guard
How to Administer Evizo

Step 1

Step 2

Step 3

Graphic source: kaleo, Inc, 2014
Used Evzio

Graphic source: kaleo, Inc, 2014
Administer Narcan (naloxone)

• **PEEL** back the package to remove the device
• **PLACE** the tip of the nozzle in either nostril until your fingers touch the bottom of the patient’s nose
• **PRESS** the plunger firmly to release the dose into the patient’s nose
Administer Narcan

• Tilt head back and given spray (4 mg) into one nostril
• If additional doses are needed, give in the other nostril

Photo source: Adapt Pharma, 2016
How to Administer Narcan

Remove NARCAN Nasal Spray from the box. Peel back the tab with the circle to open the NARCAN Nasal Spray.

Hold the NARCAN nasal spray with your thumb on the bottom of the plunger and your first and middle fingers on either side of the nozzle.

Gently insert the tip of the nozzle into either nostril.
- Tilt the person’s head back and provide support under the neck with your hand. 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 NARCAN Nasal Spray.
- Remove the NARCAN Nasal Spray from the nostril after giving the dose.

Graphic source: ADAPT Pharma, 2015
Narcan Packaging

Photo source: Adapt Pharma, 2016
Narcan Video

Video source: Adapt Pharma, 2016
Remain with the Person

- Place person in recovery position (lying on their side)
- Stay with the person until help arrives
- Seize all illegal and/or non-prescribed opioid narcotics found on victim and process in accordance with school district protocols
Recovery Position

Hand supports head

Knee stops body from rolling onto stomach

Photo source: Adapt Pharma, 2016
Safety of Using Naloxone

• Naloxone is the first line treatment for opioid overdose
• Should be administered IMMEDIATELY
• Parents & school administrators should not be concerned about adverse health effects of naloxone
  – If the person has not overdosed on an opioid, there is no effect on the body!

(Green, Heimer, & Grau, 2008)
A delay in administering naloxone could result in death
Using naloxone in patients who are opioid dependent may result in severe opioid withdrawal symptoms such as:

- Restlessness or irritability
- Body aches
- Diarrhea
- Increased heart rate
- Fever
- Runny nose
- Sneezing
- Goose bumps
- Sweating
- Yawning
- Nausea or vomiting
- Nervousness
- Shivering or trembling
- Abdominal cramps
- Weakness
- Increased blood pressure
Risk of adverse reaction should not be a deterrent to administration of naloxone
Refer

• Have the individual transported to nearest medical facility, even if symptoms seem to get better
• Contact parent/guardians per school protocol
• Complete Naloxone Administration Report form
• Follow up with treatment referral recommendations
BE PREPARED
How Will I Know What to Do?

- School Nurse will develop an Narcan Administration Protocol
- Includes steps to follow
- Should be reviewed regularly
How Will I Know What to Do?

- School Nurse will develop an Evizo Administration Protocol
- Includes steps to follow
- Should be reviewed regularly

1. RECOGNIZE
   - Observe for signs of overdose:
     - Pale, clammy skin
     - Speech infrequent
     - Not breathing or very shallow breathing
     - Deep snoring or gurgling
     - Unresponsive to stimuli (calling name, shaking, sternum rub)
     - Slowed heart beat/pulse
     - Blue lips or fingertips
     - pinpoint pupils

2. RESPOND
   - Immediately call for help:
     - Call for help- Dial 911
     - Request Advanced Life Support
     - Place the person on their back
     - Tilt head
     - Lift chin
     - Check breathing for no more than 10 seconds
     - Check to see if there is anything in their mouth, blocking their airway, such as gum, toothpick, undissolved pills, syringe cap, checked Fentanyl patch
     - If present, remove it
     - If using mask, place and hold mask over mouth and nose
     - If not using mask, pinch their nose with one hand and place your mouth over their mouth
     - Give 2 even, regular-sized breaths
     - Blow enough air into their lungs to make their chest rise
     - If you are using a mask and don’t see their chest rise, out of the corner of your eye, tilt the head back more and make sure the seal around the mouth and nose is secure
     - If you are not using a mask and don’t see their chest rise, out of the corner of your eye, make sure you’re pinching their nose
     - Breathe again
     - Give one breath every 5 seconds

3. REVERSE
   - Administer Naloxone via auto-injectable (Evizo):
     - Remove red safety guard when ready to use
     - Place the black end against the middle of the patient’s outer thigh, through clothing (pants, jeans, etc.) if necessary
     - Press firmly and hold in place for 5 seconds
     - After use, place the auto-injector back into its outer case
     - Do not replace the red safety guard

4. REFER
   - Have the individual transported to nearest medical facility, even if symptoms seem to get better
   - Contact parent/guardians per school protocol
   - Complete Naloxone Administration Report form
   - Follow up with treatment referral recommendations

5. Step 1: Place person in recovery position (lying on their side)
   - Stay with the person until help arrives
   - Maintain airway, monitor circulation, start CPR as necessary
   - Saise all illegal and/or non-prescribed opioid narcotics found on victim and process in accordance with school district protocols
Be Prepared

Everyone should know **WHERE** the medication is and **HOW TO RESPOND**
Document and Debrief

• Discuss with the school nurse how to record that you administered naloxone and the symptoms you witnessed
• Have a debriefing meeting with the nurse and school administration after giving naloxone
• Talk about how response went
• Talk about feelings
• Talk about ways to improve in the future
You Can Do It!

• You know what to do when someone has suffered an opioid overdose
• You know how to give naloxone!
References