

	1756	Sedation and Analgesia
Nor-Cal EMS Policy & Procedure Manual	Treatment Guidelines	
Effective Date: 11/04/2022	Next Revision: 11/04/2025	
Approval: Jeffrey Kepple MD – MEDICAL DIRECTOR	SIGNATURE ON FILE	

Authority

Health and Safety Code Division 2.5, California Code of Regulations, Title 22, Division 9, Chapter 4, Article 2.

Purpose

To provide a mechanism for Critical Care Paramedics (CCPs) to provide chemical sedation and analgesia for ventilator dependent and agitated patients.

- **ONLY** for NorCal EMS Agency accredited CCPs who have successfully completed training program(s) approved by the Nor-Cal EMS Agency Medical Director.
- **ONLY** for CCP ambulance provider agencies approved by the Nor-Cal EMS Agency.
- **CCPs will not initiate Midazolam, Fentanyl, or Morphine infusions.**

Policy

1. CCP are permitted to monitor already established Midazolam, Fentanyl, and Morphine infusions.
2. CCP's may administer Midazolam, Diazepam, Lorazepam, Fentanyl and Morphine as ordered by transferring physician as outlined below:
 - Ventilator dependent patients requiring chemical sedation, analgesia or restraint due to agitation, restlessness and/or anxiety that is compromising patient stability.
 - Agitated patients requiring chemical sedation, analgesia or restraint due to agitation, restlessness and/or anxiety that is compromising patient stability.
 - Patients requiring pain management
 - Other objective patient considerations:
 - i. Need for invasive procedures
 - ii. Increased level of distress
 - iii. Change in vital signs (including ETCo2 or pulse oximetry)
 - iv. Change in cardiac monitor.

Signed transfer order from the transferring physician must provide for maintaining and adjusting infusions during transport.

Prior to transport confirm:

- Continuously monitor ECG, Spo2, ETCo2, with vital signs obtained and documented every 5 minutes
- Consideration of application of 4 point soft restraints, and CCP Sedation/Agitation policy should be discussed with transferring physician prior to transport.
- Administer medications in this policy as per physician orders. If no orders may use guidelines below.

Midazolam bolus guidelines

ADULT DOSING

Standard dose of 2mg IV or weight-based dose of 0.05mg/kg (Max single dose 5mg IV)

May half the dose if concern for hypotension.

May repeat dose every 3 minutes as needed for sedation.

ONLY if IV access is unavailable:

IM/IN dose of 0.1mg/kg (Max single dose of 10mg)

May repeat every 30 minutes

PEDIATRIC Midazolam bolus DOSING (NOT for neonates)

0.05mg slow IV push (max single dose 5mg IV)

May repeat every 20 minutes as needed for sedation. Total maximum dose 10mg without obtaining physician order.

ONLY if IV access is unavailable:

IM/IN dose of 0.05mg/kg (Max single dose of 5mg)

May repeat x1 after 30 minutes without obtaining physician order

Fentanyl bolus guidelines

ADULT DOSING

Standard dose of 50mcg IV or weight-based dose of 1mcg/kg

May half the dose if concern for hypotension.

May repeat dose every 3 minutes as needed for sedation.

ONLY if IV access is unavailable:

IM/IN dose of 0.1mcg/kg (Max single dose of 50mcg)

May repeat every 30 minutes

PEDIATRIC DOSING (NOT for neonates)

1mcg/kg slow IV push (max single dose 25mcg IV)

May repeat every 20 minutes as needed for sedation. Total maximum dose 200mcg without obtaining physician order.

ONLY if IV access is unavailable:

IN dose of 0.1mcg/kg (Max single dose of 25mcg)

May repeat x1 after 30 minutes without obtaining physician order

Morphine bolus guidelines

ADULT DOSING

Standard dose of 4mg IV/IO/IM or weight-based dose of 0.1mg/kg (Max single dose 10mg IV)

May half the dose if concern for hypotension.

May repeat dose every 3 minutes as needed for sedation.

ONLY if IV access is unavailable:

IM dose of 0.1mg/kg (Max single dose of 10mg)

May repeat every 30 minutes

PEDIATRIC DOSING

0.1mg/kg slow IV push (max single dose 2.5mg IV)

May repeat every 20 minutes as needed for sedation. Total maximum dose 10mg without obtaining physician order.

ONLY if IV access is unavailable:

IM dose of 0.1mg/kg (Max single dose of 2.5mg)

May repeat x1 after 30 minutes without obtaining physician order

Lorazepam bolus guidelines

ADULT DOSING

Standard dosing is 1mg IV/IO/IM/IN as needed every 5 min to a maximum of 4mg/hour
May half the dose if concern for hypotension or respiratory depression.

PEDIATRIC DOSING

0.1mg/kg IV/IO/IM/IN as needed every 5 minutes. Max dose 2mg.

Infusion Guidelines

Midazolam infusion guidelines

Standard dosing is 2-10mg/hour

May titrate by 2mg/hr as often as every 5 minutes to a maximum of 10mg/hr

Concurrent Fentanyl administration should be considered with patients requiring rapidly escalating doses of Midazolam.

Fentanyl infusion guidelines

Standard dosing is 50-200 mcg/hour

May titrate by 25mcg/hr as often as every 5 minutes to a maximum of 200mcg/hr

• Burn patients may require higher dosing, Physician consult to consider up to 500 mcg/hr

Morphine infusion guidelines

Only to be titrated within the orders of physician.

In cases of **severe** respiratory depression, sedation, confusion, hypotension, bradycardia, nausea and vomiting, the medication infusion will be discontinued and **Naloxone**, if indicated, may be administered.