Mountain-Valley EMS Agency Regional Stroke Plan

Prepared for California Emergency Medical Service Authority April 2021
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Executive Summary

California statute requires the Emergency Medical Services Authority (EMSA) adopt necessary regulation to carry out the coordination and integration of all state activities concerning Emergency Medical Services (EMS) (Health and Safety Code §1797.107).

In addition, State statute allows the EMS Authority to establish guidelines for hospital facilities, in cooperation with affected medical organizations, according to critical care capabilities (Health and Safety Code §1798.150).

As a result of these statutes, the EMS Authority established a multidisciplinary stroke taskforce for the development of Stroke System of Care Regulations for California.

California's Statewide Stroke Critical Care System is described in the California Code of Regulations; Title 22, Division 9, Chapter 7.2. These regulations outline the requirements of all components of the Stroke Critical Care System including the Local Emergency Medical Services Agency (LEMSA), prehospital providers, and hospitals.

Data management, quality improvement and the evaluation process all play a vital role in providing high quality care to the stroke patient and have been included as critical components to stroke regulation. The overall goal of regulations is to reduce morbidity and mortality from acute stroke disease by improving the delivery of emergency medical care within the communities of California.

The Mountain-Valley EMS Agency (MVEMSA) is a regional multi-county Joint Powers Authority (JPA) that serves as the Local EMS Agency (LEMSA) for the counties of Alpine, Amador, Calaveras, Mariposa and Stanislaus. The member counties have delegated all California Health and Safety Code, Division 2.5 and California Code of Regulations responsibilities for a LEMSA to the MVEMSA.

The Governing Board of Directors for the JPA consists of a County Supervisor from each of the member counties. The EMS system in these counties have been developed through a partnership between the EMS Agency, 9-1-1 Public Services Answering Points (PSAPS), EMS dispatch centers, Basic Life Support (BLS) Fire Department First Responders, Advanced Life Support (ALS) Fire Department First Responders, ambulance providers, base hospitals and specialty centers.

The five counties encompass an area of some 5,300 square miles with a resident population of approximately 632,161 people. The region ranges from remote rural areas to large urban areas. Extremes of weather are characteristic of the area, which encompasses the Sierra Nevada Mountains and the heat of the San Joaquin Valley region. Highway 99 runs through Stanislaus County from Merced County border to San Joaquin County Boarder and Interstate 5 touches the Western portion of Stanislaus County. Interstate 5 and Highway 99 are highly traveled freeways that run north and south through the counties. Some of the areas are densely populated and others are fairly remote with less population. Highway 49 runs through Alpine, Amador, Calaveras and Mariposa Counties. Highway 88 also traverses through Amador and Alpine Counties through farmlands to wilderness areas.

The mission of the Mountain-Valley EMS Agency is to ensure the appropriate provision of quality pre-hospital care services to the public in a cost effective manner as an integrated part of the overall health care system and to provide the framework for quality emergency medical services to the citizens of Alpine, Amador, Calaveras, Mariposa, and Stanislaus Counties.

Mountain-Valley EMS Agency already has many of the processes in place to meet EMSA guidelines and regulation, including prehospital care policies to identify stroke patients, designated stroke receiving hospitals, and stroke patient destination policies.

As a requirement of California Regulation, this document is to serve as a formal written plan for MVEMSA Stroke Critical Care System.

Mountain-Valley Emergency Medical Services Agency's Stroke Critical Care System Plan has been written in accordance with Title 22, Division 9, Chapter 7.2 of the California Code of Regulations.

Regional Stroke Overview

EMS Agency personnel who have a role in Stroke systems of care:

- Lance Doyle, EMS Administrator
- Greg Kann, EMS Medical Director
- Jim Whitworth, QI/Trauma Coordinator
- Justin Murdock, EMS Critical Care Coordinator

Designated Stroke Center facilities and agreement expiration dates:

- Memorial Medical Center, Modesto, Ca – Primary Stroke Receiving Center
  - Stroke agreement expiration date: December 31st, 2023
- Doctors Medical Center, Modesto, Ca – Comprehensive Stroke Receiving Center
  - Stroke agreement expiration date: December 31st, 2023
- Kaiser Modesto, Modesto Ca – Primary Stroke Receiving Center
  - Stroke agreement expiration date: December 31st, 2023

Policies related to Primary Stroke Center Designation

The Mountain-Valley EMS Agency has designated Memorial Medical Center, Doctors Medical Center and Kaiser Modesto as Primary Stroke Receiving centers within the Region. For rural areas of Calaveras, Amador and Mariposa Counties, patients with suspected stroke are transported to the closest receiving facility for potential TPA (Tissue Plasminogen Activator) therapy because of distance to Primary Stroke Receiving Center per MVEMSA protocol. Identified Stroke patients may also be transported directly to a designated Primary Stroke Center by an air ambulance resource weather and time permitting. In addition, Mountain-Valley EMS Agency designated Doctor's Medical Center in Modesto as a Comprehensive Stroke Center in October of 2020. As a result, Policy 522.20 Stroke Triage and Destination was updated to reflect changes related to field identification and triage of Large Vessel Occlusion (LVO) strokes. Appropriate stroke identification and triage is based around the V.A.N. assessment, which identifies LVO strokes by evaluation of a patient's cortical functions, such as Vision field cut, Aphasia, and unilateral Neglect. Patient's that are identified as VAN positive, are eligible to be transported directly to a Comprehensive Stroke Center, as outlined in Policy 522.20, Stroke Triage and Destination.

All three designated Stroke Centers within Mountain-Valley EMS region participate in "Get with The Guidelines" with Mountain-Valley EMS Agency having been granted "Superuser Access." This will

streamline the data submission and the collection process with hopes of building a more robust Stroke systems of care.

- See Appendix 1A. (522.00 Primary Stroke Center Designation)

Policy related to Stroke patient identification and destination:

- See Appendix 1B. (520.20 Stroke Triage and Destination)

Policy for field communication to the receiving hospital-specific to STEMI patients:

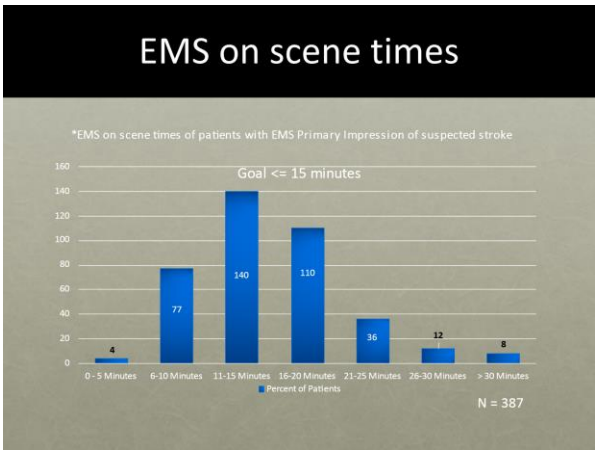
- See Appendix 1B. (520.20 Stroke Triage and Destination)

Data Collection:

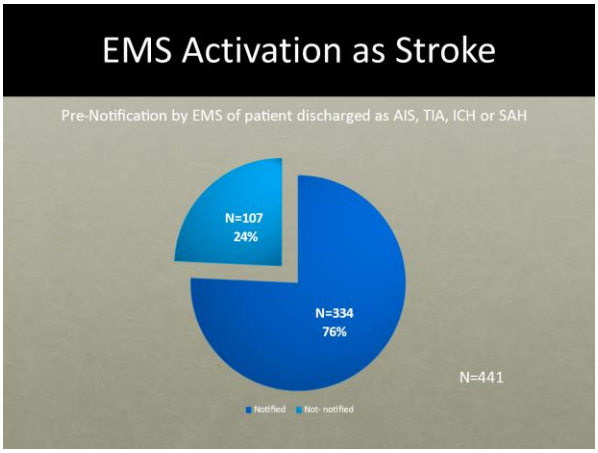
Data collection with regards to stroke systems of care in MVEMSA's region is critical and thus requires significant attention from all stakeholders. MVEMSA regional stroke systems of care is still developing today. The region's stroke system is still in its infancy, having only been formed in 2011. With the commitment from the 3 Stroke Centers, referral hospitals and EMS providers, the foundation has been laid for a robust Stroke system of Care. Stakeholder commitment to the quality improvement guided by verified data through Get with the Guidelines, will enable a strong, transparent QI program. Mountain-Valley EMS Agency reviews data quarterly that includes patients with a diagnosis of; Acute Ischemic Stroke, Intracerebral Hemorrhage and Subarachnoid Hemorrhage quarterly at Regional Stroke meeting. The Regional Stroke committee uses a multidisciplinary approach comprised of EMS, Fire, and Designated Stroke Receiving Centers. The committee tracks and trends all the following Pre-Hospital and hospital stroke metrics, which consists of data from quarters 1 through 4 of the 2020 calendar year.

Pre-Hospital Stroke Data Metrics

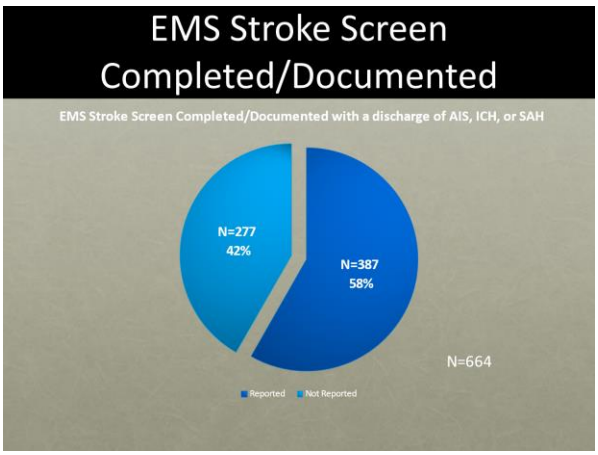
EMS on scene times



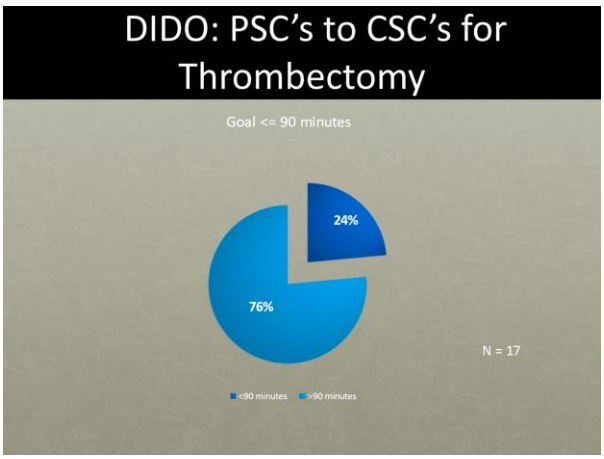
Pre-Notification by EMS of suspected Stroke patient.



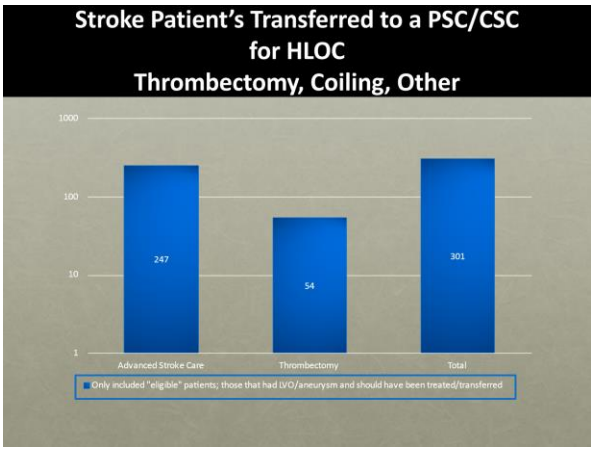
Pre-hospital Stroke Screen performed and documented.



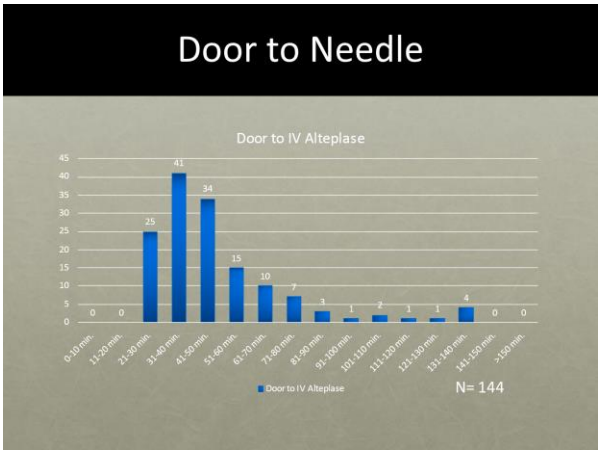
Door-in-Door-out, transfers of Stroke patients from Primary Stroke Center to a Comprehensive Stroke Center for Thrombectomy.



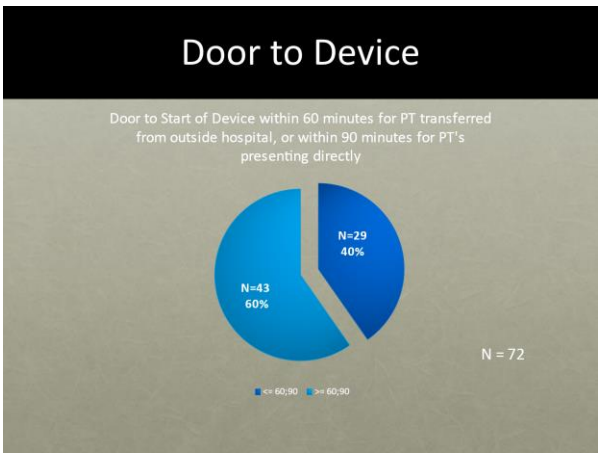
Stroke Transfers sent to a Primary, or Comprehensive Stroke Center for Higher Level of Stroke Care.



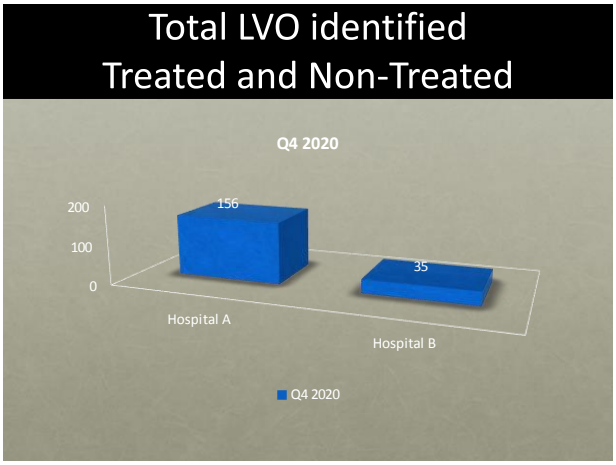
Door to IV Alteplase times.



Door to Device for Thrombectomy.



Total Large Vessel Occlusions identified, both Treated, and Non-Treated.



Inter-Facility Transfers

Within the region, 2 of 8 receiving hospitals are currently certified by The Joint Commission at a minimum as a Primary Stroke Center, and 1 hospital is certified as a Comprehensive Stroke Center. Although infrequent, there may be times when a stroke patient needs to be transferred from one acute care facility to another. For this reason, Stroke Centers have plans developed that include:

- Pre-arranged agreements with stroke receiving hospitals (primary or comprehensive) for transfer of patients
- Pre-arranged agreements with EMS providers for rapid transport of patients who are eligible for time-sensitive treatments

Occasionally, patients may benefit by being transferred emergently from a non-stroke-receiving hospital to a stroke-receiving hospital, or from a stroke-receiving hospital with primary stroke center capabilities to a comprehensive stroke center or equivalent. In either case, emergency transfer protocols are in place, for an emergent interfacility transport.

MVEMSA has a policy in place to provide guidelines for ambulance transport of patients between acute care hospitals. Policy 580.11; Ambulance Transfers; outlines transfer agreements, medical control and levels of care to ensure that patient needs are being met while providing quality rapid transport to definitive treatment.

Policies related to ambulance transfers

- See Appendix 1C. (580.11 Ambulance Transfers)

Quality Improvement

Regional Stroke Committee

Mountain-Valley EMS Agency hosts a Regional Stroke Systems of Care meeting quarterly. This is a multi-disciplinary advisory group to the EMS Medical Director whose purpose is to review Stroke care and drive process changes. It is comprised of designated representatives from the EMS Agency, designated Stroke Receiving Centers, stroke referral hospitals, air ambulance providers and ALS ground provider agencies. This meeting links prehospital and hospital care to offer high-level overview and drives system change to improve the stroke care throughout the region and surrounding catchment areas.

Mountain-Valley EMS staff participate in the monthly stroke committee meetings held within each of our three designated Primary Stroke Centers. By participating in these monthly meetings, MVEMSA can provide real-time case feedback and potential policy changes to each group more frequently.

Public Education:

Public education is vitally important in the ongoing recognition and treatment of stroke patients. Many steps have been taken throughout the region to ensure the public is informed, educated and prepared if such an event happens. Due to the COVID pandemic, and state mandated restrictions to social gatherings, public education could not be completed. We will resume public education in 2021, as the mandated COVID gathering restrictions allow. When the resumption of gatherings and training activities takes place, a few examples of the education that is typically provided are below:

- Advanced Stroke Life Support classes
- Participation in Stroke awareness month of May
- Regional "Cardiovascular Conference" annually with a Stroke component
- Neuro symposium hosted annually by Doctors Medical Center of Modesto

Appendix 1A

Mountain-Valley
EMERGENCY MEDICAL SERVICES AGENCY

POLICIES AND PROCEDURES

POLICY: 522.00
TITLE: Primary Stroke Center Designation

EFFECTIVE: 2/15/2017
REVIEW: 2/2022
SUPERCEDES:

APPROVAL SIGNATURES ON FILE IN EMS OFFICE

PAGE: 1 of 4

Primary Stroke Center Designation

I. AUTHORITY

Division 2.5, California Health and Safety Code, Sections 1797.67, 1798, 1798.101, 1798.105, and 1798.170

II DEFINITIONS

A. **Base Hospital** - means a hospital approved and designated by the Agency to provide immediate medical direction and supervision of an EMT, Advanced EMT, and Paramedic personnel in accordance with policies and procedures established by the Agency.

B. Computed Tomography (CT) - means a CT radiography in which a three-dimensional image of a body structure is constructed by computer from a series of plane cross-sectional images made along an axis.

C. Emergency Medical Services (EMS) - means the services utilized in responding to a medical emergency.

D. Magnetic Resonance Imaging (MRI) - means a noninvasive diagnostic technique that produces computerized images of internal body tissues and is based on nuclear magnetic resonance of atoms within the body induced by the application of radio waves.

E. The Joint Commission – is an independent, not-for-profit group in the United States that administers accreditation programs for hospitals and other healthcare-related organizations. The Commission develops performance standards that address crucial elements of operation, such as patient care, medication safety, infection control and consumer rights.

F. Primary Stroke Center (PSC) - means a hospital designated to stabilize and treat acute stroke patients, providing initial acute care. PSCs are able to appropriately use t-PA/alteplase and other acute therapies such as stabilizations of vital functions, provision of neuroimaging procedures, and management of intracranial and blood pressures. Based on patient needs and the hospital's capabilities, they either admit patients or transfer them to a comprehensive stroke center.

G. Quality Improvement (QI) - means a method of evaluation of services provided, which includes defined standards, evaluation methodologies and utilization of evaluation results for continued system improvement. Such methods may include, but are not limited to, a written plan describing the program objectives, organizations, scope and mechanisms for overseeing the effectiveness of the program.

H. Stroke - means a condition of impaired blood flow to a patient's brain resulting in brain dysfunction.

III PURPOSE

To define requirements for designation as a PSC within the Mountain-Valley EMS Agency (MVEMSA) region for patients transported by ambulance via the 911 system that meet the criteria for transport to a PSC.

IV. POLICY

A. Hospital requesting designation as a PSC shall apply to the MVEMSA and follow the application process described in this policy.

B. To be designated as a PSC the hospital(s) must meet the following requirements:

1. Possess current California licensure as an acute care facility providing Basic Emergency Medical Services.

2. Hold current status as a Base Hospital with MVEMSA.

3. Enter into a written agreement with MVEMSA identifying PSC roles and responsibilities.

4. Agree to accept all EMS patients meeting PSC patient triage criteria and all "Stroke Alert" patients transferred from other hospitals within the MVEMSA Region and provide a plan for the triage and treatment of simultaneously presenting Stroke patients regardless of Intensive Care Unit (ICU)/Critical Care Unit (CCU) or Emergency Department (ED) saturation status.

5. Meet PSC Designation Requirements as defined in the MVEMSA PSC Designation Criteria Application and Evaluation Matrix. The criteria includes:

   a. Hospital Services Including:

      1) Valid and current certification as a PSC by The Joint Commission.

      2) Internal protocols/policies to assure reliable notification of prehospital personnel of CT inoperability consistent with MVEMSA destination policy.

      3) CT/MRI contingency plan(s) in the event of disruption to CT/MRI services.

      4) State of California Department of Public Health permit to provide Neurosurgical Intervention.

      5) If no Neurosurgical capability, hospital must have:

         a) Plan for emergency transport to a facility capable of providing neurosurgical services within 3 hours.

         b) Written guidelines for rapid transfer of stroke neurosurgical patients.

   b. Hospital Personnel Including:

      1) PSC Program Medical Director with qualifications identified and supported by The Joint Commission PSC responsibilities for PSC Medical Director.

      2) PSC Registered Nurse (RN) Program Manager with the following responsibilities:

         a) Supports PSC Medical Director Functions.

b) Acts as EMS Stroke Program Liaison.

c) Assures EMS Facility Stroke data sharing.

d) Manages EMS Facility Stroke QI activities.

e) Authority and accountability for Stroke QI.

f) Facilitates timely feedback to the EMS providers.

3) On-call Physician specialists/consultants:

a) Neurologists with privileges and evidence of training/experience; or

b) Neurologists consultation using telemedicine.

c) Provide an on-call policy and a 3 month "on-call" schedule/roster of board certified neurologist(s).

c. Clinical Performance Capabilities consistent with The Joint Commission PSC:

1) Adequate staff, equipment and training to perform ED rapid evaluation and treatment including timely evaluation of brain imaging.

2) Standardized stroke care pathway.

3) 24/7 stroke diagnosis and treatment capacity.

4) Quality assurance system supporting patient safety.

d. Community Stroke Reduction Plan

1) Plan to reduce stroke through community outreach education to reduce risks of stroke and heart disease in all patient populations.

e. Performance Improvement

1) Systematic Prehospital Review Program

a) Written quality improvement plan or program description for EMS transported stroke alert patients supporting:

i. Timely prehospital feedback.

ii. Prehospital provider education.

iii. Cooperative Stroke System QI data management.

f. Prehospital Stroke related educational activities

1) Participation in Stroke Prehospital Education.

g. Data Collection, Submission and Analysis:

1) Enrollment and participation in the California Stroke Registry/California Coverdell Program- (CSR/CCP).

2) Ability to participate with MVEMSA Data Collection.

3) Submit Stroke System QI Committee Data Reports.

4) Facilitates implementation of data elements for future Stroke System performance improvement.

Appendix 1B

Mountain-Valley
EMERGENCY MEDICAL SERVICES AGENCY

POLICIES AND PROCEDURES

POLICY: 522.20
TITLE: Stroke Triage, Treatment and Destination

EFFECTIVE: 10/22/20
REVIEW: 10/2025
SUPERCEDES:

APPROVAL SIGNATURES ON FILE IN EMS OFFICE

Stroke Triage, Treatment and Destination

I. AUTHORITY

Division 2.5, California Health and Safety Code, Sections 1797.67, 1798, 1798.101, 1798.105, and 1798.170, California Code of Regulations, Title 22, Division 9

II DEFINITIONS

A. **ALS** - means Advanced Life Support, as defined in Section 1797.52, Division 2.5 of the Health and Safety Code.

B. **Cincinnati Prehospital Stroke Scale (CPSS)** - means a validated prehospital screening tool used to identify the presence of a stroke in a patient. The scale tests for facial droop, arm drift and speech. If any one of these three tests show positive findings, the patient is considered to have an abnormal CPSS.

C. **Emergency Medical Services (EMS)** - means the services utilized in responding to a medical emergency.

D. **MVEMSA** - means Mountain-Valley EMS Agency.

E. **MVEMSA Stroke Criteria** - means a patient stroke assessment using the Cincinnati Prehospital Stroke Scale and the VAN (vision, aphasia, neglect) resulting in a positive finding in either assessment tool.

F. **Primary Stroke Center (PSC)** - means a hospital designated to stabilize and treat acute stroke patients, providing initial acute care. PSCs are able to appropriately use t-PA/alteplase and other acute therapies such as stabilizations of vital functions, provision of neuroimaging procedures, and management of intracranial and blood pressures. Based on patient needs and the hospital's capabilities, they either admit patients or transfer them to a comprehensive stroke center.

G. **Quality Improvement (QI)** - means a method of evaluation of services provided, which includes defined standards, evaluation methodologies and utilization of evaluation results for continued system improvement. Such methods may include, but are not limited to, a written plan describing the program objectives, organizations, scope and mechanisms for overseeing the effectiveness of the program.

H. **Stroke** - means a condition of impaired blood flow to a patient's brain resulting in brain dysfunction.

I. **Stroke Alert** - means a notification from the transporting ground or air ambulance to a PSC

or CSC that a patient meeting MVEMSA Stroke criteria is being transported to their facility. A Stroke Alert must be made as soon as possible after stroke criteria is confirmed..

J. **Comprehensive Stroke Center (CSC)** – refers to a hospital that has received comprehensive status through American Heart Association (AHA) and Joint Commission review. CSC sites have availability of advanced imaging techniques including Computed Tomography Angiogram/Perfusion (CTA/CTP), Transcranial Doppler (TCD). These facilities have 24/7 availability of personnel, imaging, operating room and endovascular facilities allowing for the management of large ischemic strokes, intracerebral hemorrhage and subarachnoid hemorrhage.

K. **VAN (vision, aphasia, neglect) Assessment** - means a prehospital screening tool used to identify the presence of large vessel occlusive stroke. The patient is deemed to have a positive VAN assessment with any arm weakness and at least one of the following; vision change, aphasia or neglect on exam. A VAN negative exam is either no arm muscle weakness OR the presence of arm muscle weakness without vision, aphasia or neglect findings.

L. **Large Vessel Occlusion (LVO)** – refers to the site of an ischemic clot within the brain leading to stroke symptoms. LVO strokes may benefit from transport to a CSC facility per MVEMSA Stroke Destination Policy.

III PURPOSE

To rapidly identify suspected acute stroke patients, provide treatment and prompt transport, to the appropriate Primary Stroke Center (PSC) or Comprehensive Stroke Center (CSC) for rapid evaluation and treatment.

IV. POLICY

A. STROKE SYSTEM TRIAGE

1. Appropriate triage of the suspected acute stroke patient using stroke alert criteria relies on rapid prehospital care:

   a. Recognition of signs and symptoms of stroke using CPSS and VAN assessment for LVO.

   b. Determination of time last known well without stroke symptoms within the past 24 hours by a reliable historian.

2. Stroke Alert notification to PSC or CSC to report positive stroke assessment findings.

B. TREATMENT PROTOCOL: Characterized by weakness or paralysis on one side of the body or face, slurred speech, speech difficulty, trouble with balance, could struggle in naming objects, confusion, difficulty swallowing, headache, visual disturbances (double vision, blindness, paralysis of extra-ocular muscles). **Decreased level of consciousness is very rarely caused by an Ischemic stroke.**

EMR Standing orders	
Patient Assessment	Circulation, Airway and Breathing. Assess vitals every 5 minutes. Consider trauma mechanism and maintain patent airway
Oxygen Administration	Provide oxygen therapy if appropriate
TLKW	Attempt to obtain a specific time patient was last known well and report to transporting paramedic

EMT Standing orders	
Note	Must perform items in EMR standing orders if applicable.
TLKW	Attempt to obtain specific time patient was last known well and report to the transporting paramedic
Glucometer	Check blood sugar
Glucose	Oral glucose if patient can protect airway, has a gag reflex, and if blood sugar is <60mg/dl.
Pulse Oximetry	Consider if respiratory distress is observed or suspected, use pulse oximetry, and record initial reading before supplemental oxygen is given. Report initial reading to the transporting paramedic.
Naloxone	2mg IN/IM if mental status and respiratory effort are depressed. Must be a strong suspicion of opiate overdose. Max single dose of 2mg, may repeat dose once in 3 minutes if there was no response to initial dose. Max total dose of 4 mg.

Paramedic Standing Orders	
Note	Must perform items in EMR and EMT standing orders if applicable
Monitor	Treat heart rhythm as appropriate and obtain 12 lead EKG
Temperature	Consider sepsis for any altered patient with a fever
IV/IO Access	TKO. If systolic BP is < 90mmHg, give 250ml fluid boluses to systolic BP 90-100 or a max of 2 liters. Shall reassess vitals/patient after each bolus. If time permits, 2 IV sites are preferred.
Dextrose	For blood sugar <60mg/dl and signs of hypoglycemia are present: D50W 25gms IV/IO. Recheck blood sugar after 5 minutes
Glucagon	If no IV/IO access immediately available with blood glucose <60 mg/dl, give one (1) unit IM. May repeat once. Recheck blood glucose 5 minutes after each dose.
Naloxone	2 mg IV/IO/IN/IM if mental status and respiratory effort are depressed. Must be a strong suspicion of opiate overdose. Max single dose of 2 mg, may repeat once in 3 minutes if there was no response to initial dose. Max total dose of 4mg.
Stroke scale	Perform, document and report to receiving hospital the Cincinnati Prehospital Stroke scale. If Cincinnati Prehospital Stroke Scale is positive, paramedic shall perform, document and report a VAN positive or negative to the receiving hospital

C. DESTINATION

1. Suspected acute stroke patients shall be transported to the appropriate PSC or CSC within the following parameters:

   a. If the patient has a positive Cincinnati Prehospital Stroke Scale assessment and is found to be **VAN positive** the patient may be transported directly to a CSC if the following criteria are met:

      i. Last known well time is within 24 hrs.

      ii. Transport time to the CSC will not exceed 60 minutes.

      iii. Transport time will not take the patient out of the 4.5-hour window for thrombolytic therapy from onset of symptoms or TLKW.

   b. If the patient has a positive Cincinnati Prehospital Stroke Scale assessment, and is found to be **VAN negative**, the following transport criteria shall be followed:

      i. If the patient does not have a preference, the patient shall be transported to the nearest PSC or CSC

      ii. If transport to a PSC or CSC is estimated to be greater than twenty (20) minutes, the patient shall be transported to the nearest ED facility capable of receiving stroke patients.

      iii. All emergency rooms can receive stroke patients.

   c. Paramedics in Mariposa, Amador and Calaveras Counties may exercise their judgment and, in communication with the base hospital, request air transport (if available) for stroke patients to a PSC or CSC.

   d. Unstable stroke patients shall be transported to the closest emergency department. Unstable stroke patients are defined as any ONE of the following:

      i. Patients under CPR.

      ii. Inability to ventilate and/or oxygenate the patient with BLS maneuvers.

2. A PSC/CSC may request advisory status through the EMS Duty Officer for incoming stroke patients only when:

   a. The PSC/CSC is on internal disaster; or

   b. Inoperable CT/MRI.

3. Patients may be taken directly to the CT scanner.

   a. The patient is to remain on cardiac monitor if taken directly to the CT. The patient will remain on the cardiac monitor until Paramedic transfers patient care.

   b. Paramedic will give report to the nurse, transfer patient directly from gurney to CT scanner platform and return to service.

   c. If there is any delay, such as CT scanner not being readily available, the paramedic will not be expected to wait. The patient will be taken to a monitored bed and report given to a receiving nurse or physician as is customary.

D. STROKE ALERT/PATIENT REPORT

1. As soon as a suspected stroke patient is confirmed with CPSS and VAN assessments, the appropriate destination shall be determined, and a Stroke Alert promptly communicated to the PSC/CSC and/or the closest receiving facility. The Stroke Alert is to contain the following information:

   a. Identify the call as a "Stroke Alert" and verify CT operability.

   b. Provide estimated time of arrival (ETA).

   c. Patient's age and gender.

   d. Give time patient was last seen without stroke symptoms (Last Known Well Time).

   e. CPSS and VAN assessment result-negative or positive.

   f. Blood Glucose and Vital Signs.

   g. Treatment and response to treatment.

2. Electronic Patient Care Report(ePCR) documentation must include:

   a. Time last known well CPSS and VAN assessment results, transport factors that determined patient destination

   b. Blood glucose check

   c. Neurological assessments

CINCINNATI PREHOSPITAL STROKE SCALE			
Sign/Symptom	How Tested	Normal	Abnormal
Facial Droop	Have the patient show their teeth, or smile.	Both sides of the face move equally.	One side of the face does not move as well as the other.
Arm Drift	The patient closes their eyes and extends both arms straight out for 10 seconds	Both arms move about the same, or both do not move at all.	One arm either does not move, or one arm drifts downward compared to the other.
Speech	The patient repeats "The sky is blue in Cincinnati."	The patient says the correct words with no slurring of words	The patient slurs words, says the wrong words, or is unable to speak.

V.A.N STROKE SCALE		
	Sign/Symptom	How Tested
Vision	Forced gaze to one side, Loss of vision, or uneven eyes.	Have patient follow your finger with their eyes moving to left, then right.
Aphasia	Difficulty naming objects or repeating simple phrase. (Usually seen with right sided CPSS positive patients)	Ask patient to name two easily identified objects (ie, pen and watch). Have patient repeat "The sky is blue in Cincinnati". DO NOT CONSIDER DYSARTHRIA (Slurring of words)
Neglect	Patient ignores left side of body. (Usually seen with left sided CPSS positive patients)	Have patient close their eyes, and touch individually the right arm, then left arm and confirm patient has sensation bilaterally. Then touch both arms simultaneously and note if patient no longer has sensation unilaterally.

Clinical PEARLS

- Time of onset must be within a 24-hour timeframe and confirmed by a reliable historian
- Do not hesitate to activate a Stroke Alert to the receiving hospital if the condition warrants
- High index of suspicion of hemorrhagic stroke in a non-traumatic altered patient
- History of previous stroke or neurological deficits
- Intravenous access is preferred over Intraosseous unless patient is unstable
- Move patient to a safe area if the situation warrants
- Consider D-10W 250ml drip if D50W is unavailable and Blood Glucose <60. Continue D-10W until patient symptoms improves
- Secure airway with simplest technique, i.e. BLS airway unless unable to manage
- Naloxone- May use the prescribed grant administered aerosol 4mg doses if that is all that is available
- Naloxone must be administered prior to intubation if narcotic overdose is suspected
- MICN- If Time Last Known Well is not reported via radio report, ask!
- MICN-confirm CT status when stroke alert is received

Appendix 1C

MOUNTAIN-VALLEY EMS AGENCY
POLICIES AND PROCEDURES

POLICY: 580.11
TITLE: AMBULANCE TRANSFER POLICY

APPROVED: SIGNATURE ON FILE IN EMS OFFICE
Executive Director

SIGNATURE ON FILE IN EMS OFFICE
Medical Director

EFFECTIVE DATE: 08/14/2002
SUPERSEDES: 580.10
REVISED: 01/01/2009
REVIEW DATE: 01/2014
PAGE: Page 1 of 3

AMBULANCE TRANSFER POLICY

I. AUTHORITY

In accordance with Section 1798.172 of Division 2.5 of the Health and Safety Code, the local EMS agency shall establish guidelines and standards for completion and operation of formal transfer agreements between hospitals with varying levels of care in the area of jurisdiction of the local EMS agency consistent with Sections 1317 to 1317.9a, inclusive, and Chapter 5 (commencing with Section 1798).

II. DEFINITIONS

A. "Interfacility transfer" shall mean the movement of a patient from a hospital emergency department or a hospital inpatient area hereafter referred to as "facility", to any other facility for the purpose of evaluation or treatment at a higher level of care.

B. "Transfer" shall mean the movement of a patient, determined to be a non-emergency medical patient, from a hospital's facilities at the direction of any person employed by or affiliated with the hospital. This includes transfers to another facility for diagnostic testing.

C. "Authorized Patient Transport Provider" shall mean an ambulance provider agency that has the contractual responsibility to provide service in the jurisdiction in which the hospital is located.

III. PURPOSE

To assure that all transfers that occur within the region are conducted in compliance with Federal EMTALA regulations. To serve as a treatment standard for EMT-Is and EMT-Ps in transferring patients between acute care hospitals and other facilities.

IV. POLICY

A. Direct Admission Transfers

1. The transferring hospital shall comply with all EMTALA documentation and destination requirements prior to the transfer of the patient to another facility.

2. The destination of patients being transferred from an Acute Care Facility shall not be directed by the DCF regardless of MCI or System Saturation status.

3. An Agency approved Interfacility Transfer Form shall be completed for each patient being transported on all transfers.

B. A patient is to be transferred in a vehicle that is staffed by qualified trained personnel and that contains life support equipment appropriate to the patient's condition. During transfers, pre-hospital personnel will follow MVEMSA policies, and use only those medications and procedures for which they are trained and authorized by MVEMSA policy are and within their own scope of practice.

C. It may be necessary for additional specialized personnel arranged by the transferring hospital to accompany the patient whenever appropriate.

V. PROCEDURE

A. Direct voice contact between transferring physician and receiving physician shall be made and agreement regarding all aspects of the transfer shall be reached prior to transfer.

B. The transferring facility shall make the necessary arrangements for the transfer (including accompanying personnel where appropriate) in compliance with the agreement reached between the transferring physician and receiving physician.

C. The transferring facility will call the authorized patient transport provider and arrange for appropriate transportation. If warranted by his or her condition, the patient shall be accompanied by appropriate medical personnel. The transferring facility is obliged to provide appropriate personnel if the patient's treatment needs are beyond the scope of practice of the transport personnel.

D. The following medical records shall accompany the patient:

1. A summary of care received prior to the transfer.

2. Copies of all current pertinent medical records including laboratory data, current physician's and nursing notes.

3. Copies/originals of all pertinent x-rays, sonograms, CT scans, ECGs and other diagnostic tests.

4. Copies of pre-hospital care forms including paramedic run reports and Emergency Department records where applicable.

E. A verbal report on the patient by a nurse or physician shall be made to the transport crew prior to transport.

F. Written orders shall be provided to the transport personnel, as appropriate, on the transfer sheet and signed by the transferring physician. If the written orders vary from the Mountain-Valley EMS Agency treatment policies, the written orders must be within the paramedic's approved local scope of practice and must also be approved by a Base Hospital physician.

G. The transferring facility personnel shall utilize an Agency approved Interfacility Transfer Form, with checklist and transfer orders, to ensure that the patient has been appropriately prepared for transport. This Transfer form shall accompany the patient, and the receiving facility shall review and complete the form when the patient arrives, and forward a copy of the completed form and the Patient Care Report, with arrival time, to the EMS Agency.