San Mateo County Emergency Medical Services

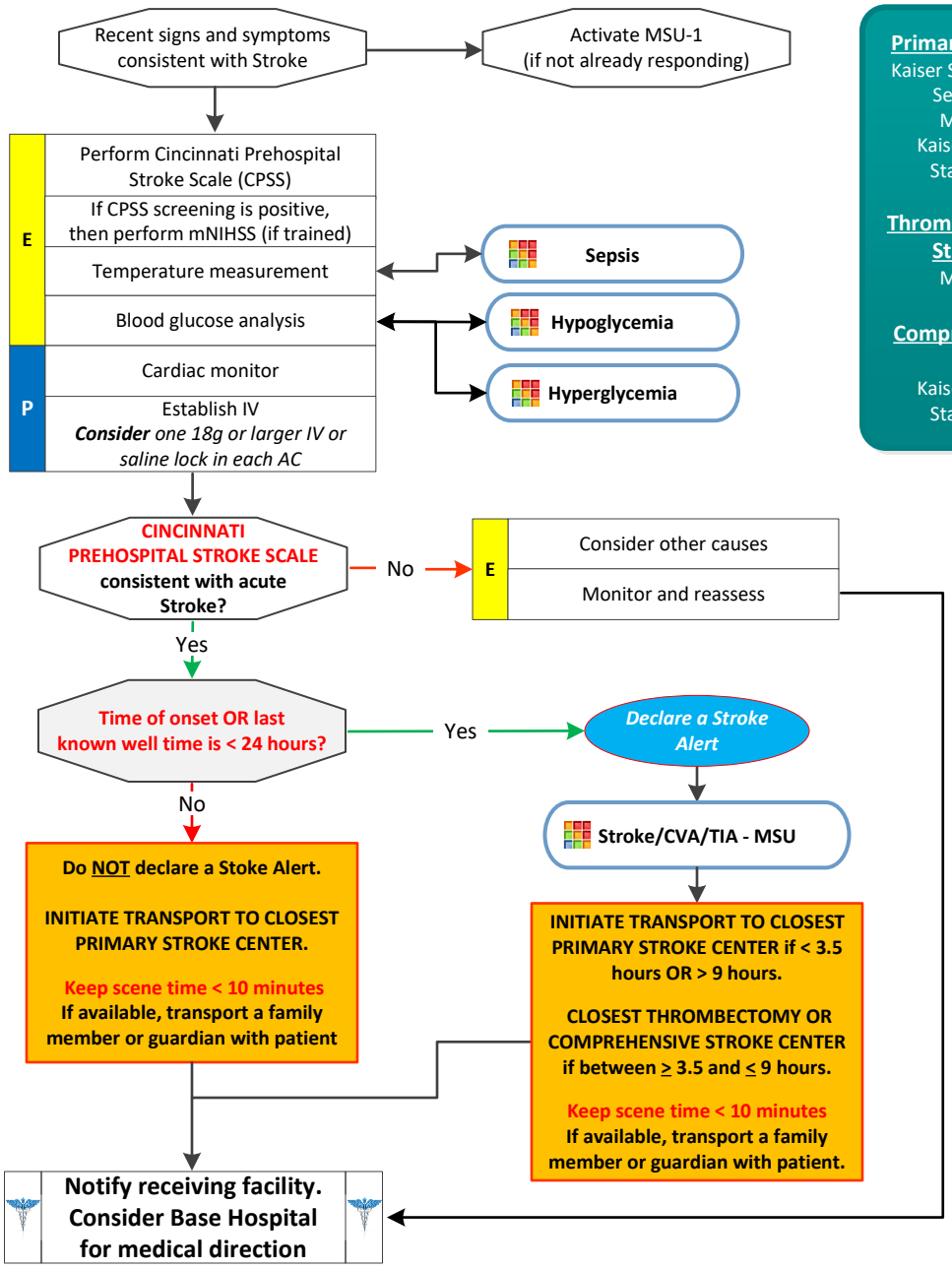
Stroke/TIA

For suspected stroke or transient ischemic attack (stroke symptoms that resolve rapidly)

History
- Last seen normal
- A&O Status and GCS
- Family members phone number
- Previous stroke or TIA or brain hemorrhage
- Major surgery within last 2 weeks
- Signs of active bleeding, including Melena
- Associated diseases (DM, HTN, CAD)
- Atrial fibrillation
- Medications (blood thinners)
- History of trauma
- History of brain tumor, aneurysm, or AVM.

Signs and Symptoms
- Altered mental status
- Weakness or paralysis
- Blindness or other sensory loss
- Aphasia or dysarthia
- Syncope
- Vertigo or dizziness
- Vomiting
- Headache
- Seizure
- Respiratory pattern change
- Hypertension/hypotension
- Diplopia or double vision

Differential
- See Altered Mental Status
- TIA
- Sepsis
- Seizure/Todd's paralysis
- Hypoglycemia
- Stroke
  - Thrombotic or embolic (~85%)
  - Hemorrhagic (~15%)
- Tumor
- Trauma
- Dialysis or renal failure
- Bell's Palsy



Primary Stroke Centers
Kaiser South San Francisco
Sequoia Hospital
Mills-Peninsula
Kaiser Redwood City
Stanford Hospital

Thrombectomy Capable Stroke Centers
Mills-Peninsula

Comprehensive Stroke Centers
Kaiser Redwood City
Stanford Hospital

Adult Medical Treatment Protocols

Stroke/TIA

For suspected stroke or transient ischemic attack (stroke symptoms that resolve rapidly)

A Stroke Alert is indicated when the Cincinnati Prehospital Stroke Scale findings are abnormal and onset (time last seen normal) is less than 24 hours from time of patient contact. Make hospital contact following the format described in Routine Medical Care G01 for Stroke.

If a family member or guardian is available, assure their availability by either transporting them in the ambulance or obtain their name and phone number to allow the receiving physician to contact them. Encourage a family member to be available to speak with hospital staff.

- If any of portion of the Cincinnati Prehospital Stroke Scale is abnormal and it is a new finding, the stroke screen is positive and may indicate an acute stroke.
- Early hospital notification is necessary for the receiving facility to make rapid treatment and potential transfer decisions.
- Because the patient may need to receive thrombolytic therapy, avoid multiple IV attempts.
- Avoid distal placement of IVs, if possible, as this is a preferred access site by Interventionalists.
- When turning over patient care to hospital staff, make sure to include common anticoagulants taken by the patient. Known use of these medications may affect the course of hospital treatment:
  - Warfarin (Coumadin)
  - Heparin
  - Fondaparinux (Arixtra)
  - Apixaban (Eliquis)
  - Enoxaparin (Lovenox)
  - Dabigatran (Pradaxa)
  - Rivaroxaban (Xarelto)

Cincinnati Prehospital Stroke Scale	
Finding	**Interpretation**
Facial Droop	Normal: Symmetrical smile or face **Abnormal: Asymmetry**
Arm Weakness	Normal: Both arms move symmetrically **Abnormal: Asymmetrical arm movement**
Speech Abnormality	Normal: Correct words; no slurring **Abnormal: Slurred or incorrect words**

Supplementary Tabel 2: The Modified National Institutes of Health Stroke Scale (mNIHSS)

Tested Item	Description	Responses & Scores
1B	LOC (orientated questions)	0 Answers both correctly 1 Answers one correctly 2 Answers neither correctly
1C	LOC (response to commands)	0 Performs both tasks correctly 1 Performs one task correctly 2 Performs neither
2	Gaze	0 Normal horizontal movements 1 Partial gaze palsy 2 Complete gaze palsy
3	Bidang visual	0 No visual field defect 1 Partial hemianopia 2 Complete hemianopia 3 Bilateral hemianopia
5	Motor function (arm) a. Left b. Right	0 No drift 1 Drift before 5 seconds 2 Falls before 10 seconds 3 No effort against gravity 4 No movement
6	Motor function (leg) a. Left b. Right	0 No drift 1 Drift before 5 seconds 2 Falls before 5 seconds 3 No effort against gravity 4 No movement
8	Sensory	0 Normal 1 Abnormal
9	Language	0 Normal 1 Mild aphasia 2 Severe aphasia 3 Mute or global aphasia
11	Neglect	0 Absent 1 Mild (loss 1 sensory modality) 2 Severe (loss 2 modalities)
TOTAL (0-31)		

Pearls

- MSU-1 should be alerted if you arrive on scene and determine a stroke is occurring. Based on ETA, MSU-1 will meet on scene, at rendezvous, or advise not responding and will recommend transport to the closest, most appropriate SRC.
- Last known well time: Critical information that prehospital providers can obtain, on which all treatment decisions are based. Be very precise in gathering data to establish the time of onset and report as an actual time (i.e., "13:45," NOT "about 45 minutes ago"). Without this information, patients may not receive thrombolytics at the hospital. For patients who "woke up and noticed stroke symptoms," time starts when the patient was last awake.
- If there is any question as to status of patient with acute symptoms of stroke, transport to Primary Stroke Center.
- If last know well time is unknown or > 24 hours, transport to closest or requested Primary, Thrombectomy Capable, or Comprehensive Stroke Center.
- The differential listed in A04 – Altered Level of Consciousness should also be considered.
- Be alert for airway problems (difficulty swallowing, vomiting and aspiration). PO meds are not appropriate.
- Hypoglycemia or hyperglycemia can present as a LOCALIZED neurologic deficit, especially in the elderly.
- Document the Cincinnati Prehospital Stroke Scale in the EHR.