



## STEMI RECEIVING CENTER STANDARDS

**Effective:** September 1, 2009  
**Replaces:** New  
**Review:** November, 2012

**Resources:**  
None

### I. Purpose

These standards were developed to ensure that patients transported by the 911 system in Santa Clara County who exhibit an ST segment Elevation Myocardial Infarction (STEMI) pattern on a prehospital-obtained 12-lead electrocardiogram (ECG/EKG) are transported to a hospital appropriate to their needs. With the initiation of 12-Lead EKG by paramedics and rapid transport to a STEMI Receiving Center (SRC), patients with STEMI will receive an earlier definitive diagnosis and treatment resulting in improved outcomes.

### II. Definitions

**STEMI:** A type of myocardial infarction, acute in nature, that generates an ST segment elevation on the 12-lead EKG.

**STEMI Receiving Center (SRC):** A licensed general acute care hospital with a special permit for a cardiac catheterization laboratory and cardiovascular surgery from the California State Department of Health Care Services, and designated as an SRC by Santa Clara County.

**Percutaneous Coronary Intervention (PCI):** A broad group of techniques used for the diagnosis and treatment of patients with STEMI.

**TIMI Grade III Flow:** Thrombolytics in Myocardial Ischemia (TIMI) Scale, which defines flow rate through an opened artery-grade III, is unimpeded flow.

### III. Hospital Licenses Requirements for a SRC

- A. Currently recognized as a Santa Clara County Receiving Facility.
- B. Special permit for a Cardiac Catheterization Laboratory from the California State Department of Health Care Services.

- C. Holds a special permit issued by the California State Department of Health Care Services for Cardiovascular Surgery Service or has established current transfer agreements with a hospital or hospitals holding such a special permit.

**IV. Hospital Capabilities**

- A. An Intra Aortic Balloon Pump shall be available on site twenty-four (24) hours per day/seven (7) days per week with a person capable of operating this equipment.
- B. Cardiac Catheterization Laboratory operable twenty-four (24) hours per day/seven (7) days per week.

**V. Personnel**

- A. SRC Medical Director:
  - 1. The SRC shall designate a medical director for the STEMI program who shall be a physician certified by the American Board of Internal Medicine (ABIM) with current ABIM sub-specialty certification in Cardiovascular Disease, and Interventional Cardiology who will ensure compliance with these SRC standards and perform ongoing Quality Improvement (QI) as part of the hospital QI Program.
  - 2. The SRC Medical Director must be a credentialed member of the medical staff with PCI privileges.

- B. SRC Program Manager:

The SRC shall designate a program manager for the STEMI program who shall be a registered nurse with experience in Emergency Medicine or Cardiovascular Care, who shall assist the SRC Medical Director to ensure compliance with these SRC standards and the QI program.

- C. Cardiovascular Lab Coordinator:

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

- D. Physician Consultants:

The SRC shall maintain a daily roster of the following on-call physicians who must be promptly available when a STEMI patient presents to the hospital: Interventional Cardiologists with privileges for PCI and credentialed by the hospital in accordance with the American College of Cardiology/American Heart Association national standards.

- E. The SRC will submit a list of Cardiologists with Active PCI privileges to the EMS Agency annually.

## **VI. Clinical Performance Standards**

- A. Cardiac Catheterization Laboratory Standards:

The SRC Cardiac Catheterization Lab shall demonstrate evidence of performance of 200 PCI procedures annually.

- B. Interventional Cardiologist Standards:

1. Each interventional cardiologist shall perform a minimum average of seventy-five (75) or more PCI procedures per year.
2. It is desirable, but not required, that each interventional cardiologist shall have an average of eleven (11) STEMI cases per year.
3. There shall be a mentorship program available for those individual practitioners who do not meet the performance standard of seventy-five (75) cases per year.

## **VII. Clinical Process Performance Standard**

- A. Each SRC shall demonstrate door to balloon inflation time of ninety (90) minutes or less in seventy-five percent (75%) of their cases.
- B. The overall goal of the STEMI Care System in Santa Clara County is to achieve first medical contact (performance of the prehospital 12-lead EKG) to balloon inflation of under than ninety (<90) minutes in seventy-five percent (75%) of all cases.

## **VIII. Policies**

Internal policies shall be developed for the following:

- A. Criteria for patients to receive emergent angiography or emergent fibrinolysis based on physician decisions for individual patients.
- B. Goals to Primary PCI (medical contact to balloon inflation time).

**IX. Data Collection**

- A. The following data shall be collected on an ongoing basis and provided to the Santa Clara County EMS Agency:
  - 1. Number of patients brought in by prehospital personnel who have a STEMI documented on the prehospital 12-lead EKG.
  - 2. Number of above patients who receive primary PCI.
  - 3. Number of above patients achieving TIMI Grade III flow.
  - 4. Door to balloon inflation time of 911 transported patients.
  - 5. Total number of STEMI admissions (all patients).
  - 6. Total number of PCI procedures (all patients).
- B. The data shall be submitted to the EMS Agency on a monthly basis using the collection tool provided by the EMS Agency.

**X. Quality Improvement**

- A. An SRC QI program shall be established to review and collect outcome data for STEMI patients with the following criteria:
  - 1. In-hospital mortality.
  - 2. Emergency Coronary Artery Bypass rate.
  - 3. Vascular complications (PCI Access site complication, hematoma large enough to require transfusion, or operative intervention required).
  - 4. Cerebrovascular accident rate (peri-procedure).
  - 5. Baseline serum creatinine.

**XI. Designation Process**

- A. An SRC may be designated following satisfactory review of written documentation and a site survey when deemed necessary, by the Santa Clara County EMS Agency.
- B. An SRC may be re-designated following a satisfactory Santa Clara County EMS Agency review every three (3) years. This review may include a site survey by an independent review team at any time during the three (3) year approval period.
- C. The SRC shall submit a written one hundred eighty (180) calendar day notice to the EMS Agency prior to the discontinuation of SRC services.