RENEW  \textit{re\textcdot new}  \cdot rəˈn(y)ə/  
to restore; to re-establish;  
to resume after an interruption
Pre-Test Instructions
WHAT YOU’LL LEARN

• Populations
• What are Opioids
• What is Overdose?
• Opioid Overdose and Reversal
• What is Naloxone?
• Management
• Post Naloxone Administration
Populations
Addicts: What is addiction?

- **Addiction**: is a brain disease. It is expressed in the form of compulsive behavior. Both developing and recovering from it depend on a person's biology, behavior, and social context.

Leshner, 2001
Addicts: What is addiction?

• Studies show that once addicted, the individual moves into a different state of being.
• Very few people appear able to successfully return to occasional use after having been truly addicted.

Leshner, 2001
Addicts: What is addiction?

• These brain changes are common to all chemical addictions, and some are also typical of other compulsive behaviors.

• Addiction should be understood as a chronic recurring illness.

Leshner, 2001
Is addiction different...?

- Addiction is only different from other brain diseases because it does begin with a clearly voluntary behavior – the initial decision to use drugs.
- Not everyone who uses drugs go on to become addicted. 50-70% of addiction variability depends on genetic factors.

Leshner, 2001
Populations: Addicts

- Over time, addicts lose control over his or her voluntary behavior, which becomes compulsive.
- Many addicts behavior is truly uncontrollable much like Schizophrenics cannot control hallucinations or Parkinson's patients cannot control their trembling.
Populations: Addicts

- Treatment compliance is the biggest cause of relapses for all chronic illnesses, including asthma, diabetes, hypertension and yes, addiction.
- Crime and drug addiction often occur in tandem: between 50-70% of arrestee's are addicted to illegal drugs.

Leshner, 2001
“If we as a society ever hope to make any real progress in dealing with our drug problems, we are going to have to rise above moral outrage that addicts have “done it to themselves” and develop strategies that are as sophisticated and as complex as the problem itself. Whether addicts are “victims” or not, once addicted they must be seen as a “brain disease patient.”” — Alan I. Leshner Director of NIDA & NIH
Populations: Addicts

• many addicts have disrupted not only their own lives but those of their families and their broader communities, and thus do no easily generate compassion.

• no matter how one may feel about addicts and their behavioral histories, an extensive body of scientific evidence shows that approaching addiction as a treatable illness is extremely cost-effective, both financially and in terms of broader societal impacts such as family violence, crime, and other forms of social upheaval.

Leshner, 2001
Populations: Addicts

- It is clearly in everyone’s interest to get past the hurt and indignation and slow the drain of drugs on society by enhancing drug use prevention efforts and providing treatment to all who need it.

Leshner, 2001
Populations: Children

- Children can overdose too!

- Children up to the age of 5 were most at risk of accidental overdose followed by 13-19 year olds.

- 91% Increase in poisoning deaths in 2012 (CDC).
Populations: Children

• Note: that majority of the time the parent is unaware that the child has ingested anything.

• Due to open prescription bottles or unsecure bottles from parents and grandparents/guardians.

• Narcan can be administered in special dosing; will not hurt the child if opiates are not present in the system.
Populations: Age & Physical Health

- Your age and physical health are going to impact your body’s ability to manage drugs.
- Older people and/or those with longer drug using careers are at increased risk for fatal overdose.
- Older people who overdose are less likely to survive that young people who overdose.
- Viral Hepatitis or HIV infections, endocarditis or cellulitis make hinder resiliency.

Harm Reduction, 2015
Age & Physical Health

- Liver and Lung health impacted by smoking or hepatitis respectively plays an important role in overdose.
- Since “downers” cause your breathing to slow down, if you have asthma or other breathing problems, you could be at higher risk for overdose. Poor lung function decreases the body’s capacity to replenish oxygen supply, which is essential for a person to survive an overdose.

Harm Reduction, 2015
Increased Health Risks:

- Anyone who uses opioids, including people who take opioids for pain, should be aware of increased overdose risk if they have any of the following health characteristics:
  - Smoke/COPD, emphysema, asthma, sleep apnea, respiratory infection or other respiratory illness
  - Kidney/Liver Disease or Dysfunction, HIV/AIDS, cardiac illness
  - Currently taking benzodiazepines or other sedative prescription or antidepressant medication

Harm Reduction, 2015
Previous Non-Fatal Overdose: Mental Health

- If a person has ever had a nonfatal overdose in the past, this increases the risk of a fatal overdose in the future.
- Nonfatal overdoses cause damage to the body even if the person survives.
- Other harms are included: physical injury sustained when falling due to overdose, burns, assault while unconscious, nerve damage, numbness and tingling, chest infections and seizure.
Opioids/Opiates
What are Opioids/Opiates

• Opioids are sedative narcotics
• Mainly used to relieve pain
• They repress the urge to breathe – opioid overdose stops breathing leading to death
# Common Opioids/Opiates

<table>
<thead>
<tr>
<th>Weak</th>
<th>Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine</td>
<td>Morphine</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>Hydromorphone</td>
</tr>
<tr>
<td>Dihydrocodine</td>
<td>Fentanyl (100x stronger than Heroin)</td>
</tr>
<tr>
<td>Tramadol</td>
<td>Diamorphine</td>
</tr>
<tr>
<td></td>
<td>Buprenorphine</td>
</tr>
<tr>
<td></td>
<td>Methadone</td>
</tr>
<tr>
<td></td>
<td>Oxycodone</td>
</tr>
</tbody>
</table>
What are Opioids/Opiates

• Opioids exert their analgesic effect by binding to opioid receptors that exist throughout the CNS.

• They cause euphoria and because of this property they are often misused.

• Frequently used in hospitals and are commonly associated with medication errors.
What are Opioids/Opiates

• National Reporting System (2007) showed that more than half (53%) of opioid errors resulted in overdoses and many cases (22%) required intervention with an opioid antagonist.
What is an overdose?
SIGNS & SYMPTOMS

• Patients with opioid intoxication will exhibit classic signs of depressed mental status (ranging from drowsiness to coma).
  • Decreased respiratory rate
  • Decreased bowel sounds
  • Constricted Pupils
  • Hypotension
  • Bradycardia
SIGNS & SYMPTOMS

- Convulsions
- Hypothermia may also be present (especially in poly(substance overdose).
- ** Cardinal sign of opioid overdose is respiratory rate less than 12 breaths per minute in a patient who is not in physiologic sleep.
# Signs & Symptoms

<table>
<thead>
<tr>
<th>“Really High”</th>
<th>“Overdose”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscles become relaxed</td>
<td>Deep snoring or gurgling (death rattle)</td>
</tr>
<tr>
<td>Speech is slowed/slurred</td>
<td>Very infrequent or no breathing</td>
</tr>
<tr>
<td>Sleepy looking</td>
<td>Pale, clammy skin</td>
</tr>
<tr>
<td>Light nodding</td>
<td>Heavy nods</td>
</tr>
<tr>
<td>Will respond to stimulation (i.e. yelling, sternal rub, pinching, etc.)</td>
<td>No response to stimulation</td>
</tr>
</tbody>
</table>
OPIOID OVERDOSE

• Usually happens 1-3 hours after use
• Symptoms vary by person

Signs may include:
• Blue skin tinge
• Slow, erratic pulse
• Vomiting
• Passing out
• Choking and gurgling sounds
• May be awake, but unable to respond
INTRODUCING NARCAN®

PROJECT Renew
An Initiative of Community Connections, Inc.
Understanding Naloxone

- Naloxone (also known as Narcan) is a medication called an “opioid antagonist” which is used to counter the effects of opioid overdose.
- Specifically, naloxone is used in opioid overdoses to counteract life-threatening depression of the CNS and RS allowing the victim to breathe normally.
- Only works if the person has opioids in their system; no effect if opioids are absent.
NALOXONE/NARCAN®

- Pure opiate antagonist
- Simple delivery mechanisms
- No physiological effect, other than blocking opiates
- No adverse reactions
- No potential for abuse
- No potential for overdose
Management

• Airway support and restoration of breathing are essential BEFORE proceeding with a pharmacological intervention.

• Once the airway is secured, administer the opioid antagonist to reverse opioid toxicity.
Understanding Naloxone

- Onset action of Naloxone depends on the route of administration.
- Preferred route is intravenous (IV); because it provides the most rapid effect, usually within 2 minutes although the anecdotal response is seen within 30-60 seconds.
- It can also be given intramuscular (IM) injected or subcutaneous (SC) an effect within 3-5 minutes.
Understanding Naloxone

- Intranasal (IN) route can take up to 3-7 minutes.
- Naloxone is traditionally administered by emergency response personnel, but can also be administered by laypeople.
- It wears off in 30-90 minutes which is why calling 911 immediately is so important.
Understanding Naloxone

- Initial doses of naloxone ranges from 0.05mg to 2mg and depends on the severity of respiratory depression and the patients history of opioid dependence.
- Lower starting doses is typically used in opioid dependent patients to prevent withdrawal symptoms.
- Higher doses may be required to restore respiration in bradypenic or apneic patients.
Understanding Naloxone

- Patients with cardiopulmonary arrest require highest dose of 2mg to effectively reverse opioid toxicity, regardless of patients drug hx.
- Dose titration should occur every 2-3 minutes until normal respiration returns.
- Note: there is no maximum dose for naloxone in the absence of opioid withdrawal, however, an alternative dx should be considered after 10mg of naloxone.
Post-Naloxone Administration

• Naloxone has a shorter half-life than all opioids, therefore it is logical to monitor patients for recurrence of opioid toxicity.

• Since long-acting opioids are of particular concern for recurrence of opioid toxicity, pts with known overdose of long-acting opioids (methadone) or sustained release products (OxyContin) should be admitted for extended observation.
Post-Naloxone Administration

In one case report, a 17 year old patient with methadone overdose received a total of 3.2mg of naloxone IV boluses over a 13-hour period but continued to revert back to unconsciousness with periods of apnea. He was then started on a naloxone drip of 0.8mg/hour overnight. By the next morning, the patient was alert, cooperative, and functional.
Recap

- Opioid overdose causes significant morbidity and is life-threatening.
- Naloxone is an effective antidote that reverses opioid toxicity when given quickly and in adequate doses.
- Due to short duration of action, multiple doses may be required.
- Refer to work place policies concerning opioid antagonist use and follow observation, administration and discharge protocols.
Common Questions

- Is naloxone that stuff that you stick through the heart like in the movie Pulp Fiction?
- How do we get Naloxone?
- Will it work on an alcohol OD?
- It if it is a crack or coke OD?
- Risk period for an OD to reoccur after Naloxone is given
- Lawsuit? Am I protected?
- What if a person isn’t overdosing and I give them Naloxone? Will I hurt them?
- Will it give someone a “clean” urine?
- Can someone get arrested for being at an OD scene?
- Are ambulances and hospitals using Naloxone?
Opioid Antagonist Act

Intranasal Naloxone Administration Training Module for Initial Responders

Public Service Training Session
Public Training Session
Provided By:
West Virginia Office of EMS Endorsed Educational Institutions
EMS Agency Personnel
Objectives

By the end of this course, the participants will learn about intranasal (auto-injector where applicable) Naloxone and be able to:

- Recognize the signs and symptoms of a narcotic overdose
- Understand how to use intranasal Naloxone
- Identify the possible responses to intranasal Naloxone
- Prepare and administer intranasal Naloxone
- Describe how continued support should be provided to the overdose victim
When is Intranasal Naloxone Used?

- With the unconscious patient suspected of overdose.
- Bystanders should have contacted EMS (dialed 911) or sent for help.
- Bystanders may have provided respiratory support (rescue breathing) to the limit of their skill, but reversal of the cause of failed breathing is the real treatment.
- Use of intranasal Naloxone is indicated when the person is not responsive (shouting, sternal rub, etc.).
When is Intranasal Naloxone Used?

- Intranasal Naloxone temporarily blocks opiate effects and can reduce the duration of low oxygen in the blood preventing injury or death.

- Prolonged reduced breathing can result in injury to the brain.

- Lung injury can occur because stomach contents get into the lungs. This causes lung damage and can contribute to death.

- Reversing the overdose quickly saves lives!
Opiates and Opioids

Chemicals that act in the brain to:
- Decrease feeling of pain.
- Decrease reaction to the pain.
- Provide comfort.

- May be used to reduce pain from injury, or after having procedures done (surgery), or as part of long-term care for cancer or other painful diseases that cause constant pain and are expected to not go away.

- Both opiate and opioids are often misused, resulting in danger.
Opiates vs. Opioids

- **Opiates** are concentrated from the poppy plant and are not made, but purified, from the plant fluids like maple sugar.
- **Opioids** are manufactured and do not come from the plants.
- Opiates and Opioids act the same in the brain.
- Examples of opiates are Morphine, Codeine and Heroin.
Opiates and Opioids

After prolonged use of these substances, increasing amounts are needed for the same effects.

Common side effects include:

- Nausea and vomiting
- Drowsiness
- Itching
- Dry mouth
- Small pupils
- Constipation or difficulty having bowel movements
Opiates and Opioids May Include:

- Heroin
- Buprenorphine (Suboxone)
- Butorphanol (Stadol)
- Codeine
- Fentanyl (Duragesic patch)
- Hydrocodone (Vicoden)
- Hydromorphone (Dilaudid)
- Meperidine (Demerol)
- Morphine
- Nalbuphine (Nubain)
- Oxycodone (Percocet/Percodan)
- Oxymorphone
- Pentazocine (Talwin)
- Paregoric
- Propoxyphene (Darvon)
Heroin is an opiate which may be injected, snorted (inhaled), or smoked. It has many street names.
Naloxone is Only Used for Opiate Overdose

Remember, the following common street drugs are not Opioids/Opiates and therefore not addressed by this portion of the protocol: cocaine, LSD, ecstasy (Molly) sedatives/tranquilizers and marijuana.
Who is at High Risk for Overdose?

- Individuals seeking care from multiple doctors and are not following instructions about prescription use.
- Users of prescriptions that belong to others.
- Users who inject drugs for greater effects.
- Former users who are recently released from prison or entering/exiting from drug treatment programs.
Who Else is at Risk?

- Elderly patients who take opiates or opioids for pain.
- Patients using pain-relieving patches incorrectly.
- Children who accidentally ingest painkillers found in their homes or the homes of others.
Naloxone Auto-Injector

Evzio (naloxone hydrochloride injection) rapidly delivers a single dose of the drug naloxone via a hand-held auto-injector that can be carried in a pocket, glove box or stored in a medicine cabinet.

The auto-injector is designed to be a simple and easy-to-deploy alternative to intranasal Naloxone. There are several things to remember when selecting this option.
Naloxone Auto-Injector Continued

- The approved device has step by step audible directions.
- Auto-injection requires a line of site for injection (should not be deployed through clothing).
- Auto-injection does deploy a spring loaded needle to deliver the medication.
- Universal precautions should always be used as blood and body fluid exposure is likely.
- Auto-injection delivers a metered dose of Naloxone and cannot be adjusted for younger victims.
- There is a training device available for this product.
Intranasal Naloxone

- Naloxone (Narcan) is an antidote that can temporarily reverse the overdose effect of opiates and opioids.

- Naloxone is **NOT** effective against respiratory depression due to non-opioid drugs (or other causes).
Why Intranasal Naloxone?

- Very low-risk of exposure to blood (no needle).
- Can be administered quickly and with little training.
- Onset of action is quick.
- Very effective when used.
Why Intranasal Naloxone?

Works quickly since the nose has a large area for absorbing drugs directly into the blood stream.
Squirting the liquid drug creates a fine mist covering more surface of the nasal cavity tissue increasing entry into the blood stream. Examples of similar effects are spray paint and hairspray. The mist covers more surface area.
What Does Opiate/Opioid Overdose Look Like?

The person is:

- Not responsive when shaken.
- Possibly not breathing well, or not breathing at all.
- Possibly breathing less than 6 breaths per minute.
- Possibly having a bluish color to the skin, nails or lips.
- Small pupils.
When to Use Intranasal Naloxone

- If a person is not responding to you.
- If bystanders report suspected drug use and the person is not responding to you.
- If there are drug bottles, or signs of injection of drugs on the skin ("track marks") and the person is not responding to you.

- **Call 911 to activate Emergency Services.**
- **Even if illegal activity was going on, the call provides some protection from criminal charges.**
But, only if they call for help. **GET HELP, DIAL 911.**

Any person who administers an opioid antagonist in good faith to someone they believe to be suffering from an opioid-related overdose is not subject to criminal prosecution arising from the possession of an opioid antagonist or subject to any civil liability with respect to the administration of or failure to administer the opioid antagonist unless the act or failure to act was the result of gross negligence or willful misconduct.
Any person who administers an opioid antagonist to a person they believe to be suffering from an opioid-related overdose is required to seek additional medical treatment at a medical facility for that person immediately following the administration of the opioid antagonist to avoid further complications as a result of the suspected opioid-related overdose.
Adult Nasal Atomizer Use

- Administer Naloxone 2.0mg Nasal via atomizer (half in each side of the nose).
- If you know how, you may continue supporting the breathing of the person (rescue breathing).
- Consider calling poison control if other poisons are suspected: (800) 222-1222.
Nasal Atomizer Use
Preparation: Step 1
Preparation: Step 3
Luer Jet with Attached Atomizer
Administration

- Perform rescue breathing if you know how.

- Look to see if the nose cavity is free from blood or mucous (mucous in the nose is normal and small amounts of blood may be present). You will still administer the Naloxone.

- Assemble the kit.

- 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 in that side.
Adverse Reactions

- When used, intranasal Naloxone can cause:
  - Runny nose
  - Sweating
  - Fast heart rate
  - Shakes
  - High blood pressure
  - Low blood pressure

- Fear of causing withdrawal should not prevent use when the person is unresponsive.
Children Can Also Overdose

- When an opioid overdose is suspected in a child, use less of the liquid and repeat if needed.

- Very small child: Use one-quarter in each side of the nose and consider using the other half in 5 minutes if the ambulance has not arrived and the child is still unresponsive.
Children

- Remember, just as in adults, children (smaller noses) may have some of the drug run out of their nose and down the back of their throat. This will not do any harm.
Course Summary

• What we have learned:

  • Why intranasal Naloxone is available as an option for bystanders who witness an overdose.
  • What an opioid overdose looks like.
  • The reasons that justify the use of intranasal Naloxone.
  • Legal protections if you dial 911.
  • How to prepare an intranasal Atomizer.
  • How and when to use the intranasal Atomizer.
Contact

For more information
Visit – www.wvoems.org
Or contact:
Office of Emergency Medical Services
350 Capitol Street, Room 425
Charleston, West Virginia 25301
Phone: (304) 558-3956
Fax: (304) 356-8379
Responding to Opioid Overdose
Assessment & Stimulation

- Assess the signs
  - Is the person breathing?
  - Is the person responsive?
  - Does he or she answer when you shake them and call his or her name?
  - Can the person speak?
  - How is their skin color (especially lips and fingertips)?
Assessment & Stimulation

- If the person is unconscious or in a heavy nod, try to wake them up: Call their name and say “I’m going to call 911” or “I’m going to give you Narcan (generic: naloxone).”
- *If this does not work* try to stimulate him or her by rubbing your knuckles into the sternum.
- If this causes the person to wake up try to get him or her to focus. —Check their breathing.

Harm Reduction, 2015
ASSESS THE SCENE
STERNUM RUB/LIP RUB
RESCUE BREATHING

- The MAIN reason someone dies from an opioid overdose is because their respiratory system has shut down.

- Doing rescue breathing is YOUR choice, but know that it is imperative to saving the persons life.
PREPARE TO GIVE NARCAN
GIVE NARCAN

Gently insert the tip of the nozzle into either nostril until your fingers on either side of the nozzle are against the bottom of the person’s nose. And PRESS the plunger firmly.
RESCUE BREATHING (Cont.)
RECOVERY POSITION

Hand supports head

Knee stops body from rolling onto stomach
Aftercare
Aftercare: Overdose Response

• Because Naloxone blocks opioids from acting, it is possible that it can cause withdrawal symptoms.
• It is VERY important that one does not use again until the naloxone wears off so that a re-overdose does not occur.
• If the person cannot walk or talk after waking up, then it is important that they are taken to the hospital.
Kit Demonstration
Naloxone Demo
NALOXONE KIT

• EACH KIT INCLUDES:
  • 2 dose of nasal naloxone/Narcan®
  • Gloves
  • Rescue breathing mask
  • Written instructions
  • Reporting Document
  • 844 card
Narcan (R)/ Naloxone Kit

- Kits must be brought in on every shift; treat them like they were your personal items.

- Narcan will freeze and will be ineffective or freezing and thawing will cause the medication to be weaker.

- Keep out of direct sunlight.
REFERENCES


Photographs courtesy of Santana Nicole Photography (304) 222-8585 with special thanks to Jennifer Farmer and Crystal Dickerson
Post-Test Instructions
Erica Ellis Bartling
PROGRAM COORDINATOR

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