

STROKE / TIA

A patient experiencing a Cerebrovascular Accident (CVA or stroke) may have a variety of presentations. Most commonly, the patient will experience a new onset of unilateral weakness (hemiparesis), paralysis (hemiplegia), difficulty speaking (aphasia), or a combination of these. The pre-hospital goal is to recognize stroke symptoms, determine the **severity** of the stroke using a stroke severity screening tool and quickly notify medical command and receiving hospital in order to mobilize important time-sensitive intervention. Prior to hospital arrival, goals are to maintain stable vital signs, increase oxygen delivery if saturation is < 95%, protect the patient's airway, and provide psychological support as well as immediate transport to the most appropriate stroke center.

- A. Perform **Initial Treatment / Universal Patient Care Protocol**. If neurologic symptoms are evident, proceed with this protocol.
- B. Check a serum glucose level with a glucometer. If the serum glucose is < 60 mg/dL, refer to **EMT Treatment Protocol 6604 - Diabetic Emergencies**. If after treatment, there is no resolution of the patient's neurological symptoms, proceed with the remainder of this protocol.
- C. Determine and document when the patient was Last Known Well (LKW) and the Time of Symptoms Onset (TSO) if known. Family or bystanders are often the best source of this information.
- D. Determine the Cincinnati Pre-hospital Stroke Score (CPSS)
 1. Speech disturbances (abnormal speech).
 2. Facial weakness or paralysis (facial droop).
 3. Extremity weakness or paralysis (arm drift).
- E. If the patient is positive for any of the items in D, the CPSS is positive and a pre-hospital **stroke severity score** should be performed. The FAST-ED[®] free mobile app (available under the JoinTriage[®] app for Apple iOS or Android devices - see **Notes** below) is recommended to help determine the possibility of a large vessel occlusion (LVO). LVOs are clots, in the neck or brain, which may be able to be removed at certain interventional facilities.

- F. FAST-ED[®] is POSITIVE - If the FAST-ED[®] app indicates the potential for a LVO, the patient may benefit from being transferred directly to a Comprehensive Stroke Center (CSC) or a Primary Stroke Center with interventional capabilities (PSC-I) rather than a Primary Stroke Center (PSC) or Acute Stroke Ready (ASR) facility. **Contact Medical Command** for possible diversion to a CSC or PSC-I if the following criteria are met:



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1. The LKW is < 24 hours.
2. Diversion to a CSC/PSC-I will add no more than 45 minutes transport time to the nearest PSC or ASR or will not preclude TPA administration, if applicable. That is, if transport to the CSC/PSC-I will take the patient out of the TPA window, transport to the nearest PSC or ASR where the patient can receive TPA prior to transfer to an interventional facility (the patient must receive that TPA within 6 hours of the LKW. A LKW >4 hours makes it unlikely this will occur).

3. Establish Transport Mode (ground vs. air) and destination in consultation with **Medical Command** if transport time is > 30 minutes.



- G. If the above criteria are not met or LVO is not likely according to FAST-ED[®], transport directly to the nearest PSC or ASR. Notify **Medical Command**.



- H. Initiate immediate transport with head elevated at least 30 degrees and on left side if there is a decreased level of consciousness.

- I. Obtain 12 lead EKG while in transport as not to cause delay.

Notes:

1. If possible, transport a witness, family member, or caregiver with the patient to verify the time of onset or last know well. If this cannot be accomplished provide the receiving hospital with a cell phone number to reach such a witness.
2. It is preferred that you bring the patient's medications to the receiving ED but if unable to do so, a list will suffice.
3. The priority of transfer facilities for patient's determined to have a possible LVO (by FAST-ED[®]) should be CSC first, then a PSC-I, and lastly a PSC or ASR when no CSC or PSC-I meets the above criteria in F.
4. To acquire and access FAST-ED[®]:
 - a. From the App Store of either Apple iOS or Android devices, download JoinTriage[®]
 - b. Open JoinTriage[®], create an account - email address is ID, choose a password
 - c. Open JoinTriage[®] and choose FAST-ED[®] from the options in opening screen
 - d. You may stay signed in to JoinTriage[®]. Subsequent opening of the app won't require your email and password.