Inland Counties Emergency Medical Agency

Serving San Bernardino, Inyo, and Mono Counties

Virginia Hastings, Executive Director
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DATE: April 20, 2011

TO: EMS Providers – ALS, BLS, EMS Aircraft
Hospital CEOs, ED Directors, Nurse Managers and PLNs
EMS Training Institutions and Continuing Education Providers
Inyo, Mono and San Bernardino County EMCC Members
Other Interested Parties

FROM: Reza Vaezazizi, MD, MD — Virginia Hastings
ICEMA Medical Director — ICEMA Executive Director

SUBJECT: **PROTOCOL FOR 14 DAY COMMENT**

Attached is the draft **STROKE "NSRC" RECEIVING CENTER** protocol that was reviewed by the Protocol Education Committee (PEC) and Medical Advisory Committee (MAC) which is now available for public comment and recommendations. ICEMA intends to have this program implemented by July 1, 2011 therefore the protocol has a shortened comment period. This shortened comment period was discussed at the January Emergency Medical Care Committee meetings.

ICEMA encourages all system participants to submit recommendations, in writing, to ICEMA during the comment period. **Written comments will be accepted until May 4, 2011 at 5 P.M.** Comments may be sent hardcopy, faxed to (909) 388-5825 or via e-mail to c.yoshida-mcmath@cao.sbcounty.gov. Comments submitted and any revisions made will be presented May 2011 Emergency Medical Care Committee (EMCC) meetings held in all three counties.

STROKE "NSRC" RECEIVING CENTERS

PURPOSE

To provide guidelines to rapidly transport patients who access the 9-1-1 system to a designated Neurovascular Stroke Receiving Center (NSRC).when indicated. Patients transported to NSRC will benefit from rapid assessment, intervention and treatment at a dedicated stroke specialty center. Patients will meet the defined criteria for triage as an acute ischemic or hemorrhagic cerebral vascular event. Trauma related cranial-cerebral events will be managed in the ICEMA Stroke system.

DEFINITIONS

1. **Neurovascular Stroke Receiving Centers (NRSC):** ICEMA designated Level I or Level II receiving hospital for patients triaged as having an acute ischemic or hemorrhagic cerebral vascular event.

2. **NSRC Level I (NSRC-I)**: A twenty four (24) hours per day, seven (7) days per week acute care hospital that has successfully completed and maintains The Joint Commission (TJC) or Healthcare Facilities Accreditation Program (HFAP) accreditation as a Primary Stroke Center, **has neuroradiologic interventional capabilities** and enters into a memorandum of understanding with ICEMA relative to being a Stroke Center.

3. **NSRC Level II (NSRC-II)**: A twenty four (24) hours per day, seven (7) days per week acute care hospital that has successfully completed and maintains The Joint Commission (TJC) or Healthcare Facilities Accreditation Program (HFAP) accreditation as a Primary Stroke Center and enters into a memorandum of understanding with ICEMA relative to being a Stroke Center

4. **Neurovascular Stroke Referral Hospital(s) (NSRH)**: Hospitals that refer possible stroke patients to NSRC.

5. **Neurovascular Stroke Base Station(s)**: Facilities that have TJC or HFAP Primary Stroke Center accreditation that also function as a Paramedic Base Station.

6. **TJC**: The Joint Commission

7. **HFAP**: Healthcare Facilities Accreditation Program

8. **CQI**: Continuous Quality Improvement.

9. **EMS**: Emergency Medical Services.

10. **CE**: Continuous Medical Education.

11. **mLAPSS**: Modified Los Angeles County Prehospital Stroke Screening Scale.

POLICY

The following requirements must be met for a hospital to be a designated NSRC by ICEMA:

1. An ICEMA approved paramedic receiving hospital which is a full service acute care facility.

2. Licensure as a primary stroke center as certified by TJC or HFAP and proof of redesignation every two (2) years.

3. A facility alert system for incoming stroke patients available twenty four (24) hours per day, seven (7) days per week (i.e. in-house paging system).

4. Provide CE opportunities for NSRC, NSRH and EMS personnel in areas of pathophysiology, assessment, triage and management for stroke patients and report annually to ICEMA.

5. Lead public education efforts in stroke at the appropriate educational level and report annually to ICEMA.

STAFFING REQUIREMENTS

The hospital will have the following positions filled prior to becoming an NSRC:

1. Medical Directors

   The hospital director shall designate two (2) physicians as co-directors of its NSRC program. One (1) physician shall certified by American Board of Medical Specialties or American Osteopathic Association neurology or neurosurgery board. The co-director shall be a board certified emergency medicine physician with active privileges to practice in an emergency department.

2. Nursing Coordinator

   The hospital shall designate a NSRC Nursing Coordinator who certified in Critical Care nursing and has advance education in stroke physiology or at least has two (2) years of stroke patient management expereince.

3. On-Call Physicians Specialists / Consultants

A daily roster of the on-call physician consultants and staff that must be promptly available within thirty (30) minutes of notification of "Stroke Alert" twenty four (24) hours per day, seven (7) days per week.

a. An Emergency Medicine Physician will be in the hospital at all times.

b. On-call Neurologist available twenty four (24) hours per day; seven (7) days per week.

c. Neurovascular surgeon available twenty four (24) hours per day; seven (7) days per week.

If interventional or surgical services are not available in-house, the facility must have a rapid transfer agreement in place with a facility that provides this service. The agreement must be on file with the local EMS agency. Additionally, the facility must have a rapid transport agreement in place with ICEMA permitted transport agency for that EOA.

d. Radiologist experienced in neuroradiologic interpretations.

e. Interventional Team.

INTERNAL HOSPITAL POLICIES

The hospital shall develop internal policies for the following situations:

1. Emergent thrombolytic and mechanical therapy protocol to be used by Neurology, Pharmacy, Emergency and Critical Care teams.

2. Acknowledges that stroke patients may **only** be diverted during the times of Internal Disaster in accordance to protocol # 8060, Requests for Hospital Diversion, (applies to physical plant breakdown threatening significant patient services or immediate patient safety issues i.e. bomb threat, earthquake damage, hazardous material or safety and security of the facility.) A written notification describing the event must be submitted to ICEMA within twenty four (24) hours.

3. Prompt acceptance of stroke patients from other NSRC.

4. Neurovascular team alert response policy upon EMS notification of a "Stroke alert".

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5. Rapid assessment of transferred patients and integration between Emergency and Neurology teams.

6. Maintaining readiness of diagnostic computed tomography (CT), magnetic resonance imaging (MRI) and therapeutic resources (interventional suite) upon notification of Neurovascular Team.

7. Prioritization of ancillary services including laboratory and pharmacy with notification of "Stroke Alert".

8. Arrangement for priority bed availability in Acute Stroke Unit or Intensive Care Unit (ICU) for "stroke alert" patients.

DATA COLLECTION

Data will be reported to the ICEMA Medical Director on a monthly basis using an ICEMA approved registry.

CONTINUOUS QUALITY IMPROVEMENT PROGRAM

NSRC shall develop an on-going CQI program which monitors all aspects of treatment and management of ischemic or hemorrhagic stroke patients and identifies areas needing improvement. At a minimum, the program will monitor the following parameters:

1. Morbidity and mortality related to procedural complications.

2. Tracking door to intervention times and adherence to minimum performance standards.

   (Core measures identified by the National Quality Forum & Primary Stroke Center accreditation requirement.)

3. Active participation in ICEMA Stroke CQI Committee activities.

PERFORMANCE STANDARDS

Compliance with the American Stroke Association Performance Measures as a Primary Stroke Center.

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DESIGNATION

1. The NSRC applicant shall be designated by ICEMA after satisfactory review of written documentation, a potential site survey and completion of an agreement between the hospital and ICEMA.

2. Documentation of current accreditation as a Primary Stroke Center by TJC or HFAP shall be accepted in lieu of a formal site visit by ICEMA.

3. Initial designation as a NSRC shall be for a period of two (2) years. Thereafter, redesignation shall occur every two (2) years contingent upon satisfactory review.

4. Failure to comply with the agreement, criteria and performance standards outlined in this policy may result in probation, suspension or rescission of the NSRC designation.

PATIENT DESTINATION

1. The NSRC should be considered as the destination of choice if all of the following criteria are met:

   a. Stroke patients eligible for transport to NSRC (identified stroke patients) will be indentified using the mLAPSS triage criteria.

   b. Identified stroke patients with "last seen normal" time plus transport time equaling greater that (8) eight hours or if "last seen normal" time is unknown, transport to the closest Paramedic Receiving Hospital.

   c. Identified stroke patients with "last seen normal" time plus transport time between (3) three to (8) eight hours will be transported to NSRC-I.

   d. Identified stroke patients with "last seen normal" time less than (3) hours will be transported to any closest NSRC-I or NSRC-II.

   e. NSRC Base Station contact is **mandatory** for all patients identified as a possible stroke patient.

   f. The NSRC Base Station is the only authority that can direct a patient to a NSRC. The destination may be changed at Base Station discretion.

   g. The NSRC Base Station, if different from the NSRC will notify the NSRC of the patient's pending arrival as soon as possible, to allow timely notification of neurovascular team.

h. Air transport may be considered if ground transport is greater than 30 minutes.

2. The following additional factors should be considered with regards to choice of destination for stroke patients. NSRC Base Station contact and consultation is mandatory in these similar situations:

a. Patients with unmanageable airway, unstable cardiopulmonary condition or in cardiopulmonary arrest should be transported to the closest receiving hospital.

b. Patients with obvious contraindication to thrombolytic therapy should be strongly considered for transport to closest paramedic receiving hospital.

c. Patients with hemodynamic instability as exhibited by a blood pressure less than signs of inadequate tissue perfusion should be transported to the closest paramedic receiving hospital.

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STROKE TREATMENT - ADULT

FIELD ASSESSMENT/TREATMENT INDICATORS

Patient exhibiting signs/symptoms of a possible stroke. These signs may include: speech disturbances, altered level of consciousness, parasthesias, new onset seizures, dizziness unilateral weakness and visual disturbances.

BLS INTERVENTIONS

1. Oxygen therapy as clinically indicated.

2. Position patient as tolerated. If altered gag reflex in absence of traumatic injury, place in left lateral position.

3. Place patient in axial spinal stabilization if trauma is suspected.

4. If patient history includes insulin or oral hypoglycemic medications, administer Glucose sublingual.

ALS INTERVENTIONS

1. Obtain vascular access and place on monitor.

2. Obtain blood glucose. If hypoglycemic, refer to Altered Level of Consciousness/Seizures-Adult Protocol Reference #11080.

3. For tonic/clonic type seizure activity, Refer to Altered Level of Consciousness /Seizures-Adult Protocol Reference # 11080.

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

mLAPSS CRITERIA

1. Ask when last seen without stroke symptoms. Refer to Stroke Decision Tree.

2. No history of seizures or epilepsy.

3. Age $\geq$ 40. If $\leq$ 40, with suspected stroke, continue mLAPSS assessment, make NSRC Base Station contact.

4. At baseline, patient is not wheelchair bound or bedridden.

5. Blood glucose between 60-400 mg/Dl.

6. Motor exam: Examine for obvious asymmetry-unilateral weakness (exam is positive, if one or more of the following are present).

   a. Facial smile/Grimace asymmetry.

   b. Grip asymmetry.

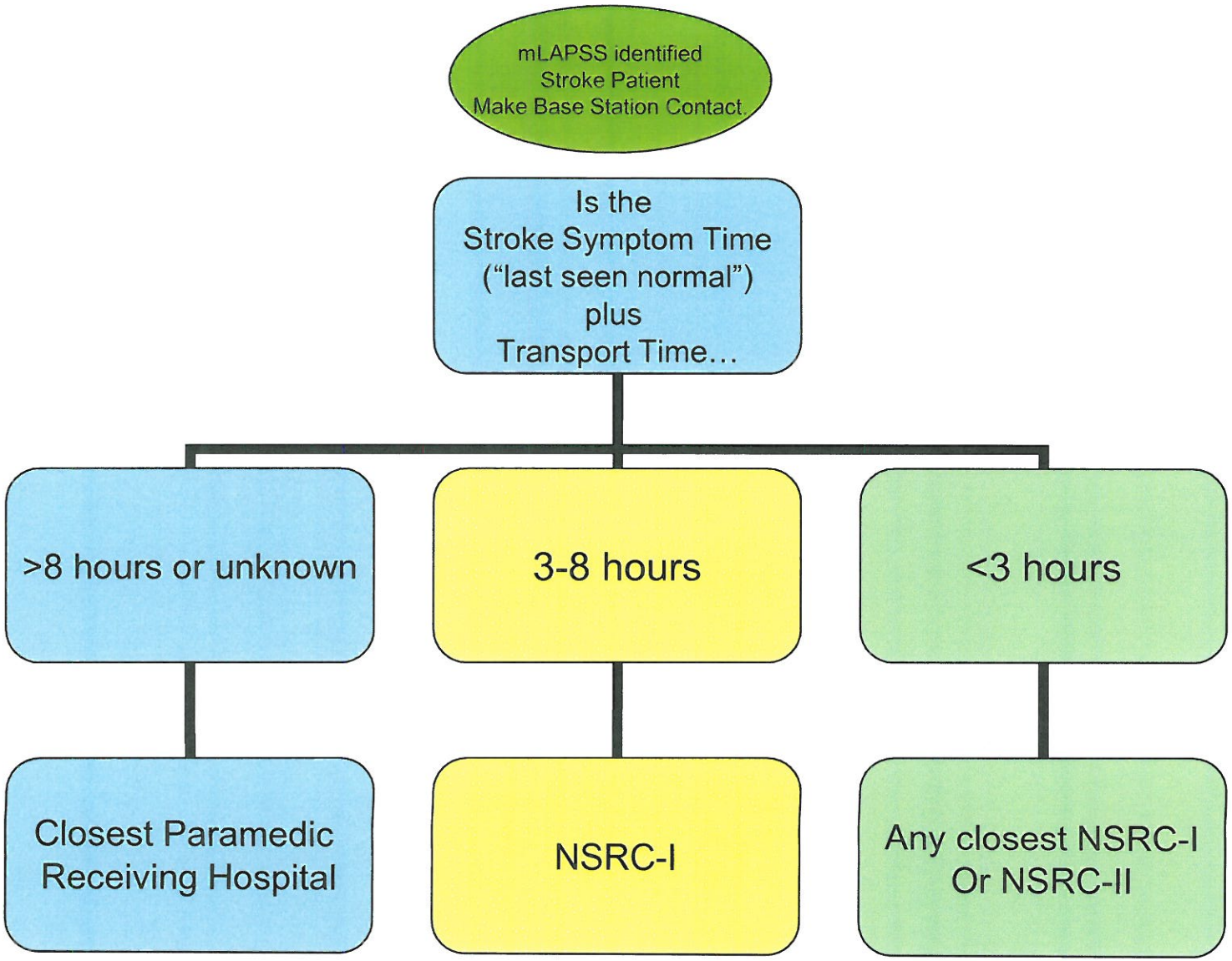
   c. Arm Strength asymmetry

If Stroke Scale is positive, initiate "stroke alert", contact Base Station and transport immediately.

If time is available, and the patient or family can provide the information, assess the patient using the criteria listed below:

THROMBOLYTIC ASSESSMENT

Onset greater than 4 hours?	Yes	No
History of recent bleeding?	Yes	No
Use of anticoagulant?	Yes	No
Major surgery or serious trauma in the previous 14 days?	Yes	No
Sustained systolic blood pressure above 185mm Hg.	Yes	No
Recent stroke, or intracranial hemorrhage	Yes	No



Draft Stroke Decision Tree
4/13/2011