

County of Santa Clara Emergency Medical Services System



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Date: August 29, 2017
To: EMS System Stakeholders
From: David Sullivan *D.S.*
County of Santa Clara
Subject: Prehospital Care Protocol 700-A13 Revision and Open Comment Period

Consistent with *Santa Clara County Emergency Medical Services Prehospital Care Policy 109 - Policy Development and Implementation*, the EMS Agency announces prehospital care protocol changes.

Summary of Changes (with public comment period)

Policy Name/Effective Date	Direct Cost	EMS Training	Description of Change
700-A13: Stroke Effective Date: TBD (Fall 2017) Public Comment Ends: September 30, 2017	No	Yes	Routine: Changes can be found on the track changes draft document and below.

Stakeholder comments must be submitted electronically by email to David.Sullivan@ems.sccgov.org, on or before September 30, 2017.

Explanation from Dr. Ken Miller:

“Decision making and clinical care of acute stroke is evolving in ways similar to that of ST-elevation MI. Diagnostic imaging is clarifying the anatomy of the lesion and its consequences to downstream tissue. Early thrombolysis (clot-dissolving therapy) is safe and effective and in selected patients early thrombectomy (clot-removal therapy) further increases functional neurologic recovery. It is that latter part, endovascular thrombectomy, which is evolving most rapidly in acute stroke care. All stroke centers can provide thrombolysis care while comprehensive stroke centers and some primary stroke centers have thrombectomy capabilities.

As the science of stroke care became increasingly clear that thrombectomy is the preferred treatment for patients with large vessel occlusion (LVO) stroke the Santa Clara County EMS agency, in collaboration with stroke neurology and EMS stakeholders, initiated direct-to-comprehensive stroke center field triage based upon timeframes of thrombolysis and thrombectomy. In February 2017 the American Heart Association/American Stroke Association published for the first time EMS stroke triage guidelines. Those guidelines used stroke severity scores to assess the probability of an LVO stroke and therefore inform the decision to transport directly to a comprehensive stroke center.

After a review of the literature on various stroke severity scoring strategies a version was found very close to that used in the Santa Clara County EMS system for stroke assessment. It is the addition of that stroke severity score to field stroke decision making on hospital destination that resulted in the modification of the Stroke Clinical Protocol 700-A13 since the EMS Update of April 2017.”



STROKE

Effective: TBD (Fall 2017)
Replaces: April 27, 2017
Review: November 2019

1. BLS Treatment

- 1.1. Routine Medical Care – Adult (700-S04)
 - 1.1.1. **Oxygen** – titrate as appropriate
- 1.2. Complete **G.F.A.S.T.** stroke screening:

G Gaze Abnormalities	(0-1)
F Facial Droop	(0-1)
A Arm Drift	(0-1)
S Speech Abnormalities	(0-1)
T Time Last Seen Normal	(No points)

- 1.3. Confirm patient has not had a seizure during the duration of stroke symptoms. If patient has had a seizure during the duration of stroke symptoms or is actively seizing, see 700-A02 and transport to appropriate Emergency Department.
- 1.4. Place patient in supine position with head elevated 30 degrees
- 1.5. Do not delay transport for interventions and transport to the appropriate receiving facility (Sections 3 and 5)

2. ALS Treatment

- 2.1. **Vascular Access (IV), TKO**
 - 2.1.1. With no smaller than a 20 gauge catheter
 - 2.1.2. Antecubital (AC) access site is preferred
 - 2.1.3. Make no more than one attempt at an AC access site
- 2.2. **Blood Glucose Level (BGL)**, if less than 80 mg/dl, administer:
 - 2.2.1. **Dextrose 10% IV Piggyback or IV Drip**, hang a 250ml bag of 10% dextrose either piggyback to the normal saline bag or directly to IV hub/saline lock. Administer 100-200ml bolus. Reassess between boluses for improvements in mental status and/or improved BGL. May repeat boluses as needed until the patient becomes alert or BGL greater than 80 mg/dl is achieved. (700-A03)
- 2.3. Obtain **12 Lead ECG** while en route, and treat dysrhythmia or cardiac symptoms, if present (700-A14)



3. Stroke Center Transport Determination

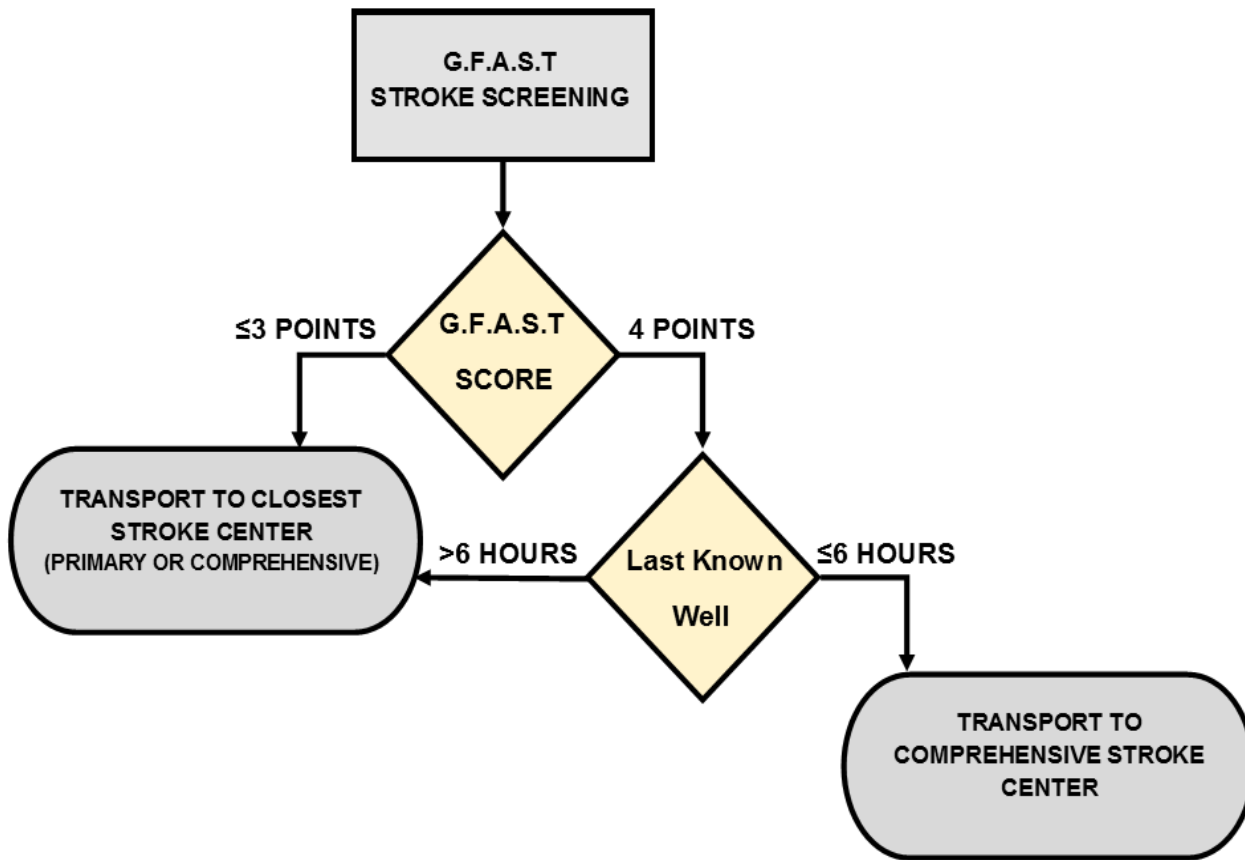
- 3.1. If patient has four (4) points on the G.F.A.S.T stroke screening and a last seen well time of six (6) hours or less, transport the patient to a Comprehensive Stroke Center (**Policy 602**).
- 3.2. If patient has three (3) or less points on the G.F.A.S.T stroke screening and/or a last seen well time of greater than six (6) hours, transport the patient to the closest Stroke Center (Comprehensive or Primary) (**Policy 602**).

4. Special Considerations

- 4.1. If there is a reliable historian on scene that can state the patient's Last Time Seen Well, ensure that their contact number is collected for the physician

5. Stroke Center Transport Determination Flow Chart

5.1.





STROKE

Effective: April 27, 2017 TBD (Fall 2017)
Replaces: February 7, 2014 April 27, 2017
Review: November 2019

1. BLS Treatment

1.1. Routine Medical Care – Adult (700-S04)

1.1.1. **Oxygen** – titrate as appropriate

1.1.1. _____

1.2. Complete **G.B.E.F.A.S.T.** stroke screening:

G Gaze Abnormalities	(0-1)
F Facial Droop	(0-1)
A Arm Drift	(0-1)
S Speech Abnormalities	(0-1)
T Time Last Seen Normal	(No points)

- B** Balance Problems
- E** Eyes Diplopia
- F** Facial Droop
- A** Arm Drift
- S** Speech Abnormalities
- T** Time Last Seen Normal

1.3. Confirm patient has not had a seizure during the duration of stroke symptoms. If patient has had a seizure during the duration of stroke symptoms or is actively seizing, see (700-A02) and transport to appropriate Emergency Department.

1.3-1.4. Place patient in supine position with head elevated 30 degrees

1.4-1.5. Do not delay transport for interventions and transport to the appropriate receiving facility, (Sections 3 and 5)see sections 2 and 3.

2. ALS Treatment ~~Comprehensive Stroke Center Transport Determination~~

2.1. **Vascular Access (IV), TKO**

2.1.1. With no smaller than a 20 gauge catheter

2.1.2. Antecubital (AC) access site is preferred

2.1.3. Make no more than one attempt at an AC access site

2.2. **Blood Glucose Level (BGL)**, if less than 80 mg/dl, administer:



2.2.1. **Dextrose 10% IV Piggyback or IV Drip**, hang a 250ml bag of 10% dextrose either piggyback to the normal saline bag or directly to IV hub/saline lock. Administer 100-200ml bolus. Reassess between boluses for improvements in mental status and/or improved BGL. May repeat boluses as needed until the patient becomes alert or BGL greater than 80 mg/dl is achieved. **(700-A03)**

2.3. Obtain **12 Lead ECG** while en route, and treat dysrhythmia or cardiac symptoms, if present **(700-A14)**

~~_____ If patient has four (4) points at least one (1) yes on the GB.E.F.A.S.T. stroke screening and a last seen well time of six (6) hours or less, transport the patient to a Comprehensive Stroke Center **(Policy 602)**.~~

~~2.1. If patient has three (3) or less points on the G.F.A.S.T stroke screening and/or a last seen well time of greater than six (6) hours, transport the patient to the closest Stroke Center (Comprehensive or Primary) **(Policy 602)**.~~

~~Last seen normal time is between 3.5 to 6 hours~~

~~2.1.1.~~

~~2.1.2. Has a normal blood glucose level (BGL)~~

~~2.1.3. Has not had a seizure during the duration of stroke symptoms~~

~~Transport the patient to a Comprehensive Stroke Center **(Policy 602)**~~

~~2.2. _____~~

3. Primary Stroke Center Transport Determination

~~3.1. If patient has at least one (1) yes on the B.E.F.A.S.T. stroke screening and:~~

~~3.1.1. Last seen normal time of less than 3.5 hours, or greater than 6 hours or,~~

~~3.1.2. Last time seen normal is unknown, and~~

~~3.1.3. Has a normal blood glucose level (BGL), and/or:~~

~~3.1.4. Has not had a seizure during the duration of stroke symptoms~~

~~Transport the patient to a Primary Stroke Center **(Policy 602)**~~

~~3.2.~~

3. Stroke Center Transport Determination

3.1. If patient has four (4) points on the G.F.A.S.T stroke screening and a last seen well time of six (6) hours or less, transport the patient to a Comprehensive Stroke Center **(Policy 602)**.

3.2. If patient has three (3) or less points on the G.F.A.S.T stroke screening and/or a last seen well time of greater than six (6) hours, transport the patient to the closest Stroke Center (Comprehensive or Primary) **(Policy 602)**.

4. ALS Treatment



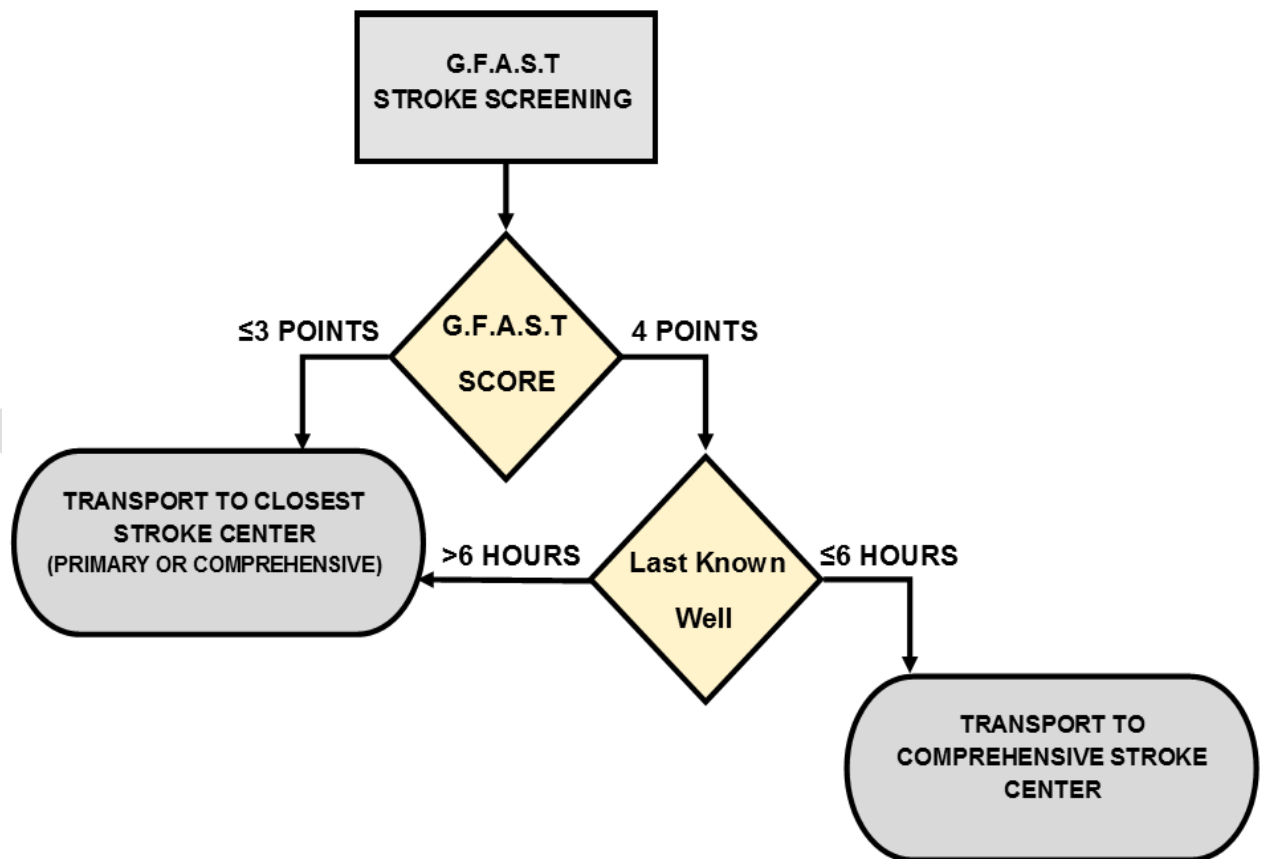
- 4.1. **Vascular Access (IV), TKO**
 - 4.1.1. With no smaller than a 20-gauge catheter
 - 4.1.2. Antecubital (AC) access site is preferred
 - 4.1.3. Make no more than 1 attempt at the AC if first attempt fails
- 4.2. **Blood Glucose Level (BGL), if less than 80 mg/dl rule out hypoglycemia, administer:**
 - 4.2.1. **Dextrose 10% IV Piggyback or IV Drip**, hang a 250ml bag of 10% dextrose either piggyback to the normal saline bag or directly to IV hub/saline lock. Administer 100-200ml bolus. Reassess between boluses for improvements in mental status and/or improved BGL. May repeat boluses as needed until the patient becomes alert or BGL greater than 80 mg/dl is achieved. **(700-A03)**
- 4.3. Obtain **12 Lead ECG** while en route, if dysrhythmia or cardiac symptoms are present **(700-A14)**

5.4. Special Considerations

- 4.1. If there is a reliable historian on scene that can state the patient's Last Time Seen Well/Normal, ensure that their contact number is collected for the physician

5. Stroke Center Transport Determination -Flow Chart

5.1.



5.1.

Protocol