

Medication: Naloxone	PDN: 6960.06	Last Updated: May 5 2024	PMD: Andrew Travers*	PDC: Teena Robinson*	Page 1 of 2
-----------------------------	------------------------	------------------------------------	--------------------------------	--------------------------------	----------------

NALOXONE (Narcan)

1.0 Classification

- Opioid antagonist

2.0 Mechanism of Action

- Reverses the effects of opioids, including respiratory depression and sedation, by competitively binding to opioid mu-receptor (i.e., naloxone will displace opioid agonists and can cause withdrawal).

3.0 Indications

- Suspected opioid overdose with respiratory/airway compromise despite BLS airway management
- Cardiac arrest when opioid overdose is suspected

4.0 Contraindications

- Hypersensitivity to naloxone

5.0 Precautions

- Naloxone will displace opioids from opioid receptors thereby inducing abrupt withdrawal which can be very distressful for the patient and cause agitation.
- In the spontaneously breathing patient, naloxone should only be used to achieve adequate ventilation at a rate of 12 breaths per minute (i.e., the goal isn't to fully reverse sedation as this will result in profound withdrawal).

6.0 Route

- May be given IV, IO, IM or IN

7.0 Dosage

Adult

- For cardiac arrest: 0.4 mg/dose IV/IO/IM/IN (IV/IO preferred); given every 2-3 minutes.
- For spontaneously breathing patients: 0.04 mg IV/IO every 2-3 minutes, titrated to effective ventilation. This can be achieved by diluting the 0.4 mg vial in a 10 mL syringe, resulting in 0.04 mg/mL. If unable to obtain an IV consider 0.4 mg IN.

Pediatric

- For cardiac arrest children >5 years or >20 kg: 0.4 mg/dose IV/IO/IM/IN (IV/IO preferred); given every 2-3 minutes.
- For cardiac arrest children <5 years or <20kg: 0.1 mg/kg/dose IV/IO/IM/IN (IV/IO preferred) (max 0.4 mg); given every 2-3 minutes.
- For spontaneously breathing patients: 0.04 mg IV/IO every 2-3 minutes, titrated to effective ventilation this can be achieved by diluting the 0.4 mg vial in a 10 mL syringe, resulting in 0.04 mg/mL. If unable to obtain an IV consider 0.4 mg IN.

8.0 Supplied

- 0.4 mg in 1 mL vial

9.0 May Be Given By

- EMR (IN & IM routes only)/PCP/ICP/ACP/CCP

10.0 Adverse Effects

- Opioid withdrawal syndrome including diaphoresis, anxiety/agitation, tearing, yawning, rhinorrhea, mydriasis, tremor, piloerection (goosebumps), restlessness and nausea/vomiting.

11.0 Special Notes

- Naloxone is part of the BLS algorithm in cardiac arrest where opioids are suspected; however, effective compressions, ventilations and defibrillation take priority.
- For the spontaneously breathing patient, EtCO₂ and respiratory rate should guide whether naloxone is required. If required, naloxone should be diluted and administered in 0.04 mg aliquots every 2-3 min until effective ventilations are demonstrated (normal EtCO₂ and respiratory rate of 10-12 bpm). Aiming to fully reverse sedation may result in significant withdrawal. For iatrogenic overdoses (i.e., too much opioid has been administered to control pain resulting in respiratory compromise), it is even more important to titrate the opioid reversal slowly as the patient will end up in severe pain if too much is given.
- Law enforcement and some MFRs will administer naloxone 4 mg IN. IN absorption would be slower than IV and less effective therefore larger doses are usually required by this route.
- The half-life of naloxone is shorter than most opioids and so the patient may require more naloxone when its effects wear off after approximately 40-60 min; non-transport after naloxone administration is therefore very high risk and consulting MCCP is required. In addition, transport to ED offers the opportunity to connect the patient with treatment and other resources important to preventing future overdose.
- If no correction in airway or ventilation after multiple doses, consider differential diagnosis.
- Naloxone is effective against natural, synthetic, or semi-synthetic opioids including:
 - Codeine
 - Darvon (propoxyphene)
 - Demerol (meperidine)
 - Dilaudid(hydromorphone)
 - Fentanyl
 - Heroin
 - Lomotil
 - Methadone
 - Morphine
 - Nubain (nalbuphine)
 - Oxycodone
 - Paregoric (anhydrous morphine)
 - Percocet (oxycodone and acetaminophen)
 - Percodan (oxycodone and ASA)
 - Stadol (butorphanol)
 - Talwin (pentazocine)
- Pregnancy category C [if the patient will benefit from a Category C drug, it is generally used]. Naloxone is a life-saving medication for both mother and baby. If significant respiratory depression and/or cardiac arrest, naloxone should be administered in conjunction with usual cardiac arrest care for all patients of suspected opioid overdose including pregnant patients. Neonates born to opioid-dependent mothers can develop opioid withdrawal syndrome after birth and supportive care should be provided. For babies born to non-opioid dependent mothers who received large doses of opioids during labor, it would be appropriate to administer naloxone if respiratory depression or significant sedation.

12.0 References

- Altered Level of Consciousness Clinical Practice Guideline
- Toxicological Emergencies Clinical Practice Guideline
- Compendium of Pharmaceuticals and Specialties (CPS)

*Electronically Signed

Copyright © Emergency Health Services