Adapted From: Maryland Overdose Response Program

Educational Training Program

CORE CURRICULUM

Anne Arundel County School Health Specific Information Included

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Behavioral Health Administration
Department of Health & Mental Hygiene
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Presented by:
Anne Arundel County
Department of Health
Bureau of School Health and Support Services
Naloxone
Opioid Overdose Treatment
In the School Setting
Objectives

By the end of this course the participants will learn about intranasal naloxone and will be able to:

- Identify opioids and opiates
- Discuss opioid overdose in Maryland
- Recognize the signs and symptoms of an overdose
- Identify when to use intranasal naloxone
- Identify the possible responses to intranasal naloxone
- Be able to prepare and administer intranasal naloxone
- Describe how continued support should be provided to the overdose victim
THE PROBLEM
What Is An Opioid?
Opiates versus Opioids

• **Opiates** are concentrated from the opium poppy plant and are not made, but purified from the plant fluids, like maple sugar. (opium, morphine, codeine, heroin)
• **Opioids** are manufactured and do not come from plants. (fentanyl, methadone, Tramadol, Percocet, Oxycodone)
• Opiates and opioids act the same in the brain

Medically speaking, the term “opioid” refers to any substance that binds to the body’s opioid receptor sites, so opiate vs. opioid becomes a non-issue in this respect. Technically speaking, not all opioid drugs are opiates, but all opiates are opioids. For example, heroin and morphine qualify as opiates and opioids, whereas Demerol and Percocet only qualify as opioids.
Opiates and Opioids

- Chemicals that act in the brain to:
  - Decrease feeling of pain
  - Decrease the reaction to pain
  - Create a feeling of Euphoria
- May be used for both acute and chronic pain management
- Both opiates and opioids are often misused resulting in potential risks including overdose
Opioids & Opiates May Include:

- Heroin
- Buprenorphine (Suboxone)
- Butorphanol (Stadol)
- Codeine
- Fentanyl (Duragesic Patch)
- Hydrocodone (Vicodin*)
- Hydromorphone (Dilaudid)
- Meperidine (Demerol)
- Morphine
- Nalbuphine (Nubain)
- Oxycodone (Percocet*/Percodan†)
- Oxymorphone
- Pentazocine (Talwin)
- Paregoric
- Propoxyphene (Darvon)
Why Should School Health Staff Care About Opioids?

Well, did you know?

• The largest increases in fatal heroin-related overdoses have been among younger age groups, including a 53% increase among ages 15-24 and a 59% increase among ages 35-44.

• The largest number of heroin-related deaths continue to occur in Central Maryland, which has recently experienced a 47% increase.

DHMH, Drug and Alcohol-Related Intoxication Deaths in Maryland, 2013
Figure 5. Total Number of Drug- and Alcohol-Related Intoxication Deaths by Selected Substances\(^1\), Maryland, 2007-2014.

<table>
<thead>
<tr>
<th>Substance</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<td>Heroin</td>
<td>399</td>
<td>289</td>
<td>360</td>
<td>238</td>
<td>247</td>
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<td>Prescription opioids</td>
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<td>175</td>
<td>162</td>
<td>160</td>
<td>161</td>
<td>195</td>
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<td>270</td>
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<tr>
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<td>58</td>
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<td>25</td>
<td>27</td>
<td>39</td>
<td>26</td>
<td>29</td>
<td>58</td>
<td>185</td>
</tr>
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</table>

\(^1\)Since an intoxication death may involve more than one substance, counts of deaths related to specific substances do not sum to the total number of deaths.

\(^2\)Includes deaths caused by benzodiazepines and related drugs with similar sedative effects.
This is the real affect of the opioid epidemic
Heroin is an opiate which may be injected, snorted (inhaled), or smoked. It has many street names.

Big H, Boy, Capital H, China White, Diesel, Dope, Horse, Junk, Smack and White Junk.
Fentanyl
Apache, China Girl, Murder 8, & T.N.T.

• Fentanyl is a narcotic pain reliever used to manage moderate to severe chronic pain. (i.e., Duragesic, Actiq and Sublimaze)
• Both pharmaceutical fentanyl, and an illicit version of the drug that is produced in clandestine laboratories, are used recreationally.
• Beginning in late 2013, there were sudden and large increases in the number of deaths involving fentanyl in the U.S.
• East Coast states in particular have seen a significant rise
• The majority of these deaths involved an illicit, powdered form of fentanyl that was mixed with, or substituted for, heroin or other illicit substances
• This is important because....
• Fentanyl is many times more potent than heroin, and greatly increases the risk of an overdose death.
Routes of Administration of Opioids

- Oral
- Nasal
- Transcutaneous
- Intravenous
- Subcutaneous ("skin popping" during the abuse of opioids)
What Is an Opioid Overdose?

- **Opioid overdose** happens when a toxic amount of an opioid—alone or mixed with other opioid(s), drugs and/or substances—overwhelms the body’s ability to handle it.

- Many opioid-related overdoses result from mixing prescription painkillers or heroin with benzodiazepines (benzos), cocaine and/or alcohol.
Who’s at High Risk for Overdose?

• Individuals using medical visits and care from multiple doctors who are not following instructions about prescription use
• Users of prescriptions that should belong to others
• Users who inject drugs for greater effects
• Former users who are recently released from prison or who entering and exiting from drug treatment programs
Who else is at risk?

- Elderly patients using opiates or opioids for pain
- Patients using pain relieving patches incorrectly
- Children who accidentally take pain-killers in their homes or the homes of others
Recognizing Opioid Overdose
Pathophysiology of Opioid Overdose

• Activation of opioid receptors result in inhibition in the CNS & PNS principally through mu and kappa receptors
  – Mu receptor effects include analgesia, euphoria, respiratory depression, and miosis.
  – Kappa receptor effects include analgesia, miosis, respiratory depression, and sedation

• The incidence of overdose increases when other substances such as alcohol, benzodiazepines, or other medications have also been taken by the patient
Signs and Symptoms of an Opioid Overdose by Body Systems?

**Mouth/Throat**
- Loud, Uneven snoring or gurgling

**Lungs**
- Shallow, slow breaths (fewer than 10/min)
- No breathing at all

**Skin**
- Pale, blue or gray, clammy

**Heart**
- Slow erratic pulse
- Blue lips or fingertips

**Mental**
- Unresponsive to stimuli such as noise or pain
- Unconscious

**Other**
- Constricted (pinpoint) pupils
- Very limp body
What Does Opioid/Opiate Overdose Look Like

- Miosis (pinpoint pupils)
- Decreased intestinal motility
- Respiratory depression
- Decreased mental status
What Leads to Overdose Death?

- Respiratory Failure and Arrest – lack of sufficient oxygen in the blood
- Leads to unconsciousness, coma, death
- Vital organs like the heart and brain start to fail

Surviving an opioid overdose = BREATHING and OXYGEN
911 & Naloxone

THE SOLUTION
Naloxone (Narcan®)

• Developed in the 1960s
• Opioid antagonist
  – It is not effective for treatment of any other type of overdose IE. Amphetamines, Benzodiazepines
• Emergent overdose treatment in the hospital and pre-hospital settings
• Increased demand for naloxone
  - Greater variety of available opioids
  - Increased opioid use and abuse
Physiology of Naloxone

- Naloxone has a stronger affinity to the opioid receptors, so knocks it off for a short period of time – about 30-90 minutes
Physiology of Naloxone

• This may result in the sudden onset of the signs and symptoms of opioid withdrawal
  • Agitation
  • Combative behavior
  • Tachycardia
  • Nausea
  • Vomiting
  • Seizures
Naloxone

• Can be given
  – Intramuscular
  – Via auto-injector
  – Intranasal
  – Endotracheal
  – Intravenous
Benefits of Intranasal Route for Naloxone Administration

- Equivalent clinical efficacy compared to intravenous naloxone
- Intravenous access may be impossible to establish
- Can be administered quickly and with little training
- Onset of action is quick
- Reduction in the risk of needle stick injury
Safety Considerations

- Prior to the administration of naloxone, all patients should initially receive the appropriate assessment to determine the likely cause(s) of altered mental status and/or respiratory depression (hypoxia, hypoglycemia, head injury, shock, stroke, overdose).
- Assess responsiveness by shaking and shouting and by using the sternal rub.
- If the patient is unresponsive, and overdose is suspected give naloxone, if available, then start high quality CPR.
What Might Lead Me to Think of Overdose As Being a Likely Cause of Symptoms and of the Need for Naloxone?

• The person is not responding to you.
• Bystanders report drug use and the person is not responding to you.
• Previous experience with this person
• There are drug bottles, or signs of injection of drugs on the skin (“track marks”) and the person is not responding to you.
Should we give naloxone if they are responding to you?

• No. If you are aware of drug use and the person has a change in mental status but is still responsive and breathing adequately.
  – Call 911 and provide supportive care.
  – Remind the person to take a breath if their respiration begin to become depressed.
  – Call them by their name if you know it.
  – Prepare to provide CPR and to give naloxone if that becomes necessary.
NASAL ATOMIZER USE
Why is it used with an atomizer?

Squirting the liquid drug as a fine mist covering more of the surface, like spray paint or hair spray increases entry into the bloodstream.
Preparation: Step 1

Dosage of the pre-filled syringe is 2mg/2ml
Preparation: Step 2
Preparation: Step 3
Preparation: Step 4
One Luer Attached Atomizer

**In an emergency, if you do not have an atomizer, you can squirt the naloxone into the person’s nose (one half in each nostril)**
Naloxone Storage and Disposal

• **Storage:**
  - Do not attach naloxone to delivery device until ready to use.
  - Store naloxone in original package at room temperature; avoid exposure to light.
  - Keep in a safe place away from children, but easy to access in case of emergency.

• **Expiration:**
  - Naloxone loses its effectiveness over time. Check expiration date on label.

• **Disposal:**
  - SHS will replace naloxone as it expires and if it is used. Naloxone will be returned at the end of school year, so that it can be stored in temperature-controlled environment.
OK, we know what an opioid overdose looks like, what naloxone is and when we should give it.

NOW WHAT!
How to Give Naloxone

• Follow Standing Order for Administration of Naloxone.
• Check level of responsiveness with sternal rub.
  – Send someone to call 911, get the AED, the AMBU bag and notify the administrator.
  – It may be wise to call for the Resource Officer.
• Assess breathing and pulse.
  – Rescue breathing if the pulse is present but no respirations or depressed respirations (< 10 or with s/x of poor perfusion) One breath every 5-6 seconds.
• Begin CPR if no pulse.
• Check pupils for signs of constriction (pinpoint pupils).
• Ask if anyone knows the person’s hx.
Administration

• If overdose suspected, give naloxone as soon as possible.
  – Look to see if the nose cavity is free of blood or mucous.
  – Assemble kit while another rescuer continues CPR/rescue breathing.
  – Tilt head back slightly.
  – Gently, but firmly, place the atomizer in one side of the nose and spray half the medication.
  – Repeat on the other side.
  – If only one side of the nose is available, put all of the medication on that side.
Administration

- The half-life of naloxone is relatively brief (as short as 30 minutes).
- All patients who receive naloxone must be monitored closely for recurrent symptoms, including altered mental status, respiratory depression, and circulatory compromise.
- If no response in 2-3 minutes or recurrence of symptoms, give second dose.
- If patient rouses, place in recovery position.
- Continue to closely monitor.
Administration
Place in Recovery (Side Lying) Position
Wait a Minute!!

- What if I have the nasal spray!
  - Calm down. Don’t blow your mind. This is even easier!
  - Administer a single spray of NARCAN® (naloxone) in one nostril.
  - The dose for the nasal spray will be 4mg.
  - Because of the high risk of vomiting with Narcan, be prepared to place the victim in the recovery position and to clear the airway if needed.
Precautions with Naloxone

** REMEMBER**
The administration of naloxone may result in the rapid onset of the signs and symptoms of opioid withdrawal.

- Agitation
- Combative behavior
- Tachycardia
- Nausea
- Vomiting
- Seizures (rare)

Have someone call your Resource Officer.
Adverse Reactions

- When used, intranasal naloxone can also cause S/SX of withdrawal:
  - Runny nose
  - Sweating
  - Shakes
  - Dizziness
  - Headache
  - High blood pressure, or
  - Low blood pressure
  - Fear of causing withdrawal should not prevent use when the person is unresponsive.
Wrap-up

After EMS takes custody of the person
• Complete documentation using a *Record of Health Room Visit* form.
• Notify supervisor that naloxone was used.
• Request a replacement naloxone kit.
• Notify poison control 1-800-222-1222.
• Complete the state “Naloxone Report Form.”
• Notify Supervisor, School Administrator, Parents
Important Information
For completing this training, you are entitled to a naloxone medication certificate.
Obtaining Naloxone

- Show your **certificate** to get a **prescription for naloxone** from your pharmacy.

- **Naloxone and delivery devices** may be dispensed from:
  - A **pharmacy** that stocks or can order naloxone
  - An authorized **training entity** that dispenses naloxone
  - A qualified **health care provider**, including:
    - A physician or NP in private practice or at local health department
    - A registered nurse (RN) at local health department with approval for nurse dispensing of naloxone.

School Health Services will provide stock naloxone for use in the schools.
Good Samaritan Laws

CODE OF MARYLAND, CRIMINAL PROCEDURE ARTICLE, §1–210

A person who seeks, provides or assists with medical assistance for another person experiencing an alcohol- or drug-related medical emergency cannot be arrested, charged, or prosecuted for:

- Possession of a controlled dangerous substance
- Possession or use of drug paraphernalia
- Providing alcohol to minors

Calling 911 WILL NOT affect your PAROLE or PROBATION status

Code of Maryland, Health General §13–3110

An individual who administers naloxone to an individual believed to be experiencing and overdose shall have immunity from liability under §§ 6-603 and 5-629 of the Courts and Judicial Proceedings Article

You cannot be held liable for a good faith attempt to help someone.
Certificate Holders – General Responsibilities

- Certificates are **valid for two years**. Apply for renewal no later than **90 days before** your certificate expires.
  - A refresher will be done every 2 years

- Administer naloxone in accordance with **training procedures**.

- Make a **good faith** effort to get emergency **medical help** for the person experiencing an opioid overdose.

- Please remember to **contact the Poison Center** or training entity after administering naloxone.
MDH May Suspend or Revoke a Certificate If:

- A certificate holder improperly uses or administers naloxone, or the Maryland Department of Health (MDH) determines it’s necessary in order to protect public health or safety.
  
  **What can you do?** File an appeal or write to MDH requesting reinstatement of your certificate once you’ve corrected the problem.

- The training entity doesn’t meet MDH requirements or has issued someone an invalid certificate.
  
  **What can you do?** Apply for a valid certificate after completing training at an authorized entity. Ask MDH for a list of approved entities.
Opioid Overdose Prevention Tips

- Keep all medicine in a safe place, such as a locked cabinet. *(Naloxone should be kept readily available.)*
- Properly dispose of expired or unwanted medications.
- Take only medicine prescribed for you and only as directed.
- Never share your prescription drugs with anyone else.
- If you have breathing problems (e.g. asthma, sleep apnea), check with your doctor before taking opioids.
- Never mix pain medication with alcohol, benzos, sleeping pills, muscle relaxants, anti-nausea drugs, other opioids or illegal drugs.
Opioid Overdose Prevention Tips

- Do not use alone.
- Make an **overdose prevention plan** and share it with someone you trust to give you naloxone if needed.
- If you have not used opioids in a while, your tolerance will be lower and risk for overdose greater, so use less opioids than you normally would.
- You are also at greater risk for overdose if you have overdosed before.
- Always keep naloxone on hand.

- Get treatment for drug dependence or addiction.
- Seek professional help if you are depressed.
- Call a crisis hotline or 9-1-1 if you are suicidal.
Practice Case #1

• You respond to a 16 year old student who is found unconscious. Her friend tells you that she was taking some pills and drinking before school today.

• Her pupils are pinpoint and she does not respond to painful stimuli. Upon assessment of vital signs, her blood pressure is 110/70, pulse is 60, respiratory rate is 2, color is pale

• What is the first action you should take?
Practice Case #1

- This patient is apneic as evidenced by her respiratory rate of 2.
- The appropriate initial action to take is to open and maintain the airway. Deliver oxygen via an AMBU bag.
- Have someone call 911 and AED. Have someone assemble naloxone if needed.
- Therapeutic interventions to support the patient’s airway, breathing, and circulation should be initiated while naloxone is being assembled (unless you have the one piece naloxone kit). Give naloxone as soon as it is available and continue to support ABCs.
Practice Case #2

• You respond to the classroom of a diabetic student. He has decreased mental status and pinpoint pupils. His blood glucose just 15 minutes ago was 170.
• The student next to him said that he seemed fine until about 5 minutes ago and then started slurring his words and dozing off. She also said that she saw him put a “sticker” on his arm.
• When you check, he appears to have a transcutaneous patch on his arm. The patch says Duragesic.
• He has a blood pressure of 108/62, pulse of 74, respiratory rate of 14.
• What action should you take?
Practice Case #2

• This patient has stable vital signs. Remove the fentanyl patch, wipe or wash area with gloved hand and call 911.

• Continue to monitor until EMS arrives.

• If respiratory depression begins or the student becomes unresponsive, consider administering naloxone.
Practice Scenario #3

• You are called to the front office, where the grandparent of a student is slumped in a chair.
• The office staff reports that the grandmother was pleasant when she arrived. She signed in and asked to speak with the principal about her grandchild.
• When the secretary called the grandmother for her meeting, she realized that there was something wrong and called you.
• Parent does not respond to shaking or sternal rub.
• Pupils are normal. Respirations are 6 and she is making snoring sounds, Pulse is 46 and very weak.
Practice Scenario #3

• The patients vital signs are not stable and she is not responsive
• There is no evidence that there is any opioid involvement contributing to her condition
• Open airway and support breathing. Provide rescue breathing if no improvement. Start CPR if she becomes pulseless.
• Have someone call 911 and get the AED.
• Look for medical alert jewelry.
Practice Scenario # 4

• Quinn, an 8 year old student who visits the health room, often is brought to the health room by his teacher. His teacher said that he is acting “weird” and has been sleepy.
• Quinn has a difficult home life and has been referred to CPS on a couple of occasions over the 3 years that you have been in your school. Twice for neglect and once for suspicion of physical abuse. He has gone back and forth between living with his mother and his grandparents.
• When questioned, Quinn says that he feels a little dizzy and sick. Each time you ask him a question you have to shake him a little to wake him up.
• When you ask if he has taken any pills or medicine this morning he say “I don’t know.”
Practice Scenario # 4

• His pulse is 100, BP 90/58, R 12.
• You notice that when you are not talking to him, his respiration decreases to 6. He will take a breath if you shake him and remind him to breathe.
• His pupils are small, equal and reactive.
• You call his mother to ask if he was acting strangely this morning and she said he was just “anxious like he usually is.” She is unaware of him taking any medication that morning. When you get back to him, he still awakens with stimulation but he is very pale.
• What do you do next?
Practice Scenario # 4

- His VS are not stable. His breathing is being supported by your stimulation and reminders.
- His pupils are small which doesn’t give you a lot of information.
- You know this student and are not aware of any health issues.
- Call 911.
- Keep him stimulated and continue to prompt his breathing.
- Prepare to administer CPR – get the AED and AMBU bag.
- Do a quick head to toe assessment for any underlying injuries while waiting for EMS.
- You may want to have someone bring the teacher to gather more information. You will also want to ask more questions of the mother if possible.
- If Quinn becomes unresponsive and stops breathing start CPR. You may also want to consider using naloxone.
In response to emerging trends in overdose death, the Maryland Department of Health is:

- Notifying Maryland healthcare providers and offering resources to improve their ability to identify patients with opioid-related substance use disorders and make referrals to the treatment and recovery system
- Encouraging the development of community-based opioid overdose prevention plans
- Implementing the Prescription Drug Monitoring Program (PDMP) to give healthcare providers and public health and safety authorities a new tool to reduce prescription drug abuse
- Releasing a Statewide Opioid Overdose Prevention Plan
- See website - http://bha.dhmh.maryland.gov/OVERDOSE_PREVENTION/Pages/Index.aspx
There’s a Mike Nearby
https://youtu.be/bT2Xn4nBuG0
Maryland Overdose Response Program
Core Curriculum

Health-General Article,
Title 13, Subtitle 31,
Annotated Code of Maryland
Sections 13-3101 – 3109

Code of Maryland Regulations,
Title 10, Subtitle 47, Chapter 08,
Regulations .01-.11