STEMI SYSTEM REFERRAL HOSPITIAL AND RECEIVING CENTER STANDARDS AND DESIGNATION

APPROVED: _____ _____
EMS Medical Director EMS Administrator

1. Purpose
   1.1 To define the criteria and designation process for STEMI Referral Hospitals (SRH) and STEMI Receiving Centers (SRC) in San Mateo County (SMC).

2. Authority
   2.1 Health and Safety Code, Division 2.5, Sections 1789, 1798.101, 1798.105, 1798.2 and,
   2.2 California Code of Regulations, Title 22, Section 100175

3. Definitions
   3.1 ST Segment Elevation Myocardial Infarction (STEMI): A type of myocardial infarction, acute in nature, generating an ST segment elevation on the 12-lead EKG.
   3.2 STEMI Receiving Center (SRC): A licensed general acute care hospital with a special permit for a cardiac catheterization laboratory from the California Department of Public Health (CDPH) and designated as a SRC by San Mateo County EMS Agency (SMC-EMSA).
   3.3 STEMI Referral Hospital (SRH): A licensed general acute care hospital in San Mateo County (SMC) that is not designated as a STEMI Receiving Center.
   3.4 Percutaneous Coronary Intervention (PCI): A broad group of techniques used for the diagnosis and treatment of patients with STEMI.
   3.5 STEMI Team: A group of hospital staff including physicians, nurses, and other hospital personnel from the emergency department and cardiology involved in the care of STEMI patients.

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4. STEMI Referral Hospital (SRH)
   - 4.1 Requirements
     - 4.1.1 Licensed general acute care hospital
     - 4.1.2 Recognized by SMC-EMSA as a receiving facility
     - 4.1.3 Written agreements with SRCs to facilitate the rapid transfer of STEMI patients
   - 4.2 Capabilities
     - 4.2.1 Established protocols, standing orders and clinical pathways that are present in the Emergency Department and Intensive Care Unit (ICU)/Coronary Care Unit (CCU) that address the following:
       - 4.2.1.1 Rapid Identification of a STEMI patient
       - 4.2.1.2 Interfacility transport plan of STEMI patient to an approved SRC
       - 4.2.1.3 Standardized reperfusion STEMI care pathway that designates fibrinolysis in the ED for eligible patients when transfer to a SRC for primary PCI cannot be accomplished within American College of Cardiology/American Heart Association (ACC/AHA) guidelines.
   - 4.3 Clinical Performance Standards
     - 4.3.1 Standardized reperfusion STEMI care pathway that designates primary PCI as the preferred reperfusion intervention if the transfer to a SRC can be accomplished within ACC/AHA guidelines
     - 4.3.2 Timeliness of SRH door to SRC balloon (first device received) of 90 minutes or ACC/AHA Guidelines, whichever is less, including transport times
     - 4.3.3 An on-going internal quality improvement process, including data measurements and feedback from the STEMI patients, SRCs and SRHs
     - 4.3.4 Data to document compliance with standards developed by the San Mateo County STEMI QI Committee (SMC-STEMI-QI)

5. STEMI Receiving Center (SRC)
   - 5.1 Requirements
     - 5.1.1 Licensed general acute care hospital
     - 5.1.2 Recognized by SMC as a receiving facility meeting all standards needed to qualify for SRC designation
     - 5.1.3 Approved for a supplemental service for cardiac catheterization issued by the CDPH
     - 5.1.4 Approved to perform emergency PCIs by the CDPH
     - 5.1.5 Holds a special permit for cardiovascular surgery issued by the CDPH. This requirement may be waived by SMC-EMSA if all of the following are met

5.1.5.1 Has established transfer agreements with a minimum of 2 hospitals with cardiovascular surgical capabilities

5.1.5.2 Has a transfer plan including transfer policy and agreement(s) with an interfacilty critical care transport (CCT) provider that will facilitate a transfer within a timeframe established from the SMC-STEMI-QI Committee, ACC/AHA Guidelines or 120 minutes, whichever is less, from first call to cardiovascular center to surgical suite arrival.

5.1.5.3 Has an active process to monitor time expectations for patients requiring transfer for cardiovascular surgery

5.1.6 Intra-aortic balloon pump capability on site 24 hours per day, 7 days per week with available staff on-call

5.2 Capabilities

5.2.1 Accepts all patients from the field with a machine read of ***Acute MI Suspected***

5.2.2 Provides field/physician consultation when requested

5.2.2.1 Includes review of transmitted 12- lead EKG to determine appropriate patient destination

5.2.3 Capability to receive electronic 12-lead EKG transmission from the EMS system

5.2.3.1 A three month grace period can be authorized by the county after designation

5.2.4 A cardiac catheterization laboratory shall be onsite and available to operate 24 hours per day, 7 days per week

5.2.5 Shall have established protocols for triage, diagnosis and cardiac catheterization laboratory activation which shall include the following:

5.2.5.1 A single call notification plan initiated by the emergency department (ED physician or designee) to activate the STEMI TEAM

5.2.5.2 A required 30 minute response time of cardiac catheterization laboratory staff including interventional cardiologist from time of initial notification

5.2.5.3 Criteria for patients to receive emergency angiography or emergency fibrinolysis based on the physician's decisions for individual patients

5.2.5.4 A plan for the triage and treatment of STEMI patients presenting simultaneously

5.2.5.5 A plan for the immediate acceptance of STEMI patients from designated SMC SRH's for primary PCI

5.2.5.6 A universal acceptance policy of STEMI patients from prehospital setting unless there is a declared internal disaster

5.3 Personnel

5.3.1 SRC Medical Director

5.3.1.1 Shall be a designated position held by a physician certified by the American Board of Internal Medicine (ABIM) with current ABIM subspecialty certification in cardiovascular disease and interventional cardiology

5.3.1.2 Will ensure compliance with the SMC SRC standards

5.3.1.3 Performs ongoing quality improvement (QI) as part of the hospital's QI program

5.3.1.4 Participates in the SMC-STEMI-QI Committee

5.3.2 SRC Program Manager

5.3.2.1 Shall be a designated position which may be filled by a registered nurse with experience in emergency medicine or cardiovascular care

5.3.2.2 Assists the SRC Medical Director to ensure compliance with the SMC SRC standards and the QI program

5.3.3 SRC Cardiovascular Lab Coordinator (may be same individual as SRC Program Manager)

5.3.3.1 Shall be a designated position

5.3.3.2 Assists the SRC Medical Director and the SRC Program Manager to ensure compliance with the SMC SRC standards and the QI program

5.3.4 SRC Physician Consultants/Interventional Cardiologists

5.3.4.1 Shall be physicians' board certified or board eligible by the ABIM with subspecialty certification in cardiovascular disease and interventional cardiology. This requirement may be waived by SMC-EMSA for physicians with SRC primary PCI privileges prior to January 2011 if all of the following are met:

5.3.4.1.1 Board certified by the ABIM with subspecialty certification in cardiovascular disease

5.3.4.1.2 Demonstrated lifetime minimum of 500 PCI procedures

5.3.5 SRC Cardiovascular Surgeon

5.3.5.1 Shall be physicians board certified in general surgery by American Board of Surgery (ABS) and board certified or eligible in thoracic surgery by the American Board of Thoracic Surgery (ABTS)

5.3.6 A daily roster of on-call cardiologists with PCI privileges and cardiovascular surgeons (if applicable) shall be maintained

5.3.7 A list of cardiologists with active PCI privileges and cardiovascular surgeons (if applicable) shall be submitted at the time of application and annually thereafter

5.4 Clinical Performance Standards

5.4.1 At the time of application the following shall be submitted:

5.4.1.1 Volume of PCI procedures performed annually by the department and by each cardiologist with active PCI privileges

5.4.1.2 Documentation on compliance with nationally recognized standards set by the ACC/AHA to include timeliness and outcome

5.4.2 On a quarterly basis the following shall be submitted:

5.4.2.1 Volume of PCI procedures done by the department and by each cardiologist with active PCI privileges

6. Designation Process

6.1 Candidate hospitals shall submit a written letter of intent to the SMC-EMSA, and complete a formal application documenting their compliance with SMC SRC Standards

6.2 A candidate hospital may be designated a SRC following satisfactory review of submitted documentation and a site survey, as deemed necessary, by the SMC- EMSA

6.3 A designated SRC shall enter into a written agreement with SMC and pay necessary fees to cover the cost of the designation and oversight process

7. Quality Improvement

7.1 Each SRC shall have a hospital-based peer review program focused on all functions of the cardiovascular laboratory including response to STEMI patients.

7.2 Every SRC and SRH shall actively participate in the San Mateo County STEMI QI Committee (SMC-STEMI-QI)

7.3 Every SRC and SRH shall collect and submit data to the SMC-EMS Agency

7.3.1 This data will be identified by the SMC-STEMI-QI Committee and will be consistent with data recommended by ACC/AHA.

7.3.2 Each SRC shall submit data to document compliance with standards developed by the SMC-STEMI-QI Committee

7.3.3 Each SRH should submit data on STEMI patient care and transfer as requested by the SMC-STEMI-QI Committee

7.4 In addition the SMC-STEMI-QI Committee will collect data necessary to determine at a minimum:

7.4.1 Over and under triage of STEMI patients by the EMS system

7.4.2 The number of STEMI patients who do not activate the 9-1-1 system

7.4.3 Patients who are treated by field providers for ventricular fibrillation (VF) and are taken to the cardiac catheterization laboratory

7.4.4 Survival to hospital discharge of all STEMI and VF patients