

SUBJECT: **STROKE PATIENT DESTINATION**

PURPOSE: To provide guidelines for transporting suspected stroke patients to the most accessible facility appropriate to their needs.

AUTHORITY: Health & Safety Code, Division 2.5, Section 1798

DEFINITIONS:

Primary Stroke Center (PSC): A 9-1-1 receiving hospital that has met the standards of a Center for Medicaid & Medicare Services (CMS) approved accreditation body as a Primary Stroke Center and has been approved as a Stroke Center by the Los Angeles (LA) County Emergency Medical Services (EMS) Agency.

Comprehensive Stroke Center (CSC): A 9-1-1 receiving hospital that has met the standards of a CMS approved accreditation body as a Comprehensive (Level I CSC) or Thrombectomy Capable Stroke Center (Level II CSC) and has been approved as a Comprehensive Stroke Center by the LA County EMS Agency. CSCs have subspecialty neurology and neurointerventional physicians available 24 hours a day and 7 days a week who can perform clot-removing procedures (i.e., thrombectomy).

Last Known Well Time: The **time** (military time) at which the patient was **last known** to be without the signs and symptoms of the current stroke or at his or her prior baseline.

Local Neurological Signs: Signs and symptoms that may indicate a dysfunction in the nervous system such as a stroke or mass lesion. These signs include: speech and language disturbances, altered level of consciousness, unilateral weakness, unilateral numbness, new onset seizures, dizziness, and visual disturbances.

Modified Los Angeles Prehospital Stroke Screen (mLAPSS): A screening tool utilized by prehospital care providers to assist in identifying patients who may be having a stroke.

Los Angeles Motor Score (LAMS): A scoring tool utilized by prehospital care providers to determine the severity of stroke on patients with suspected stroke. A large vessel involvement is suspected if the total LAMS score from the three categories is 4 or greater.


Mobile Stroke Unit (MSU): Mobile specialized stroke unit as approved by the LA County EMS Agency and defined in Ref. No. 817, Regional Mobile Response Teams.


PRINCIPLES:

1. Patients experiencing a stroke should be transported to the most accessible facility appropriate to their needs. This determination will be made by the base hospital physician, Mobile Intensive Care Nurse or MSU physician after consideration of the guidelines established in this policy.

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APPROVED: 
Director, EMS Agency


Medical Director, EMS Agency

2. Basic Life Support units shall call an Advanced Life Support unit for suspected stroke patients.
3. In all cases, the health and well-being of the patient is the overriding consideration in determining patient destination. Factors to be considered include: severity and stability of the patient's condition; anticipation of transport time; available transport resources; and request by the patient, family, guardian, or physician.
4. Service area rules and/or considerations do not apply to suspected stroke patients.
5. Patients with a history of previous stroke with new or worsening deficits should be routed to the Stroke Center according to this policy.

POLICY:

- I. Responsibility of the Provider Agency
 - A. Perform mLAPSS on all patients exhibiting neurological signs. The mLAPSS is positive if all of the following criteria are met:
 1. No history of seizures or epilepsy
 2. Age 40 years or older
 3. At baseline, patient is not wheelchair bound or bedridden
 4. Blood glucose between 60 and 400 mg/dL
 5. Obvious asymmetry-unilateral weakness with any of the following motor exams:
 - a. Facial Smile/Grimace
 - b. Grip
 - c. Arm Strength
 - B. Perform LAMS on ALL patients with suspected stroke
 1. Facial droop Total Possible Score = 1
 - a. Absent = 0
 - b. Present = 1
 2. Arm drift Total Possible Score = 2
 - a. Absent = 0
 - b. Drifts down = 1
 - c. Falls rapidly = 2
 3. Grip strength Total Possible Score = 2
 - a. Normal = 0
 - b. Weak grip = 1
 - c. No grip = 2
 - C. Transport the patient to the most appropriate stroke center in accordance with base hospital direction or section III of this policy.

- D. Document the results of mLAPSS, LAMS, and last known well date and time in the designated areas on the Patient Care Record.
 - E. In order to ensure that proper consent for treatment can be obtained by hospital personnel, if possible, verbally report to the Base hospital and document the name and contact information of the family member, caregiver, or witness who can help verify the patient's last known well time in the Comments area of the Patient Care Record. When practical, transport the witness with the patient.
- II. Responsibility of the Base Hospital
- A. Provide medical direction and destination for all patients who meet mLAPSS criteria or have symptoms strongly suggestive of a stroke.
 - B. Determine patient destination based on stroke center status via the ReddiNet® system and section IV of this policy.
 - C. Notify the receiving stroke center if the base hospital is not the patient's destination.
 - D. Document the results of mLAPSS, LAMS, and last known well date and time in the designated areas on the Base Hospital Form.
 - E. Prompt prehospital care personnel to obtain and document witness contact information on the Patient Care Record.
- III. Destination of Stroke Patients assessed and treated by EMS providers:
- A. All patients who have a LKWT within 24 hours with a positive mLAPSS and/or a provider impression of stroke shall be transported to a LA County EMS Agency designated stroke center as follows:
 - 1. Patients with a LAMS of 3 or less shall be transported to the closest stroke center (PSC or CSC).
 - 2. Patients with a LAMS of 4 or greater shall be transported to the closest Level I or II CSC. If transport time to the CSC is greater than 30 minutes, the patient shall be transported to the most accessible PSC.
- IV. Destination of Stroke Patients assessed and treated by a Mobile Stroke Unit (MSU):
- A. Ischemic stroke patients with CT imaging demonstrating a large vessel occlusion shall be transported to the closest Level I or II CSC.
 - B. The following patients shall be transported to the closest Level I CSC:
 - 1. Hemorrhagic Stroke
 - 2. Intraparenchymal or subarachnoid hemorrhage demonstrated on non-contrast CT
 - 3. Subdural or epidural hemorrhage
 - 4. Pathology needing emergency neurosurgical intervention
- If transport time to the Level I CSC is greater than 30 minutes, the patient shall

be transported to the most accessible comprehensive stroke center (Level I or II).

- C. Destination for patients with a positive mLAPSS whose LKWT is greater than 24 hours will be determined by the base hospital (i.e., consider stroke center destination if patient may benefit from stroke evaluation and management).
 - D. If there are no stroke centers (PSC or CSC) that are accessible by transport within the maximum allowable time of 30 minutes, the patient shall be transported to the most accessible receiving facility.
- V. Ground transport is the preferred method of transport. Considerations for **dispatching** air ambulance transport shall include, but not limited to, the following:
- A. Geographic isolation of incident location (e.g., Antelope Valley, Malibu, Gorman, Catalina Island)
 - B. Immediate availability of air ambulance
 - C. Accessibility of a fully licensed and permitted helipad at the stroke center
 - D. Transport capability from helipad to the emergency department of the stroke center

CROSS REFERENCES:

Prehospital Care Manual:

- Ref. No. 322, **Stroke Receiving Center Standards**
- Ref. No. 501, **Hospital Directory**
- Ref. No. 502, **Patient Destination**
- Ref. No. 503, **Guidelines for Hospitals Requesting Diversion of ALS Units**
- Ref. No. 517, **Regional Mobile Response Teams**
- Ref. No. 1200, **Treatment Protocols**
- Ref. No. 1232, **Stroke/Acute Neurological Deficits**