


Sierra – Sacramento Valley EMS Agency Program Policy			
Paramedic Monitoring of Magnesium Sulfate, Nitroglycerin, Heparin, And/Or Amiodarone Infusions During IFTs			
	Effective: 12/01/2018	Next Review: 10/2019	841
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PURPOSE:

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

AUTHORITY:

- A. California Health and Safety Code, Division 2.5, § 1797.220.
- B. California Code of Regulations, Title 22, Chapter 4, Article 1, § 100145.

POLICY:

- A. Only prehospital provider agencies approved by S-SV EMS to utilize paramedic IFT optional skills are authorized to provide such services.
- B. Only paramedics who have successfully completed an S-SV EMS approved paramedic IFT optional skills training program will be permitted to monitor magnesium sulfate, nitroglycerin, heparin, and/or amiodarone infusions during IFTs.
- C. Patients will have pre-existing infusions in peripheral or central IV lines. Paramedics will not initiate infusions.
- D. The infusion(s) 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 medication infusions running exclusive of potassium chloride.
- F. The timeframes listed above will not apply to patients who require immediate transport for critical interventions, when the transferring and/or receiving physician(s) determine that immediate transport is in the best interest of patient care.

PROCEDURE:

- A. All patients shall be maintained on a cardiac monitor and a non-invasive blood pressure monitor.

Paramedic Monitoring of Magnesium Sulfate, Nitroglycerin, Heparin, and/or Amiodarone Infusions During IFTs	841
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- B. The paramedic shall receive written orders from the transferring physician prior to leaving the transferring hospital. These orders shall include a telephone number where the transferring and/or base/modified base hospital physician can be reached during transport in addition to the type of solution, dosage and rate of infusion.
- C. Patients will be hemodynamic stable at time of transport.
- D. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc.), the paramedic may restart the line as delineated in the transfer orders.
- E. All medication drips 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 medication drip will be discontinued and the transferring physician and/or base/modified base hospital notified as soon as possible. S-SV EMS shall be notified of the pump malfunction no later than the end of the next business day.
- F. The paramedic shall document on the PCR the total volume infused throughout the duration of the transport.
- G. Magnesium sulfate infusions:

Authorized paramedics are allowed to transport patients on magnesium sulfate infusions within the following parameters:

1. Regulation of the infusion rate will be within parameters defined by the transferring physician.
2. If the patient develops signs of magnesium toxicity, the medication drip will be discontinued and the transferring physician and/or base/modified base hospital will be notified as soon as possible. Signs of magnesium toxicity include:
 - Thirst
 - Diaphoresis
 - DTR's (Deep Tendon Reflexes) – depressed or absent
 - Hypotension
 - Flaccid paralysis
 - Respiratory depression
 - Circulatory depression or collapse
 - CNS depression
 - Urine output < 30 ml/hr
 - Chest pain or pulmonary edema

Paramedic Monitoring of Magnesium Sulfate, Nitroglycerin, Heparin, and/or Amiodarone Infusions During IFTs	841
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3. Vital signs, including DTR's, shall be monitored and documented every 15 minutes and immediately if there is any change in patient status or medication adjustment.

H. Nitroglycerin infusions:

Authorized paramedics are allowed to transport patients on nitroglycerin infusions within the following parameters:

1. Infusion fluid will be D5W.
2. Medication concentration will be 50mg/250mL.
3. 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 and/or base/modified base hospital will be notified as soon as possible.
4. Discuss with transferring physician concomitant use of analgesics during transport (i.e. morphine sulfate, fentanyl).
5. Vital signs shall be monitored and documented every 15 minutes and immediately if there is any change in patient status or medication adjustment.

I. Heparin infusions:

Authorized paramedics are allowed to transport patients on heparin infusions within the following parameters:

1. Infusion fluid will be D5W or NS.
2. Medication concentration shall not exceed 100units/mL of IV fluid (25,000 units/250mL).
3. Infusion rates shall be verified with the sending RN following 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.
4. Vital signs shall be monitored and documented every 15 minutes and immediately if there is any change in patient status.

Paramedic Monitoring of Magnesium Sulfate, Nitroglycerin, Heparin, and/or Amiodarone Infusions During IFTs	841
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J. Amiodarone infusions:

Authorized paramedics are allowed to transport patients on amiodarone infusions within the following parameters:

1. Medication concentration must be a minimum concentration of 150mg/250mL (0.6 mg/mL).
2. Infusion rates may vary between 0.25 – 1 mg/min.
3. 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.
4. Vital signs will be monitored and documented every 15 minutes and immediately if there is any change in patient status.
5. Y-Injection incompatibility; the following will precipitate with amiodarone hydrochloride:
 - Heparin
 - Sodium bicarbonate
6. Amiodarone hydrochloride intravenous infusion monitoring is not approved for patients < 14 years old without base/modified base physician contact.
7. For infusions > one hour, amiodarone hydrochloride concentrations should not exceed 2mg/mL unless a central venous catheter is used.

CROSS REFERENCES:

- A. Paramedic IFT Optional Skills: Transferring Hospital Requirements (341).
- B. Paramedic IFT Optional Skills: Prehospital Provider Agency Application and Approval Process (441).
- C. Paramedic IFT Optional Skills: Prehospital Provider Agency Requirements and Responsibilities (442).