SAN JOAQUIN COUNTY
EMERGENCY MEDICAL SERVICES AGENCY

TITLE: **STEMI RECEIVING CENTER DESIGNATION** EMS Policy No. **4801**

PURPOSE:

The purpose of this policy is to establish requirements for designation as a STEMI Receiving Center (SRC) in San Joaquin County.

AUTHORITY:

Health and Safety Code, Division 2.5, Sections 1797.67, 1797.88, 1797.220, 1798, and 1798.170; California Code of Regulations, Title 22, Division 9, Chapter 7.1.

DEFINITIONS:

A. “STEMI Receiving Center” or “SRC” means a licensed general acute care facility that meets the requirements for designation as set forth by the San Joaquin County EMS Agency and is able to perform a PCI.

~~A.~~B. “Cardiac Catheterization Team” means the specially trained health care professionals that perform percutaneous coronary intervention. It may include, but is not limited to, an interventional cardiologist, mid-level practitioners, registered nurses, technicians, and other ~~hospital personnel needed to perform PCI~~health care professionals.~~.~~

~~B.~~C. “Interventional Cardiologist” means a physician credentialed by the SRC.

~~C.~~D. “Percutaneous Coronary Intervention” or “PCI” means a procedure used to open or widen a narrowed or blocked coronary artery to restore blood flow supplying the heart, usually done on an emergency basis for a STEMI patient.

~~D.~~E. “PCI Procedure Success” means achievement of t~~T~~hrombolysis in Myocardial Infarction (TIMI) Grade III flow.~~Tof <30% residual diameter stenosis of all treated lesions as assessed by visual inspection or Quantitative Coronary Analysis (QCA), without an in-hospital major adverse cardiac event (death, MI, or repeat coronary revascularization of the target lesion). Note: For some device interventions (e.g., balloon angioplasty), achievement of <50% diameter stenosis by visual inspection or QCA is an acceptable definition for procedure success~~.

~~E.~~F. “SJCEMSA” means the San Joaquin County Emergency Medical Services (EMS) Agency.

~~F.~~G. “STEMI” means ST Segment Elevation Myocardial Infarction and refers to a clinical syndrome defined by symptoms of myocardial infarction in association with ST-segment elevation on electrocardiogram.~~ an abnormal finding in a 12-Lead ECG that is indicative of coronary artery perfusion blockage.~~

~~G. “STEMI Receiving Center” or “SRC” means a licensed general acute care hospital facility that meets with the capability to perform PCI which has satisfied thethe requirements for designation as set forth by the San Joaquin County EMS Agency and is able to perform PCI.~~

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H. "STEMI Team" means the clinical personnel, support personnel, and administrative staff that function together as part of the hospital's STEMI program.

I. "Door-‐to-‐Balloon" means the time interval as measured from the time the patient arrives at the hospital emergency department until restoration of blood flow (PCI).

J. "Door-‐to-‐Needle" means the time interval as measured from the time the patient arrives at the hospital emergency department until initiation of fibrinolytic therapy.

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POLICY:

It is the policy of SJCEMSA to require specific criteria for designation of STEMI Receiving Centers in San Joaquin County.

PROCEDURE:

I. Designation Criteria:

A. Hospital Services:
~~A.~~
1. Hold a special permit from the California Department of Public Health (CDPH) for Basic or Comprehensive Emergency Medical Services.
2. Hold a special permit from CDPH for a Cardiac Catheterization Laboratory.~~ with laboratory~~
~~2.~~3. Maintain services available for diagnosis and treatment of STEMI patients ~~to operate~~ 24 hours per day, 7 days per week, 365 days per year.
~~3.~~4. Hold a special permit from CDPH for Cardiovascular Surgery Service.
~~4.~~5. Intra-aortic balloon pump capability available to operate 24 hours per day, 7 days per week, 365 days per year.
~~5.~~6. Have in place policies and procedures for the automatic acceptance of any STEMI patient being transferred from a non-SRC designated hospital ~~another acute hospital~~ in San Joaquin County.
7. Agree to be responsible for all expenses related to participation as a designated SRC, including the costs associated with reception and transmission of 12-lead ECG transmission by ambulance.
~~6.~~8. Capability to receive and interpret 12 lead ECG transmissions from ~~the field~~SJCEMSA Advanced Life Support providers 24 hours per day, 7 days per week, 365 per year,
~~7.~~9. Have a single-call activation system to activate the Cardiac Catheterization Team directly.

B. Required Hospital Personnel:
~~B.~~
1. SRC Medical Director
   a. The hospital shall designate a medical director for the STEMI program who shall be a physician certified by the

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American Board of Internal Medicine (ABIM) with current ABIM sub-specialty certification in Cardiovascular Disease, who will ensure compliance with SRC standards and perform ongoing Quality Improvement (QI) as part of the hospital QI Program.

b. The SRC Medical Director must be a credentialed member of the medical staff with PCI privileges.

~~b.~~

2. SRC Program Manager:

~~2.~~

a. ~~The SRC shall designate~~A fulltime STEMI ~~a~~ program manager ~~for the STEMI program~~ who is~~shall be~~ a registered nurse with qualifications including evidence of educational preparation and clinical experience in the care of STEMI patients and the administrative ability. The STEMI program manager must have sufficient authority to perform the multidisciplinary nature of the job reporting directly to the director of nursing or higher within the organization.

~~a. experience in Emergency Medicine or Cardiovascular Care, who shall assist the SRC Medical Director to ensure compliance with SRC standards and the QI program.~~

3. Physician Consultants:

~~3.~~

a. The SRC shall maintain a daily roster of the following on-call physicians:

i. Interventional Cardiologists who shall be available to arrive at the catheterization lab within thirty (30) minutes of a STEMI alert/activation.

ii. Cardiovascular Surgeon available to provide on-site cardiac surgery.

~~4.~~ The SRC will submit a list of Cardiologists with active PCI privileges to SJCEMSA annually.

b.

~~5. Cardiovascular Lab Coordinator:~~

~~a. The SRC shall have a Cardiovascular Lab Coordinator who shall assist the SRC Medical Director and SRC Program Manager to ensure compliance with SRC standards and the QI Program.~~

~~6.~~ Intra-aortic balloon pump staff(s).

c.

~~7.~~

d. Appropriate cardiac catheterization nursing and support

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personnel.

8.

C. Required Clinical Capabilities:

C.

1. Perform a minimum of 36 primary (emergency) PCI procedures and 2050 total (emergency plus elective) PCI procedures annually to qualify as an SRC.
2. The SRC's Interventional cardiologists perform a minimum number of PCI procedures per year as established by the SRC.
3.2. An Intra Aortic Balloon Pump shall be available on site 24 hours per day, 7 days per week, 365 days per year with a person capable of operating this equipment.
4.3. The Cardiac Catheterization Laboratory shall be operable 24 hours per day, 7 days per week, and 365 days per year.
5. Capability to receive and interpret 12 lead ECG transmissions from the field 24 hours per day, 7 days per week, 365 per year.
   Meet clinical benchmarks as defined in the provisions set forth in the written agreement with SJCEMSA.
4. Coronary angiography.
5. PCI and use of fibrinolyticsfibrinolytic medications.
6. Acceptance of all patients transported by ambulance with a field clinical impression of an acute myocardial infraction.
6.
   7. PCI and use of fibrinolytics.
7.

   8.

D. Required Hospital Policies:

D.

1. Cardiac interventionalist activation.
2. Cardiac catheterization team activation requirement.
   a. The SRC shall initiate in-hospital STEMI alerts that fully activate the cardiac catheterization lab for prehospital patients upon notification received from a paramedic who has reported that a patient's ECG indicates the presence of STEMI in accordance withpatient meets SJCEMSA's requirements for STEMI alerts. Such in-hospital activation may be delayed up to five (5) minutes pending receipt and interpretation of the transmitted prehospital ECG by the ED physician.
   b. The SRC shall not be required to initiate a STEMI alert upon

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a determination by a physician that a patient's ECG does not indicate STEMI.

3. ~~STEMI contingency plans for personnel and equipment to address simultaneously arriving STEMI patients~~Process in place for the treatment and triage of simultaneously arriving STEMI patients.
4. Protocols for the identification of STEMI patients that include applicability in the intensive care/coronary care unit, Cath lab and the emergency department.
~~5. Coronary angiography.~~
~~6. PCI and use of fibrinolytics.~~
~~7.~~5. Interfacility transfer STEMI policies/protocols.
~~8.~~6. Criteria for patients to receive emergency angiography or emergent fibrinolysis based upon physician decisions for individual patients.
~~9. Adoption of goals for internal process components that affects the time to Primary PCI.~~
~~10. Acceptance of all patients transported by ambulance with a field clinical impression of an acute myocardial infraction.~~
~~11. Written job descriptions and organizational structure clarifying the relationship between the STEMI medical director, STEMI program manager, and the STEMI Team.~~

E. Quality Improvement Program:
~~E.~~

1. Written internal quality improvement plan/program that minimally reviews and collects 100 percent of outcome data for STEMI patients that includes:
   a. Emergency CABG rate (result of procedure failure or complication).
   b. Vascular complications (access site, transfusion, or operative intervention required).
   ~~c. Cerebrovascular accident rate (peri-procedure).~~
   ~~d.~~c. Sentinel event, system organization issue review and resolution processes.
   ~~e.~~d. In-hospital mortality for PCI patients.
   ~~f.~~e. In-hospital mortality for all myocardial infarction patients (STEMI and non-STEMI).
   ~~g.~~f. PCI Procedure Success Rate.
   ~~h. Number of Coronary Artery Bypass procedures that were not pre-scheduled.~~
2. Participation in prehospital STEMI related educational activities.
~~2.~~3. Participation in community STEMI prevention activities and educational outreach.

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4. The SRC shall participate in SJCEMSA's quality improvement processes related to the STEMI critical care system.

3.5. Establish a STEMI Quality Improvement Committee that reviews STEMI processes, outcomes, -and individual cases and quality assurance supporting patient safety on an ongoing basis with at least quarterly meetings. An SJCEMSA representative shall be assigned to attend all aspects of such meetings.

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4.

II. SRC Program Evaluation:

A. The SJCEMSA shall evaluate ongoing SRC program(s) based upon the following minimum standards:

A.

1. Clinical Process Performance Standards.
   a. Availability of catheterization lab staff to perform duties within thirty (30) minutes of activation.
   b. Door-to-needle time of less than 30 minutes for patients not sent for PCI but who receive thrombolytics.
   c. Door-to-balloon time:
      i. Of less than 90 minutes for patients with a pre-alert notification of a positive prehospital 12-lead ECG;
      ii. Of less than 90 minutes for walk-in patients or patients arriving by ambulance without a pre-alert STEMI notification.
   d. Outcome measures and process will be assessed initially in the survey process and monitored on an ongoing basis.
2. Data Collection, Submission, and Reporting:
   a. Submission of data to SJCEMSA as specified in EMS Policy No. 6381 in a manner and form approved by the SJCEMSA by no later than sixtyforty-five (4560) days from the end of each month.
   b. Submission of quarterly aggregate reports to the EMS Agency as specified in EMS Policy No. 6381, in a manner and form approved by SJCEMSA, by no later than the 90 days following the end of the reporting period:
      i. January, February, March.
      ii. April, May, June.
      iii. July, August, September.

iv. October, November, December.

3. Have and agree to utilize and maintain a dedicated telephone line in the emergency department for communications with prehospital emergency medical care personnel.
4. Have and agree to utilize EMResource™ on a dedicated computer in the emergency department for reporting facility status and participating in receiving patients from mulit-casualty incidents (MCIs).
3.5. The hospital's ability to consistently avoid ambulance patient offload delays and transfer of care in the emergency department for all ambulance patients in accordance with SJCEMSA requirements.
4.6. The hospital's compliance with the terms of the SRC agreement and SJCEMSA policies, procedures and protocols.

III. Designation Process:

A. Designation as a SRC is open to all acute care hospitals in San Joaquin that can meet criteria for designation. Interested acute care hospitals may apply for SRC designation by submitting a complete SRC application packet to the EMS Aagency. SRC application packets will be made available upon request to the EMS Agency.
B. SJCEMSA shall review the SRC application and arrange a site survey to evaluate the applicant's SRC program.
C. SJCEMSA shall notify applicants of compliance with SRC designation criteria no later than 60 days following the site survey. . SJCEMSA will offer applicants meeting criteria an opportunity to enter into a Applicants meeting criteria will be offered an opportunity to enter into a written agreement approving designating their SRC acute care hospital program as a SRC for a period up to 43 years. SJCEMSA will provide applicants not meeting criteria with a written summary of deficienciesApplicants not meeting criteria for designation will be provided with a written summary of deficiencies.
D. Designation is contingent upon payment of the annual STEMI centerSRC designation and monitoring fee established by the San Joaquin County. Failure to pay the designation and monitoring fee shall result in the automatic suspension of SRC program designation.
E. SJCEMSA may deny, suspend, or revoke the designation of a SRC for failure to maintain compliance with designation criteria or the failure of the acute care hospital to comply with any SJCEMSA policies, procedures, or protocols.

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