

**COUNTY OF SACRAMENTO
EMERGENCY MEDICAL SERVICES AGENCY**



Program Document: **Paramedic Monitoring of Magnesium Sulfate, Nitroglycerin, Heparin, and/or Amiodarone Infusions During Interfacility Transports (IFT)**

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Signature on File

EMS Medical Director

Signature on File

EMS Administrator

Purpose:

- A. To provide parameters for paramedic monitoring of magnesium sulfate, nitroglycerin (NTG), heparin, and/or amiodarone infusions during IFTs.

Authority:

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

Policy:

Paramedic IFT Optional Skills

- A. Only providers approved by Sacramento County EMS Agency (SCEMSA) may be authorized to utilize Paramedic IFT optional skills.
- B. Only appropriately trained Paramedics employed by an approved provider may utilize Paramedic IFT optional skills.
- C. Patients will have pre-existing infusions in peripheral or central IV lines. Paramedics will not initiate magnesium sulfate, nitroglycerin, heparin, and/or amiodarone infusions.
- D. Magnesium sulfate, nitroglycerin, heparin, and/or amiodarone infusions will have been running for at least 10 minutes prior to transport.
- E. Patients will have maintained stable vital signs for the previous 30 minutes and will not have more than two (2) medication infusions running exclusive of potassium chloride concentrations authorized under the paramedic basic scope of practice.

- F. The timeframes listed in items D and E above will not apply to patients who require immediate transport for critical interventions when the transferring physician determines that immediate transport is necessary.

Infusion Procedures

- A. All patients shall be maintained on a cardiac monitor and a non-invasive blood pressure monitor.
- B. Written transfer orders from the transferring physician shall be obtained prior to transport. These orders will be attached to the electronic Patient Care Report (ePCR). These orders shall include:
 - 1. Orders for maintaining and adjusting infusion rate during transport.
 - 2. Telephone number where the transferring physician can be reached during transport.
 - 3. Type of solution, dosage, and rate of infusion.
- C. Patients will be hemodynamically stable at the time of transport.
- D. If medication administration is interrupted, the paramedic may restart the infusion as delineated in the transfer orders.
- E. basic scope of practice, will be in the form of an IV piggyback monitored by a mechanical pump familiar to the paramedic. In cases of pump malfunction that cannot be corrected, the infusion shall be discontinued, and the transferring physician notified as soon as possible.
 - 1. If this occurs, an EMS Events Form will be submitted to the EMS Agency.
- F. The paramedic shall document on the PCR the total volume infused throughout the duration of the transport.

Magnesium Sulfate Infusion Parameters

- A. Regulation of the infusion rate will be within parameters defined by the transferring physician.
- B. If the patient develops signs/symptoms of magnesium toxicity, the medication drip shall be discontinued, and the transferring physician will be notified as soon as possible. Signs/symptoms of magnesium toxicity include:
 - 1. Thirst
 - 2. Diaphoresis
 - 3. Hypotension
 - 4. Flaccid paralysis
 - 5. Respiratory depression

6. Circulatory depression or collapse
 7. CNS depression
 8. Urine output <30mL/hr
 9. Chest pain or pulmonary edema
 10. Deep tendon reflexes (DTR) – depressed or absent
- C. Vital signs, including DTRs, shall be monitored and documented every 15 minutes and immediately if there is any change in patient status or medication adjustment.

NTG Infusion Parameters

- A. Infusion fluid will be D5W.
- B. Regulation of the infusion rate will be within parameters defined by the transferring physician, but in no case will changes be greater than 10mcg/minute increments every 5-10 minutes. In cases of severe hypotension, the medication drip will be discontinued, and the transferring physician will be notified as soon as possible.
- C. Discuss with transferring physician concomitant use of analgesics during transport (i.e., morphine sulfate, fentanyl).
- D. Vital signs shall be monitored and documented every 15 minutes and immediately if there is any change in patient status or medication adjustment.

Heparin Infusion Parameters

- A. Infusion fluid will be D5W or NS.
- B. Infusion rates shall be verified with the sending RN following the changeover to the mechanical EMS transport pump and will remain constant during transport. No regulation of the rate will be performed by the paramedic except to turn off the infusion completely.
- C. Vital signs shall be monitored and documented every 15 minutes and immediately if there is any change in patient status.

Amiodarone Infusion Parameters

- A. Infusion rates may vary between 0.25 – 1 mg/min.
- B. Infusion rates will remain constant during transport. No regulation of the rate will be performed by the paramedic except to turn off the infusion completely.
- C. Vital signs will be monitored and documented every 15 minutes and immediately if there is any change in patient status.

- D. Y-Injection incompatibility – The following will precipitate with amiodarone hydrochloride:
 - 1. Heparin.
 - 2. Sodium Bicarbonate.
- E. Amiodarone IV infusion monitoring is not approved for patients less than 14 years old without base physician contact.
- F. For infusions greater than one hour, amiodarone concentrations should not exceed 2mg/mL unless a central venous catheter is used.