National City Police Department Naloxone Program Recognition and Response

Presented by:

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Investigations Division

Slides and Information provided by US Border Patrol/CVPD

TRAINING AND TOPICS OF LEARNING

1. Opiates, Opioids and other Drugs
2. Recognizing Overdoses
3. Response
4. Storage Requirements
5. Naloxone

RESPIRATORY ARREST

What is Respiratory Arrest?

- Insufficient respirations leading to inadequate oxygenation, removal of carbon dioxide and eventually cardiac arrest.
- Common place in narcotic overdoses

PURPOSE OF OUR TRAINING

Nationally, narcotic related deaths have increased astronomically.

Drug users experimenting and using drugs that are more potent.

Increased incidences of overdose and side effects from people using prescribed medications to treat medical conditions.

PURPOSE OF OUR TRAINING

To provide awareness of nasal naloxone

The objective is to treat and reduce opioid overdoses

CASE EXAMPLES

- **San Diego:** Officials with the county's Health and Human Services Agency Drug and Alcohol Services division say they've seen an alarming increase of people using heroin who are between the ages of 18 to 25. "It's staggering to think from 2009 – 2014 there was a 229 percent increase.

- Further research and statistics show Heroin was the most common drug responsible for accidental overdose of people 20 to 29 years old in San Diego and North San Diego County. This increase resulted in the death of 89 young people during the same five year span.

OPIOIDS VERSUS OPIATES

- Opiates are concentrated from the opium poppy plant fluids, purified from the plant like maple sugar
- Opioids are manufactured and do not come from plants
- Opiates and opioids act the same in the brain
- Examples of opiates are morphine, codeine and heroin

OPIOIDS AND OPIATES COMMON NAMES

- Heroin
- Buprenorphine
- Butorphanol
- Codeine
- Fentanyl (duragesic patch)
- Hydrocodone (Vicodin)
- Hydromorphone (Dilaudid)
- Meperidine (Demerol)
- Morphine
- Oxycodone (Percocet, Percodan)
- Oxymorphone
- Propoxyphene (Darvan)

WARNING

Opiate Drugs

- One of the more dangerous opiate based drugs gaining popularity:

Fentanyl

WHAT IS FENTANYL

Most potent opioid for use in medical treatments

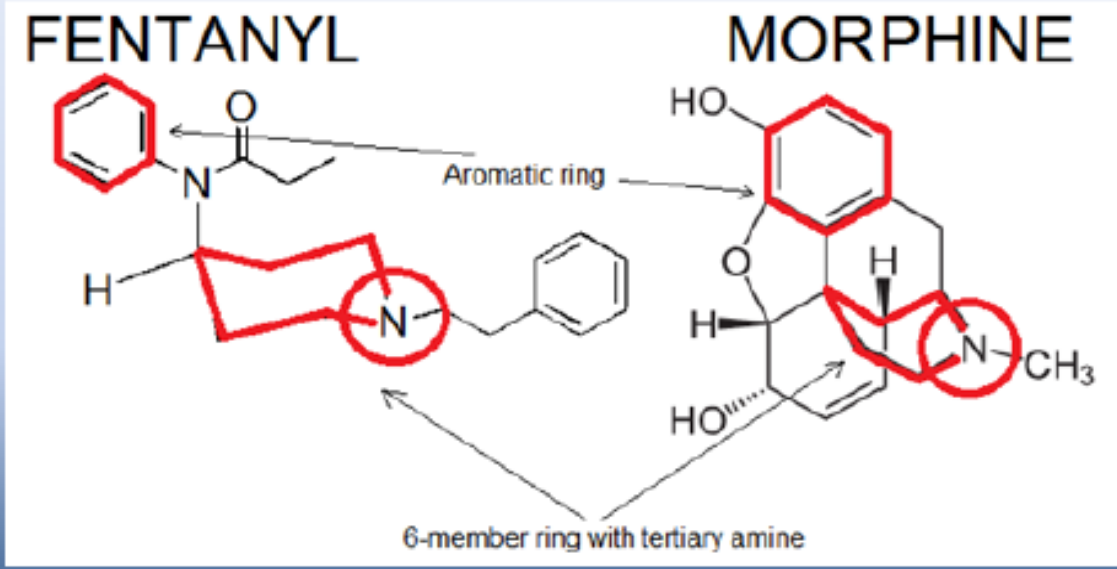
Used to treat severe cases of pain, to include:

- Terminally ill patients
- Cancer victims

Administered for pain to patients with opiate addiction or tolerance

Fentanyl

Morphine on Steroids



Fentanyl

- Physically can have the appearance of other narcotics
- Distributed in tablet, capsule, and powder

Fentanyl Effects

- Rapidly crosses the blood-brain barrier
  - Highly lipid soluble
- Readily absorbs through the skin
- Gives an intense euphoric feeling
  - Indistinguishable from morphine or heroin

Fentanyl Effects

- When fentanyl is injected
  - Effects can be felt in 30 seconds
  - Effects may last for 30 – 90 minutes (heroin is 4 hours)
- Fentanyl is metabolized in the liver
  - After 72 hours, 85% of dose is eliminated
  - Only 8% is excreted unchanged in the urine

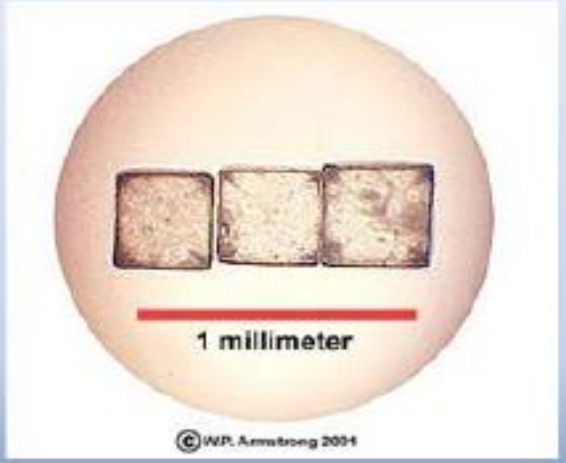
Fentanyl and Its Analogues in the Forensic Laboratory. Medical and Analytical Problems, Skulska et al, October 2004

Fentanyl

- Extreme danger to law enforcement by:
  - Skin absorption
  - Accidental inhalation

Dangers of Fentanyl

- Single dose of fentanyl by IV is approximately 125 micrograms
- 1 grain of salt = 60 micrograms



Single dose of fentanyl = 2 grains of salt

Dangers of Fentanyl

- Lethal dose of fentanyl is roughly 2 mg
  - 32 grains of salt
  - 7 poppy seeds

1 poppy seed = 0.3 mg

2 mg of fentanyl

Fentanyl Exposure
First Responder Precautions

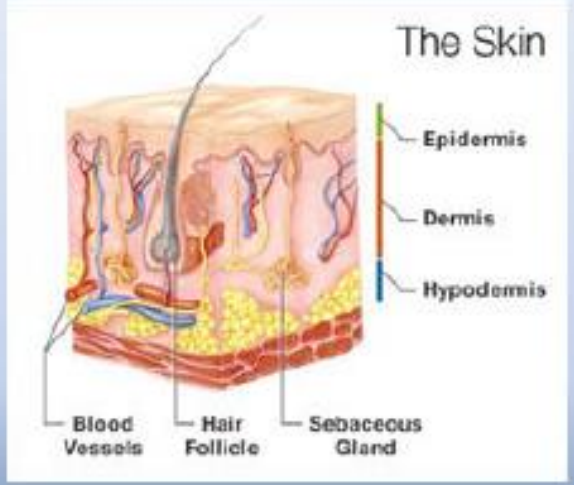
Specific Fentanyl Concerns

- Skin Absorption
- Fentanyl
  - Lipophilic – dissolves in fat and oils
  - Low molecular wt. allows molecule to cross the skin barrier
  - Depending on dose, symptoms can be felt within minutes

Data from "The Pathology of Drug Abuse", Steven B. Karch, 1993, page 273.

Specific Fentanyl Concerns

- Factors for fentanyl absorption across the skin:
  - Skin thickness
    - 0.06 mm eyelids
    - 0.8 mm soles of feet
  - Skin hydration
  - Diseases
  - Injuries
  - Ethnicity
  - Body temperature
    - Increase in body temp can increase absorption by 30%



Transdermal Drug Delivery: Principles and Opioid Therapy, Lyn Margetts and Richard Sawyer

Specific Fentanyl Concerns

- Evidence
  - Examine outside in well-ventilated area
  - Minimize risk of powder going airborne
- PPE
  - Use nitrile gloves

46 – 66% of dose absorbed depending on area of body

Handling Narcotics

- Symptoms of exposure
  - Low blood pressure
  - Pinpoint pupils
  - Slow heartbeat
  - Chest wall rigidity
    - "Wooden chest"
    - "Lead pipe rigidity"

Opiate use or overdose is one of the most common causes of pinpoint pupils.

Seek immediate medical attention

Specific Fentanyl Concerns

- Severe drowsiness
  - Sedated
  - Unable to answer questions
  - Unconscious - cannot be awakened
- Disoriented
- Cold, clammy skin
- Nausea
- Coughing

Seek immediate medical attention

Specific Fentanyl Concerns

- Symptoms of Exposure
  - **Symptoms may develop within minutes of exposure**
  - Respiratory Depression
    - Slow breathing
    - Less than 8 breaths/minute
  - Cardiac arrest

Seek immediate medical attention

Treatment

- Depending on exposure
  - Multiple doses of naloxone (Narcan) may be needed.
  - If Fentanyl still present, the drug will re-bind to sites
  - Short half-life
  - Initial dose 0.4 – 2 mg*
  - Repeated doses up to 10 mg*

* A Response to the Opioid Overdose Epidemic: Naloxone Nasal Spray, Daniel P Wermeling, Pharm D, Feb. 1, 2014

USE CATEGORIES

- Legal vs Illicit drugs
- Intentional vs. accidental overdose
- Prescription vs. non-prescription
- As you can see it is not just heroin that we use Naloxone for
- Naloxone is only used for opiate and opioid based suspected overdoses

WHAT IS NALOXONE?

"Narcan is a trade name for the generic drug naloxone

Naloxone is a safe antidote to opioid overdoes that has no risk of abuse or dependency

WHO IS HIGH RISK FOR OVERDOSE?

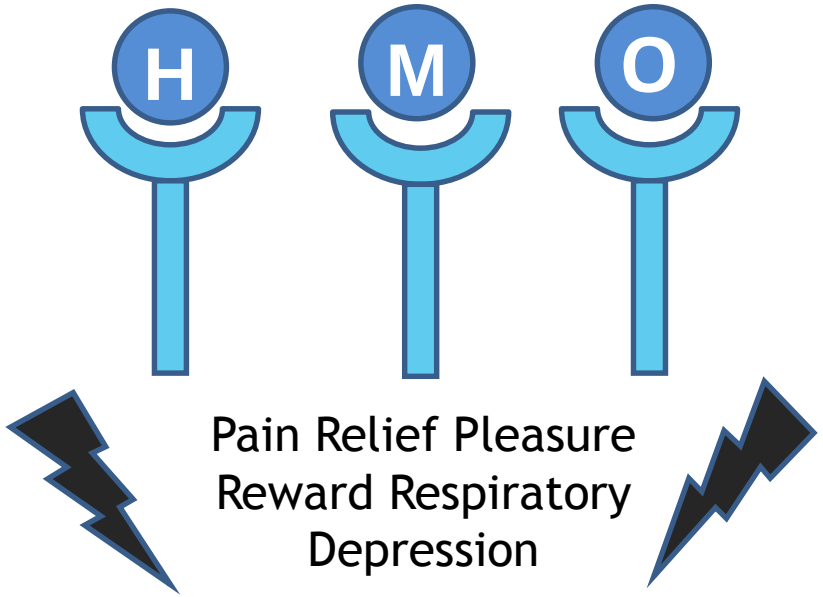
- Individuals using medical visits and care from multiple doctors who are not following instructions about prescription use
- Users of prescriptions that belong to others
- Users who inject drugs for greater effects
- Former users who are recently released from prison or who are entering and exiting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

Naloxone

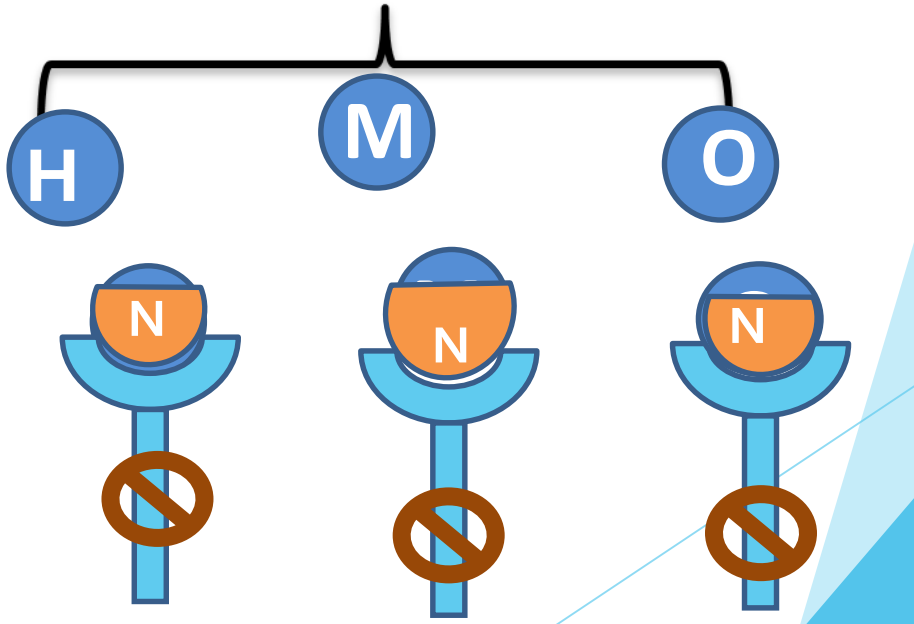
Naloxone displaces (or “kicks out”) the opioids from the receptors, and then blocks the receptors (and the effects of the opiate) for roughly 30-90 minutes

NALOXONE ( ) IN THE BRAIN

opioid receptors activated by heroin and prescription opioids



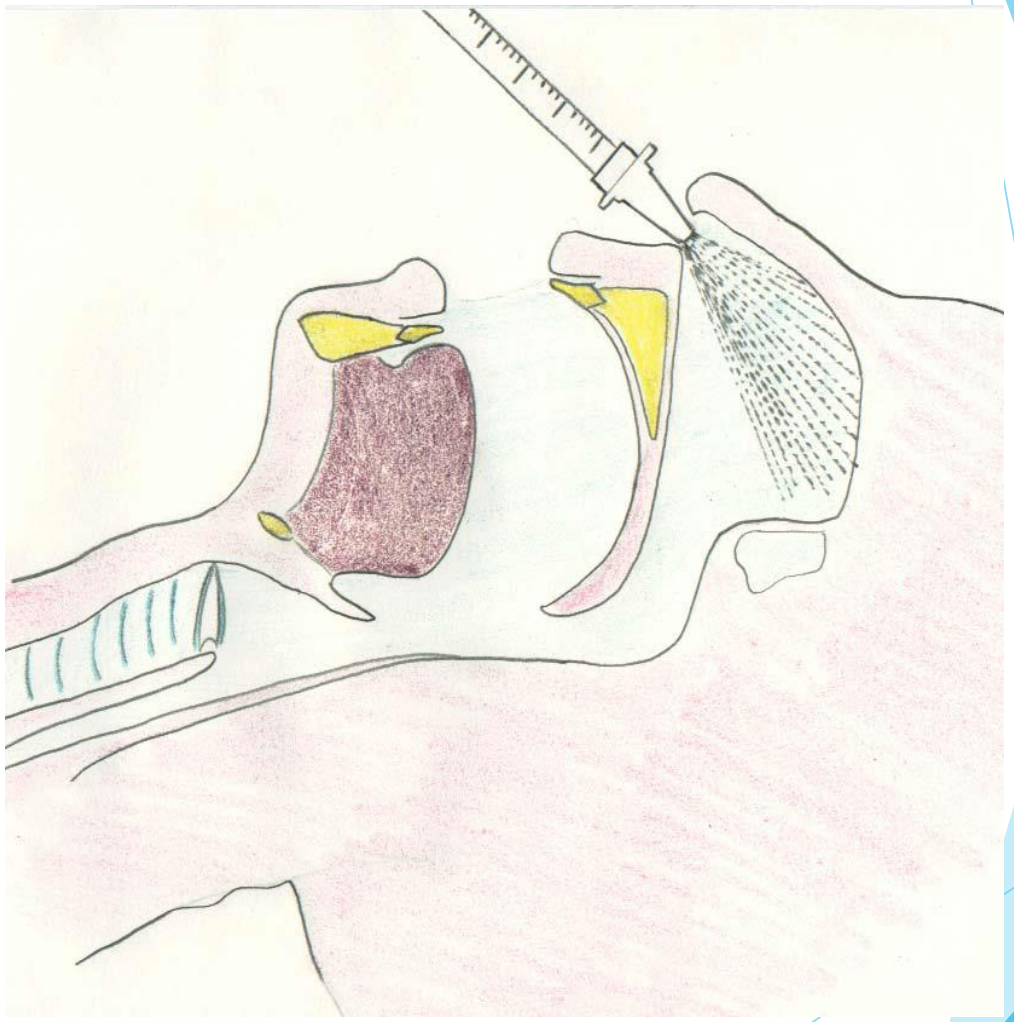
opioids broken down and excreted



Reversal of Respiratory Depression Opioid Withdrawal

Why Intranasal Naloxone?

- *Works quickly since the nose has a large area for absorbing drugs directly into the blood stream*
- *No need to worry about injecting or handling needles as you would for the injectable naloxone*



ONE LUER ATTACHED ATOMIZER

Bag valve mask for rescue breathing (halted during naloxone administration)

ADMINISTRATION

Intranasal administration of naloxone

ADAPT PHARM NASAL NARCAN SPRAY

- Comes in a single 4mg dose unit
- No assembly required
- Easy storage requirements
- Law Enforcement Safe (No Sharps)
- Durable (No glass vials to break)
- narcannasalspray.com

2mg vs 4mg Naloxone

2mg Naloxone Kit

- Kits require assembly
- Can “adjust” the dosage
- Measurements marked in 0.5mg increments

4mg Naloxone Kit

- Preassembled
- No Sharps
- 4mg all at once

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: When using a “controlled dosage” kit, use 0.5mg in each side of the nose and consider using the remainder in five minutes, if the ambulance has not arrived and the child is still unresponsive.

- Remember, children have smaller noses and some of the drug may run out of the nose and down the back of the throat. This will not do any harm but watch for airway issues.

ADVERSE REACTIONS

When used, intranasal naloxone can cause withdrawal:

- Runny nose
- Sweating
- Fast heart rate
- Shakes
- High blood pressure, or
- Low blood pressure

Fear of causing withdrawal should not prevent use when the person is unresponsive

WHAT DOES AN OVERDOSE LOOK LIKE

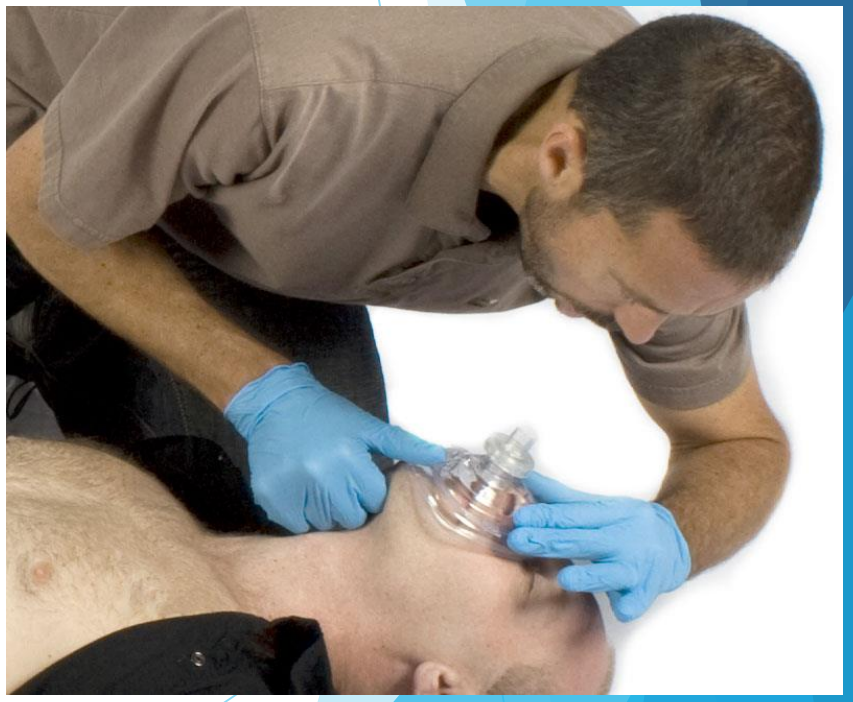
- No breathing or slow breathing
- Miosis (pinpoint pupils)
- Lips and fingertips are blue or gray in color

- Is the person turning blue? (Never a good thing)
- Can’t talk or walk?
- Unresponsive/ Level of consciousness? call their name, shake them, or rub their sternum (rub your knuckles hard up and down their breastbone)
- Slow or no pulse (Another bad thing)
- Eyes rolled back?

TIME IS CRITICAL!

- An opiate overdose represses a person's drive to breathe. The victim's breathing can slow down or stop to the point that they don't have enough oxygen to survive.

- SINCE THE PERSON CAN'T BREATHE FOR THEMSELVES, YOU NEED TO BREATHE FOR THEM.



NALOXONE PROTOCOL

- Basic Life Support (BLS)
  - **Recognize:** Victim level of responsiveness. If altered, notify dispatch of AMR response.
  - **Respond:** Assess If pulse is present and the victim is unconscious, assess breathing status.
  - If breathing is inadequate <8 initiate rescue breathing with CPR mask, one breath every 5-6 seconds.
  - Prepare naloxone
  - If breathing is adequate (>8 per minute, no cyanosis) and no signs of trauma, place in the recovery position.

ADMINISTER THE NALOXONE

- Retrieve and assemble Naloxone kit
- Administer a maximum of 1mg in each nostril for a total of 2mg, using a “Controlled Dosage” unit
- If you are using the ADAPT Pharmacy unit, you will provide a 4mg single dose in one nostril.
- Continue breathing support with CPR mask.
- If no response after 3-5 minutes and a second dose of naloxone is available, repeat the administration (if protocol allows).
- Activate an EMS response via 911/Radio when naloxone is indicated/administered

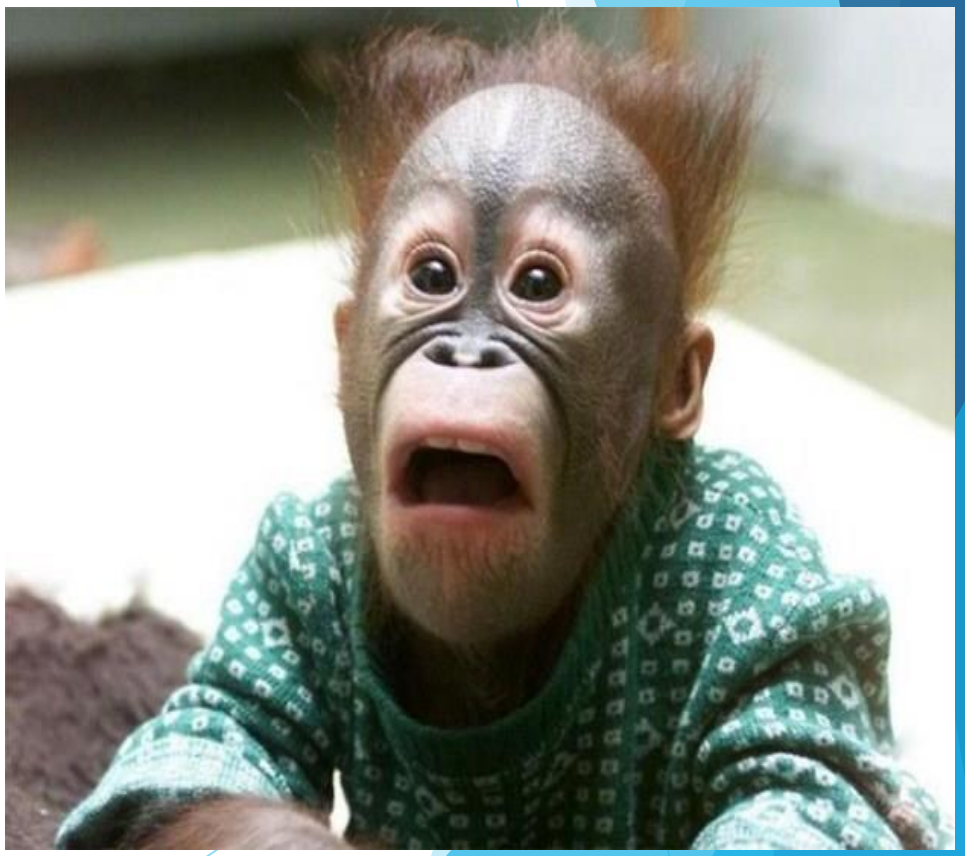
COMPLETE THE RESPONSE

- Complete documentation and internal department procedures for restocking and notification.

- When using the nasal naloxone kit officers will maintain universal precautions (PPE).

REMINDERS!!

- Stay with the person. If they don't respond after three minutes, you may need to give them a second dose.
- In the meantime, continue rescue breathing.
- When they wake up, explain to them what happened, and that you gave them naloxone.
- One of the side effects of naloxone is withdrawal symptoms: headache, sweating, nausea, vomiting, piloerection (aka, goosebumps) or aggressive behavior.



*** WARNING***

- Nasal Naloxone may be damaged by extreme temperatures, both high and low. It is to be stored in an environment between the temperatures of 68-77F. (Not the trunk of your police car)

- Property and Evidence Supervisor will ensure the proper placement and storage of naloxone kits.

P&E SUPERVISOR AND ADMISTRATIVE SERGEANT RESPONSIBILITES

- The Administrative Sergeant will make sure that nasal naloxone is current and not expired.
- Administrative Sergeant and the Property and Evidence Supervisor will ensure that there is proper and efficient deployment of nasal naloxone for use.
- Replacement of any nasal naloxone that is either damaged, unusable, expired or deployed will be brought to the attention of the Administrative Sergeant and the Property and Evidence Supervisor.
- Administrative Sergeant and the Property and Evidence Supervisor will ensure that all personnel that will be using nasal naloxone have received appropriate training. Records will be retained.

DEPARTMENT RESPONSIBILITIES

- An inspection of the nasal naloxone kit shall be the responsibility of the personnel assigned the equipment and inspected on a daily basis.
- Missing or damaged nasal naloxone kit(s) will be reported directly to the Administrative Sergeant and the Property and Evidence Supervisor.
- When any condition exists that necessitates the nasal nloxone kit to be taken off line or be submitted for replacement, this information shall be directed to the Administrative Sergeant and the Property and Evidence Supervisor.

DEPARTMENT RESPONSIBILITIES

- Replacement: The Property and Evidence Supervisor shall be responsible for replacing the nasal Naloxone and ensure that there is an adequate supply available for use.

QUESTIONS

NCPD
CITY OF NATIONAL CITY

NALOXONE USAGE REPORT

DATE OF OVERDOSE	ARRIVAL TIME OF OFFICER (HH:MM)
ARRIVAL TIME OF EMS (HH:MM)	CASE NUMBER
GENDER OF SUBJECT M☐ F☐ UNK☐	AGE OF SUBJECT

Was the person who overdosed transient or homeless? Y☐ N☐
Were you first on the scene? (Before EMS) Y☐ N☐
Did subject regain consciousness before EMS arrived? Y☐ N☐

Ethnicity of the subject:
Number of vials of Naloxone used:
If Naloxone worked, how long did it take for medication to work?

What other actions did the officer take? (Check all that apply)

☐ YELLED	☐ MOUTH TO MASK
☐ SHOOK THEM	☐ MOUTH TO MOUTH
☐ STERNAL RUB	☐ CHEST COMPRESSIONS
☐ RECOVERY POSITION	☐ OXYGEN
☐ BAG VALUE MASK	☐ OTHER

Was Naloxone administered by anyone else at the scene? (Check all that apply)	☐ EMS	☐ Bystander	☐ Other (specify:)
Disposition?	☐ Care transferred to EMS		☐ Other (specify:)
Overdose Prevention Brochure provided to?	☐ Subject		☐ Other (specify:)

EMS CASE NUMBER:

NOTES:

OFFICER NAME / ID NUMBER: / CASE NUMBER: