

Suspected Stroke

History

- Previous stroke or TIA
- Previous cardiac or vascular surgery
- Associated diseases (diabetes, hypertension, CAD, hypocholesteremia)
- Atrial fibrillation
- Medications (blood thinners)

Signs and Symptoms

- Altered mental status
- One-sided weakness or paralysis
- Blindness or other new visual symptoms
- Aphasia or dysarthria
- Vertigo or dizziness
- Vomiting
- Sudden headache
- Seizure
- Hypertension

Differential

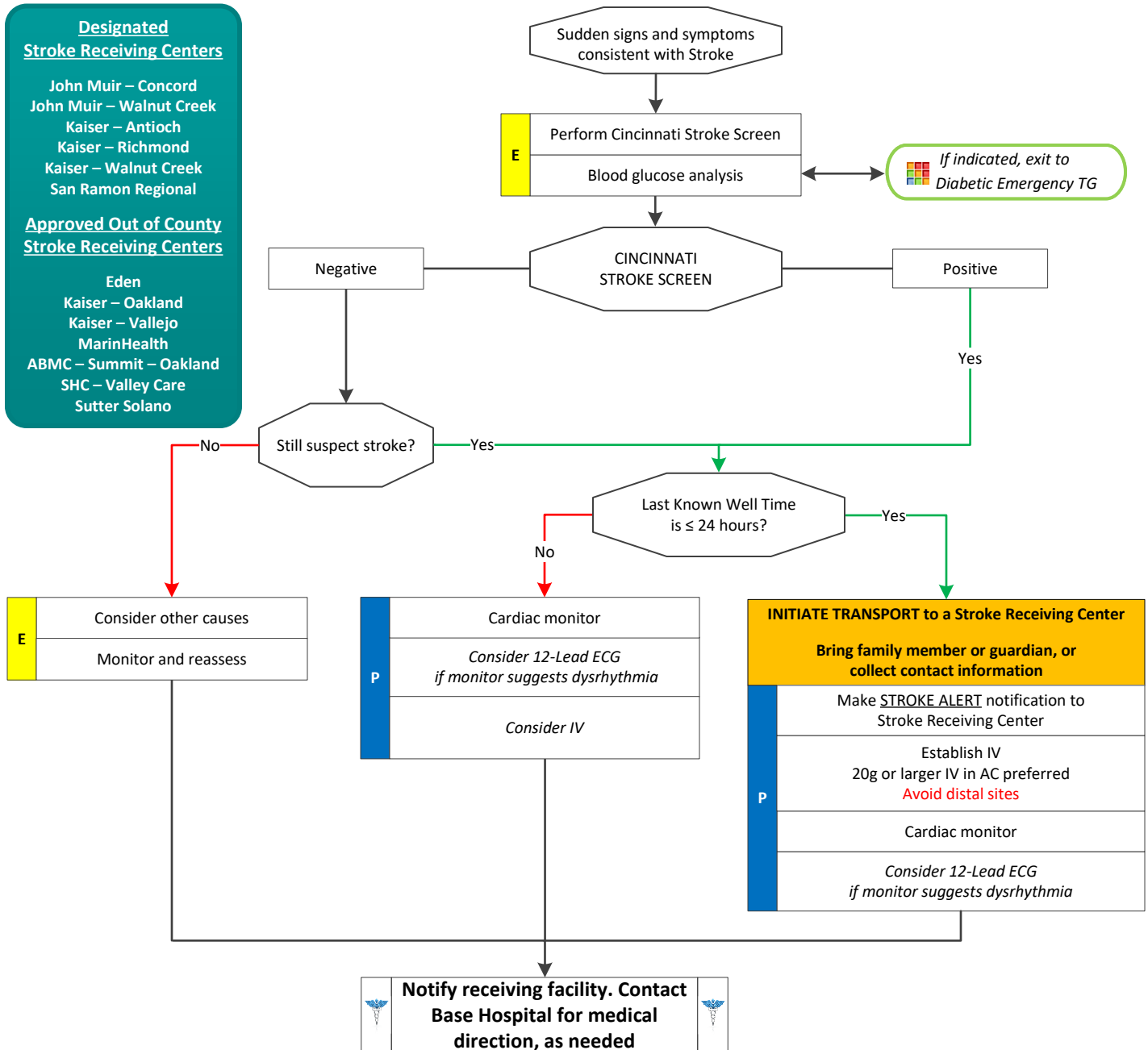
- See Altered Mental Status
- TIA
- Seizure
- Todd's paralysis
- Hypoglycemia
- Stroke
 - Thrombotic or embolic (~85%)
 - Hemorrhagic (~15%)
- Tumor
- Trauma
- Dialysis or renal failure

Designated Stroke Receiving Centers

John Muir – Concord
John Muir – Walnut Creek
Kaiser – Antioch
Kaiser – Richmond
Kaiser – Walnut Creek
San Ramon Regional

Approved Out of County Stroke Receiving Centers

Eden
Kaiser – Oakland
Kaiser – Vallejo
MarinHealth
ABMC – Summit – Oakland
SHC – Valley Care
Sutter Solano



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Stroke Alert

A Stroke Alert is indicated when any finding on the Cincinnati Stroke Screen is positive and the Last Known Well Time is less than or equal to 24 hours from patient contact. In order for receiving centers to make rapid treatment and potential transfer decisions please include the following in your Stroke Alert report:

- Last Known Well Time as a clock time not as a duration
- Cincinnati Stroke Screen findings
- Vital signs
- Blood glucose result
- Known anticoagulant prescription
- Medical record number (if available) or name and birthdate
- ETA

Assessment Matrices

Cincinnati Stroke Screen	
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

LAMS Assessment		
Finding	Scoring	Interpretation
Facial Droop	Absent - 0 points Present - 1 point	Normal: Symmetrical smile or face Abnormal: Asymmetry
Arm Weakness	Absent - 0 points Drifts - 1 point Falls rapidly - 2 points	Normal: Both arms move symmetrically Abnormal: Asymmetrical arm movement Falls rapidly: some or no effort
Grip	Normal - 0 points Weak - 1 point No grip - 2 points	Normal: Equal grip in both hands Weak: Unequal grip in one hand No grip: no muscle strength or contraction

A LAMS score of ≥ 4 indicates a high likelihood of a LVO stroke

Pearls

- Last Known Well Time (LKWT) is the time the patient was last witnessed to be at their baseline and is the most pertinent patient history detail for a stroke patient that prehospital providers can obtain. Be precise in gathering this, and report it as an actual time (e.g. 13:45 NOT "about 45 minutes ago"). Without this information, patients may not be able to receive thrombolytics at the hospital.
- The time the patient is found with their stroke symptoms (Time of Discovery) is often different than and should be distinguished from the LKWT. The Time of Discovery can also be reported but is secondary to the LKWT.
- Please refrain from Terminology like "time of onset" since this is often not known as strokes are seldom witnessed.
- Patients who have a normal mental status and can communicate effectively, may serve as their own historians.
- Hypoglycemia can present as a LOCALIZED neurologic deficit, especially in the elderly.
- 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.
- A 35° head position is preferred for transport.
- 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)
 - Enoxaparin (Lovenox)
 - Apixaban (Eliquis)
 - Heparin
 - Dabigatran (Pradaxa)
 - Fondaparinux (Arixtra)
 - Rivaroxaban (Xarelto)
- 20%-25% of strokes involve the posterior circulation and are not captured by the Cincinnati Stroke Assessment. Symptoms can include the sudden onset of dizziness/vertigo, imbalance/unsteady gait, or vision loss.

