Inland Counties Emergency Medical Agency

Serving San Bernardino, Inyo, and Mono Counties

Tom Lynch, EMS Administrator
Reza Vaezazizi, MD, Medical Director

DATE: January 7, 2016

TO: EMS Providers - ALS, BLS, EMS Aircraft
Hospital CEOs, ED Directors, Nurse Managers and PLNs
EMS Training Institutions and Continuing Education Providers

FROM: Tom Lynch, EMS Administrator — Reza Vaezazizi, MD, Medical Director

SUBJECT: **STROKE TREATMENT - ADULT PROTOCOL EDUCATION**

Effective February 1, 2016, ICEMA will implement the revised Stroke Treatment - Adult protocol. ICEMA has developed a training module to assist with the revised protocol education.

The module is available on the ICEMA website at ICEMA.net. Under "Continuing Education & Training", select "Continuing Education" then click on the green bar labeled "ICEMA Training Modules".

If you have any questions, please contact Chris Yoshida-McMath, RN, Specialty Care Coordinator, at (909) 388-5803 or via e-mail at chris.yoshida-mcmath@cao.sbcounty.gov.

TL/RV/jlm

Enclosures

c: File Copy

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STROKE TREATMENT - ADULT

I. 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.

II. LIMITED ALS (LALS)/ALS INTERVENTIONS

- Vascular access.
- Obtain blood glucose.
- **Modified Los Angeles County Prehospital Stroke Screen (mLAPSS)**: A screening tool used by EMS field personnel to assist in identifying patients who may be having a stroke.

  mLAPSS Criteria: The patient is ***mLAPSS positive***, if "yes" on Criteria #1 - 4 *and* exhibits unilateral weakness on Criteria #6.

mLAPSS Criteria	**Yes**	**No**	
1. Age over 17 years?			
2. No prior history of seizure disorder?			
3. New onset of neurologic symptoms in last 24 hours?			
4. Patient was ambulatory at baseline prior to event?			
5. Blood glucose between 60 and 400?			
6. Exam (*look for obvious asymmetry):*	Normal-Bilaterally	Right	Left
• Facial Smile/Grimace	☐	☐ Droop ☐ Normal	☐ Droop ☐ Normal
• Grip	☐	☐ Weak Grip ☐ Normal	☐ Weak Grip ☐ Normal
	☐	☐ No Grip ☐ Normal	☐ No Grip ☐ Normal
• Arm Weakness	☐	☐ Drifts Down ☐ Normal	☐ Drifts Down ☐ Normal
		☐ Falls Down Rapidly ☐ Normal	☐ Falls Down Rapidly ☐ Normal

- Ask when “last seen normal” or without stroke symptoms.
- If “last seen normal” plus transport time is greater than twelve (12) hours, transport to the closest receiving hospital.
- If “last seen normal” plus transport time is less than twelve (12) hours, or a “wake-up stroke”, transport to closest NSRC.
- In San Bernardino County, if Stroke Scale is positive, initiate “Stroke Alert”, contact NSRC base hospital and transport immediately.
- If mLAPSS negative and stroke is still suspected, contact NSRC base hospital.
- Obtain and document on scene family phone number.
- Consider 12-lead ECG (ALS only).
- **Thrombolytic Assessment**: If time is available, and the patient or family can provide the information, assess the patient using the criteria listed below and report to ED personnel:

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

INLAND COUNTIES EMERGENCY MEDICAL AGENCY
Specialty Care Centers
Contact list

Specialty Care Center	Continuation of Care Phone	IFT Phone	Fax Number	STEMI	Stroke	Trauma	Peds Trauma
Arrowhead Regional Medical Center (BH)	(909) 580-6182	(909) 580-6182	(909) 580-1475		X	X	
Desert Valley Hospital	(760) 843-5073	(760) 843-5073	(760) 243-1461	X			
Desert Regional Medical Center* (BH)	(855) 997-7717	(855) 997-7717	(760) 323-6791		X		
Kaiser Hospital - Fontana	(909) 302-7018	(909) 302-7018	(909) 902-9100		X		
Kaiser Hospital - Ontario	(909) 724-5860	(909) 724-5860	(909) 724-5811		X		
Loma Linda University Medical Center/ Children's Hospital (BH)	(909) 558-4444 *select "0"*	1(800) 865-5862 or 1(800)ToLLUMC	(909) 558-4054	X	X Use **800-865-5862** CoC & IFT.	X	X
Pomona Valley Medical Center ** (BH)**	(909) 865-9611	(909) 865-9574	(909) 630-7858	X	X		
Redlands Community Hospital (BH)	(909) 793-0132	(909) 793-0132	(909) 335-6488		X		
San Antonio Regional Hospital (BH)	(909) 920-4777	(909) 920-4798 or (909) 920-4777	(909) 920-4731	X	X		
St. Bernardine Medical Center	(909) 881-7140	(909) 881-4338 or (909) 685-5922	(909) 881-4500	X			
St. Mary Medical Center	(760) 242-2336	(760) 242-2311 ext. 6500	(760) 946-8867	X			

*Riverside County **LA County (BH) = Base Hospital

Revised 01/07/16 cym

STROKE TREATMENT – ADULT EDUCATION

January 2016

mLAPSS

MODIFIED LOS ANGELES COUNTY PREHOSPITAL SCREENING SCALE

What is it?

- mLAPSS is a prehospital stroke screening scale.

mLAPSS Criteria

The first 5 questions in the screening is very important and often missed.

1. Age over 17 years? (Yes/No)
2. No prior history of seizure disorder? (Yes/No)
3. New onset of neurological symptoms in last 24 hours? (Yes/No)
4. Patient ambulatory at baseline prior to event? (Yes/No)
5. Blood glucose between 60 and 400? (Yes/ No)

TEACHING NOTES:

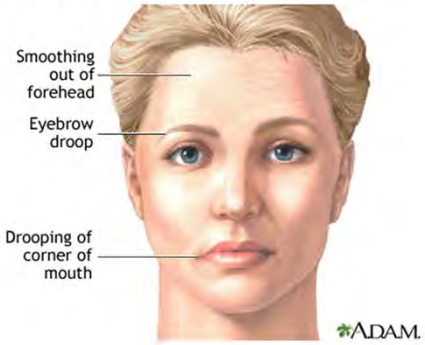
These questions help to rule out stroke mimics, such as Todd's paralysis, or metabolic issues such as hypoglycemia.

Refer to ICEMA Reference #11110 - Stroke Treatment - Adult

mLAPSS Criteria cont'd.

Question #6 is the motor exam. Look for obvious asymmetry in face, arms and grips.

- **Facial Smile/Grimace**



TEACHING NOTES:

Facial smile or grimace:
Have patient smile to look for symmetry.
Assess for drooping on one side.

mLAPSS Criteria cont'd.

Question #6 is the motor exam. Look for obvious asymmetry in face, grips and arms.

- **Grips**

TEACHING NOTES:

Hand Grips:
Hold both patient's hands at the same time and have them squeeze.
Assess for weakness in either right or left hand.

mLAPSS Criteria cont'd.

Question #6 is the motor exam. Look for obvious asymmetry in face, grips and arms.

- **Arms**

TEACHING NOTES:

Arm Strength:
Have patient hold both arms up.
Assess if the arm drifts down to right or left.
Assess if the left or right arm falls down after holding them out.

TEST YOUR KNOWLEDGE!!

MLAPSS NEGATIVE? OR POSITIVE?

mLAPSS Criteria	Yes	No	
1. Age over 17 years?	✓		
2. No prior history of seizure disorder?	✓		
3. New onset of neurologic symptoms in last 24 hours?	✓		
4. Patient was ambulatory at baseline prior to event?	✓		
5. Blood glucose between 60 and 400?	✓		
6. Exam (look for obvious asymmetry):	Normal-Bilaterally	Right	Left
• Facial Smile/Grimace	☐	✓ Droop ☐ Normal	☐ Droop ✓ Normal
• Grip	☐	✓ Weak Grip ☐ No Grip ☐ Normal	☐ Weak Grip ☐ No Grip ✓ Normal
• Arm Weakness	☐	☐ Drifts Down ✓ Falls Down Rapidly ☐ Normal	☐ Drifts Down ☐ Falls Down Rapidly ✓ Normal

mLAPSS Positive

This patient is showing signs and symptoms of stroke.
Contact NSRC base hospital. Do not delay transport to NSRC.

mLAPSS Criteria	Yes	No	
1. Age over 17 years?		✓	
2. No prior history of seizure disorder?	✓		
3. New onset of neurologic symptoms in last 24 hours?	✓		
4. Patient was ambulatory at baseline prior to event?	✓		
5. Blood glucose between 60 and 400?	✓		
6. Exam (look for obvious asymmetry):	Normal-Bilaterally	Right	Left
• Facial Smile/Grimace	☐	✓ Droop ☐ Normal	☐ Droop ✓ Normal
• Grip	☐	✓ Weak Grip ☐ No Grip ☐ Normal	☐ Weak Grip ☐ No Grip ✓ Normal
• Arm Weakness	☐	☐ Drifts Down ✓ Falls Down Rapidly ☐ Normal	☐ Drifts Down ☐ Falls Down Rapidly ✓ Normal

mLAPSS Negative

This patient does not meet the age criteria for stroke. Contact NSRC base hospital. Wait for NSRC base hospital direction.

mLAPSS Criteria	Yes	No	
1. Age over 17 years?	✓		
2. No prior history of seizure disorder?		✓	
3. New onset of neurologic symptoms in last 24 hours?	✓		
4. Patient was ambulatory at baseline prior to event?	✓		
5. Blood glucose between 60 and 400?	✓		
6. Exam (look for obvious asymmetry):	Normal-Bilaterally	Right	Left
• Facial Smile/Grimace	☐	✓ Droop ☐ Normal	☐ Droop ✓ Normal
• Grip	☐	✓ Weak Grip ☐ No Grip ☐ Normal	☐ Weak Grip ☐ No Grip ✓ Normal
• Arm Weakness	☐	☐ Drifts Down ☐ Falls Down Rapidly ✓ Normal	☐ Drifts Down ☐ Falls Down Rapidly ✓ Normal

mLAPSS Negative

This patient does not meet mLAPSS criteria. Transport to nearest paramedic receiving center.

This is likely a stroke mimic.

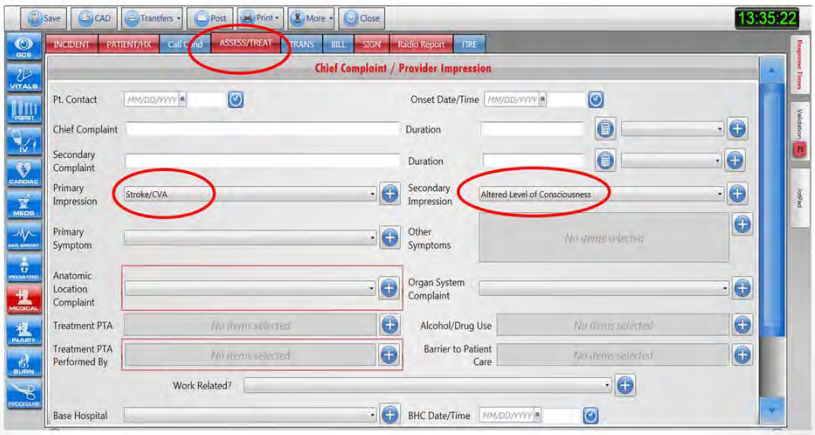
A word about "mLAPSS Negative" screening…

If the patient based on the mLAPSS screening is negative. But you still feel that this is a stroke:

- Contact the NSRC base hospital and let them know the mLAPSS negative .
- Describe the signs and symptoms that you are witnessing and allow the NSRC base hospital to direct you.

DOCUMENTATION: Primary or Secondary Impression

If you feel that your patient is having a stroke indicate in the Primary or Secondary Impression that it IS a stroke.



A review of the current documentation shows that there have been many Primary and Secondary Impressions that indicate everything **but** Stroke or TIA for mLAPSS positive patients. If you think the patient is having a stroke or TIA, **document** that in the Primary or Secondary Impressions fields.

LESSONS LEARNED ABOUT…

ALTERED LEVEL OF CONSCIOUSNESS (ALOC)

ALOC

- Consider a stroke in patients with ALOC.
- Perform mLAPSS and look for subtle signs.
  - "slight" facial droop
  - "slightly" weak grip
  - "partial or slight" drift
- Is the patient aphasic?
- Did you reassess? Are there any changes in the reassessment?

TEACHING NOTES:

Sometimes ALOC is a stroke a symptom of stroke. And with ALOC there may be subtle stroke symptoms that are missed…

Perform mLAPSS and look for subtle signs.

- "slight" facial droop-perhaps it is just a smoothing of the forehead on one side
- "slightly" weak grip-you may think…"close" but it is "a little off"
- "partial or slight" drift-the arm comes down just a little, or bends at the elbow

Is the patient aphasic? The patient could be completely aphasic and completely following commands. It's not a part of the mLAPSS, but it may be another assessment tool in the toolbox to use to differentiate if this is a stroke.

Reassess and document. Just because you did the mLAPSS once, does not mean you can't do it again. Keep stroke in the back of your mind and reassess the patient again.

QUICK REVIEW

"Last Seen Normal" (LSN) is…

- The time that the patient was last seen at their baseline or "normal".
- A term may also be used interchangeably with "last known well".
- Not the same as when the patient was found with "stroke symptoms".

DOCUMENTATION: Last Seen Normal vs. Onset of Symptoms

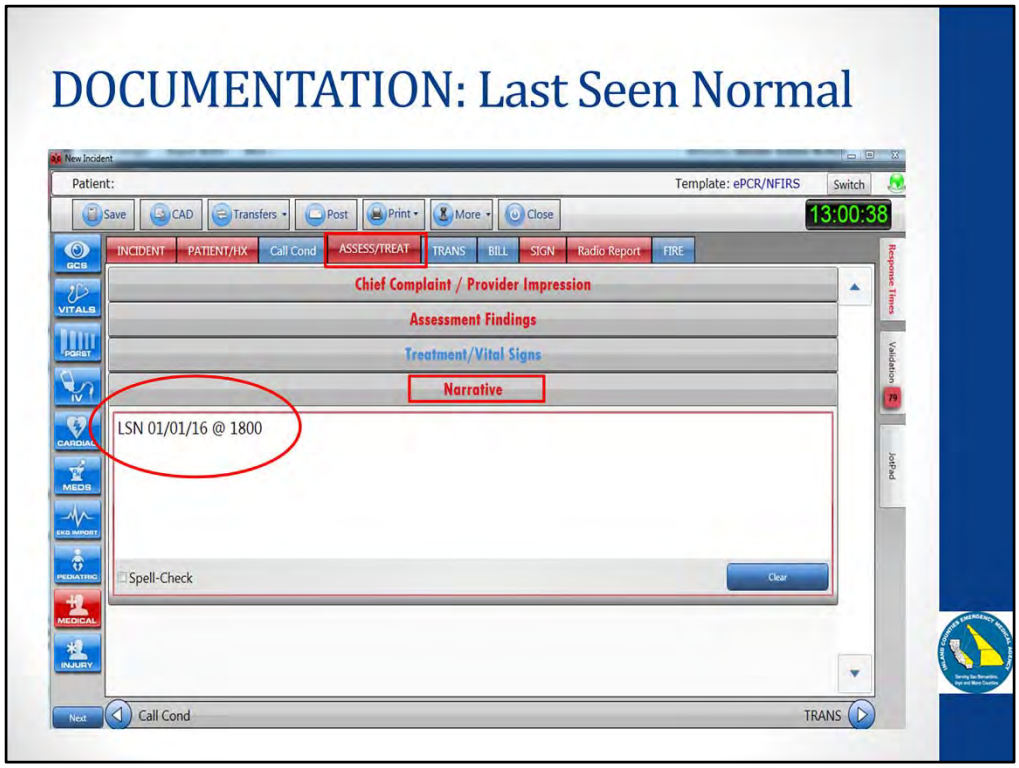
- Last Seen Normal (LSN) or Last Known Well is when they were last at their "normal" or baseline. It should be documented in the Narrative.

- Onset of Symptoms is when they were discovered with "stroke-like" symptoms document under Onset Date/Time.

TEACHING NOTES:

LSN and Last Known Well is used interchangeably in the stroke community. (They mean the SAME thing!)

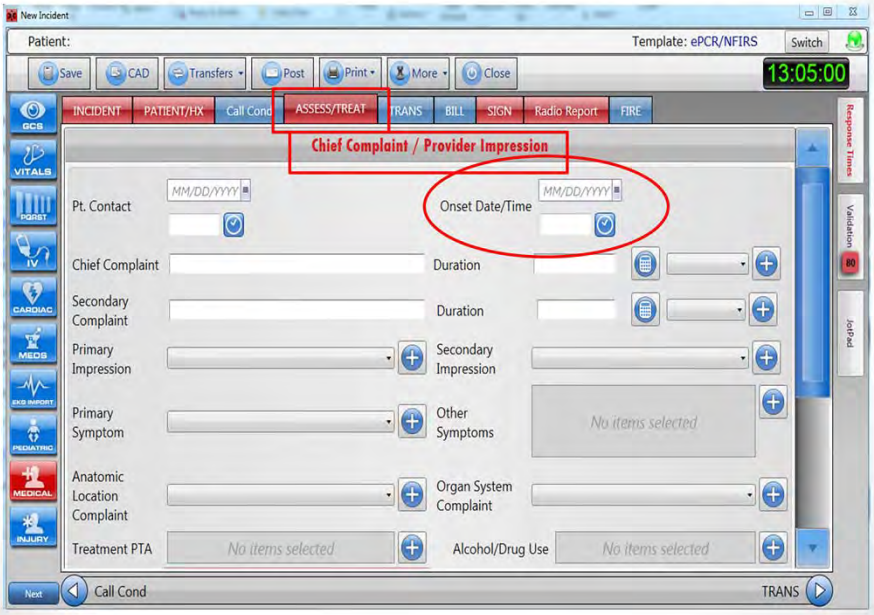
Onset of Symptoms: This is the time when the patient was first discovered with stroke-like symptoms.



TEACHING NOTES:

Obviously, add more assessment findings. But LSN can be documented in one sentence.

DOCUMENTATION: Onset of Symptoms



TEACHING NOTES:

Onset of Symptoms: This is a <u>change</u> of instructions from first roll out.

TEST YOUR KNOWLEDGE!!

"LAST SEEN NORMAL"

"LSN"

A patient goes to sleep at 0800 on 7/15 at their "baseline normal" and wakes up the next morning at 7/16 @ 0600.

EMS arrives at 0800.

What is the "last seen normal"?

TEACHING NOTES:

This is also called a "wake-up stroke".

"LSN"

The "last seen normal" time is calculated from when they were last seen at baseline normal (7/15 @ 0800) to when they were found with stroke symptoms (7/16 @ 0600).

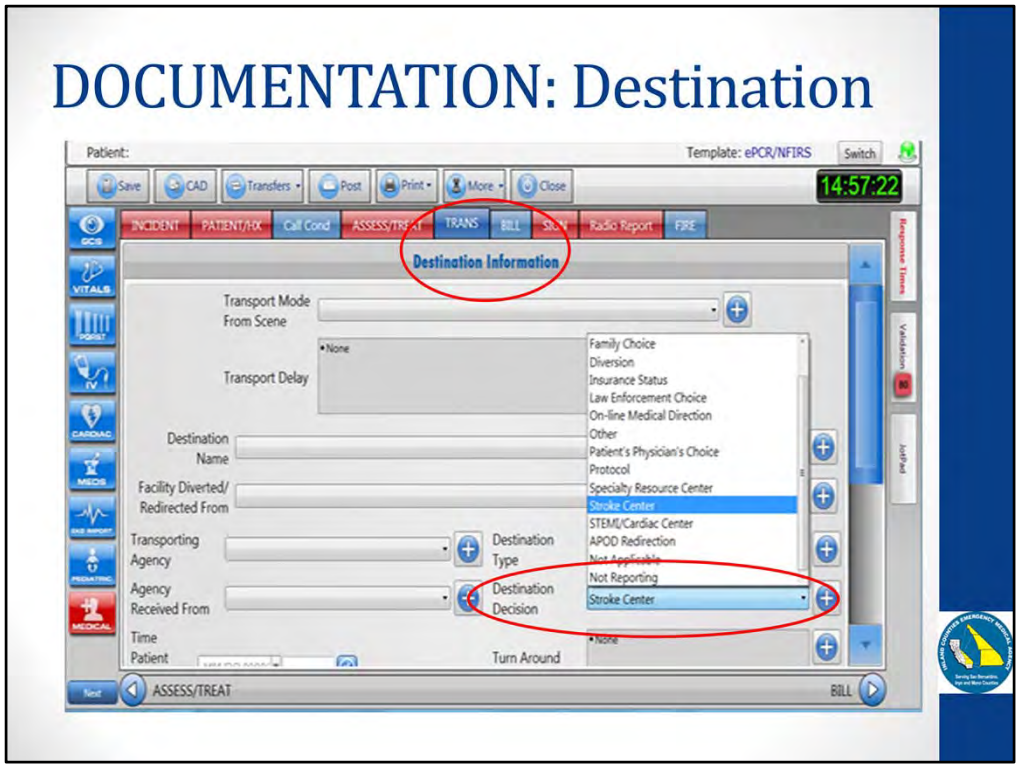
The LSN = 10 hours

DESTINATION Reminder:

- If LSN plus transport time is less than12 hours, or a wake-up stroke, transport to closest NSRC.
- If LSN plus transport time is greater than 12 hours transport to closest receiving hospital.

TEACHING NOTES:

Don’t forget NSRC Base Hospital Contact!!!



TEACHING NOTES:

If the patient is being transported to a Stroke Center, the Destination Decision is “Stroke Center”. (Not: “Closest” or “Specialty Resource Center” or “Protocol”).

If the Patient is a Continuation of Care, select “Continuation of Care/Re-triage”.

Any other Destination Decision selection will require an explanation in the narrative.

Family Contact Number: Why is it important?

- NSRC's need this information so that consent can be obtained for tPA or other interventions.
- By the time family arrives at the bedside, it is often too late! Patients have missed treatment windows waiting for family members to arrive.

- DOCUMENT IT ON THE EPCR
- HAVE IT READY TO GIVE TO THE NURSE AS A PART OF YOUR HAND-OFF REPORT

TEACHING NOTES:

Document the Family Contact number under the "Next of Kin" data element.

MICNs ask if they took down a family contact number.

DOCUMENTATON: Family Contact Number – "**Next of Kin**"

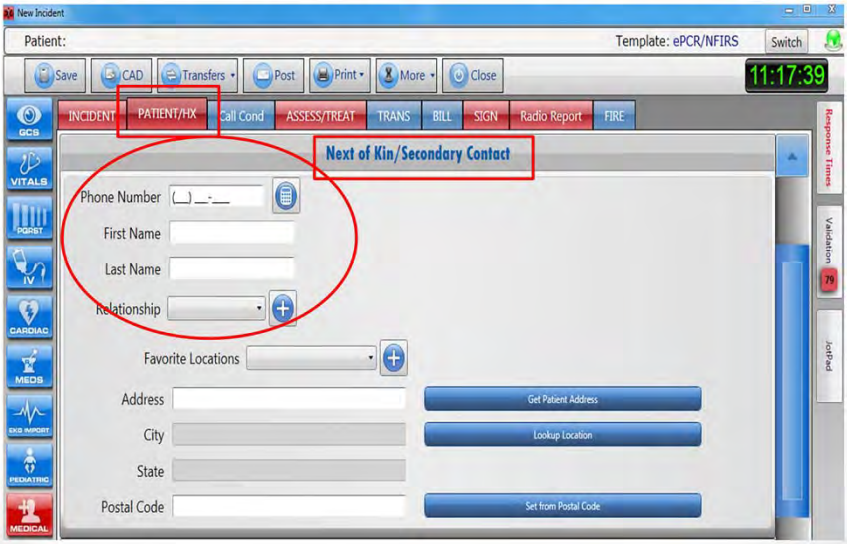
- Do everything humanly possible to obtain a family contact number. ☺
- Keep in mind that treatment decisions are based on discussions that the NSRC physicians have with family members.
- If a "NEXT of KIN" family contact number cannot be obtained. Populate the field with (999)999-9999. This will indicate that you tried, and the phone number could not be obtained.

TEACHING NOTES:

It doesn't matter that you arrived at the hospital 5 minutes faster because you didn't take the time to write down the "Next of Kin" family contact number. The NSRC will wait until they get a hold of this information to determine the best course of treatment. "Time is Brain!"

This is part of a 2016 performance improvement measure. The presence of a valid number will be monitored.

DOCUMENTATON: Family Contact Number – "Next of Kin"



TEACHING NOTES:

Document the Family Contact number under the "Next of Kin" data element.

This is a requirement for all mLAPSS positive patient.

Questions?

Contact Chris Yoshida-McMath at chris.yoshida-mcmath@cao.sbcounty.gov

THANK YOU FOR ALL THAT YOU DO!