PURPOSE: To ensure that 9-1-1 patients with a return of spontaneous circulation (ROSC) following cardiopulmonary arrest are transported to the most appropriate facility that is staffed, equipped and prepared to administer emergency and/or definitive care appropriate to the needs of a ROSC patient.

AUTHORITY: Health & Safety Code, Division 2.5, Sections, 1798

DEFINITIONS:

Cardiac Etiology: Sudden cardiac death from ischemic heart disease, congenital heart disease, channelopathy or dysrhythmia. One presumes cardiac etiology when it is a sudden event without evidence of alternate causes (e.g. trauma, terminal illness, overdose, sepsis, or respiratory arrest).

Return of Spontaneous Circulation (ROSC): The restoration of a spontaneous perfusing rhythm. Signs of ROSC include: palpable pulse, breathing (more than an occasional gasp), a measureable blood pressure and/or a sudden rise in capnography to a normal/high reading.

ST-Elevation Myocardial Infarction (STEMI): An acute myocardial infarction that generates ST-segment elevation on the prehospital 12-lead electrocardiogram (ECG).

STEMI Receiving Center (SRC): A facility licensed for a cardiac catheterization laboratory and cardiovascular surgery by the Department of Public Health, Facilities Inspection Division and approved by the Los Angeles County EMS Agency as a SRC.

PRINCIPLE:

1. In all cases, the health and well-being of the patient is the overriding consideration in determining patient destination. Factors to be considered include: clinical presentation, severity and stability of the patient’s condition; current status of the SRC; anticipation of transport time; and request by the patient, family, guardian or physician.

2. Optimal post cardiac arrest treatment may include an interventional cardiac procedure in a significant percentage of patients.

3. Resuscitation efforts for patients greater than 14 years of age who are in cardiopulmonary arrest and do not meet Trauma Triage Criteria or Guidelines (per Ref. 506) should take place in the field until ROSC is achieved or the patient is pronounced. Transport of patients prior to ROSC is discouraged.

4. Patients with refractory ventricular fibrillation (3 or more shocks) and/or EMS witnessed arrest from presumed cardiac etiology may benefit from transport to the SRC for
consideration of percutaneous coronary intervention after on scene resuscitation is attempted, even if ROSC is not achieved.

POLICY:

I. Paramedic personnel should perform a 12-lead ECG in accordance with Ref. No. 1308, Cardiac Monitoring/ECG.

   A. Transmit to the receiving SRC.
   
   B. Provide properly labeled, at a minimum patient name and sequence number, 12-lead ECGs to the receiving facility (in either paper or electronic format) as part of the patient’s prehospital medical record.
   
   C. Document the findings of the 12-lead ECG on the Patient Care Record.

II. Establish Base contact for medical control for all cardiac arrest patients prior to transport to the SRC.

   A. The receiving SRC shall be notified of all patient transports, including discussion of cath lab activation criteria when applicable.

III. The following patients shall be transported to the most accessible open SRC if ground transport is 30 minutes or less regardless of service area boundaries:

   A. Patients with ROSC, regardless of 12-lead ECG finding, who are greater than 14 years of age and who do not meet Trauma Triage Criteria or Guidelines (per Ref. No. 506).
   
   B. Patients who have progressed into cardiopulmonary arrest while en route and had a pre-arrest STEMI 12-lead ECG.
   
   C. Patients with ROSC who re-arrest en route.

IV. The following patients shall be considered for transport to a SRC by the Base hospital:

   A. Patients with EMS witnessed cardiac arrest from presumed cardiac etiology who remain in persistent cardiac arrest despite on-scene field resuscitation.
   
   B. Patients in refractory ventricular fibrillation from presumed cardiac etiology who remain in persistent cardiac arrest despite on-scene field resuscitation.

V. ROSC patients should be transported to the most accessible SRC regardless of ED diversion status.

VI. If ground transport time to a SRC is greater than 30 minutes, the patient shall be transported to the most accessible receiving facility.

VII. The SRC may request diversion of ROSC patients under any of the following conditions.
A. The hospital is unable to perform emergent percutaneous coronary intervention because the cardiac cath staff is already fully committed to caring for STEMI patients in the catheterization laboratory. ROSC patients should be transported to the most accessible open SRC regardless of ED diversion status.

B. The SRC experiences critical mechanical failure of essential cath lab equipment. SRCs must notify the EMS Agency’s SRC Program Manager directly at (562) 347-1656 as to the nature of the mechanical failure or equipment issue and the estimated time duration of the diversion.

C. The SRC is on diversion due to internal disaster.

CROSS REFERENCE:

Prehospital Care Manual:
Ref. No. 501, Hospital Directory
Ref. No. 502, Patient Destination
Ref. No. 503, Guidelines for Hospitals Requesting Diversion of ALS Units
Ref. No. 506, Trauma Triage
Ref. No. 517, Private Provider Agency Transport/Response Guidelines
Ref. No. 518, Decompression Emergencies/Patient Destination
Ref. No. 1210, Non-Traumatic Cardiac Arrest (Adult)
Ref. No. 1303, Algorithm for Cath Lab Activation
Ref. No. 1308, Cardiac Monitoring/12-Lead ECG