Naloxone (Narcan IN)

Nor-Cal EMS
2021

Learning Objectives

1) Understand the opioid overdose epidemic
2) Understand how opioids (narcotics) work
3) Understand how naloxone (Narcan) works
4) How to recognize an opioid overdose
5) How to respond to opioid overdose
    - Getting help
    - Rescue Breathing
    - Administering naloxone
    - Documentation

California Drug-Involved Overdose Deaths

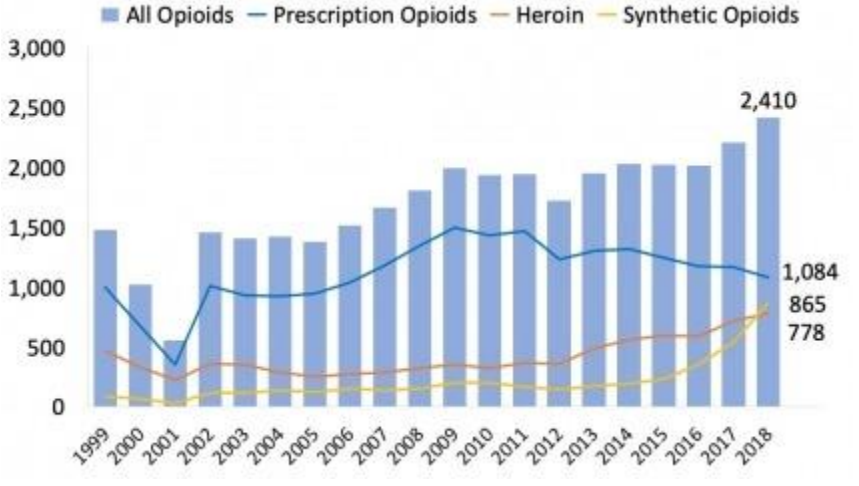
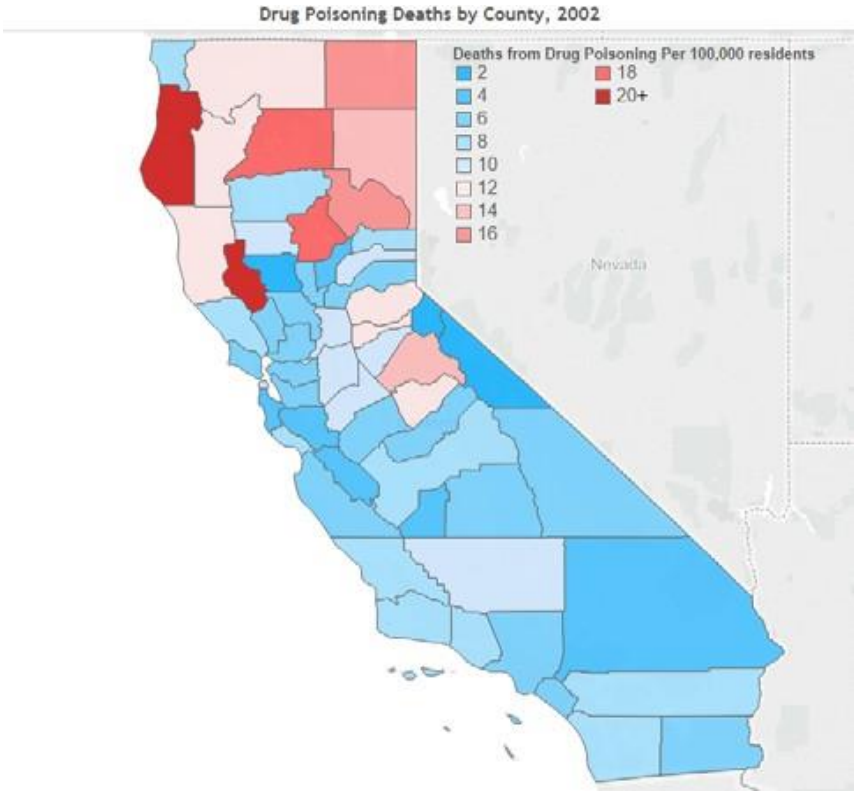
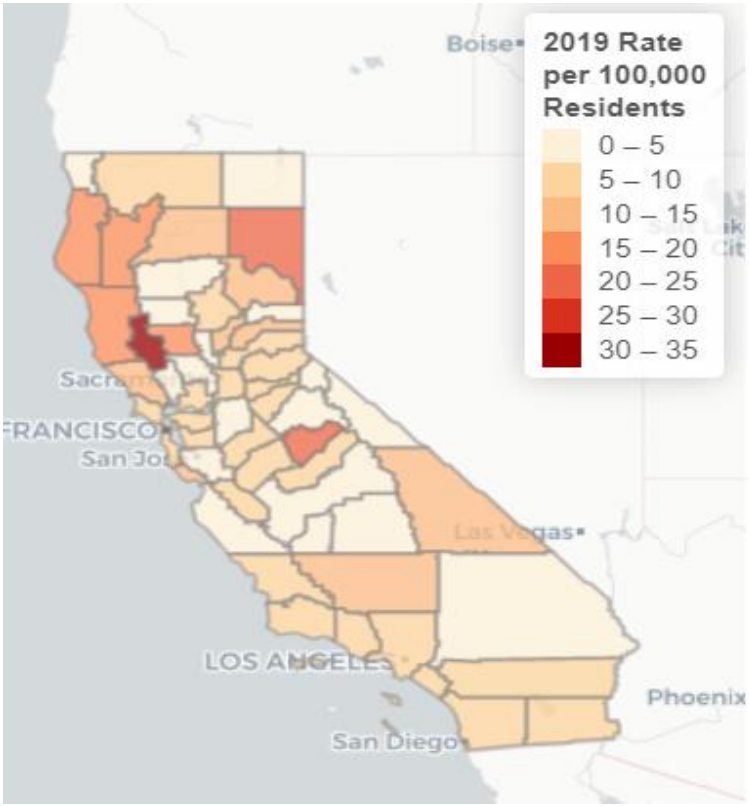


Figure 1. Number of overdose deaths involving opioids in California, by opioid category. Drug categories presented are not mutually exclusive, and deaths may have involved more than one substance. Source: CDC WONDER, 2020


Drug Poisoning Deaths by County, 2002
Deaths from Drug Poisoning Per 100,000 residents
2
4
6
8
10
12
14
16
18
20+
Nevada


Boise
2019 Rate per 100,000 Residents
0 – 5
5 – 10
10 – 15
15 – 20
20 – 25
25 – 30
30 – 35
Las Vegas
LOS ANGELES
Phoenix
San Diego

What are opioids/opiates?

- Medications that relieve pain.
- Attach to the opioid receptors in the brain and reduce the intensity of pain signals reaching the brain.

Effects of Opioids

- Pain relief and euphoria
- Itchiness
- Dryness of mouth
- Sedation
- Respiratory depression
- Sedation
- Nausea/vomiting
- Sweating
- Constipation

Types of Opiates

Natural Opiates:

*Opium, Heroin, Morphine, Codeine, Oripavine, Thebaine

Semisynthetic Opiates

*Oxymorphone, Hydromorphone, Oxycodon, Hydrocodone

Synthetic Opiates

*Norco, Demerol, Atarax, Lortab, Fentanyl, Dilaudid

The term opiate is often used as a synonym for *opioid;* however the term *opiate* refers to just those opioids derived from the poppy plant either natural or semi- synthetic.

All categories have overdose risk

NOR-CAL EMS

Opioid Prescription Drug Types

Hydrocodone
(Vicodin, Lortab, Lorcet)

Oxycodone
(OxyContin, Percodan, Percocet)

Propoxyphene
(Darvon)

Codeine

Methadone

Diphenoxylate
(Lomotil)

Fentanyl
(Duragesic)

Meperidine
(Demerol)

Morphine
(Kadian, Avinza, MS Contin)

Hydromorphone
(Dilaudid)

These images are examples of possible pills and are not intended medical identificaion or use.

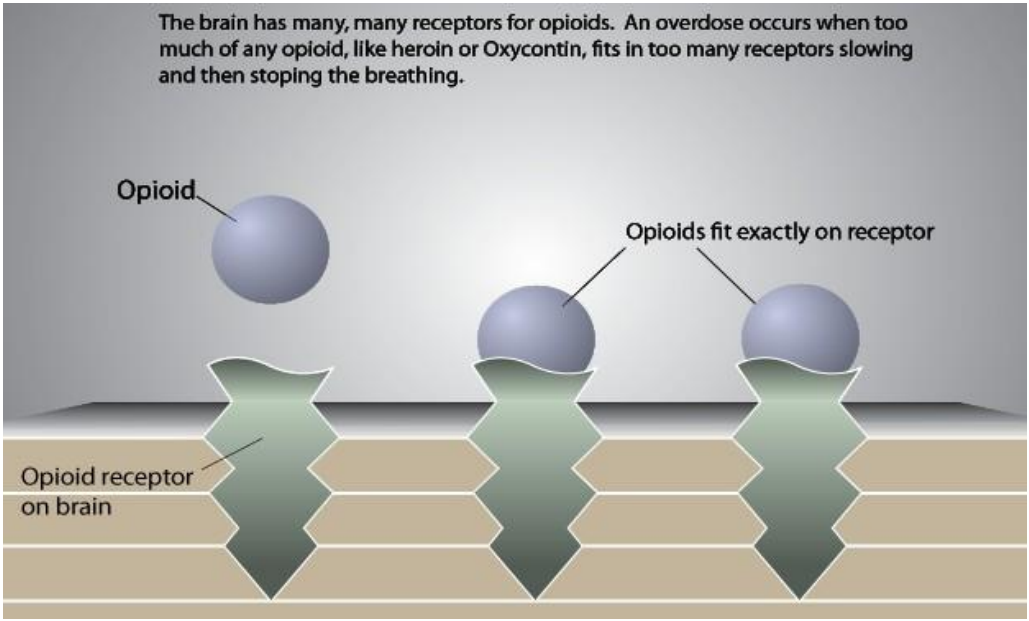
Most Commonly Used and Abused Opioids

- Heroin
- Codeine
- Demerol
- Morphine
- Fentanyl
- Dilaudid
- Methadone
- Opium
- Hydrocodone
- Oxycodone
- Vicodin
- OxyContin
- Tylenol 3
- Tylox
- Percocet
- Percodan

Controlled Substances Other Than Opioids

- Many overdoses contain one or more drugs in a deadly mixture
- Naloxone is still to be administered when a person has taken a mixture of opioids with other drugs

What is an Opioid OD?



What is Naloxone?

- Trade name Narcan
- Reverses the effects of an opioid (narcotic) overdose by removing opioid molecules from neuroreceptors in the brain
- Only reveres the effects of opioids, has no effect on any other drugs (for example: alcohol or benzodiazepines)
- Few side effects when administered, rare if no narcotic overdose
- New laws allows distribution to use and use by people around drug user and law enforcement

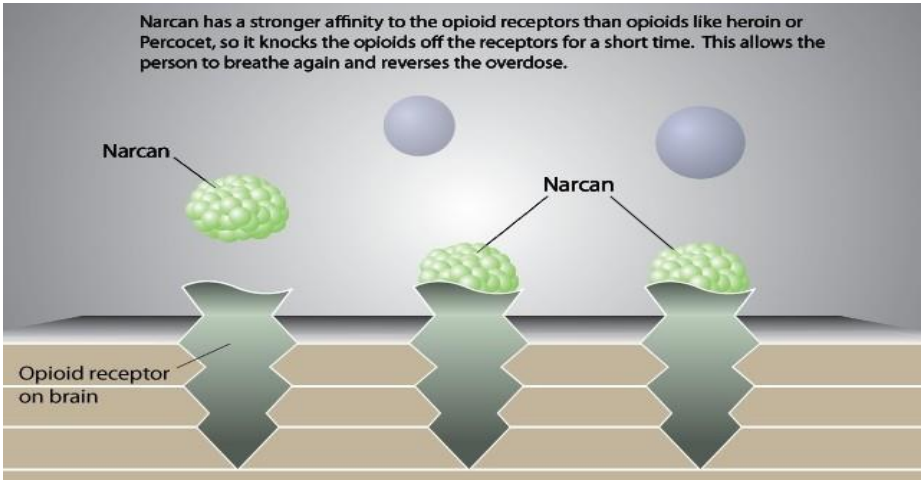
How Naloxone (Narcan) Works

- Opioid antagonist
- Pharmacology
- Competitive narcotic antagonist, which reveres all effects of opioids such as respiratory depression and central and peripheral nervous system effects.
- Temporarily blocks the effects of opioids in the brain
- Enabling the person's brain center to work
- Thereby the patient can breath again

How Naloxone (Narcan) Works

- Naloxone can neither be abused nor overdosed
- Only contraindication is know hypersensitivity (allergy) which is rare
- Warning: naloxone may induce opiate withdrawal in patients who are physically dependent.
- Certain drugs such as Darvon may require much higher doses of naloxone for reversal.

Naloxone Reversing Overdose



What is Narcan® (Naloxone)?

- Narcan knocks (displaces) the opioid off the opiate receptor, blocking opiate receptors from the opiate
- "Think of a crow bar pulling out nails"
- *Temporarily* takes away the "high," giving the person the chance to breathe
- Narcan works in 3 to 5 minutes and lasts 30 to 60 minutes
- Narcan can **neither** be abused nor cause overdose
  - only contraindication is known sensitivity, which is very rare
- Narcan can cause withdrawal symptoms such as:
  - nausea/vomiting
  - diarrhea
  - chills
  - muscle discomfort
  - disorientation
  - combativeness

Adverse Reactions

May include:
tachycardia
hypertension
dysrhythmias
nausea
vomiting
diaphoresis.
Can also cause agitation in case of sensitivity

Storage of Naloxone

- Naloxone Kit must be stored in the passenger compartment of patrol vehicle
- Naloxone is a perishable medication
- Extreme temperature changes may affect effectiveness of medication

Narcan Protocol

- Candidates for intranasal administration of naloxone:
- **Adult and pediatric patients with suspected narcotic overdose and respiratory depression only.**
- Patients must meet both of the following criteria to be eligible for IN naloxone administration:
    - **Unconscious**
    - **Respiratory depression defined as a respiratory rate less than 12 or inadequate respiratory efforts.**

Naloxone Utilization

- Administer Naloxone
- Nasal Spray rather that injection.
- Absorbed in body from nasal mucosa (thin tissue in nose.
- Spray safer than intravenous or intramuscular route (needle less administration)
- Provides for slower, more even awakening than intramuscular or intravenous routes.

Bioavailability

- How much of the administered medication actually ends up in the blood stream
- IV medications are 100% bioavailable
- Many oral medications are only between 5% to 10% bioavailable
- Nasal medications can vary, however nasal Narcan (naloxone) approaches 100%
- IV and IN blood serum levels are identical after several minutes

IN Medication Administration: Factors Affecting Bioavailability

- Nasal mucosal characteristics
  - In there is something wrong with the nasal mucosa it may not absorb medications effectively
- Examples
  - Vasoconstrictors such as cocaine prevent absorption
  - Bloody nose, nasal congestion, mucous discharge all prevent mucosal contact of drug
  - Destruction of nasal mucosa from surgery or past cocaine abuse- no mucosa to absorb the drug

AB 472: CA 911 Overdose Calls

1. Protects callers & patient from charges related to being under the influence or possession for personal use of drugs or paraphernalia.
2. Fear of law enforcement response is a principal barrier to bystanders calling

911 in the event of overdose

3. This "911 Good Sam" law designed to minimize fear and increase likelihood bystanders will call for help.

4. Does not provide immunity against:

   - Sales or distribution
   - Forcibly administering a drug against a person's will
   - DUI or drugged driving
   - Violation of probation / parole conditions

Overdose versus Overmedication

OVERDOSE

Small "pinpoint" pupils

Breathing slow or stopped

Heart slow or stopped

Cannot be awakened, unable to speak

Paraphernalia, signs of use

Known to you as a drug user

Fingernails or lips have blue or purple cast

Patient vomiting or making gurgling sounds

OVERMEDICATION

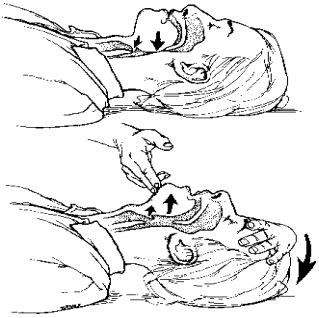
- Small "pinpoint" pupils
- Breathing slow
- Heart slow
- Difficulty waking from sleep
- Mental confusion, intoxicated

Signs of Opioid Overdose

- Loss of consciousness
- Unresponsive to outside stimulus
- Awake, but unable to talk
- Breathing is very slow and shallow ,erratic, or has stopped
- Choking sounds, or snore-like gurgling noises
- Vomiting
- Body is limp
- Face is very pale or clammy
- Fingernails and lips turn blue or purplish black
- Pulse is slow, erratic, or has stopped

Respond to Opioid Overdose:

- Open mouth check to see that there's nothing that can block the airway.
- Place hand under chin and lift to open the airway.
- This position will be used to give the intranasal naloxone



Remember Scene Safety

- **Always protect yourself first!**
- **Be aware of potential hazards:**
- Maintain universal precautions; bodily fluids present risk of infection
- Needles/Hazardous materials
- Other people and/or nearby traffic

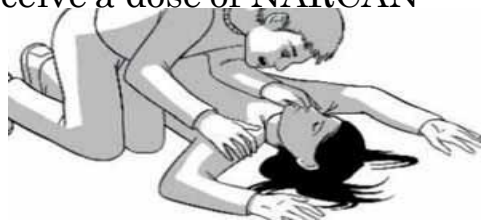
Support Breathing

Ventilation

1. Open airway—Head tilt
2. One breath every 5 seconds – 12 breaths/minute
3. Rescue breaths
   - Over 1 second
   - Visible chest rise – not too much

Identify Opioid Overdose & Check for Response

- Ask person if he or she is okay and shout name.
- Shake shoulders and firmly rub the middle of their chest.
- Check for signs of opioid overdose:
- Will not wake up or respond to your voice or touch
- Breathing is very slow, irregular, or has stopped
- Center part of their eye is very small, sometimes called "pinpoint pupils"
- Lay the person on their back to receive a dose of NARCAN Nasal Spray.



How to Give Nasal Spray Narcan

http://www.narcan.com/helpful-resources/


NDC 69547-353-02
0.1 mL intranasal spray per unit
For use in the nose only
Rx Only
NARCAN® (naloxone HCl)
NASAL SPRAY 4 mg
DO NOT TEST DEVICES OR OPEN BOX BEFORE USE.
Use for known or suspected opioid overdose in adults and children.
This box contains two (2) 4-mg doses of naloxone HCl in 0.1 mL of nasal spray.
Two Pack
CHECK PRODUCT EXPIRATION DATE BEFORE USE.
OPEN HERE FOR QUICK START GUIDE
NARCAN® NASAL SPRAY
4 mg

Administering Naloxone

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

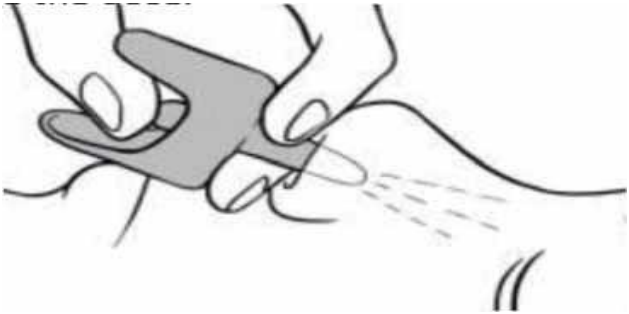
- Hold the NARCAN nasal spray with your thumb on the bottom of the plunger and your first and middle fingers on either side of the nozzle.

- 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.



Nor-Cal EMS Protocol: Adult

- 2 mg to 4 mg IN
- If no improvement, consider repeat dose x 2 (total 3 doses) every 2 to 3 minutes
- Don't delay summoning EMS after first dose
- Remember CPR if needed
- Do not administer if advanced airway is in place and the patient is being adequately ventilated

Nor-Cal EMS Protocol: Pediatric

- Pediatric dosing (less than or equal to 12 years of age)
- 0.1 mg/kg IN (maximum dose 2 mg)
- If unable to perform pediatric dose may give 2 mg to 4 mg dose IN
- If no improvement, consider repeat dose x 2 (total 3 doses) every 2 to 3 minutes don't delay
- Don't delay summoning EMS after first dose
- Remember CPR if needed
- Do not administer if advanced airway is in place and the patient is being adequately ventilated

Procedure

- Inspect nostrils for mucus, blood or other problems which might inhibit absorption, to judge effectiveness
- May increase the risk of failure
- Rapidly administer the medication when the patient fully exhales if they are breathing spontaneously
- May need to help support ventilations for 3 to 4 minutes, if no response consider repeat doses or other causes for coma
- Monitor and support ABC's until ALS/LALS arrives

Recovery Position

Responses to Naloxone

Scenarios:

1. Gradually improves breathing and becomes responsive within 3– 5 minutes
2. Immediately improves breathing, responsive, and is in withdrawal – May see Seizures in patient
3. Starts breathing within 3 – 5 minutes but remains unresponsive
4. Does not respond to first dose and naloxone must be repeated in 3 – 5 minutes late if another dose is available (keep rescue breathing)
5. Often after Naloxone has been administered, the victim will wake up agitated, scared, and possibly combative. We must remember this is a medical emergency not an arrest incident and need to ensure our safety and the victim safety.

After Administering Naloxone

- Continue rescue breathing if indicated, with 1 breath every 5 seconds until emergency responders arrive
- After 3-5 minutes, if the patient is still unresponsive with slow or no breathing, administer another dose of nasal Naloxone

Post naloxone care

1. If opioid, should see awakening
2. Occasional rapid awakening
3. Withdrawal symptoms possible if patient is dependent
4. Pain patients will lose pain relief
5. Naloxone lasts 30 – 60 minutes;
6. Patient should not leave – must be monitored/transported
7. Treatment Referral important

No Response to Naloxone

1. May be overdose with nonnarcotic substance
2. May not be overdose: cardiac, stroke, low blood sugar, foreign body, etc.
3. Don't delay CPR / AED if condition appears to be heart attack
4. Full CPR or Compression only

Refusal of care/transport after Naloxone is administered

- Inform the person of the risk of re-overdosing
- Inform the person Naloxone is only temporary
- If person still refuses consider the mechanism of injury or Illness
  - Do you believe he/she can refuse treatment with a sound mind and clear understanding of the circumstances? Remember they just overdosed!
  - If no, the person can not refuse treatment
  - If yes have victim sign an Against Medical Advice (AMA) form, from the responding EMS personnel on scene.

Documentation

- Record time of each administration
- Document history, vitals signs, and treatment
- If possible on a patient care report
- A copy of the PCR must be submitted to the Nor- Cal EMS agency within 7 calendar days of the utilization