



**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.
- 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 health care professionals.
- C. "Interventional Cardiologist" means a physician credentialed by the SRC.
- 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.
- E. "PCI Procedure Success" means achievement of thrombolysis in Myocardial Infarction (TIMI) Grade III flow.
- F. "SJCEMSA" means the San Joaquin County Emergency Medical Services (EMS) Agency.
- 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.
- 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.

**POLICY:**

It is the policy of SJCEMSA to require specific criteria for designation of STEMI

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Medical Director

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EMS Administrator



Receiving Centers in San Joaquin County.

**PROCEDURE:**

I. Designation Criteria:

A. Hospital Services:

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.
3. Maintain services available for diagnosis and treatment of STEMI patients 24 hours per day, 7 days per week, 365 days per year.
4. Hold a special permit from CDPH for Cardiovascular Surgery Service.
5. Intra-aortic balloon pump capability available to operate 24 hours per day, 7 days per week, 365 days per year.
6. Have in place policies and procedures for the automatic acceptance of any STEMI patient being transferred from a non-SRC designated 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.
8. Capability to receive and interpret 12 lead ECG transmissions from SJCEMSA Advanced Life Support providers 24 hours per day, 7 days per week, 365 per year,
9. Have a single-call activation system to activate the Cardiac Catheterization Team directly.

B. Required Hospital Personnel:

1. SRC Medical Director
  - a. The hospital shall designate a medical director for the STEMI program who shall be a physician certified by the American Board of Medical Specialties (ABMS) with current ABMS 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.

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- b. The SRC Medical Director must be a credentialed member of the medical staff with PCI privileges.
- 2. SRC Program Manager:
  - a. A fulltime STEMI program manager who is 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.
- 3. Physician Consultants:
  - 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.
  - b. The SRC will submit a list of Cardiologists with active PCI privileges to SJCEMSA annually.
  - c. Intra-aortic balloon pump staff(s).
  - d. Appropriate cardiac catheterization nursing and support personnel.
- C. Required Clinical Capabilities:
  - 1. Perform a minimum of 36 primary (emergency) PCI procedures and 200 total (emergency plus elective) PCI procedures annually to qualify as an SRC.
  - 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.
  - 3. The Cardiac Catheterization Laboratory shall be operable 24 hours per day, 7 days per week, and 365 days per year.
  - 4. Coronary angiography.
  - 5. PCI and use of fibrinolytic medications.
  - 6. Acceptance of all patients transported by ambulance with a field

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clinical impression of an acute myocardial infraction.

**D. Required Hospital Policies:**

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 meets SJCEMSA's requirement 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 may upon discretion of the STEMI team physician delay and or cancel activation of the cardiac catheterization team due to ECG findings and or prehospital radio report findings.
3. 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. Interfacility transfer STEMI policies/protocols.
6. Criteria for patients to receive emergency angiography or emergent fibrinolysis based upon physician decisions for individual patients.

**E. Quality Improvement Program:**

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. Sentinel event, system organization issue review and resolution processes.
  - d. In-hospital mortality for PCI patients.
  - e. In-hospital mortality for all myocardial infarction patients (STEMI and non-STEMI).

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- f. PCI Procedure Success Rate.
2. Participation in prehospital STEMI related educational activities.
3. Participation in community STEMI prevention activities and educational outreach.
4. The SRC shall participate in SJCEMSA's quality improvement processes related to the STEMI critical care system.
5. Establish a STEMI Quality Improvement Committee that reviews STEMI processes, outcomes, 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.

II. SRC Program Evaluation:

- A. The SJCEMSA shall evaluate ongoing SRC program(s) based upon the following minimum standards:
  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 sixty (60) 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.

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- 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 multi-casualty incidents (MCIs).
- 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.
- 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 County that can meet criteria for designation when a system need has been determined by SJCEMSA. Interested acute care hospitals may apply for SRC designation by submitting a complete SRC application packet to the EMS Agency. SRC application packets will be made available upon request to the SJCEMSA.
- 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 written agreement designating their acute care hospital as a SRC for a period up to 4 years. SJCEMSA will provide applicants not meeting criteria with a written summary of deficiencies.
- D. Designation is contingent upon payment of the annual SRC designation and monitoring fee established by 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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