

APPROVED: SIGNATURE ON FILE IN EMS OFFICE
Executive Director
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Medical Director

EFFECTIVE DATE 2/1998
SUPERSEDES:
REVISED: 8/2007
REVIEW DATE: 8/2012
PAGE: 1 of 2

INTRAVENOUS INFUSIONS OF HEPARIN & NITROGLYCERIN

- I. **AUTHORITY:** Health and Safety Code, Division 2.5,
California Code of Regulations, Title 22, Division 9
- II. **PURPOSE:** To provide a mechanism for EMT-Ps to monitor intravenous infusions of heparin and nitroglycerine during interfacility transfers
- I. **POLICY:**
- A. Only those EMT-Ps who have successfully completed training program(s) approved by the Mountain-Valley EMS Agency Medical Director on nitroglycerin and heparin infusions will be permitted to monitor them during interfacility transports.
- B. Only those ALS ambulance providers approved by the Mountain-Valley EMS Agency Medical Director will be permitted to provide the service of monitoring nitroglycerin and/or heparin infusions during interfacility transports, from approved hospital(s) within their service area.
- IV. **PROCEDURE:**
- A. **PRIOR TO TRANSFER:**
1. Patients that are candidates for paramedic transport will have pre-existing heparin and/or nitroglycerin drips in peripheral lines only.
 2. Heparin and nitroglycerin drips will not be initiated immediately prior to transport.
 3. Patients will have maintained stable vital signs for a period of time as determined by the transferring physician.
 4. Patients will not have more than two medicated drips running, exclusive of potassium chloride (KCl).
 5. All medication drips will be in the form of an IV piggyback monitored by a mechanical pump familiar to the EMT-P.
 6. Transferring physicians must be aware of the general scope of practice of paramedics and the transport protocol parameters outlined below.
 7. EMT-Ps are allowed to transport patients on heparin and nitroglycerin drips within the following parameters:
 - a. Nitroglycerin
 - (1) Infusion fluid will be D5W or NS. Medication concentration will be either 25 mg/ 250 cc or 50 mg/250 cc.

- (2) Physician orders regarding regulation of the drip rate will be within parameters as defined by the transferring physician, but in no case will changes be in greater than 5 mcg/minute increments every 10 minutes. In cases of severe hypotension, the orders should state that the nitroglycerine drip will be discontinued and the transferring hospital and base hospital is to be notified.
- (3) Absolute drip rates will not exceed 100 mcg/minute.

b. Heparin

- (1) Infusion fluid will be D5W or NS. Medication concentration will be 100 U/cc of IV fluid (25,000 U/250cc).
- (2) Drip rates will remain constant during transport. No regulation of the rate will be performed, except to turn off the infusion completely.
- (3) Drip rates will not exceed 1600 U/hour.

- 8 Patients will meet pre-established hospital criteria for hemodynamic stability.
9. The transferring physician or nurse on shall complete a "Heparin-Nitroglycerin Paramedic Transfer Checksheet," which identifies the hemodynamic criterion utilized, and that all criteria for transfers as outlined in this section have been met.
10. Signed orders from the transferring physician will be obtained prior to transport and reviewed with the transporting paramedic(s).

B. DURING TRANSPORT

1. Heparin and nitroglycerin drips will not be initiated by prehospital personnel
2. All patients will be maintained on a cardiac monitor and a non-invasive blood pressure monitor that will record blood pressure readings every five (5) minutes.
3. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc.), the EMT-P may restart the line as delineated in the transfer orders.
4. In cases of IV pump malfunction that cannot be corrected, the medication drip will be discontinued and the transferring hospital and base hospital will be notified.
5. In cases of severe hypotension, nitroglycerin drips will be discontinued and the transferring hospital and base hospital is to be notified
- 6 Vital signs will be monitored and documented every 5 minutes.
- 7 No other medication shall be given thru the same line.

- C. All calls will be audited by the ambulance provider agency and by the transferring hospitals. Audits will assess compliance with physician orders and regional protocols, including base hospital contact in emergency situations. Reports will be sent to the EMS Agency as requested.