Opioid Overdose Education and Naloxone Distribution

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Pharmacist Learning Objectives

At the completion of this program, the participant will be able to:

- Identify three risk factors associated with opioid overdose.
- Explain how to recognize and respond to an opioid overdose in the community.
- Demonstrate the use of and administration of various naloxone rescue kits.
- List three educational points on the safe and effective use of naloxone rescue kits.
Pharmacy Technician Learning Objectives

At the completion of this program, the participant will be able to:

- List two opioids that may result in an unintentional overdose.
- List two routes of naloxone administration for opioid overdose.
- Describe morphine equivalent daily dose (MEDD).
- Describe two patient characteristics that indicate high risk of overdose.

Scope of the Problem

- Opioid overdose continues to be a major public health problem in the U.S.
  - 200% increase in the rate of overdose deaths involving opioids since the year 2000
  - Opioids were involved in 28,647 overdose deaths in 2014

- Unintentional overdose deaths parallel per capita sales of opioid analgesics
  - Approximately a quarter of a billion opioid prescriptions were written in 2013
Scope of the Problem

Opioid overdoses driving increase in drug overdoses overall

Sources:
Scope of the Problem

- Larochelle et al.
  - Retrospective cohort study
    - 14,725 patients with non-fatal overdose over a 12-year period
    - Cohort consisted of 2848 patients
    - 91% of patients continued to receive prescriptions for opioids following an unintentional opioid overdose
    - 61% of patients continued to receive opioids from the same provider
    - Patients who continue taking high dose opioids were twice as likely to experience another overdose within two years

Scope of the Problem: New Mexico

- NM death rate from drug overdose has been one of the worst in the country the last two decades

- From 2010-2014 approximately one-third of the counties in NM had total drug overdose death rates more than double the U.S. rate
  - Rio Arriba County had the highest at 78.4 deaths per 100,000

- 53% of unintentional drug overdose deaths were caused by prescription drug
  - 48% were due to prescription opioids

Source: NM IBIS; https://ibis.health.state.nm.us/indicator/view/DrugOverdoseDth.Year/NM_US.html
The Offending Agents

Prescription

- Oxycodone
- Hydrocodone
- Methadone
- Fentanyl
- Morphine
- Hydromorphone
- Buprenorphine

Illicit substances

- Heroin

Opioid Basics

- Opioid receptors are found in the brain, spinal cord, and gastrointestinal tract

- Mu (µ) opioid receptor
  - Stimulation in the brain results in analgesia
  - Also responsible for physical depression, tolerance, constipation, euphoria, and RESPIRATORY DEPRESSION
Opioid Basics

Equianalgesic Opioid Dosing

<table>
<thead>
<tr>
<th>Drug</th>
<th>Parenteral</th>
<th>Oral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>0.3</td>
<td>0.4 (sl)</td>
</tr>
<tr>
<td>Codeine</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>0.1</td>
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</tr>
<tr>
<td>Hydrocodone</td>
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<td>30</td>
</tr>
<tr>
<td>Hydromorphone</td>
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<td>7.5</td>
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<tr>
<td>Meperidine</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>10*</td>
<td>20</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Tramadol</td>
<td>100*</td>
<td>120</td>
</tr>
</tbody>
</table>

*not available in the US


Opioid Overdose Basics

- Typically not instantaneous
  - ~1-3 hours after use

- Opioids affect the part of the brain which regulates breathing which can lead to respiratory depression

- As respiration rates become slower patients may become more sedated and unconscious, eventually leading to DEATH
**Opioid Overdose**

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.

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**Risk Factors for Opioid Overdose**

- Substance use disorder diagnosis (opioid, alcohol, illicit)

- High-dose opioid prescription

- Concomitant central nervous system depressants
  - Benzodiazepines, alcohol, barbiturates, etc.

- Reduced tolerance following detoxification or cessation of treatment, release from incarceration
Risk Factors for Opioid Overdose

- Medical conditions such as, renal or hepatic dysfunction, pulmonary disease (COPD), sleep apnea, cognitive impairment

- Mental health disorders
  
  - Posttraumatic stress disorder (PTSD), depression

- Prior history of overdose

- Age ≥65

Naloxone

- Naloxone is a safe and effective opioid antagonist used to reverse opioid overdoses
  
  - Knocks opioids off of mu-receptors to temporarily restore breathing

- Does not reverse the effects of alcohol, benzodiazepines or other central nervous system depressants

- Not harmful if no opioids in system
Naloxone

- Starts working in about 2 to 3 minutes and may last about 30 to 90 minutes
- Cannot be abused nor cause overdose
- Accidental administration poses no threat or danger including in children or pregnant women
- May precipitate withdrawal symptoms
- Available as intranasal kit, Narcan® nasal spray, Evzio™ auto-injector
RECOGNITION, RESPONSE, AND ADMINISTRATION OF NALOXONE

Recognition

- Signs & Symptoms of Opioid Overdose
  - Loss of consciousness and/or unresponsive
  - Decreased respiratory rate (slow or shallow breathing, or no breathing)
    - Gasping for air, gurgling, or choking sounds (may be from vomit or saliva)
  - Pale or blue skin, lips, fingertips - decreased oxygenation
Recognition

• Signs & Symptoms of Opioid Overdose
  ◦ Mental confusion
  ◦ Drowsy or nodding off
  ◦ Slurred speech
  ◦ Slow or no heart beat
  ◦ Pinpoint pupils

Responding to Opioid Overdose

• Stimulation
  ◦ If the person is unconscious, try to wake them up, call their name and shake them, sternal chest rub

• Call 911

• Administer naloxone
  ◦ If no response within 2 to 3 minutes after first dose administer second dose
  ◦ Naloxone wears off in 30-90 minutes
    • A second dose may need to be given to maintain breathing
Responding to Opioid Overdose

- Rescue Maneuvers
  - Chest compressions and rescue breathing
  - Recovery position, if breathing

- Naloxone will likely precipitate withdrawal and acute pain
  - Can be extremely difficult

How to Prepare and Administer Intranasal Naloxone

1. Pull or pry off yellow caps from syringe
2. Pry off red/purple cap from the naloxone vial
3. Grip clear plastic wings
4. Screw vial of naloxone into barrel of syringe until slight resistance is felt
5. Insert white cone into nostril; give a short vigorous push on end of vial to spray naloxone into the nose (see the arrow on 6)
6. Push to spray; spray one-half of vial in each nostril
7. If no reaction in 2-3 minutes, give a second dose (use another box of the drug)
Naloxone Administration

Narcan® (Naloxone) Intranasal Spray

Narcan® Intranasal Instructions for Use

- Each package contains two, single-use nasal spray devices

- 3 simple steps for use:
  1. Peel back the package to remove the device
  2. Place the tip of the nozzle in either nostril until your fingers touch the bottom of the patient’s nose
  3. Press the plunger firmly to release the dose into the patient’s nose

- If the patient does not respond to the first dose (after 2-3 minutes), give the second dose

Evzio™ (Naloxone) Auto-injector
Evzio™ (Naloxone) Auto-injector

- Device with step-by-step voice commands
- Naloxone is administered IM or SC into the outer thigh
  - Can be administered through clothing
- May consider if patient/caregiver is unable to demonstrate appropriate use of intranasal naloxone in a timely manner
- $$$

Evzio™ Administration

1. Pull from the outer case.

2. Pull off the red safety guard.

3. Place the black end against the middle of the patient’s outer thigh, then press firmly and hold in place for 5 seconds.
Providing Naloxone Education

- Ideally education should be provided to the person most likely to find the patient if overdose occurs
  - Spouse/significant other, caregiver, neighbor or friend, etc.

- Counseling should include:
  - Potential causes of overdose (risk factors on slides 15-16)
  - Signs and symptoms of opioid overdose (slides 21-22)
  - Steps that should be taken during an overdose
    - Stimulation—try to wake the patient if unconscious
    - Call 911
    - Administer naloxone
    - Rescue maneuvers

Additional Naloxone Education

- Naloxone is not a substitute for emergency medical treatment
- Naloxone will NOT harm anyone who is not on opioids
- Store naloxone at room temperature, out of direct sunlight
- Carry naloxone at all times, especially when traveling
  - Pack in carry-on bag when flying
- Naloxone will most likely precipitate opioid withdrawal
  - Do NOT give opioids again until instructed by medical professionals
Opioid Withdrawal

- NOT life threatening
- Patients may experience flu-like symptoms
  - Body aches, nausea/vomiting, diarrhea, fever, rhinorrhea
- May also experience
  - Anxiety, irritability
  - Insomnia
  - Sweating
  - Yawning

Increasing Access to Naloxone in NM

- In 2014, NMBOP established pharmacist prescriptive authority to dispense naloxone under protocol
  - Pharmacists must successfully complete 4 hours of training
  - Patient education required
  - Minimum of 2 hours of live CE every two years
  - Must notify PCP within 15 days
  - Trained pharmacist is prescriber
Increasing Access to Naloxone in NM

- NMDOH Standing orders for naloxone
  - Signed in March 2016
  - Goal is to expand access to and increase the availability of naloxone
  - Authorizes all registered pharmacists to dispense naloxone to patients who use an opioid or may be at risk for overdosing
  - Patient education required
  - No additional training or CE for pharmacist
  - Michael Landen, MD is prescriber

Patient Case

DA is a 70 year old male who presents to the pharmacy with a prescription for a renewal of OxyContin 40 mg po BID and oxycodone IR 10mg po BID. Pharmacy records indicate he has been on the current regimen for about 2 years.

- Current Medication List
  - Lisinopril 20mg daily for blood pressure
  - Furosemide 20mg every morning for edema/bp
  - Atorvastatin 40mg daily for cholesterol
  - Diazepam 5mg BID for anxiety
  - Zolpidem 5mg HS for sleep
Patient Case cont.

- What risk factors does DA have for unintentional overdose?
- Calculate the morphine equivalents

- As the pharmacist you decide that DA would be a good candidate for intranasal naloxone and his insurance covers it.
  - Discuss at least 3 counseling points for recognizing, responding, and administering naloxone

Patient Case 2

Would you consider giving naloxone to a 68 year old male who is only on MS Contin 15mg po BID and has been on this regimen for over a year? Refill history is appropriate and his only other medications are lisinopril 20mg daily, atorvastatin 40mg daily, and hydrochlorothiazide 25mg daily.
Useful Resources

- SAMHSA OEND Resources
- Prescribe to Prevent
  - http://prescribetoprevent.org/video/
- New Mexico Department of Health (NMDOH)
  - http://nmhealth.org/about/erd/ibeb/pos/
- How to Use the VA Intranasal Naloxone Kit
  - https://www.youtube.com/watch?v=WoSfEf2B-Ds
- “How to use NARCAN® nasal spray”:
  - http://www.narcannasalspray.com/nns-4-mg-dose/how-to-use-nns/
  - www.nmpharmacy.org

QUESTIONS?