SUBJECT: **STROKE RECEIVING CENTER STANDARDS** REFERENCE NO. 322

PURPOSE: To establish minimum standards for the designation of Primary Stroke Centers (PSC) and Comprehensive Stroke Centers (CSC) to ensure that patients transported by the 9-1-1 system in Los Angeles County who exhibit signs and symptoms of stroke are transported to a hospital appropriate for their needs.

AUTHORITY: California Health and Safety Code, Sections 1255, 1256, 1797.220, 1798, 1798.170, 1798.172;
California Code of Regulations, Title 22, Sections 100170 and Division 9, Chapter 7.2

DEFINITIONS:

Board Certified (BC): Successful completion of the evaluation process through one of the Member Boards of the American Board of Medical Specialists (ABMS) or American Osteopathic Association (AOA), including an examination designed to assess knowledge, skills and experience necessary to provide quality patient care in a specific specialty.

Board Eligible (BE): Successful completion of a residency training program with progression to board certification based on the timeframe as specified by the ABMS or AOA for a specific specialty.

Qualified Specialist: A physician licensed in the State of California who has become BC or BE in the corresponding specialty by ABMS or AOA. For endovascular neurointerventionalist, this is a physician who has obtained Committee on Advanced Subspecialty Training (CAST) certification in NeuroEndovascular Surgery (NES) **or** Accreditation Council of Graduate Medical Education specialty training for Endovascular Surgical Neuroradiology **or** experience in ischemic stroke treatments including thrombectomy and carotid stenting with on-going experience in neurovascular interventions including five (5) per year of any of the following:

- Aneurysm management, including those presenting with rupture
- Intracranial embolization
- Intracranial stent placements
- Intracranial infusions
- Extracranial embolization

Stroke Center: A licensed general acute care hospital that has met all the PSC or CSC requirements listed in this policy and has been designated by the LA County EMS Agency as a PSC or CSC.

Stroke Medical Director: A Qualified Specialist in Neurology, Neurosurgery, Neuroradiology, or Emergency Medicine, privileged by the hospital and active in performing stroke care.

APPROVED: Cathy Chidester
Director, EMS Agency

Marianne Raucche-Hill, MD
Medical Director, EMS Agency

Stroke Program Manager: A Registered Nurse currently licensed to practice in the State of California and appointed by the hospital to monitor, coordinate and evaluate the Stroke Program.

Telemedicine: The remote delivery of health care services and clinical information using telecommunications technology. This includes a wide array of clinical services using internet, wireless, satellite, and telephone media.

POLICY:

I. Stroke Center Designation/Re-Designation

A. Stroke Center designation and re-designation is granted for up to three years based on maintenance of these standards and after a satisfactory review and approval by the EMS Agency.

B. The EMS Agency reserves the right to perform a scheduled on-site survey or request additional data at any time.

C. The Stroke Center shall provide, within 72 hours, written notice to the Medical Director of the EMS Agency if unable to adhere to any of the provisions set forth in these Stroke Receiving Center Standards.

D. The Stroke Center shall provide a 90-day, written notice to the Medical Director of the EMS Agency if Stroke Center intends to withdraw from the Stroke Program.

E. The Stroke Center shall notify the EMS Agency, in writing, of any changes in status of the Stroke Medical Director or Stroke Program Manager by submitting Ref. No. 621.2, Notification of Personnel Change Form.

F. Prior to designation, the Stroke Center shall provide six months of performance and tracking measure data listed in Ref. No. 322.1 and ensure quality improvement process of measures are in place. Performance measures shall be consistently achieved to maintain PSC/CSC designation.

G. The Stroke Center shall have a fully executed Specialty Care Center PSC/CSC Designation Agreement with the EMS Agency.

H. The Stroke Center shall establish a fully executed written transfer agreement with a CSC that is certified by an EMS Agency approved accrediting body and designated by the EMS Agency as a Comprehensive Stroke Center.

II. General Hospital Requirements

A. Licensed by the State of California Department of Public Health (CDPH) as a General Acute Care Hospital, and

1. Have a special permit for Basic or Comprehensive Emergency Medicine Service

2. Accredited by a Centers for Medicare and Medicaid Services (CMS) recognized Hospital Accreditation Organization

3. Certified as a Stroke Center (e.g., Primary Stroke, Primary Plus, Thrombectomy Capable, Comprehensive) by an EMS Agency approved certifying body – representatives from the EMS Agency may attend the certification site review. In the event of action items, deficiencies or similar findings are identified, the hospital shall submit a copy of the findings and any action plans for improvement to the EMS Agency

4. All physicians attending in the Emergency Department (ED) shall be qualified specialists in Emergency Medicine (EM) or Pediatric EM

B. Appoint a Stroke Medical Director and Stroke Program Manager who shall be responsible for meeting the Stroke Program requirements and allocate adequate time such that they can meet the requirements of the Stroke Receiving Center Standards.

C. Develop and maintain a Clinical Stroke Team that is immediately available to evaluate a potential stroke patient and provide appropriate care.

D. Have the ability to perform the following diagnostic studies when clinically necessary:

1. Transesophageal echocardiography (TEE) and transthoracic echocardiography (TTE)

2. Computed tomography angiography (CTA) and/or magnetic resonance angiography (MRA)

III. Stroke Leadership Requirements

A. Stroke Medical Director

1. Medical oversight and ongoing performance of the Stroke quality improvement (QI) programs

2. Participates in the hospital Stroke Committee or equivalent and other committees associated with stroke care

3. Collaborates with the Stroke Program Manager to ensure adherence to these Standards

4. Liaison with hospital administration, Stroke Program Manager, medical and clinical staff across the stroke patient's continuums of care

5. Attends 100% of the EMS Agency's Stroke QI Meetings. Fifty percent (50%) of meetings may be attended by one of the following:

a. Alternate neurologist, neuroradiologist or neurosurgeon from the same Stroke Center. For PSCs, may also be an alternate EM physician

b. Call-in option when available

B. Stroke Program Manager

1. Qualifications:

   a. Knowledgeable in neurocritical care and interventional stroke procedures

   b. Able to facilitate internal hospital policy and procedure development and implementation

2. Responsibilities:

   a. Collaborates with the ED Medical and Clinical Directors regarding stroke care

   b. Collaborates with the Stroke Medical Director to ensure adherence to these Standards

   c. Maintain and monitor Stroke QI Program

   d. Participates in the hospital Stroke Committee or equivalent and other committees associated with stroke care

   e. Assure hospital policies are consistent with these Standards

   f. Liaison with hospital administration, Stroke Medical Director, medical and clinical staff across the stroke patient's continuums of care

   g. Attends 100% of the EMS Agency's Stroke QI Meetings. Fifty percent (50%) of meetings may be attended by one of the following:

      a. Alternate stroke RN from the same Stroke Center

      b. Call-in option when available

   h. Assures processes are in place to capture data from patients transported to the Stroke Center by EMS providers, including patients transferred from other acute care hospitals

   i. Provide oversight of accurate and timely data collection and submission

   j. Assures stroke diversion is consistent with EMS policies and processes are in place to minimize the need for diversion

IV. Clinical Stroke Team

The Stroke Center shall have a clinical stroke team available to evaluate the potential acute stroke patient within 15 minutes following patient's arrival to the ED or following a suspected diagnosis of potential acute stroke. The clinical stroke team shall include, at a minimum:

A. A Qualified Specialist in EM and neurology, neurosurgery, or interventional neuro-radiology in person or via telemedicine.

B. A registered nurse (RN), physician assistant or nurse practitioner with education and training in the care of the acute stroke patient

V. Data Collection and Submission Requirements

A. Ensure adequate data entry personnel, who work collaboratively with ED personnel, to assure capture and entry of patients meeting inclusion criteria into the Stroke Database on an ongoing basis.

1. Back-up data entry personnel should be identified and trained in the event primary data personnel are unable to meet the data entry requirements.

2. Data Inclusion Criteria – all patients who are initially transported via the 9-1-1 system and meet **one or more** of the following:

a. EMS Provider Impression is Stroke/CVA/TIA

b. EMS Provider utilized Treatment Protocol 1232

c. Final hospital (if admitted) or ED (if not admitted) diagnosis is ischemic stroke, transient ischemia attack, intracerebral hemorrhage, intraventricular hemorrhage, or subarachnoid hemorrhage

d. Transfer from a non-stroke center to a PSC or CSC for stroke care and the initial transport to the non-stroke center was via the 9-1-1 system within 24 hours prior to transfer

e. Transfer from a PSC to the CSC for stroke care and the initial transport to the PSC was via the 9-1-1 system within 24 hours prior to transfer

B. Stroke data shall be entered within 45 days of patient's discharge into the Stroke Database and shall include all patients who meet data inclusion criteria and all applicable data elements listed in Ref. No. 650, Stroke Data Dictionary.

C. Submit a monthly tally of patients meeting inclusion criteria to the EMS Agency Stroke Program Coordinator by end of the month for the previous month (e.g., January tally is due February 28th).

D. The Stroke Center must maintain a minimum 90% compliance for:

1. Capture of patients meeting the data inclusion criteria

2. Data field completion

3. Data field accuracy

4. Timely data entry

5. Timely tally submission

VI. Quality Improvement

A. Stroke Program must include a comprehensive-multidisciplinary QI Meeting.

1. Meeting participation should include the Stroke Medical Director, Stroke Program Manager, EMS providers, stroke care coordinators, stroke/provider educators, neurologists, ED physicians and ED personnel, as well as other healthcare specialties including neurointerventionalists, or endovascular neurosurgery when applicable.

2. Meetings to be held quarterly, at a minimum.

3. Meeting minutes and roster must be maintained for each meeting and available for review.

4. Stroke Centers that are also a Base Hospital are encouraged to provide periodic Stroke Base Hospital education with the collaboration of the Stroke Clinical Director.

B. The stroke QI program shall:

1. Track and trend performance measures as per Ref. No. 322.1, Stroke Performance Measures

2. Collaborate with referral/receiving facilities in regard to inter-facility transfers to evaluate care of transfer patients to include:

a. Door-in to door-out time at sending facility (goal <120 minutes)

b. Quality of care issues and delays

C. Address other issues, processes or personal trends identified from hospital specific data.

VII. A Comprehensive Stroke Center (CSC) shall:

1. Meet all the requirements specified in Sections I through VI of this policy

2. Appoint a Stroke Medical Director who is BC in Neurology or Neurosurgery by ABMS or AOA with extensive experience and expertise in one or more of the cerebrovascular disease subspecialties of:
   a. Stroke or vascular neurologist
   b. Neurocritical Care
   c. Endovascular Neurosurgery

3. Appoint a Stroke Program Manager who shall be dedicated solely to the CSC program.

4. Have the capacity to perform mechanical thrombectomy for the treatment of ischemic stroke 24 hours per day/7 days per week.

5. Have fully executed written transfer agreements with LA County surrounding stroke referral facilities, including PSCs.

6. Provide guidance and continuing stroke-specific medical education to hospitals designated as a PSC with which they have transfer agreements.

7. Have fully executed written transportation agreements with LA County licensed ambulance operators, written agreements shall include provisions to ensure transportation is available 24 hours a day/7 days a week and transport vehicle is available at the stroke referral facility within 60 minutes, including critical care transportation.

8. Provide neurosurgical services or have a written transfer agreement with another CSC that provides neurosurgical services 24 hours per day/7 days a week/365 days a year. For hospitals that provide neurosurgical services, a written plan for neurosurgical coverage and a neurosurgical call schedule is readily available to staff. The neurosurgeon must be BC and dedicated to the CSC and cannot be concurrently on-call at any other hospital. If concurrently on-call for another specialty service within the same hospital (e.g., trauma) must have back-up identified on the on-call schedule.

9. Have dedicated on-call endovascular neurointerventionalist, and BC/BE neurologist;,on-call physician cannot be concurrently on-call at any other hospital. If on-call for another specialty service (e.g., trauma) within the same hospital, must have back-up identified on the on-call schedule.

10. Have tele-medicine capabilities with surrounding PSCs that have an established transfer agreement with the CSC.

CROSS REFERENCE:

Prehospital Care Policy Manual:

Reference No. 322.1 Stroke Performance Measures
Reference No. 502, Patient Destination
Reference No. 503, Guidelines for Hospitals Requesting Diversion of ALS Patients
Reference No. 521, Stroke Patient Destination
Reference No. 620, EMS Quality Improvement Program
Reference No. 622.2 Notification of Personnel Change Form
Reference No. 650 Stroke Data Dictionary
Reference No. 1232, Treatment Protocol: Stroke/CVA/TIA